# Appendix N. Transportation Impact Analysis, Vehicle Miles Traveled Analysis, and Transportation Demand Management Plan

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LINSCOTT LAW & GREENSPAN
engineers

# TRANSPORTATION IMPACT ANALYSIS

# FANITA RANCH

Santee, California
March 25, 2020

LLG Ref. 3-15-2462

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TRANSPORTATION IMPACT ANALYSIS

# FANITA RANCH

Santee, California
March 25, 2020

## 1.0 INTRODUCTION

The Fanita Ranch Specific Plan (Proposed Project) area consists of approximately 2,638 acres of land located in the northwest quadrant of the City of Santee in eastern San Diego County. The Project proposes to develop a Master Planned Community consisting of 2,949 residential units, up to 80,000 square feet (SF) of commercial uses, and supporting civic, park, and open space uses.

This transportation impact analysis has been prepared to address potential impacts on the circulation system due to the traffic generated by the Proposed Project. This report includes the following sections:

- Project Description
- Study Area, Analysis Approach & Methodology
- Existing Conditions Discussion
- Significance Criteria
- Analysis of Existing Conditions
- Trip Generation, Distribution & Assignment
- Analysis of Existing + Project Scenario
- Near-Term Cumulative Conditions Discussion
- Analysis of Near-Term Cumulative Scenarios
- Year 2035 Conditions Discussion
- Analysis of Year 2035 Scenarios
- No School Scenario Analysis
- SR-52 Westbound Ramp Evaluation
- Bicycle/Pedestrian/Transit Discussion
- Access Assessment & On-Site Circulation
- Vehicle Miles Traveled Assessment
- Transportation Demand Management
- Construction Traffic Assessment
- Project Design Features, Significance of Impacts & Mitigation Measures

# 2.0 PROJECT DESCRIPTION

## 2.1 Project Location

The Fanita Ranch Specific Plan area consists of approximately 2,638 acres of land located in the northwest quadrant of the City of Santee in eastern San Diego County. Santee is located approximately 18 miles east of downtown San Diego and the Pacific Ocean. Santee is accessible via State Route 52 (SR-52), which connects to Interstate 5 (I-5) in the west and State Route 67 (SR-67) in the east. SR-67 and State Route 125 (SR-125), which also connects to SR-52, both provide connections to Interstate 8 (I-8) south of Santee. From SR-52, Fanita Ranch is proposed to be accessed from the future extensions of Fanita Parkway via Mast Boulevard or from Cuyamaca Street and Magnolia Avenue. ***Figure 2–1*** shows the Project vicinity map and ***Figure 2–2*** shows a close up of the Project area.

## 2.2 Project Description

Fanita Ranch is a Master Planned Community consisting up to 2,949 housing units, up to 80,000 SF of commercial uses and supporting civic, park, open space uses, and a K-8 school site.

Since the completion of the transportation analysis included in this report, the Project Description has slightly changed, resulting in a shift between residential densities, changes to park acreage, and a reduction in school students from 1,000 to 700 students (staff included). With these changes, the resulting trip generation decreases as compared to the numbers analyzed in this report. Therefore, the analysis presented herein provides a conservative assessment of the local transportation system.

***Table 2–1*** summarizes the Project land use types and quantities, showing a comparison between the land use plan analyzed in this report, and the most recent changes to land uses proposed in the Specific Plan. ***Figure 2–3*** depicts the conceptual site plan for the proposed land uses.

TABLE 2–1
LAND USE SUMMARY

| Land Use | Proposed Specific Plan Land Use [a] | | | | Land Use Analyzed [a] | | | |
|---|---|---|---|---|---|---|---|---|
| | Area (Acres) | | Residential (Units) [b] | Commercial (Square feet) [c] | Area (Acres) | | Residential (Units) [b] | Commercial Square feet) [c] |
| ***Residential & Village Center*** | | | | | | | | |
| Village Center [d] *(Average 12 DU/Acre)* | 36.5 | acres | 435 | 60,000 SF | 36.5 | acres | 435 | 60,000 SF |
| Active Adult *(Average 15 DU/Acre)* | 31.0 | acres | 445 | – | 30.9 | acres | 445 | – |
| Medium-Density Residential (MDR) *(Average 13 DU/Acre)* | 67.0 | acres | 866 | – | 61.3 | acres | 790 | – |
| Low-Density Residential (LDR) *(Average 5 DU/Acre)* | 240.8 | acres | 1,203 | – | 249.7 | acres | 1,279 | – |
| ***Subtotal*** | ***375.7*** | acres | ***2,949*** | ***60,000 SF*** | ***378.4*** | acres | ***2,949*** | ***60,000 SF*** |
| ***Non-Residential Uses*** | | | | | | | | |
| School [e] | 15.0 | acres | – | – | 19.2 | acres | – | – |
| Special Use | 31.9 | acres | – | – | 33.5 | acres | – | – |
| Agriculture | 38.2 | acres | – | 20,000 SF | 36.2 | acres | – | 20,000 SF |
| Active Park [f] | 19.7 | acres | – | – | 19.9 | acres | – | – |
| *Community Park* | *19.7* | acres | – | – | *19.9* | acres | – | – |
| Passive Parks | 58.3 | acres | – | – | 53.5 | acres | – | – |
| *Neighborhood Parks* | *30.4* | acres | – | – | *27.2* | acres | – | – |
| *Mini-Parks* | *16.4* | acres | – | – | *14.8* | acres | – | – |
| *Community Park* | *11.5* | acres | – | – | *11.5* | acres | – | – |
| Open Space | 256.0 | acres | – | – | 228.0 | acres | – | – |
| Roadway Right-of-Ways | 193.3 | acres | – | – | 193.9 | acres | – | – |
| Habitat Preserve | 1,650.4 | acres | – | – | 1,672.9 | acres | – | – |
| ***Subtotal*** | ***2,262.8*** | acres | – | ***20,000 SF*** | ***2,257.10*** | acres | – | ***20,000 SF*** |
| **Total Project** | **2,638.1** | acres | **2,949** | **80,000 SF** | **2,635.5** | acres | **2,949** | **80,000 SF** |

***Source****: Fanita Ranch Specific Plan*

***Footnotes****:*

a. Since the preparation of this transportation analysis, the Project site plan has been altered resulting in an overall lower trip generation. The description of the Project, trip generation calculations, and traffic analysis provided in this study utilize the land use quantities prior to the change in the site plan, which represents a conservative analysis.

b. Up to 15% of units may be transferred between villages and land uses provided the ADT for the entire project does not exceed the proposed trip generation and the receiving land use area does not exceed the maximum density permitted.

c. Commercial square footage may be transferred between villages and provided the ADT for the entire project does not exceed the proposed trip generation and the receiving land use area does not exceed the floor-area ratio permitted.

d. Includes 1.5-acre fire station.

e. School site would accommodate up to 1,000 students. Since preparation of this transportation analysis, the number of students has been reduced to 700 students, resulting in a lower trip generation. The underlying land use for the school area is MDR. If the reserved school site is not acquired for school use within two (2) years of approval of the final map, the MDR land use may be implemented and the maximum total number of units in the Specific Plan Area shall be 3,008 units. A separate analysis with the additional MDR units without the school is provided in this report. Additional details on "No School" scenario are provided in *Section 13.0* of this report.

f. A 10,000 SF recreation center is proposed as part of the Community Park. This land use is included as a separate line item in the Project trip generation calculations later on in this report.

***General Notes:***

1. The Project also proposes a trail network throughout the site. The trails would traverse through parks, open space, and habitat preserve. Any trips associated with trails would be captured through the park trip generation.
2. DU = Dwelling Units

Development of the Project is clustered into three (3) Villages to preserve natural open space areas, and drainages and key wildlife corridors. These three (3) Villages are Fanita Commons, Vineyard Village and Orchard Village. Villages are arranged around a centralized Farm that will provide food and a focal point for the community. Additional agriculture is permitted throughout the Villages to support farming and wellness as the central theme for Fanita Ranch. Fanita Commons serves as the main Village and includes a Village Center that consists of a mix of retail, residential, civic and office uses, with a strong physical connection to the central Farm. A Village Green provides a central gathering place for the community and allows farm events to extend into the Village Center. Fanita Commons also includes a Community Park, a K-8 school site and an Active Adult neighborhood. If the Santee School District does not acquire the school site, the underlying Medium Density Residential (MDR) land use designation may be implemented. In that case, the maximum total number of units permitted in the Specific Plan would increase by 59 units for a total of 3,008 units. The Vineyard and Orchard Villages include smaller mixed-use Village centers that allow for neighborhood serving uses, office space and other community services and amenities, as well as Medium Density Residential and Low Density Residential neighborhoods. A variety of parks are located within walking distance of all homes, and a comprehensive system of walking and biking trails connects the homes to key destinations throughout Fanita Ranch.

A Special Use area is located in the southernmost portion of the Specific Plan Area, which was previously graded for a park and is not suitable for habitat preservation. The Special Use area allows for a limited range of uses, such as a solar farm, recreational vehicle storage and other similar uses.

Congregate care facilities are permitted within the Village Center. However, should the congregate care use be developed by the Project, it would replace other land uses that are higher trip generators. Therefore, the highest intensity land uses were included in this analysis and a congregate care facility was not analyzed.

The Farm is the community focal point for Fanita Ranch. The approximately 27-acre Farm is located along the eastern edge of Fanita Commons and the Orchard Village, near the center of Fanita Ranch. An event barn featuring iconic agrarian architecture will set the theme for the community and provide a venue for special events and farming operations. The working Farm is planned to include terraced vegetable fields, pasture lands, limited housing for employees, raised gardens, limited animal keeping and up to 20,000 square feet of commercial uses. A Community Supported Agriculture (CSA) program is planned for the Farm. Events would not be daily and would occur largely outside the commuter AM and PM peak periods. To account for these activities, and as shown in *Table 2–1* above, approximately 20,000 SF of retail space has been assigned to the farm use for calculating Project trip generationwithin this report.

Active Adult uses are planned for the residential component of the Project. Active Adult residential is defined as “senior adult housing consisting of attached or detached independent living developments, including retirement communities, age-restricted housing, and active adult communities.” (*Institute of Traffic Engineers Trip Generation Manual, 10th Edition*). The manual

further suggests that residents in these community live independently, are typically active, and may or may not be retired.

## 2.3 Project Access

The Fanita Ranch Specific Plan area will be accessed from the south via the northern extensions of two existing roadways: Cuyamaca Street and Fanita Parkway. Both roadways will be improved from Mast Boulevard to the edge of the Specific Plan Area to accommodate increased traffic generated by the Project. Construction of Fanita Parkway and Cuyamaca Street will occur prior to issuance of the first occupancy permit. In addition, Magnolia Avenue will be constructed by the Project. Each of these roadways will be built as Project Design Features. Improvements to existing sections of each roadway are proposed as mitigation measures. For purposes of this report, it is assumed the Project constructs Magnolia Avenue from Cuyamaca Street to its existing terminus just north of Princess Joann Road. The timeframe for which the construction of the Magnolia Avenue extension is analyzed in ***Appendix Y***. Based on the analysis provided in *Appendix Y*, Magnolia Avenue would need to be constructed prior to occupancy of the 1,500$^{th}$ equivalent dwelling unit. *Section 21.4* later on in this report provides the calculations for "equivalent dwelling units."

Further discussion on the Project access road improvements is provided below.

### 2.3.1 *Fanita Parkway*

The Project proposes to construct Fanita Parkway from its current terminus at Ganley Road to connect to the Project site as a Project Design Feature. The Mobility Element classifies this future roadway as a Two-Lane Parkway (undivided). To accommodate future traffic volumes, this section of Fanita Parkway will be reclassified and constructed as a Two-Lane Parkway (divided) to enhance the roadway capacity. The two-lane section of the roadway will be divided by a six to 14-foot raised median, provide one 12-foot travel lane in both directions, include five-foot bike lanes on both sides of the roadway with a three-foot buffer on the east side and two-foot buffer on the west side, and provide a five-foot landscaped parkway on the east side of the roadway with a 10-foot multi-purpose trail on the west side separated from the roadway by a six-foot landscape parkway. Additional details on the construction of Fanita Parkway are provided in *Section 16.1.1* of this report.

Improvements to Fanita Parkway to mitigate potential Project impacts are also proposed. The intersection of Fanita Parkway and Ganley Road will be signalized to accommodate future traffic volumes. In addition, as part of this improvement, the gated vehicular entrance south of Ganley Road currently used by Santee Lakes as an entry/exit to their campground and RV storage areas will be abandoned and realigned to complete the west leg (fourth leg) of the Fanita Parkway/ Ganley Road intersection. This new four-way intersection will accommodate trips into and out of both the Santee Lakes Recreation Park and the Padre Dam Municipal Water District (PDMWD) facilities currently accessed via Sycamore Canyon Road. In addition, SDG&E easements and the northernmost access to the Ray Stoyer Plant on the PDMWD property are currently accessed via Sycamore Canyon Road. The Project proposes to provide a right-in/right-out only access on Fanita Parkway for the eastern easement access and a full access intersection with a northbound dedicated left-turn lane to the PDMWD property on the west side of Fanita Parkway. South of Ganley Road to Lake Canyon Road,

Fanita Parkway will be improved and constructed as a three-lane divided roadway (Three-Lane Parkway). This section of the roadway will be divided by a six to 14-foot raised median, provide two 12-foot travel lanes in the southbound direction and one 12-foot travel lane in the northbound direction, five-foot bike lanes on both sides of the roadway with a three-foot buffer on the east side and two-foot buffer on the west side, and provide a five-foot landscaped parkway on the east side of the roadway with a 10-foot multi-purpose trail on the west side separated from the roadway by a six-foot landscape parkway. The three-lane Fanita Parkway capacity would be expected to adequately serve Project traffic and ambient street traffic into the long-term. However, the roadway may be widened to include an additional northbound through lane completing the Four-Lane Parkway design should traffic operations on this section exceed specified thresholds. Further discussion on these threshold indicators is provided in *Section 16.1.3.*

South of Lake Canyon Road to Mast Boulevard, Fanita Parkway will be widened from a two-lane undivided roadway to a four-lane divided road (Four-Lane Parkway). The roadway will be divided by a six to 14-foot raised median, provide two 12-foot travel lanes in each direction, two-foot bike lane buffers with five-foot bike lanes on both sides of the roadway and provide a five-foot landscaped parkway on the east side of the roadway with a 10-foot multi-purpose trail on the west side separated from the roadway by a six-foot landscape parkway.

Any improvements to the existing sections south of Ganley Road to Mast Boulevard are proposed to mitigate Project impacts, as later identified in *Section 19.1* of this report.

### 2.3.2 *Cuyamaca Street*

The Project proposes to construct Cuyamaca Street from its current terminus at Chaparral Drive to connect to the Project site as a Project Design Feature. From the Project site to Princess Joann Road, the Mobility Element classifies this future roadway as a Collector with Two-Way Left-Turn Lane (TWLTL). South of Princess Joann Road to Woodglen Vista Drive, this future roadway is classified as a Four-Lane Major Arterial. Based on the analysis presented in this report, and as a Project Design Feature, Cuyamaca Street from the Project Site to Chaparral Drive is proposed to be reclassified and constructed as a two-lane divided roadway (Two-Lane Parkway). From the Project site to Chaparral Drive, Cuyamaca Street will include a 10-foot raised median, one 12-foot travel lane in both directions, a three-foot bike lane buffer on the east side of the roadway with a five-foot bike lane and a five-foot landscaped parkway. The bike lane and buffer will also serve as an eight-foot emergency parking lane. The west side of the roadway will provide a five-foot bike lane buffer with a five-foot bike lane (10-foot emergency parking), with a five-foot landscaped parkway and eight-foot multi-purpose trail. The east side of the roadway will provide a four-foot nature trail occurring in a portion of the east parkway. A primary objective of the Specific Plan is to maintain Cuyamaca Street as a two-lane road as it enters the Specific Plan area, preserving the rural character of this road. This section will remain the same until it reaches the south edge of Main Village.

As part of the extension of Cuyamaca Street, the intersection of Cuyamaca Street and Princess Joann Road will be constructed as a Project Design Feature to provide a stop-sign on Princess Joann Road. In the southbound direction, one left-turn lane and one thru lane will be constructed, northbound will

provide one right-turn lane and one thru lane, and the westbound direction will provide a shared left/right-turn lane.

Improvements to Cuyamaca Street to increase the capacity to its four-lane classification are also proposed. As a Project Design Feature, and to aid in the transition from two to four lanes, Cuyamaca Street will be designed as a Four-Lane Major Arterial from Chaparral Drive to Woodglen Vista Drive. The four lanes would continue south of Woodglen Vista Drive to Mast Boulevard as mitigation for Project segment impacts. Improvements to Cuyamaca Street between Chaparral Drive and Mast Boulevard would include reconstructing the median and restriping the roadway to provide a total of four lanes (Four-Lane Major Arterial). This roadway is already divided by a raised median and provides the curb-to-curb width of a Four-Lane Major Arterial. This section of the roadway will be reconstructed to provide a 16-foot raised median, two 12-foot travel lanes in both directions, five-foot bike lanes on both sides of the roadway separated from the travel way by four-foot buffers, and continue the five-foot landscaped parkways on both sides of the roadway with five-foot sidewalks.

The increases in capacity to the existing sections south of Woodglen Vista Drive to Mast Boulevard are proposed to mitigate Project impacts, as later identified in *Section 19.1* of this report.

### 2.3.3 *Magnolia Avenue*

The Project proposes to construct Magnolia Avenue from its current terminus at Princess Joann Road to connect to the Project site as a Project Design Feature. The Mobility Element classifies this future roadway as a Four-Lane Parkway. Based on the analysis provided in this report, the traffic volumes forecasted on this future connection do not require the full construction of the roadway to four-lane standards. Therefore, Magnolia Avenue is proposed to be reclassified as a Two-Lane Collector and will be constructed from its future intersection with Cuyamaca Street to Princess Joann Road to provide a 12-foot painted median, one 13-foot travel lane in each direction, five-foot bike lanes on both sides of the roadway separated from the travel way by two-foot buffers, and continue the five-foot landscaped parkways on both sides of the roadway with a five-foot sidewalk on the west side of the roadway. Additional details on the construction of Magnolia Avenue are provided in *Section 16.1.1* of this report.

As part of the extension of Magnolia Avenue, the intersection of Cuyamaca Street and Magnolia Avenue will be constructed as a Project Design Feature controlled by a traffic signal. In the southbound direction, two left-turn lanes and one thru lane will be constructed, northbound will provide one shared thru/right-turn lane, and the westbound direction will provide one left-turn lane and one right-turn lane.

Lastly, the “special uses” on the site for the RV parking and solar panel operations will take access solely from the current terminus of Carlton Hills Boulevard north of Lake Canyon Road. Very few Project trips are expected to use this access as the special uses associated with this portion of the site are low trip generators. No changes to roadway classifications or capacities are required to accommodate future traffic volumes associated with this area of the site.

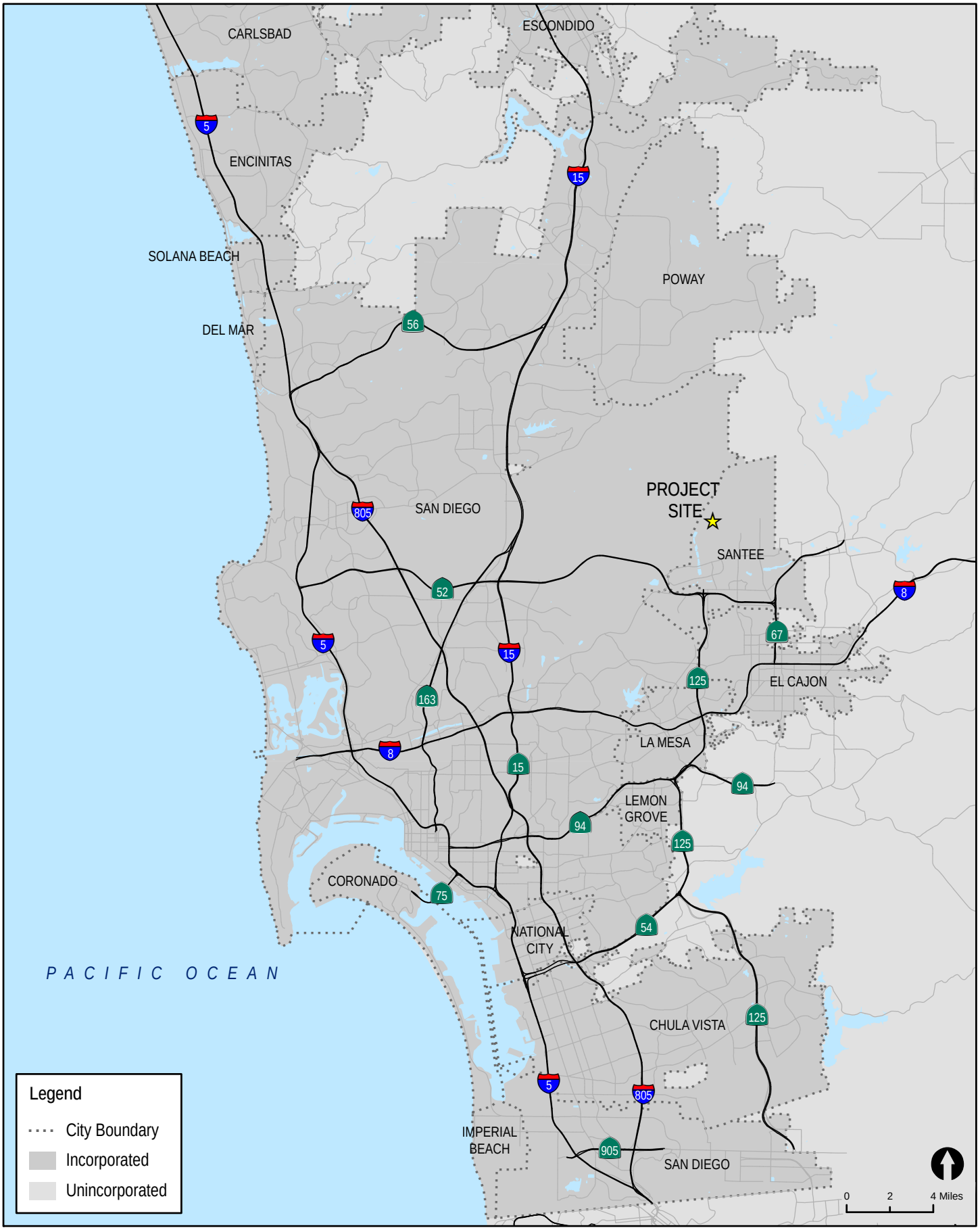


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**Figure 2-1**

# Vicinity Map

FANITA RANCH

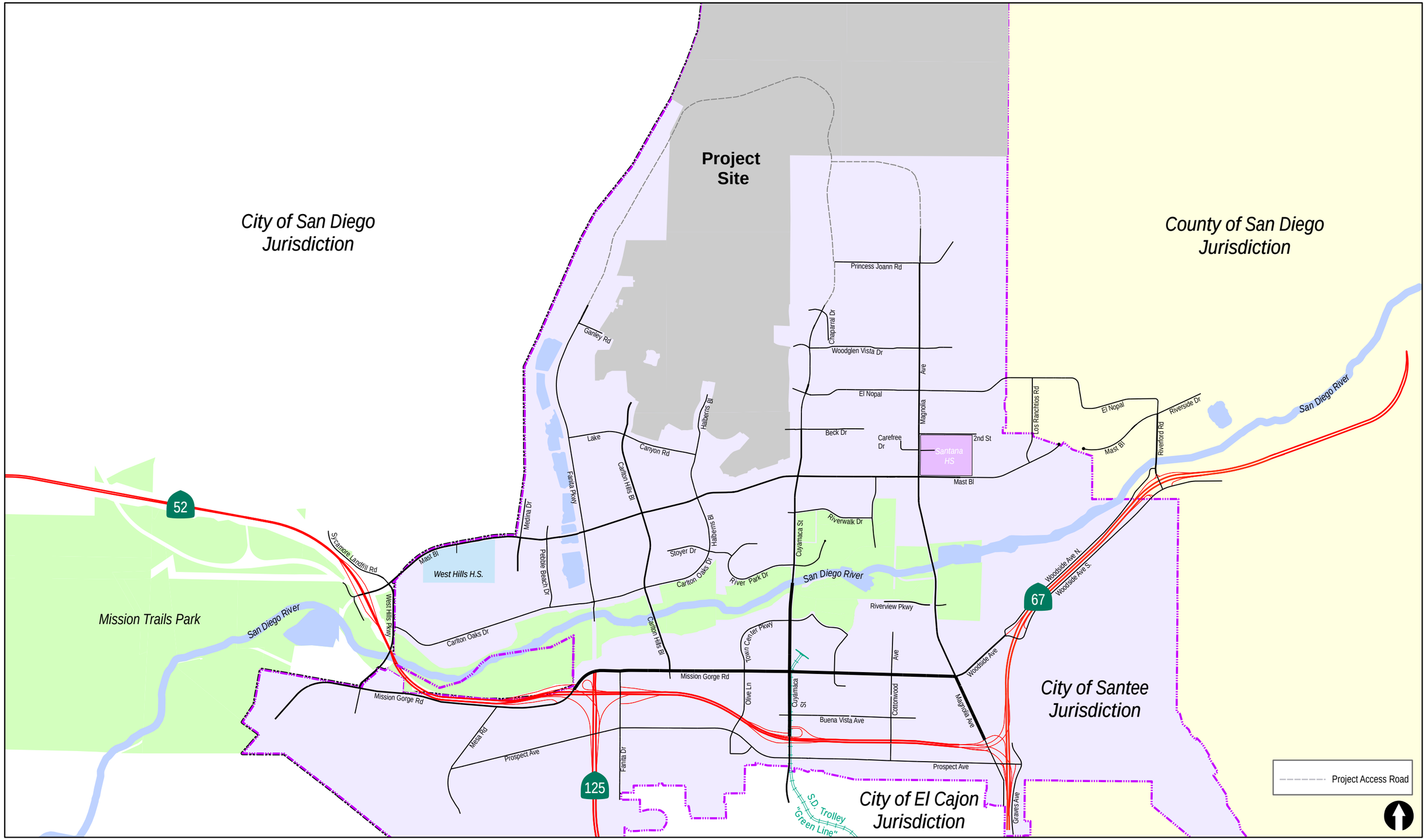


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**Figure 2-2**

## Project Area Map

FANITA RANCH

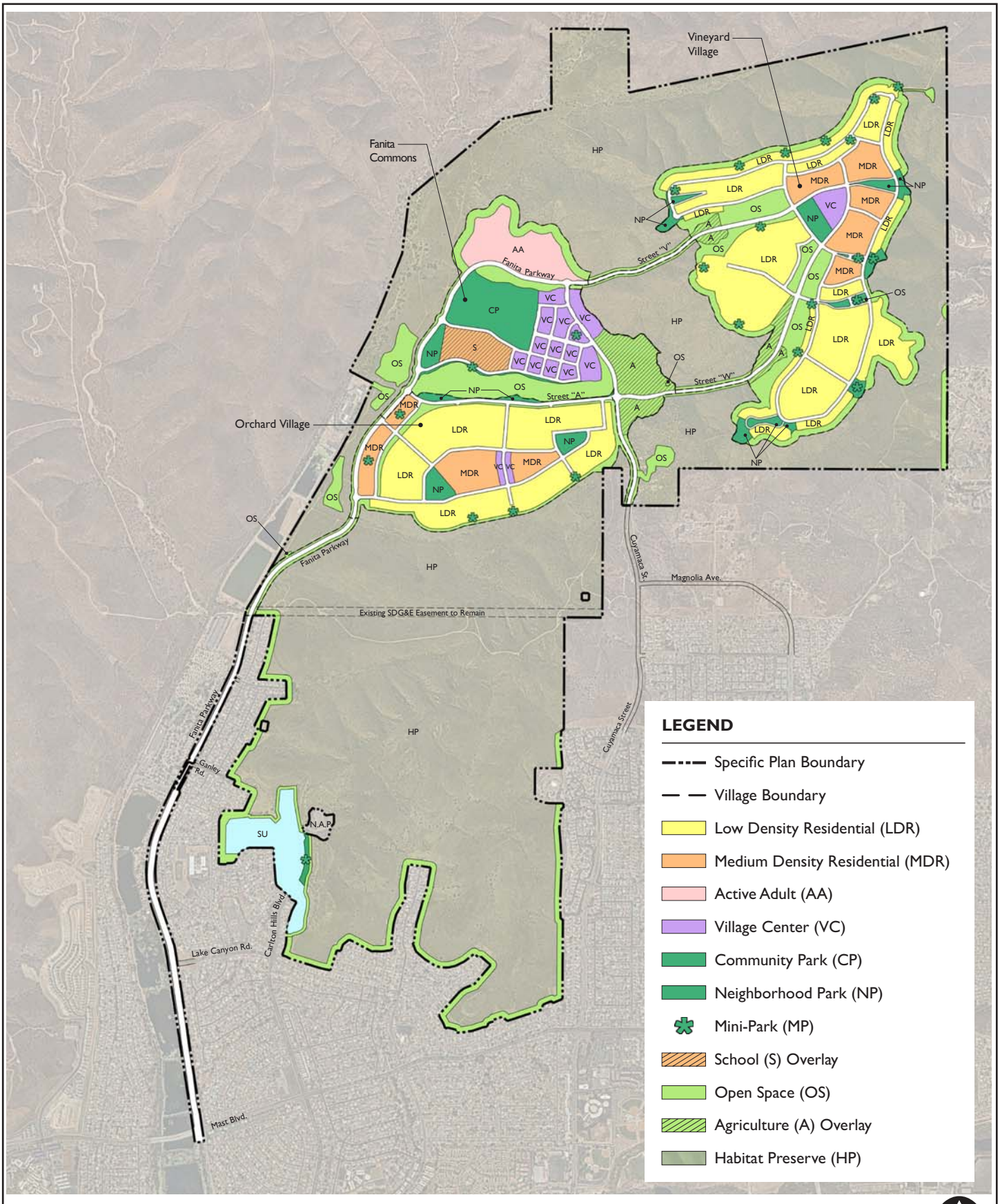


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**Figure 2-3**

# Conceptual Site Plan

FANITA RANCH

# 3.0 STUDY AREA, ANALYSIS APPROACH AND METHODOLOGY

## 3.1 Study Area

The study area was based on the criteria identified in the San Diego Traffic Engineering Council (SANTEC)/Institute of Traffic Engineers (ITE) *Guidelines for Traffic Impact Studies in the San Diego Region*, March 2, 2000, as well as collaboration with the City of Santee staff. Based on this criteria, the study area was generally determined by the limits or extent of where 50 peak hour Project trips would travel in either direction to/from the site.

Using the above criteria along with input from City staff, the Project study area includes the following locations:

***Intersections***

| | |
|---|---|
| 1. Princess Joann Road / Cuyamaca Street *(future intersection)* | 34. Town Center Parkway / Cuyamaca Street |
| 2. Princess Joann Road / Magnolia Avenue | 35. Town Center Parkway / Riverview Parkway |
| 3. Ganley Road / Fanita Parkway | 36. Riverview Parkway / Magnolia Avenue |
| 4. Woodglen Vista Drive / Cuyamaca Street | 37. Riverford Road / SR-67 SB Ramps |
| 5. Woodglen Vista Drive / Magnolia Avenue | 38. Woodside Avenue / SR-67 NB Off-Ramp |
| 6. El Nopal / Cuyamaca Street | 39. Riverford Road / Woodside Avenue |
| 7. El Nopal / Magnolia Avenue | 40. Mission Gorge Road / West Hills Parkway |
| 8. El Nopal / Los Ranchitos Road | 41. Mission Gorge Road / SR-52 EB Ramps |
| 9. Lake Canyon Road / Fanita Parkway | 42. Mission Gorge Road / SR-52 WB Ramps |
| 10. Lake Canyon Road / Carlton Hills Boulevard | 43. Mission Gorge Road / SR-125 |
| 11. Lake Canyon Road / Halberns Boulevard | 44. Mission Gorge Road / Fanita Drive |
| 12. Beck Drive / Cuyamaca Street | 45. Mission Gorge Road / Carlton Hills Boulevard |
| 13. 2nd Street / Magnolia Avenue | 46. Mission Gorge Road / Town Center Parkway |
| 14. Carefree Drive / Magnolia Avenue | 47. Mission Gorge Road / Cuyamaca Street |
| 15. Riverford Road / Riverside Drive | 48. Mission Gorge Road / Riverview Parkway |
| 16. Mast Boulevard / SR-52 EB Ramps | 49. Mission Gorge Road / Cottonwood Avenue |
| 17. Mast Boulevard / SR-52 WB Ramps | 50. Mission Gorge Road / Magnolia Avenue |
| 18. Mast Boulevard / West Hills Parkway | 51. Woodside Avenue North / SR-67 SB Off-Ramp |
| 19. Mast Boulevard / West Hills High School Driveway | 52. Woodside Avenue / SR-67 NB On-Ramp |
| 20. Mast Boulevard / Medina Drive | 53. Fanita Drive / SR-52 WB Off-Ramp |
| 21. Mast Boulevard / Pebble Beach Drive | 54. Fanita Drive / SR-52 EB On-Ramp |
| 22. Mast Boulevard / Fanita Parkway | 55. Buena Vista Avenue / Cuyamaca Street |
| 23. Mast Boulevard / Carlton Hills Boulevard | 56. Cuyamaca Street / SR-52 WB Ramps |
| *(Continued on Next Page)* | |

### *Intersections*

| *(Continued from Previous Page)* | |
|---|---|
| 24. Mast Boulevard / Halberns Boulevard | 57. Cuyamaca Street / SR-52 EB Ramps |
| 25. Mast Boulevard / Cuyamaca Street | 58. Magnolia Avenue / SR-52 WB Ramps / SR-67 SB Ramps |
| 26. Mast Boulevard / Park Center Drive | 59. Magnolia Avenue / SR-52 EB Ramps |
| 27. Mast Boulevard / Magnolia Avenue | 60. Prospect Avenue / Fanita Drive |
| 28. Carlton Oaks Drive / West Hills Parkway | 61. Prospect Avenue / Cuyamaca Street |
| 29. Carlton Oaks Drive / Pebble Beach Drive | 62. Prospect Avenue / Cottonwood Avenue |
| 30. Carlton Oaks Drive / Fanita Parkway | 63. Prospect Avenue / Magnolia Avenue |
| 31. Carlton Oaks Drive / Carlton Hills Boulevard | 64. Prospect Avenue / SR-67 NB Off-Ramp |
| 32. Riverwalk Drive / Cuyamaca Street | 65. Prospect Avenue / Graves Avenue |
| 33. Riverpark Drive / Cuyamaca Street | 66. Mast Boulevard / Weston Road |

### *Street Segments*

| | |
|---|---|
| **Princess Joann Road** | **Mission Gorge Road** |
| 1. Cuyamaca Street to Magnolia Avenue | 17. Western City Limits to West Hills Parkway |
| **Woodglen Vista Drive** | 18. West Hills Parkway to SR-125 |
| 2. Cuyamaca Street to Magnolia Avenue | 19. SR-125 to Fanita Drive |
| **El Nopal** | 20. Fanita Drive to Carlton Hills Boulevard |
| 3. Cuyamaca Street to Magnolia Avenue | 21. Carlton Hills Boulevard to Town Center Drive |
| 4. Magnolia Avenue to Los Ranchitos Road | 22. Town Center Parkway to Cuyamaca Street |
| 5. Los Ranchitos Road to Riverford Road | 23. Cuyamaca Street to Riverview Parkway |
| **Mast Boulevard** | 24. Riverview Parkway to Cottonwood Avenue |
| 6. SR-52 to West Hills Parkway | 25. Cottonwood Avenue to Magnolia Avenue |
| 7. West Hills Parkway to Medina Drive | **Prospect Avenue** |
| 8. Pebble Beach Drive to Fanita Parkway | 26. Fanita Drive to Cuyamaca Street |
| 9. Fanita Parkway to Carlton Hills Boulevard | 27. Cuyamaca Street to Cottonwood Avenue |
| 10. Carlton Hills Boulevard to Halberns Boulevard | **West Hills Parkway** |
| 11. Halberns Boulevard to Cuyamaca Street | 28. Mast Boulevard to Mission Gorge Road |
| 12. Cuyamaca Street to Magnolia Avenue | **Fanita Parkway** |
| 13. Magnolia Avenue to Los Ranchitos Road | 29. Project Site to Ganley Drive (future) |
| 14. West of Riverford Road | 30. Ganley Drive to Lake Canyon Road |
| **Carlton Oaks Drive** | 31. Lake Canyon Road to Mast Boulevard |
| 15. West Hills Parkway to Pebble Beach Drive | 32. Mast Boulevard to Carlton Oaks Drive |
| 16. Fanita Parkway to Carlton Hills Boulevard | **Fanita Drive** |
| | 33. Mission Gorge Road to SR-52 Ramps |
| | 34. SR-52 Ramps to Prospect Avenue |
| *(Continued on Next Page)* | |

### *Street Segments*

| *(Continued from Previous Page)* | |
|---|---|
| **Carlton Hills Boulevard** | **Riverview Parkway** |
| 35. Lake Canyon Road to Mast Boulevard | 52. Mission Gorge Road to Town Center Parkway |
| 36. Mast Boulevard to Carlton Oaks Drive | 53. Town Center Parkway to Magnolia Avenue (future) |
| 37. Carlton Oaks Drive to Mission Gorge Road | **Magnolia Avenue** |
| **Halberns Boulevard** | 54. Cuyamaca Street to Princess Joann Road |
| 38. Lake Canyon Road to Mast Boulevard | 55. Princess Joann Road to Woodglen Vista Drive |
| **Town Center Parkway** | 56. Woodglen Vista Drive to El Nopal |
| 39. Mission Gorge Road to Cuyamaca Street | 57. El Nopal to Mast Boulevard |
| 40. Cuyamaca Street to Riverview Parkway | 58. Mast Boulevard to Riverview Parkway |
| **Cuyamaca Street** | 59. Riverview Parkway to Mission Gorge Road |
| 41. Project Site to Magnolia Avenue (future) | 60. Mission Gorge Road to SR-52 Ramps |
| 42. Magnolia Avenue to Princess Joann Road (future) | 61. SR-52 Ramps to South of Prospect Avenue |
| 43. Princess Joann Road to Chaparral Drive (future) | **Woodside Avenue** |
| 44. Chaparral Drive to Woodglen Vista Drive | 62. East of Magnolia Avenue |
| 45. Woodglen Vista Drive to El Nopal | **N. Woodside Avenue** |
| 46. El Nopal to Mast Boulevard | 63. Riverford Road to Woodside Avenue |
| 47. Mast Boulevard to River Park Drive | **Riverford Road** |
| 48. River Park Drive to Town Center Parkway | 64. Riverside Drive to SR-67 Ramps |
| 49. Town Center Parkway to Mission Gorge Road | |
| 50. Mission Gorge Road to SR-52 Ramps | |
| 51. SR-52 Ramps to south of Prospect Avenue | |

### *Freeway Mainline Segments*

| **State Route 52** | **State Route 67** |
|---|---|
| 1. Santo Road to Mast Boulevard | 5. Riverford Road to SR-52 |
| 2. Mast Boulevard to SR-125 | 6. SR-52 to Bradley Avenue |
| 3. SR-125 to Cuyamaca Street | **State Route 125** |
| 4. Cuyamaca Street to SR-67 | 7. Grossmont College Drive to SR-52 |

## 3.2 Analysis Approach

Given the scale of the Proposed Project, development of the Project will occur over several years with buildout occurring over a 10- to 15-year period. In order to provide for a worst-case analysis, significant impacts were measured assuming construction of all the entire Project at once. Potential Project impacts were then tied to a unit occupancy amount to identify the point in time in which mitigation measures would be needed.

***Table 3–1*** shows the analyses performed in each of the scenarios to determine the potential impacts to the road network. An explanation of each scenario is provided following *Table 3–1*.

TABLE 3–1
LEVEL OF SERVICE ANALYSIS SCENARIOS

| Scenario | Analysis Performed |
|---|---|
| ***Proposed Project – Existing & Near-Term Conditions*** | |
| • Existing<br>• Existing + Project<br>• Existing + Cumulative Projects<br>• Existing + Cumulative Projects + Project | Peak Hour Intersection Analysis<br>Daily Street Segment Analysis<br>Peak Hour Freeway Mainline Analysis |
| ***Proposed Project – Year 2035 Conditions*** | |
| • Year 2035 Baseline (Without SR-52 Widening)<br>• Year 2035 With Project (Without SR-52 Widening) | Peak Hour Intersection Analysis<br>Daily Street Segment Analysis<br>Peak Hour Freeway Mainline Analysis |
| ***Timing for Magnolia Avenue Extension Scenario*** [a] | |
| • Existing + Project (Without Magnolia Avenue Extension) | Peak Hour Intersection Analysis<br>Daily Street Segment Analysis |
| ***No School Scenario*** [b] | |
| • Existing + Project<br>• Existing + Cumulative Projects + Project<br>• Year 2035 With Project, (Without SR-52 Widening) | Peak Hour Intersection Analysis<br>Daily Street Segment Analysis |

***Footnotes:***

a. The "Timng for Magnolia Avenue Extension" analysis uses the Existing + Project network without the assumed connection of Magnolia Avenue. The purpose of this scenario is to identify when Magnolia Avenue will be constructed. *Appendix Y* contains the analysis.

b. The "No School Scenario" analyzes the changes in the Project without the proposed 1,000 student school, and with a 2% increase in single-family residential units.

***Existing*** conditions represent the existing on-the-ground network and traffic volume conditions at the time of data collection in January/February 2018. Further details on the existing conditions in the study area are provided in *Section 4.0* of this report.

***Existing + Project*** conditions represent the operations of the existing street network with the addition of the traffic generated by the complete development of the Proposed Project. Although this represents an unrealistic condition in which 100% of the Project would be built and added to existing conditions, it has been included in compliance with CEQA.

*Since the completion of the transportation analysis included in this report, the Project Description has slightly changed, resulting in a shift between residential densities, changes to park acreage, and a reduction in school students from 1,000 to 700 students. With these changes, the resulting trip generation decreases as compared to the numbers analyzed in this report. Therefore, the analysis presented herein provides a conservative assessment of the local transportation system.*

***Existing + Cumulative Projects*** conditions represent the time period in the near future when it would be expected that other nearby development or infrastructure projects would contribute to cumulative growth in the area which would increase the overall study area traffic volumes. An ambient growth factor of two percent (2%) of existing traffic volumes was also included (in addition to individual projects) in the Existing + Cumulative condition to account for possible growth in the area due to unforeseen development projects in the area that could occur prior to completion of the Project. *Section 9.0* discusses the cumulative conditions in greater detail.

***Existing + Cumulative Projects + Project*** conditions represent the time period in the near future when traffic generated by the total Project would be on the street system and when it would be expected that other nearby development or infrastructure projects would contribute to cumulative growth in the area which would increase the overall study area traffic volumes.

***Year 2035 Baseline*** assumes the Adopted General Plan land uses and traffic volumes represented in the Adopted Mobility Element traffic model. The existing street network is assumed in the analysis of Year 2035 conditions with the exception of the future connections of Fanita Parkway, Cuyamaca Street and Magnolia Avenue. This is due to the infrastructure improvements needed to provide access to the adopted land uses within the Project site. Notably, any SR-52 widening was not assumed to be completed by Year 2035 and Mast Boulevard is not extended between the City and County boundaries. *Section 11.0* provides more information on the Year 2035 assumptions.

***Year 2035 With Project*** assumes the baseline conditions of the Year 2035 scenario with the net increase in intensity of the land uses within the Proposed Project site. The net increase in traffic volumes with this change was added to the baseline Year 2035 conditions for the "plus Project" condition. *Section 11.0* provides more information on the Year 2035 assumptions.

***No School Scenario*** analyzes the effects on the study area street system without the inclusion of the school in the Proposed Project description. Without the school, an additional 59 single-family units, or approximately 2% of the total residential DU of the Proposed Project, were assumed. Therefore,

the total number of units increases from 2,949 DU with the school to 3,008 DU without the school. The baseline Existing, Existing + Cumulative, and Year 2035 scenarios were analyzed without the inclusion of the school. *Section 13.0* provides more information on the No School Scenario.

***Timing for Magnolia Avenue Extension Scenario*** analyzes the timing for the construction of Magnolia Avenue. *Appendix Y* provides the results of the Timing for Magnolia Avenue Extension analysis.

## 3.3 Methodology

Level of service (LOS) is the term used to denote the different operating conditions which occur on a given roadway segment under various traffic volume loads. It is a qualitative measure used to describe a quantitative analysis taking into account factors such as roadway geometries, signal phasing, speed, travel delay, and freedom to maneuver. Level of service provides an index to the operational qualities of a roadway segment or an intersection. Level of service designations range from A to F, with LOS A representing the best operating conditions and LOS F representing the worst operating conditions. Level of service designation is reported differently for signalized and unsignalized intersections, as well as for roadway segments.

### 3.3.1 *Intersections*

***Signalized intersections*** were analyzed under AM and PM peak hour conditions. Average vehicle delay was determined utilizing the methodology found in Chapter 19 of the *Highway Capacity Manual 6th Edition (HCM 6)*, with the assistance of the *Synchro* (version 10) computer software. The delay values (represented in seconds) were qualified with a corresponding intersection LOS. City of Santee and Caltrans location-specific signal timing information such as minimum greens, cycle lengths, splits for the freeway interchanges and real-time peak hour field observations were included in the analysis, where available.

The procedures from the *HCM 2000* methodology were used at intersections where the *HCM 6* is limited in its analysis capabilities. For example, the *HCM 6* cannot analyze clustered intersections where multiple intersections are operated by a single traffic signal controller.

***Unsignalized intersections*** were analyzed under AM and PM peak hour conditions. Average vehicle delay and LOS was determined based upon the procedures found in Chapters 20 and 21 of the *HCM 6* with the assistance of the *Synchro* (version 10) computer software.

***Peak Hour Arterials*** – Peak hour arterial segment analysis is based upon comparison of the pre-and-post project arterial running speed (by direction) through a series of signalized intersections. The speed of vehicles on urban streets is influenced by three main factors: street environment, interaction among vehicles, and traffic control. As a result, these factors affect quality of service. There is a distinct set of urban street LOS for each urban street class. LOS based on prevailing speeds and class of arterials determine the operations of arterials. The Arterial Class is calculated based upon the procedures found in Chapter 10 of the *HCM 2000* with the assistance of the Synchro (Version 10) software using the distances between intersections and the link speeds.

***Table 3–2*** is based on information in the *HCM 6* that shows longer running times on networks with short segments. This would cause longer travel times and lower LOS than using the free flow speeds.

- Travel Time = Running Time + Signal Delay (intersection delay)
- Arterial Speed = Total Distance / Total Travel Time
- Segment Distance = Total Distance / Number of Segments
- Flow Speed = Free Flow Speed (FFS) / Link

TABLE 3–2
ARTERIAL ANALYSIS DEFINITIONS

| Speed (mph) | Segment Distance | Class |
|---|---|---|
| 1 to 29 | any | IV |
| 30 to 35 | < 2000 ft. | IV |
| 30 to 35 | >/= 2000 ft. | III |
| 36 to 45 | any | II |
| above 45 | any | I |

*Source*: HCM 6

The Arterial Class is calculated automatically based on the distances between intersections and the link speeds. The speed is the total distance divided by the total travel time. The segment distance is the total distance divided by the number of segments. The Flow Speed is the free flow speed or link speed input for each link.

### 3.3.2 *Street Segments*

Street segment analysis is based upon the comparison of daily traffic volumes (ADTs) to the City of Santee's *Revised Roadway Classifications and Standards* table provided in the City of Santee Mobility Element. This table provides segment capacities for different street classifications, based on traffic volumes and roadway characteristics. For locations within the County, the capacities taken from the County of San Diego *Table 1: Average Daily Vehicle Trips* were used in the analysis. One segment in the study area is located within the City of San Diego: Mast Boulevard between the SR-52 Ramps and West Hills Parkway. The capacity for this segment was taken from the City of San Diego *Roadway Classification, Level of Service, and ADT Table.*

***Table 3–3*** *illustrates the City of Santee Roadway Classifications and Standards.* The City of Santee, County of San Diego, and City of San Diego classifications tables are also attached in ***Appendix A***.

TABLE 3–3
CITY OF SANTEE ROADWAY CLASSIFICATIONS AND STANDARDS

| Street Classification | Description/ Sub-classification | # of Lanes | LOS/ADT Threshold | | | | |
|---|---|---|---|---|---|---|---|
| | | | A | B | C | D | E |
| **Circulation Element** | | | | | | | |
| Prime Arterial | Median | 6 lanes | 25,000 | 35,000 | 50,000 | 55,000 | 60,000 |
| Major Arterial | Median | 4 lanes | 15,000 | 21,000 | 30,000 | 35,000 | 40,000 |
| Parkway | Median | 4 lanes | 15,000 | 21,000 | 30,000 | 35,000 | 40,000 |
| | w/ TWLTL | 2 lanes w/ TWLTL | 5,000 | 7,000 | 10,000 | 13,000 | 15,000 |
| | — | 2 lanes | 4,000 | 5,500 | 7,500 | 9,000 | 10,000 |
| Collector | w/ TWLTL | 2 lanes w/ TWLTL | 5,000 | 7,000 | 10,000 | 13,000 | 15,000 |
| | Industrial Collector | 2 lanes | 2,500 | 3,500 | 5,000 | 6,500 | 8,000 |
| | Residential Collector | 2 lanes | 2,500 | 3,500 | 5,000 | 6,500 | 8,000 |
| **Non-Circulation Element** | | | | | | | |
| Industrial Local | | 2 lanes | — | — | 2,200* | — | — |
| Residential Local | | 2 lanes | — | — | 2,200* | — | — |
| Cul-De-Sac Street | | 2 lanes | — | — | 300* | — | — |
| Hillside Street | | 2 lanes | — | — | 700* | — | — |

*Notes:*
1. TWLTL = Two-way left-turn lane.
2. "*" Represents design capacity of non-CE road. LOS does not apply to non-CE roads.

*Source:* City of Santee Mobility Element

### 3.3.3 *Freeway Mainline Segments*

Freeway segments were analyzed under AM and PM peak hour based on the standards outlined in the *Caltrans Guide for the Preparation of Traffic Impact Studies using Highway Capacity Manual* (*HCM 6th Edition*). The freeway analyses were conducted using the *Highway Capacity Software* (HCS version 7.3). The freeway analysis is based on assessing freeway operations based on traffic volumes, freeway network and other segment specific characteristics and reporting freeway volume to capacity ratio, speed and density. Freeway density is a measurement of the flow rate (in passenger cars, per hour, per lane) over the average passenger-car speed in mph which results in freeway LOS. ***Table 3–4*** presents the freeway segment criteria based on density.

TABLE 3–4
FREEWAY SEGMENT LOS CRITERIA

| LOS | Volume-to-Capacity (v/c) | Density Range (pc/mi/ln) |
|---|---|---|
| A | 0.00 – 0.30 | 0 – 11 |
| B | 0.31 – 0.50 | > 11 – 18 |
| C | 0.51 – 0.70 | > 18 – 26 |
| D | 0.71 – 0.89 | > 26 – 35 |
| E | 0.90 – 1.00 | > 35 – 45 |
| F | > 1.00 | > 45 |

***General Notes:***

1. *Source: Caltrans Guide for the Preparation of Traffic Impact Studies, December 2002*
2. pc/mi/ln– Passenger car per mile per lane

Per the City's guidelines, the freeway analyses significance criteria may use the "Volume to Capacity" ratio (V/C) or "Speed" as the measure of effectiveness (MOE) to determine impacts on freeways. While freeway density and the corresponding LOS have been reported in the analyses, V/C was used as the MOE to determine significant project impacts on freeways given the software limitations in reporting speeds at congested conditions (i.e. LOS F).

# 4.0 EXISTING CONDITIONS

Effective evaluation of the traffic impacts associated with the proposed Project requires an understanding of the existing transportation system within the Project area. Future roadway classifications were obtained from the Adopted City of Santee Mobility Element. Existing roadway classifications were based upon field observations with Mobility Element capacities applied. ***Figure 4–1*** shows an existing conditions diagram, including signalized intersections and lane configurations.

## 4.1 Existing Street Network

The following is a brief description of the key roadways in the project study area. Unless otherwise noted, roadway classifications are from the City of Santee General Plan.

**Princess Joann Road** is classified and currently built as a Residential Collector. As a residential roadway, Princess Joann Road is built with speed bumps for traffic calming. The posted speed limit is 25 mph and on-street parking is permitted. Princess Joann Road will connect with the planned northward extension of Cuyamaca Street.

**Woodglen Vista Drive** is classified and currently built as a Residential Collector. The posted speed limit is 25 mph, though certain sections are built with speed bumps and a 15 mph advised speed. On-street parking is generally allowed.

**El Nopal** from Cuyamaca Street to Magnolia Avenue is classified and currently built as a Residential Collector. This section of El Nopal is built as a two-lane undivided roadway, with speed bumps constructed on the western portion.

From Magnolia Avenue to the Santee city limits located just west of Los Ranchitos Road, El Nopal is classified as a Collector and is currently built as a two-lane road with a two-way left-turn lane (TWLTL) median. The posted speed limit on this section is 35 mph.

Continuing east, from the city limits to Riverford Road, El Nopal lies within unincorporated San Diego County. This section of El Nopal is classified as 2.2E Light Collector within the Lakeside Community Planning Area of the County's General Plan Mobility Element. The roadway is currently constructed as two lanes with a striped median and a posted speed limit of 40 mph consistent with its classification. Curbside parking is generally prohibited, except between Los Ranchitos Road and Mountain View Lane.

**Mast Boulevard** is a key east-west roadway in the City of Santee that is classified as a Four-Lane Major Arterial. The small section from the SR-52 ramps to West Hills Parkway is located within the City of San Diego. This section is classified and currently built as a Four-Lane Major Arterial. From West Hills Parkway to Fanita Parkway, Mast Boulevard is currently constructed as a four-lane divided roadway with landscaped median. Between Fanita Parkway and Carlton Hills Boulevard, Mast Boulevard is built as a four-lane roadway with TWLTL median. From Carlton Hills Boulevard to Park Center Drive, the roadway transitions back to four lanes with a raised median. Between Park

Center Drive and Grand Teton Way there is another short stretch of the roadway built as four lanes with a TWLTL median, before the roadway transitions to two through lanes with intermittent turn pockets until Los Ranchitos Road. This section of Mast Boulevard between Magnolia Avenue and Los Ranchitos is classified as a Two-Lane Collector. The posted speed limit on Mast Boulevard ranges between 35 mph and 40 mph and on-street parking is permitted intermittently.

Mast Boulevard currently terminates at the Santee city limits, before picking up again roughly 800 feet to the east in unincorporated San Diego County where it is classified as a 4.1B Major Road. Per the City of Santee Adopted General Plan Mobility Element, there are no plans to connect Mast Boulevard between the City and County.

**Carlton Oaks Drive** is a generally east-west roadway classified as a Collector. Between West Hills Parkway and Carlton Hills Boulevard it is built as a two-lane roadway with TWLTL median and painted bike lanes in both directions. The posted speed limit is 35 mph and curbside parking is generally allowed on both sides of the street.

**Mission Gorge Road** is a principal east-west roadway in the City of Santee. From the western city limits to SR-52 it is classified and currently built as a Four-Lane Major Arterial. From SR-52 to Riverview Parkway, it is classified and currently built as a Six-Lane Prime Arterial. From Riverview Parkway to Magnolia Avenue, it is classified as a Four-Lane Major Arterial, however it is currently built as a six-lane road with a raised median. The posted speed limit varies between 35 mph and 45 mph. On-street parking is prohibited and no bicycle facilities are provided in the study area.

**Prospect Avenue** is an east-west connection and is classified and currently built as a Collector with TWLTL. Class II bike lanes are provided between Fanita Drive and Magnolia Avenue. The posted speed limit is 35 mph and on-street parking is allowed.

**West Hills Parkway** is a north-south roadway connecting Mission Gorge Road and Mast Boulevard at the western edge of the City of Santee and is classified as a Major Arterial. It is currently built as a four-lane road with a painted double-yellow median. West Hills Parkway is built with Class II bike lanes on the shoulder, with on-street parking prohibited. The posted speed limit is 45 mph.

**Fanita Parkway** is classified as a Residential Collector between Mast Boulevard and Carlton Oaks Drive, and as a Parkway north of Mast Boulevard to Ganley Road. North of its existing terminus, Fanita Parkway is planned to be extended as a Parkway per the Adopted Mobility Element. It is currently built as a two-lane undivided roadway for its entire length between Ganley Road and Carlton Oaks Drive. The posted speed limit is 40 mph north of Mast Boulevard and 35 mph to the south.

**Fanita Drive** from Mission Gorge Road to Prospect Avenue is classified and currently built as a Four-Lane Major Arterial. South of Prospect Avenue, Fanita Drive is classified as a Collector and narrows to a two-lane undivided roadway. On-street parking is prohibited between Mission Gorge Road and Prospect Avenue and allowed intermittently south of this point. Class II bike lanes are provided and on-street parking is prohibited. The posted speed limit is 40 mph.

**Carlton Hills Boulevard** is classified as a Collector from its northern terminus to Lake Canyon Road and as a Major Arterial from Lake Canyon Road to its southern terminus at Mission Gorge Road. From Lake Canyon Road to Mission Gorge Road it is built as a four-lane divided roadway with Class I bike lanes. The posted speed limit is 35 mph and curbside parking is allowed.

**Halberns Boulevard** is classified as a Residential Collector north of Lake Canyon Road and as a Collector from Lake Canyon Road to Mast Boulevard. From Lake Canyon Road to Mast Boulevard it is currently constructed as a two-lane roadway with TWLTL median and Class II bike lanes. The posted speed limit is 25 mph and on-street parking is allowed.

**Town Center Parkway** is classified as a Major Arterial. From Mission Gorge Road to Cuyamaca Street it is currently built as a four-lane divided roadway with Class II bike lanes and a posted speed limit of 35 mph. From Cuyamaca Street to Riverview Parkway it is classified and currently built as a two-lane Parkway with a TWLTL and shared-lane pavement markings for bicycles. The posted speed limit on this segment of Town Center Parkway is 25 mph. No on-street parking is allowed on any portion of Town Center Parkway.

**Cuyamaca Street** is a significant north-south roadway in the City of Santee. From its existing northern terminus to Town Center Parkway, Cuyamaca Street is classified as a Major Arterial. Between Town Center Parkway and the southern City limits, it is classified as a Prime Arterial. North of its existing terminus, Cuyamaca Street is planned to be extended as a Parkway per the Adopted Mobility Element. It is currently built as a two-lane roadway divided by a raised median with a cross-section to allow for the median to be reconstructed allowing for four lanes from its northern terminus to Beck Drive. South of Beck Drive to Mast Boulevard, an additional northbound thru lane is provided. The posted speed limit along this section is 35 mph. Class II bike lanes are provided and on-street parking is prohibited. South of Mast Boulevard to Town Center Parkway, it is built to Four-Lane Major Arterial standards providing Class II bike lanes with on-street parking prohibited. From Town Center Parkway to Prospect Avenue, it is built to Six-Lane Prime Arterial standards. Bike lanes are not provided and on-street parking is prohibited. The posted speed limit is 35 mph.

**Riverview Parkway** is classified as a Parkway. There is currently a gap between the existing portions of Riverview Parkway generally to the west and north of the Las Colinas Detention Facility that is planned to be completed in the future, per the Adopted Mobility Element. It is currently built with two lanes in each direction separated by a TWLTL. Class II bike lanes are provided and on-street parking is prohibited. No posted speed limit was observed in this area.

**Magnolia Avenue** from Princess Joann Road to Mission Gorge Road is classified and currently constructed as a Four-Lane Major Arterial. The section from Kerrigan Street to 2nd Street and between Braverman Drive and Mission Gorge Road it is divided by a TWLTL while maintaining a Major Arterial cross-section. Class II bike lanes are provided and on-street parking is permitted intermittently. The posted speed limit is 40 mph. North of its existing terminus, Magnolia Avenue is planned to be extended as a Parkway per the Adopted Mobility Element as a Four-Lane Parkway.

From Mission Gorge Road to the southern Santee city limits it is classified and currently built as a Six-Lane Prime Arterial roadway. South of the Santee city limits, Magnolia Avenue narrows to a two-lane undivided roadway.

**Woodside Avenue** runs from Magnolia Avenue in the west (where Mission Gorge Road ends) to Chestnut Street (Lakeside) in the east. North Woodside Avenue splits off from Woodside Avenue east of the SR-67 off-ramp. From Magnolia Avenue to the split the roadway is classified as a Major Arterial and is currently constructed with four lanes and a TWLTL median. East of the split it is designated as a Collector with TWLTL and is constructed as a two-lane roadway with a mix of TWLTL median and striped median with turn pockets. Class II bike lanes are provided and on-street parking is generally prohibited except for a portion of the roadway between Shadow Hill Road and Northcote Road. The posted speed limit is 45 mph.

**North Woodside Avenue** is classified as a Collector and built as a two-lane undivided roadway. Class II bicycle facilities are provided on both sides of the roadway. On-street parking is allowed on the north side of the roadway. The posted speed limit is 40 mph.

**Riverford Road** is located within the Lakeside Community Planning Area of the County of San Diego jurisdiction where it is classified as a 6.2 Prime Arterial from Riverside Drive to the SR-67 Southbound ramps. South of Mast Boulevard, Riverford Road is currently constructed as a three-lane undivided roadway (two northbound lanes and one southbound lane) to just north of the San Diego River. This portion also provides a TWLTL. South of the San Diego River to Woodside Avenue, Riverford Road is currently constructed as a two-lane undivided roadway. The posted speed limit is 40 mph and curbside parking generally prohibited. Bike lanes are provided in the Project area.

## 4.2 Existing Bicycle Network

Bicycle facilities along Mast Boulevard, Carlton Oaks Drive, Mission Gorge Road, Prospect Avenue and Woodside Avenue provide east-west connections, while facilities along Carlton Hills Boulevard, Cuyamaca Street, and North Magnolia Avenue provide north-south connections.

## 4.3 Existing Pedestrian Conditions

Newer streets in the City, particularly within the Town Center area as well as along Mission Gorge Road, have sidewalks which are separated from the street and designed along landscaped corridors. The City's current policy is to provide non-contiguous sidewalks on all new and widened streets of collector classification or larger. Pedestrian facilities include sidewalks, curb ramps, and other amenities such as street trees for shading and pedestrian scale lighting. The northern portion of Santee is very well-connected by sidewalks. Sidewalks are less prevalent in the older, southern areas.

## 4.4 Existing Transit Conditions

Transit service in Santee is provided by San Diego Metropolitan Transit Service (MTS). There are currently three (3) bus routes and one (1) light rail trolley route serving Santee.

**Route 832** is a loop running clockwise between Santee Town Center and northern Santee via Cuyamaca Street, Woodglen Vista Drive, Magnolia Avenue, and Mission Gorge Road. Route 832 runs seven days a week with service generally 6 AM to 7 PM weekdays and 8 AM to 5 PM Saturday and Sunday. Service is as frequent as every 45 minutes during peak periods and is at 1-hour intervals during off-peak periods and weekends.

**Route 833** is a generally north-south route running between Santee Town Center and the El Cajon Transit Center, via Mission Gorge Road, Magnolia Avenue, Graves Avenue, Pepper Drive, Mollison Avenue, E. Bradley Avenue, Fletcher Parkway, Arnele Avenue, and Marshall Avenue. Route 833 runs approximately 6 AM to 6 PM weekdays and 9 AM to 5 PM weekends. Route 833 runs at approximately 45-minute frequency all-day weekdays and 1 –hour frequency on weekends.

**Route 834** is a loop running between Santee Town Center and the western areas of Santee. Route 834 runs along Town Center Parkway, Mission Gorge Road, West Hills Parkway, Mast Boulevard, and Carlton Hills Boulevard. Route 834 runs a weekday-only schedule, with hourly service from approximately 7 AM to 7 PM.

**San Diego Trolley Green Line (Route 530)** serves Santee with one station located at Santee Town Center. The Green Line runs from the Santee Town Center to Downtown San Diego via Mission Valley and the Old Town Transit Center. Headways are approximately 10-15 minutes on weekdays and 10-30 minutes on weekends.

## 4.5 Existing Traffic Volumes

***Table 4–1*** is a summary of the most recent available average daily traffic volumes (ADTs) from LLG counts conducted by Count Data in January/February 2018 while schools were in session. Manual hand counts at the study area intersections, including bicycle and pedestrian counts, were also conducted on these dates.

Freeway volumes were taken from the most recently available Caltrans annual traffic census data, Year 2016.

The existing traffic volumes and analysis results will differ from those presented in the Adopted Mobility Element (data collected in November 2013). This is due to the counts being done in different years and due to general daily fluctuation along roadways.

***Figure 4–2*** shows the Existing Traffic Volumes. ***Appendix B*** contains the manual count sheets.

TABLE 4–1
EXISTING TRAFFIC VOLUMES

| Street Segment | ADT[a] | Source |
|---|---|---|
| **Princess Joann Road** | | |
| 1. Cuyamaca Street to Magnolia Avenue | 530 | LLG |
| **Woodglen Vista Drive** | | |
| 2. Cuyamaca Street to Magnolia Avenue | 1,700 | LLG |
| **El Nopal** | | |
| 3. Cuyamaca Street to Magnolia Avenue | 3,780 | LLG |
| 4. Magnolia Avenue to Los Ranchitos Road | 8,870 | LLG |
| 5. Los Ranchitos Road to Riverford Road | 9,810 | LLG |
| **Mast Boulevard** | | |
| 6. SR-52 to West Hills Parkway | 26,440 | LLG |
| 7. West Hills Parkway to Medina Drive | 19,540 | LLG |
| 8. Pebble Beach Drive to Fanita Parkway | 19,590 | LLG |
| 9. Fanita Parkway to Carlton Hills Boulevard | 16,800 | LLG |
| 10. Carlton Hills Boulevard to Halberns Boulevard | 19,220 | LLG |
| 11. Halberns Boulevard to Cuyamaca Street | 20,200 | LLG |
| 12. Cuyamaca Street to Magnolia Avenue | 18,490 | LLG |
| 13. Magnolia Avenue to Los Ranchitos Road | 7,710 | LLG |
| 14. West of Riverford Road | 1,810 | LLG |
| **Carlton Oaks Drive** | | |
| 15. West Hills Parkway to Pebble Beach Drive | 7,360 | LLG |
| 16. Fanita Parkway to Carlton Hills Boulevard | 10,560 | LLG |
| **Mission Gorge Road** | | |
| 17. Western City Limits to West Hills Parkway | 16,510 | LLG |
| 18. West Hills Parkway to SR-125 | 17,000 | LLG |
| 19. SR-125 to Fanita Drive | 45,440 | LLG |
| 20. Fanita Drive to Carlton Hills Boulevard | 41,100 | LLG |
| 21. Carlton Hills Boulevard to Town Center Parkway | 37,960 | LLG |
| 22. Town Center Parkway to Cuyamaca Street | 28,630 | LLG |
| 23. Cuyamaca Street to Riverview Parkway | 23,140 | LLG |
| 24. Riverview Parkway to Cottonwood Avenue | 25,550 | LLG |
| 25. Cottonwood Avenue to Magnolia Avenue | 24,960 | LLG |
| **Prospect Avenue** | | |
| 26. Fanita Drive to Cuyamaca Street | 8,900 | LLG |
| 27. Cuyamaca Street to Cottonwood Avenue | 9,880 | LLG |
| **West Hills Parkway** | | |
| 28. Mast Boulevard to Mission Gorge Road | 11,610 | LLG |
| **Fanita Parkway** | | |
| 29. Project Site to Ganley Drive | DNE | — |
| 30. Ganley Drive to Lake Canyon Road | 2,610 | LLG |
| 31. Lake Canyon Road to Mast Boulevard | 3,860 | LLG |

*(Continued on Next Page)*

TABLE 4–1
EXISTING TRAFFIC VOLUMES

| Street Segment | ADT[a] | Source |
|---|---|---|
| *(Continued from Previous Page)* | | |
| **Fanita Parkway (cont.)** | | |
| 32. Mast Boulevard to Carlton Oaks Drive | 3,330 | LLG |
| **Fanita Drive** | | |
| 33. Mission Gorge Road to SR-52 Ramps | 18,990 | LLG |
| 34. SR-52 Ramps to Prospect Avenue | 11,650 | LLG |
| **Carlton Hills Boulevard** | | |
| 35. Lake Canyon Road to Mast Boulevard | 5,880 | LLG |
| 36. Mast Boulevard to Carlton Oaks Drive | 10,030 | LLG |
| 37. Carlton Oaks Drive to Mission Gorge Road | 24,960 | LLG |
| **Halberns Boulevard** | | |
| 38. Lake Canyon Road to Mast Boulevard | 2,210 | LLG |
| **Town Center Parkway** | | |
| 39. Mission Gorge Road to Cuyamaca Street | 19,280 | LLG |
| 40. Cuyamaca Street to Riverview Parkway | 5,660 | LLG |
| **Cuyamaca Street** | | |
| 41. Project Site to Magnolia Avenue | DNE | — |
| 42. Magnolia Avenue to Princess Joann Road | DNE | — |
| 43. Princess Joann Road to Chaparral Drive | DNE | — |
| 44. Chaparral Drive to Woodglen Vista Drive | 670 | LLG |
| 45. Woodglen Vista Drive to El Nopal | 4,360 | LLG |
| 46. El Nopal to Mast Boulevard | 8,860 | LLG |
| 47. Mast Boulevard to River Park Drive | 19,600 | LLG |
| 48. River Park Drive to Town Center Parkway | 26,690 | LLG |
| 49. Town Center Parkway to Mission Gorge Road | 21,850 | LLG |
| 50. Mission Gorge Road to SR-52 Ramps | 39,020 | LLG |
| 51. SR-52 Ramps to south of Prospect Avenue | 26,060 | LLG |
| **Riverview Parkway** | | |
| 52. Mission Gorge Road to Town Center Parkway | 7,640 | LLG |
| 53. Town Center Parkway to Magnolia Avenue | DNE | — |
| **Magnolia Avenue** | | |
| 54. Cuyamaca Street to Princess Joann Road | DNE | — |
| 55. Princess Joann Road to Woodglen Vista Drive | 2,020 | LLG |
| 56. Woodglen Vista Drive to El Nopal | 9,030 | LLG |
| 57. El Nopal to Mast Boulevard | 13,690 | LLG |
| 58. Mast Boulevard to Riverview Parkway | 22,440 | LLG |
| 59. Riverview Parkway to Mission Gorge Road | 25,830 | LLG |
| 60. Mission Gorge Road to SR-52 Ramps | 33,870 | LLG |
| 61. SR-52 Ramps to south of Prospect Avenue | 12,600 | LLG |
| *(Continued on Next Page)* | | |

TABLE 4–1
EXISTING TRAFFIC VOLUMES

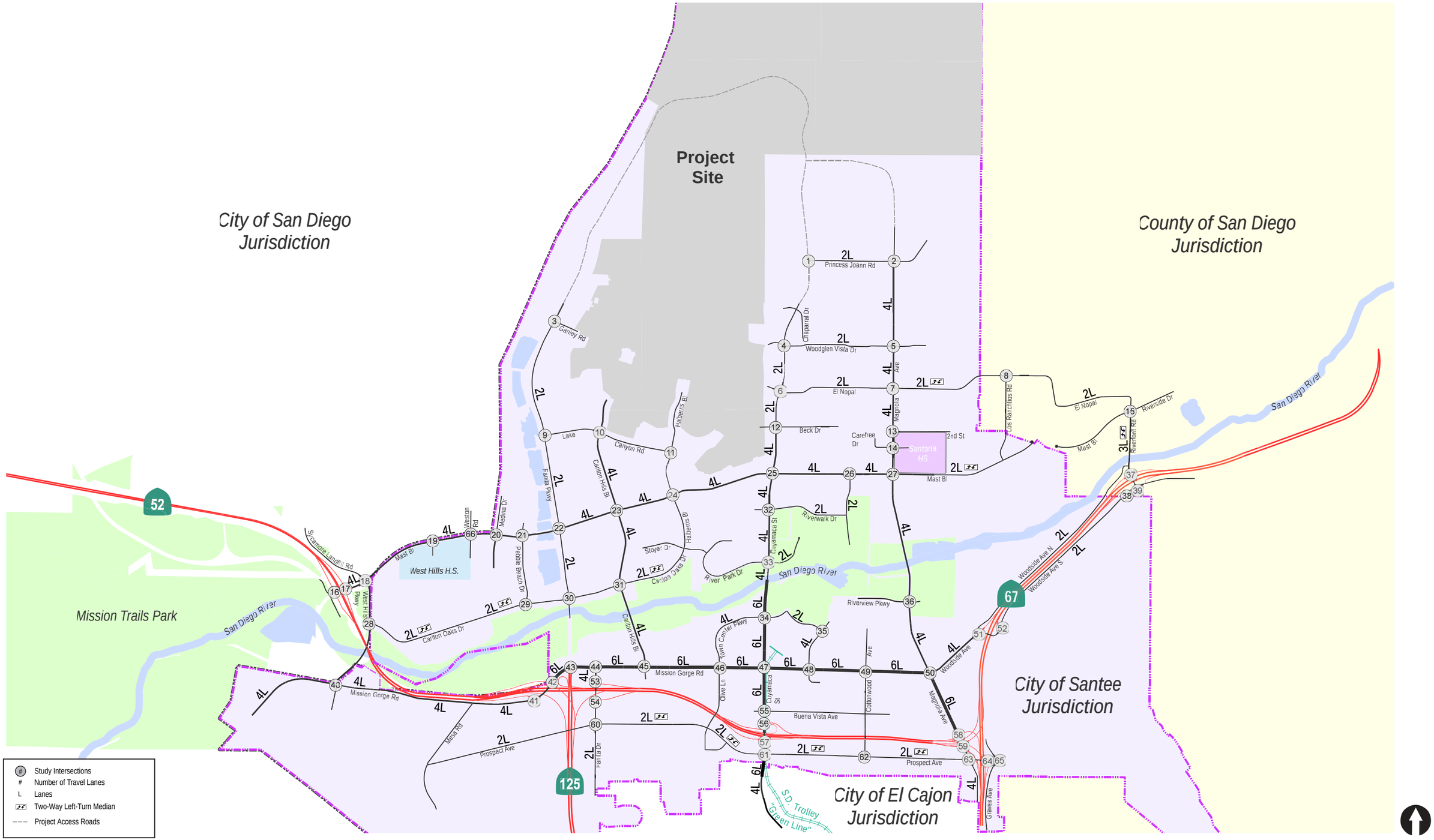
| Street Segment | ADT[a] | Source |
|---|---|---|
| *(Continued from Previous Page)* | | |
| **Woodside Avenue** | | |
| 62. East of Magnolia Avenue | 27,210 | LLG |
| **N. Woodside Avenue** | | |
| 63. Riverford Road to Woodside Avenue | 3,390 | LLG |
| **Riverford Road** | | |
| 64. Riverside Drive to SR-67 Ramps | 18,390 | LLG |

***Footnotes:***

a. Average Daily Traffic Volumes collected in January/February 2018

***General Notes:***

1. DNE – Does Not Exist

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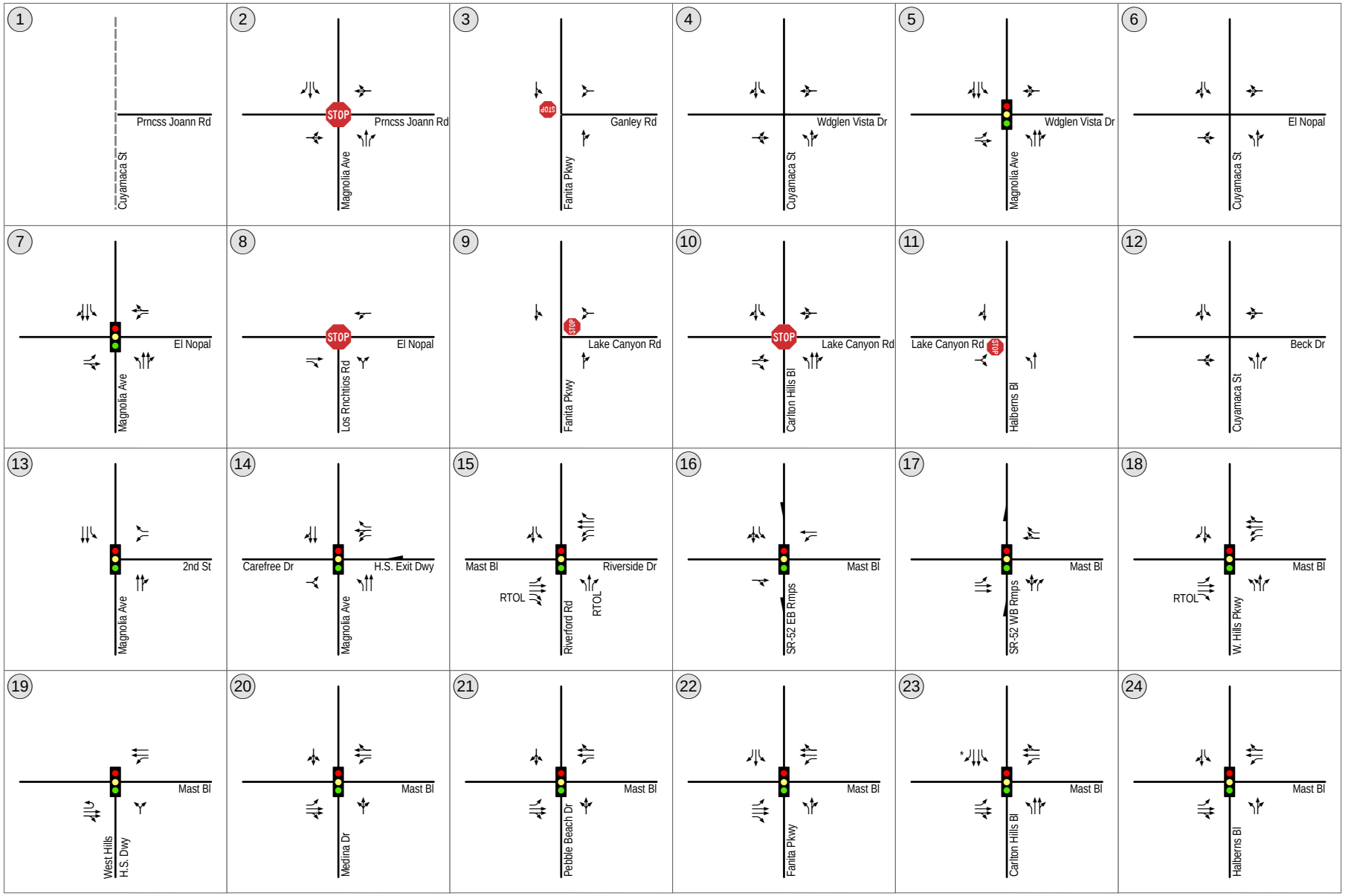
Date: 01/02/19

**Figure 4-1**

## Existing Conditions Diagram

FANITA RANCH

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Date: 05/08/19

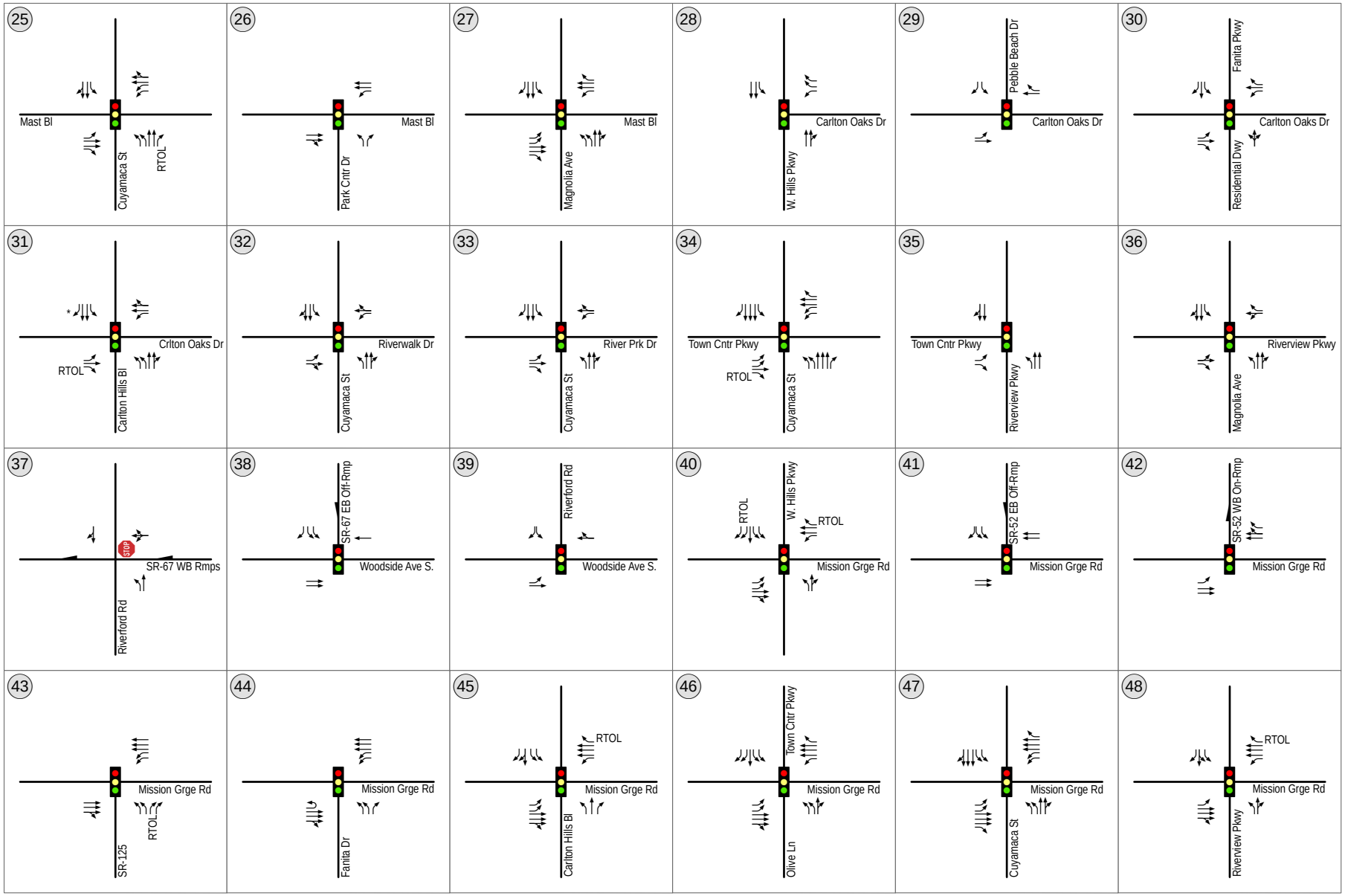
(#) Study Intersections
STOP Intersection Control
RTOL Right-Turn Overlap Phase
– – – – Project Access Roads
* Sneaker Lane

**Figure 4-1**
**(1 of 3)**

# Existing Conditions Diagram

## Lane Geometrics

FANITA RANCH

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Date: 05/08/19

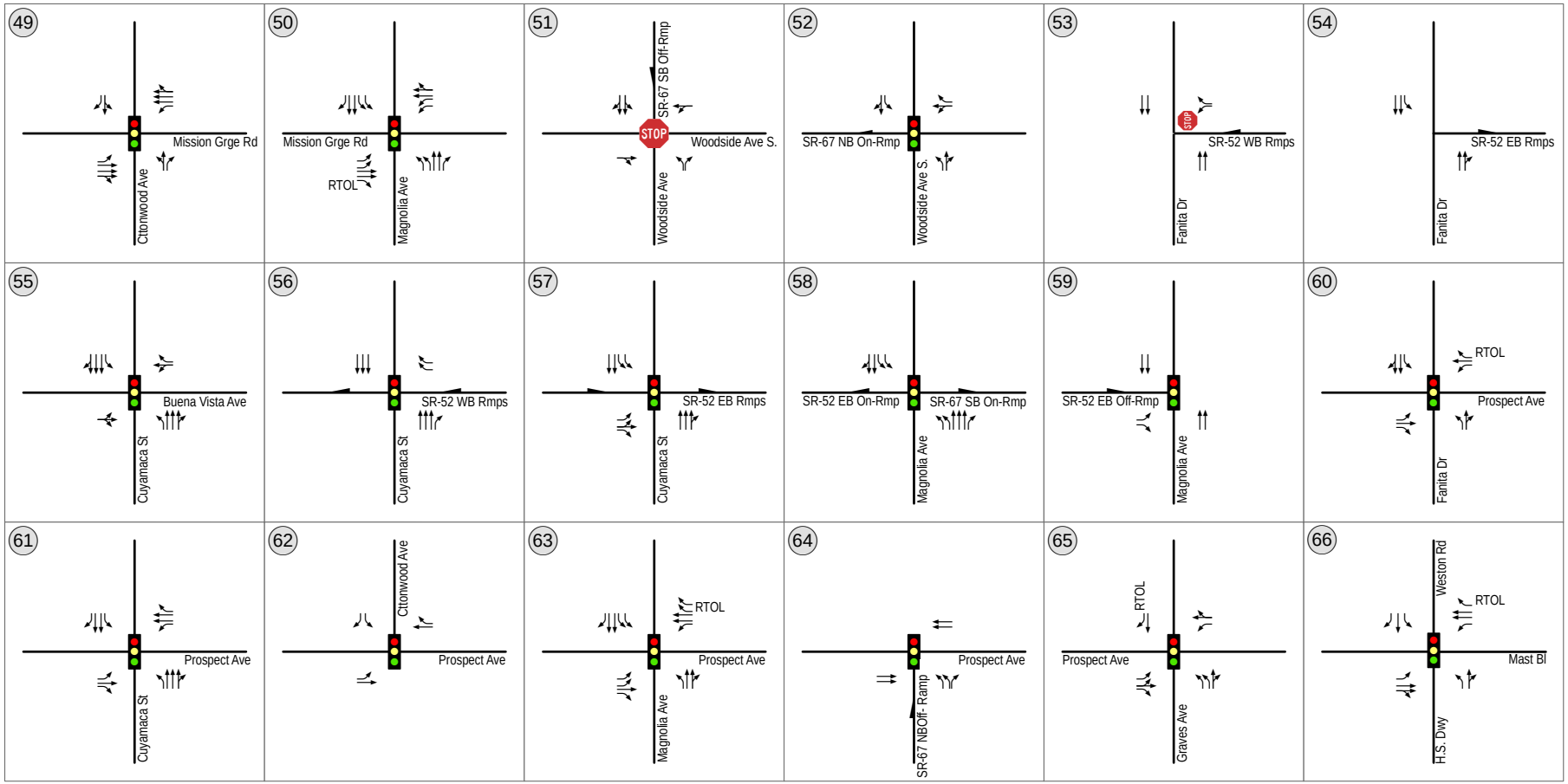
| | |
|---|---|
| # | Study Intersections |
| STOP | Intersection Control |
| RTOL | Right-Turn Overlap Phase |
| * | Sneaker Lane |

**Figure 4-1**
**(2 of 3)**

# Existing Conditions Diagram

## Lane Geometrics

FANITA RANCH

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Date: 01/02/19

# Study Intersections
STOP Intersection Control
RTOL Right-Turn Overlap Phase

**Figure 4-1**
**(3 of 3)**

# Existing Conditions Diagram
## Lane Geometrics

FANITA RANCH

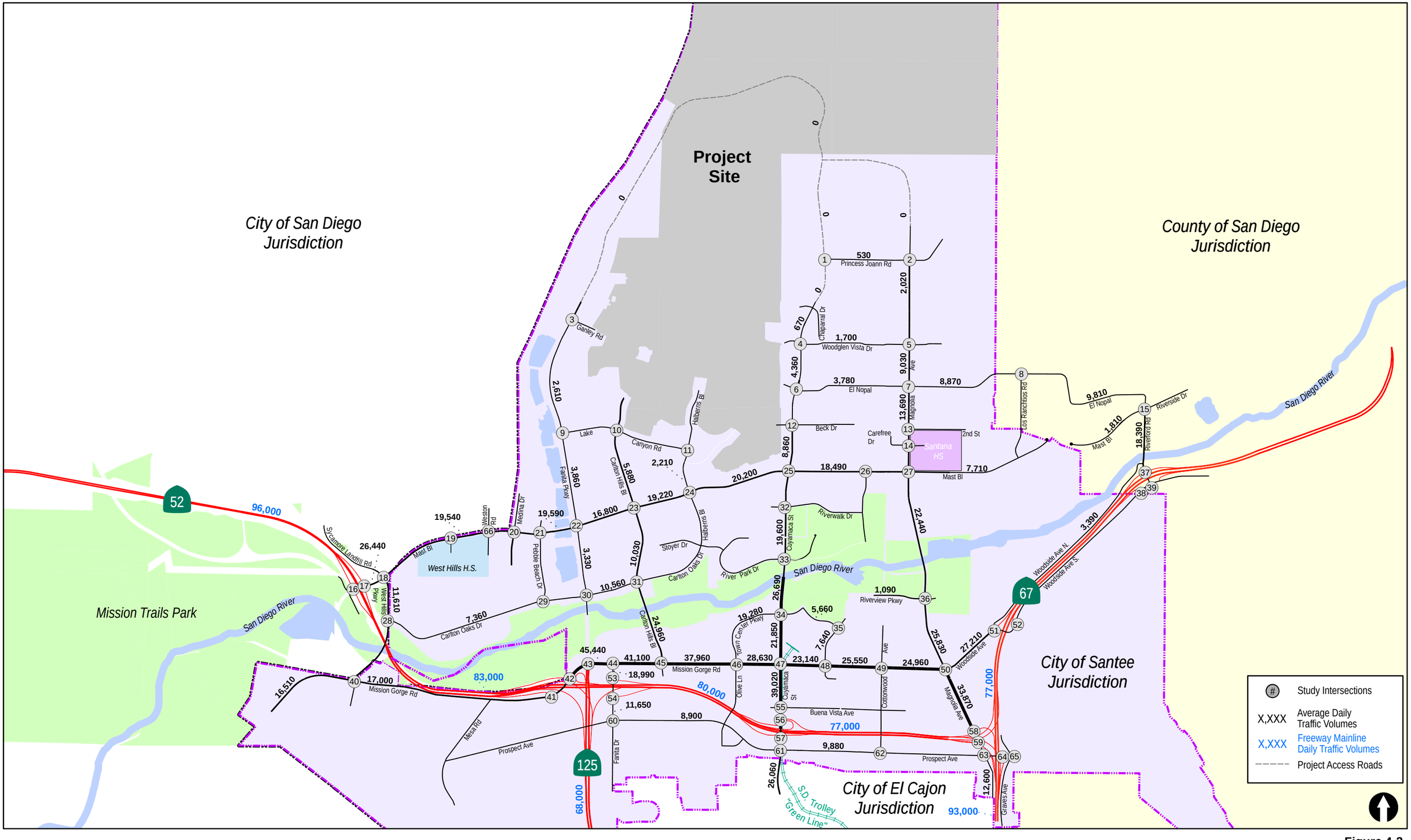


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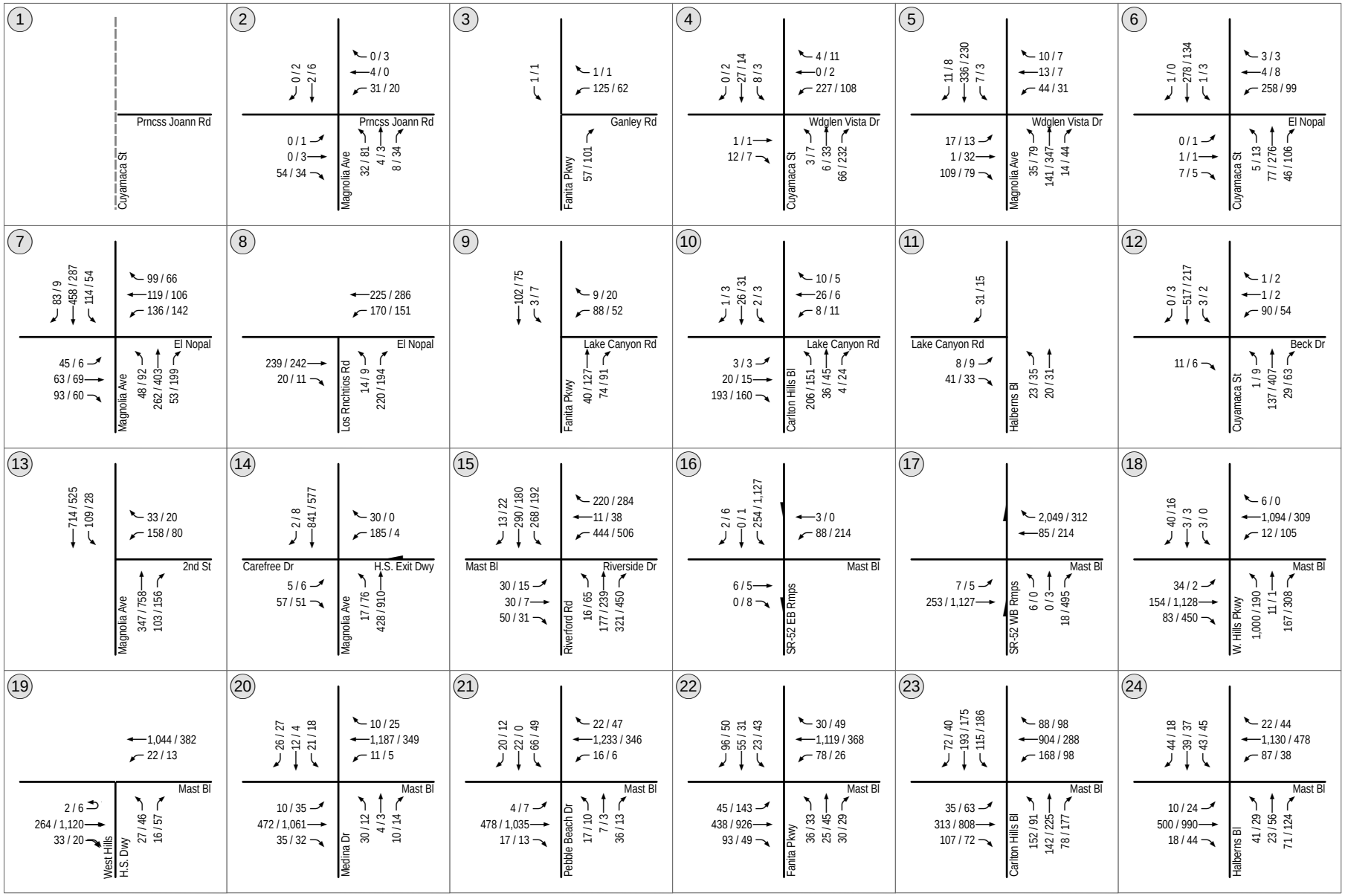
**Figure 4-2**

## Existing Traffic Volumes

FANITA RANCH

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Date: 10/12/18

# Study Intersections

AM / PM — AM / PM Intersection Peak Hour Volumes

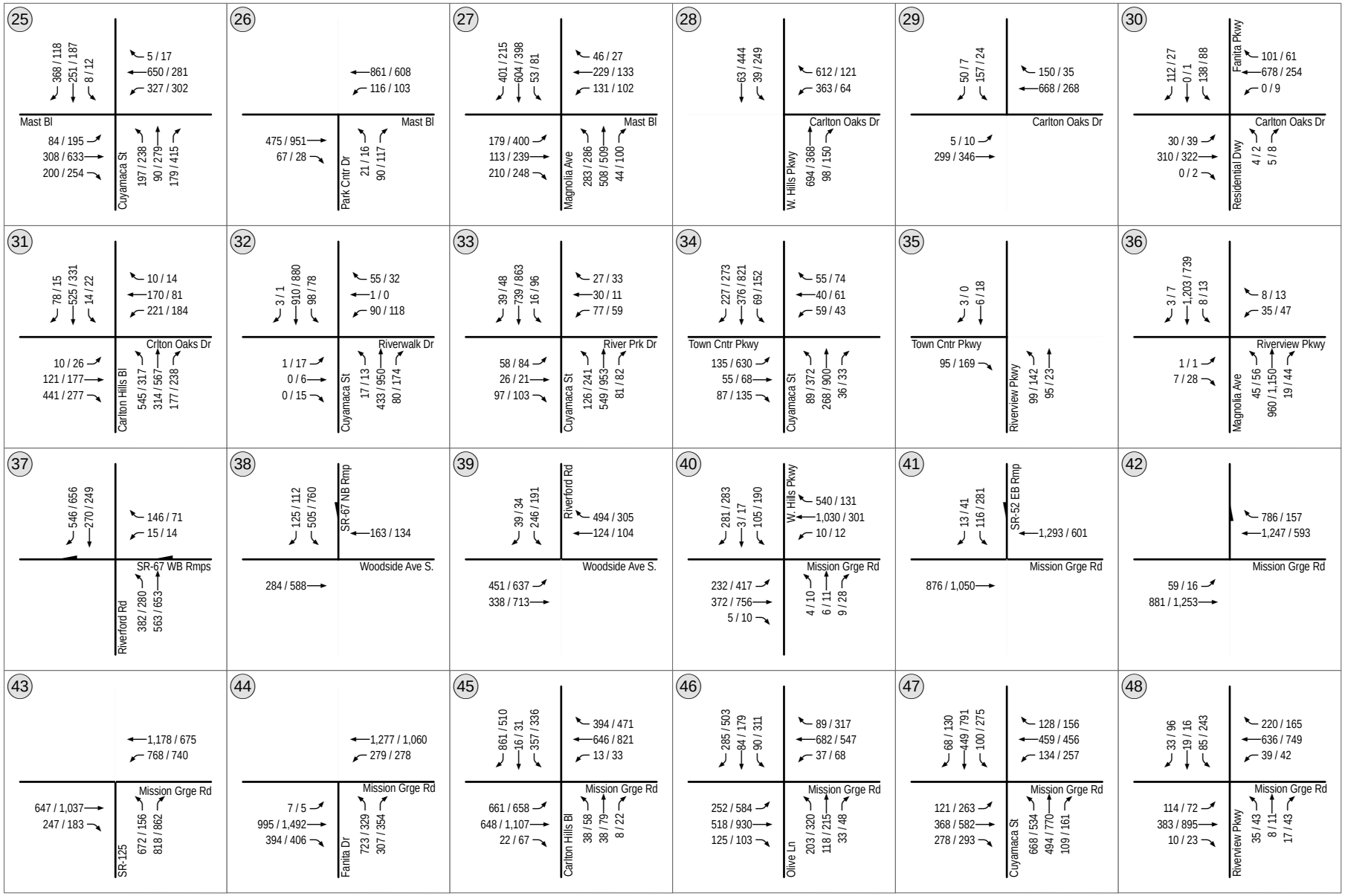
Project Access Roads

**Figure 4-2**
**(1 of 3)**

# Existing Traffic Volumes

## AM / PM Peak Hours

FANITA RANCH

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Date: 07/10/18

# Study Intersections

AM / PM — AM / PM Intersection Peak Hour Volumes

**Figure 4-2**
**(2 of 3)**

# Existing Traffic Volumes

## AM / PM Peak Hours

FANITA RANCH

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Date: 01/02/19

# Study Intersections

AM / PM — AM / PM Intersection Peak Hour Volumes

**Figure 4-2**
**(3 of 3)**

# Existing Traffic Volumes

## AM / PM Peak Hours

FANITA RANCH

# 5.0 SIGNIFICANCE CRITERIA

Either City of Santee, County of San Diego, or City of San Diego significance thresholds were utilized depending on the location of the facility. Below are the details on each jurisdictions' criteria.

## 5.1 City of Santee

A project is considered to have a significant impact if the new project traffic has decreased the operations of surrounding roadways by a defined threshold. The defined thresholds shown in ***Table 5–1*** below for freeway segments, roadway segments, and intersections are based on published SANTEC/ITE guidelines with the exception that LOS D is considered acceptable per the City of Santee General Plan. If the project exceeds the thresholds in *Table 5–1*, then the project may be considered to have a significant project impact. A feasible mitigation measure will need to be identified to return the impact within the thresholds (pre-project + allowable increase) or the impact will be considered significant and unmitigated.

If project traffic causes the location to degrade from an acceptable LOS D or better to LOS E or LOS F, or exceeds the allowable thresholds as shown in *Table 5–1* below for currently LOS E or F operating locations, a significant impact occurs.

Under Existing and Near-Term conditions, impacts are considered to be *direct*. Impacts in the long-term Year 2035 condition are considered to be *cumulative*, since the impacts would occur with a reduction in reserve capacity due to traffic generated by future growth in the City with the buildout of General Plan land uses.

TABLE 5–1
CITY OF SANTEE
TRAFFIC IMPACT SIGNIFICANCE THRESHOLDS

| Level of Service with Project [a] | Allowable Increase Due to Project Impacts [b] | | | | |
|---|---|---|---|---|---|
| | Freeways | | Roadway Segments | | Intersections |
| | V/C | Speed (mph) | V/C [c] | Speed (mph) | Delay (sec.) |
| E & F | 0.01 | 1.0 | 0.02 | 1.0 | 2.0 |

***Footnotes:***

a. All level of service measurements are based upon HCM procedures for peak-hour conditions. However, V/C ratios for Roadway Segments may be estimated on an ADT/24-hour traffic volume basis (using *Table 3–3* or a similar LOS chart for each jurisdiction). The acceptable LOS for freeways, roadways, and intersections is generally "D".

b. If a proposed project's traffic causes the values shown in the table to be exceeded, the impacts are deemed to be significant. These impact changes may be measured from appropriate computer programs or expanded manual spreadsheets. The project applicant shall then identify feasible mitigations (within the Traffic Impact Study [TIS] report) that will maintain the traffic facility at an acceptable LOS. If the LOS with the proposed project becomes unacceptable (see note a above), or if the project adds a significant amount of peak hour trips to cause any traffic queues to exceed on- or off-ramp storage capacities, the project applicant shall be responsible for mitigating significant impact changes.

c. The V/C ratio threshold of 0.02 is based on the fact that such a small change is virtually unnoticeable for the average motorists. For example: for a four-lane roadway (two lane each direction) with a capacity of 40,000 vehicles, the peak hour directional volumes are about 2,800. Two percent of that is 56 vehicles per hour which translate to less than one vehicle per lane in every two minutes for that approach. Such a small change is hardly noticeable to motorists. Therefore, a V/C ratio of 0.02 is a very conservative threshold.

***General Notes:***

1. V/C = Volume to Capacity Ratio
2. Speed = Arterial speed measured in miles per hour
3. Delay = Average stopped delay per vehicle measured in seconds for intersections.
4. LOS = Level of Service

## 5.2 County of San Diego

The following criteria was utilized to evaluate potential significant impacts, based on the *County of San Diego Guidelines for Determining Significance—Transportation and Traffic*, dated June 30, 2009 with a second modification effective August 24, 2011. The County of San Diego's *General Plan Mobility Element* discusses the County's Level of Service criteria under Goal M-2. It requires that development projects provide associated road improvements necessary to achieve a level of service of "D" or higher on all *Mobility Element* roads except for those where a failing level of service has been accepted by the County.

### 5.2.1 *Circulation Element Road Segments*

This section provides guidance for evaluating adverse environmental effects a project may have on Circulation Element street segments. The allowable ADT increases on LOS E/F operation roadways were obtained from County guidelines and are summarized in ***Table 5–2***. The thresholds in *Table 5–4* are based upon average operating conditions on County roadways. Exceeding the thresholds in *Table 5–4* would result in a significant impact. These thresholds only establish general

guidelines, and that the specific project location must be taken into account in conducting an analysis of traffic impact from new development.

TABLE 5–2
COUNTY OF SAN DIEGO MEASURES OF SIGNIFICANT PROJECT IMPACTS TO CONGESTION ON CIRCULATION ELEMENT ROAD SEGMENTS
ALLOWABLE INCREASES ON CONGESTED ROAD SEGMENTS

| Level of Service | Two-Lane Road | Four-Lane Road | Six-Lane Road |
|---|---|---|---|
| LOS E | 200 ADT | 400 ADT | 600 ADT |
| LOS F | 100 ADT | 200 ADT | 300 ADT |

***General Notes:***

1. By adding proposed project trips to all other trips from a list of projects, this same table must be used to determine if total cumulative impacts are significant. If cumulative impacts are found to be significant, each project that contributes additional trips must mitigate a share of the cumulative impacts.
2. The County may also determine impacts have occurred on roads even when a project's traffic or cumulative impacts do not trigger an unacceptable level of service, when such traffic uses a significant amount of remaining road capacity.

### 5.2.2 *Non-Circulation Element Residential Streets*

Per the *County of San Diego Guidelines for Determining Significance—Transportation and Traffic*, "Levels of service are not applied to residential streets since their primary purpose is to serve abutting lots and not to carry through traffic, however, for projects that will substantially increase traffic volumes on residential streets, a comparison of the traffic volumes on the residential streets with the recommended design capacity must be provided. Recommended design capacities for non-Circulation Element streets are provided in the San Diego County Public and Private Road Standards. Traffic volume that exceeds the design capacity on residential streets may impact residences and should be analyzed on a case-by-case basis".

### 5.2.3 *Intersections*

This section provides guidance for evaluating adverse environmental effects a project may have on signalized and un-signalized intersections. ***Table 5–3*** was obtained from County guidelines and summarizes the allowable increases in delay or traffic volumes at signalized and un-signalized intersections. Exceeding the thresholds in *Table 5–3* would result in a significant impact.

TABLE 5–3
COUNTY OF SAN DIEGO MEASURES OF SIGNIFICANT PROJECT IMPACTS TO CONGESTION ON INTERSECTIONS
ALLOWABLE INCREASES ON CONGESTED INTERSECTIONS

| Level of service | Signalized | Un-signalized |
|---|---|---|
| LOS E | Delay of 2 seconds or less | 20 or less peak hour trips on a critical movement |
| LOS F | Either a Delay of 1 second, or 5 peak hour trips or less on a critical movement | 5 or less peak hour trips on a critical movement |

***General Notes:***

1. A critical movement is an intersection movement (right-turn, left-turn, through-movement) that experiences excessive queues, which typically operate at LOS F.
2. By adding proposed project trips to all other trips from a list of projects, these same tables are used to determine if total cumulative impacts are significant. If cumulative impacts are found to be significant, each project is responsible for mitigating its share of the cumulative impact.
3. The County may also determine impacts have occurred on roads even when a project's traffic or cumulative impacts do not trigger an unacceptable level of service, when such traffic uses a significant amount of remaining road capacity.
4. For determining significance at signalized intersections with LOS F conditions, the analysis must evaluate both the delay ***and*** the number of trips on a critical movement, exceedance of either criteria result in a significant impact.

***Signalized Intersections—***Traffic volume increases from public or private projects that result in one or more of the following criteria will have a significant traffic volume or level of service traffic impact on a signalized intersection:

- The additional or redistributed ADT generated by the proposed project will significantly increase congestion on a signalized intersection currently operating at LOS E or LOS F, or will cause a signalized intersection to operate at a LOS E or LOS F as identified in *Table 5–3*.
- Based upon an evaluation of existing accident rates, the signal priority list, intersection geometrics, proximity of adjacent driveways, sight distance or other factors, the project would significantly impact the operations of the intersection.

***Un-signalized Intersections—***The operating parameters and conditions for un-signalized intersections differ dramatically from those of signalized intersections. Very small volume increases on one leg or turn and/or through movement of an un-signalized intersection can substantially affect the calculated delay for the entire intersection. Significance criteria for un-signalized intersections are based upon a minimum number of trips added to a critical movement at an un-signalized intersection.

Traffic volume increases from public or private projects that result in one or more of the following criteria will have a significant traffic impact on an un-signalized intersection as listed in *Table 5–3* and described as text below:

- The additional or redistributed ADT generated by the proposed project will add 21 or more peak hour trips to a critical movement of an un-signalized intersection, and cause an un-signalized intersection to operate below LOS D, or

- The additional or redistributed ADT generated by the proposed project will add 21 or more peak hour trips to a critical movement of an un-signalized intersection currently operating at LOS E, or
- The additional or redistributed ADT generated by the proposed project will add 6 or more peak hour trips to a critical movement of an un-signalized intersection, and cause the un-signalized intersection to operate at LOS F, or
- The additional or redistributed ADT generated by the proposed project will add 6 or more peak hour trips to a critical movement of an un-signalized intersection currently operating at LOS F, or
- Based upon an evaluation of existing accident rates, the signal priority list, intersection geometrics, proximity of adjacent driveways, sight distance or other factors, the project would significantly impact the operations of the intersection.

## 5.3 City of San Diego

According to the City of San Diego's *Significance Determination Thresholds* report dated July 2016, a project is considered to have a significant impact if the new project traffic has decreased the operations of surrounding roadways by a City defined threshold. For projects deemed complete on or after January 1, 2011, the City defined threshold by roadway type or intersection is shown in ***Table 5–4***.

The impact is designated either a "direct" or "cumulative" impact. According to the City's *Significance Determination Thresholds* report,

> "*Direct* traffic impacts are those projected to occur at the time a proposed development becomes operational, including other developments not presently operational but which are anticipated to be operational at that time (near term)."
>
> "*Cumulative* traffic impacts are those projected to occur at some point after a proposed development becomes operational, such as during subsequent phases of a project and when additional proposed developments in the area become operational (short-term cumulative) or when affected community plan area reaches full planned Year 2035 (long-term cumulative)."
>
> "It is possible that a project's near term (direct) impacts may be reduced in the long term, as future projects develop and provide additional roadway improvements (for instance, through implementation of traffic phasing plans). In such a case, the project may have direct impacts but not contribute considerably to a cumulative impact."
>
> "For intersections and roadway segments affected by a project, LOS D or better is considered acceptable under both direct and cumulative conditions."

If the project exceeds the thresholds in *Table 5–4*, then the project may be considered to have a significant "direct" or "cumulative" project impact. A significant impact can also occur if a project causes the LOS to degrade from D to E, even if the allowable increases in *Table 5–4* are not

exceeded. A feasible mitigation measure will need to be identified to return the impact within the City thresholds, or the impact will be considered significant and unmitigated.

TABLE 5–4
CITY OF SAN DIEGO
TRAFFIC IMPACT SIGNIFICANCE THRESHOLDS

| **Level of Service with Project [b]** | **Allowable Increase Due to Project Impacts [a]** | |
|---|---|---|
| | **Roadway Segments** | **Intersections** |
| | **V/C** | **Delay (sec.)** |
| E | 0.02 | 2.0 |
| F | 0.01 | 1.0 |

***Footnotes:***

a. If a proposed project's traffic causes the values shown in the table to be exceeded, the impacts are determined to be significant. The project applicant shall then identify feasible improvements (within the Traffic Impact Study) that will restore/and maintain the traffic facility at an acceptable LOS. If the LOS with the proposed project becomes unacceptable (see note b), the project applicant shall be responsible for mitigating the project's direct significant and/or cumulatively considerable traffic impacts.

b. All LOS measurements are based upon Highway Capacity Manual procedures for peak-hour conditions. However, V/C ratios for roadway segments are estimated on an ADT/24-hour traffic volume basis (using Table 2 of the City's Traffic Impact Study Manual). The acceptable LOS for freeways, roadways, and intersections is generally "D" ("C" for undeveloped locations).

***General Notes:***

1. Delay = Average control delay per vehicle measured in seconds for intersections, or minutes for ramp meters.
2. LOS = Level of Service
3. V/C = Volume to Capacity Ratio (capacity at LOS E should be used)

# 6.0 ANALYSIS OF EXISTING CONDITIONS

The analysis of existing conditions includes the assessment of the study area intersections, street segments, freeway mainline segments, and freeway on-ramps.

## 6.1 Peak Hour Intersection Levels of Service

***Table 6–1*** summarizes the Existing intersection operations. As seen in *Table 6*–1, the following study area intersections are calculated to currently operate at LOS E or F under Existing conditions:

- Intersection #17. Mast Boulevard / SR-52 WB Ramps – LOS F (AM peak hour)
- Intersection #18. Mast Boulevard / West Hills Parkway – LOS F (AM peak hour)
- Intersection #37. Riverford Road / SR-67 SB Ramps – LOS F (AM/PM peak hours)
- Intersection #45. Mission Gorge Road / Carlton Hills Boulevard – LOS E (AM peak hour)

***Appendix C-1*** contains the Existing peak hour intersection calculation worksheets.

## 6.2 Daily Street Segment Operations

***Table 6–2*** summarizes the Existing roadway segment operations. As seen in *Table 6–2*, all study area segments are calculated to currently operate at LOS D or better under Existing conditions, except the following:

- Segment #64. Riverford Road from Riverside Drive to SR-67 Ramps – LOS E

## 6.3 Peak Hour Freeway Mainline Operations

***Table 6–3*** summarizes the Existing freeway mainline segment operations. As seen in *Table 6–3*, study area freeway mainline segments are calculated to currently operate at LOS D or better under Existing conditions except the following:

- Mainline #1. SR-52 from Santo Road to Mast Boulevard
    - Eastbound – LOS E (PM peak hour)
    - Westbound – LOS E (AM peak hour)
- Mainline #2. SR-52 from Mast Boulevard to SR-125
    - Eastbound – LOS F (PM peak hour)
    - Westbound – LOS E (AM peak hour)
- Mainline #5. SR-67 from Riverford Road to SR-52
    - Northbound – LOS E (PM peak hour)

***Appendix C-2*** contains the HCS freeway analysis sheets.

TABLE 6–1
EXISTING INTERSECTION OPERATIONS

| Intersection | Jur. | Control Type | Peak Hour | Existing | |
|---|---|---|---|---|---|
| | | | | Delay [a] | LOS [b] |
| 1. Princess Joann Road / Cuyamaca Street | Santee | *DNE* [c] | AM<br>PM | —<br>— | —<br>— |
| 2. Princess Joann Road / Magnolia Avenue | Santee | AWSC [d] | AM<br>PM | 7.6<br>7.9 | A<br>A |
| 3. Ganley Road / Fanita Parkway | Santee | MSSC [e] | AM<br>PM | 9.3<br>9.1 | A<br>A |
| 4. Woodglen Vista Drive / Cuyamaca Street | Santee | AWSC | AM<br>PM | 8.9<br>9.0 | A<br>A |
| 5. Woodglen Vista Drive / Magnolia Avenue | Santee | Signal | AM<br>PM | 11.9<br>10.7 | B<br>B |
| 6. El Nopal / Cuyamaca Street | Santee | AWSC | AM<br>PM | 12.0<br>11.8 | B<br>B |
| 7. El Nopal / Magnolia Avenue | Santee | Signal | AM<br>PM | 23.9<br>18.3 | C<br>B |
| 8. El Nopal / Los Ranchitos Road | County | AWSC | AM<br>PM | 13.9<br>14.9 | B<br>B |
| 9. Lake Canyon Road / Fanita Parkway | Santee | AWSC | AM<br>PM | 7.9<br>8.3 | A<br>A |
| 10. Lake Canyon Road / Carlton Hills Boulevard | Santee | AWSC | AM<br>PM | 10.3<br>9.2 | B<br>A |
| 11. Lake Canyon Road / Halberns Boulevard | Santee | MSSC | AM<br>PM | 8.7<br>8.7 | A<br>A |
| 12. Beck Drive / Cuyamaca Street | Santee | AWSC | AM<br>PM | 22.4<br>13.3 | C<br>B |
| 13. 2nd Street / Magnolia Avenue | Santee | Signal | AM<br>PM | 8.0<br>6.6 | A<br>A |
| 14. Carefree Drive / Magnolia Avenue | Santee | Signal | AM<br>PM | 17.4<br>9.2 | B<br>A |
| 15. Riverford Road / Riverside Drive | County | Signal | AM<br>PM | 25.7<br>24.3 | C<br>C |
| 16. Mast Boulevard / SR-52 EB Ramps | San Diego/ Caltrans | Signal | AM<br>PM | 9.5<br>13.1 | A<br>B |
| 17. Mast Boulevard / SR-52 WB Ramps [g] | San Diego/ Caltrans | Signal | AM<br>PM | >100.0<br>10.9 | F<br>B |
| 18. Mast Boulevard / West Hills Parkway [g] | San Diego | Signal | AM<br>PM | >100.0<br>24.3 | F<br>C |

*(Continued on Next Page)*

TABLE 6–1
EXISTING INTERSECTION OPERATIONS

| Intersection | Jur. | Control Type | Peak Hour | Existing | |
|---|---|---|---|---|---|
| | | | | Delay [a] | LOS [b] |
| *(Continued from Previous Page)* | | | | | |
| 19. Mast Boulevard / West Hills High School | Santee | Signal | AM<br>PM | 3.9<br>7.4 | A<br>A |
| 20. Mast Boulevard / Medina Drive | Santee | Signal | AM<br>PM | 3.9<br>4.5 | A<br>A |
| 21. Mast Boulevard / Pebble Beach Drive | Santee | Signal | AM<br>PM | 5.0<br>3.7 | A<br>A |
| 22. Mast Boulevard / Fanita Parkway | Santee | Signal | AM<br>PM | 10.8<br>12.0 | B<br>B |
| 23. Mast Boulevard / Carlton Hills Boulevard | Santee | Signal | AM<br>PM | 42.4<br>44.8 | D<br>D |
| 24. Mast Boulevard / Halberns Boulevard | Santee | Signal | AM<br>PM | 13.5<br>13.8 | B<br>B |
| 25. Mast Boulevard / Cuyamaca Street | Santee | Signal | AM<br>PM | 36.9<br>33.3 | D<br>C |
| 26. Mast Boulevard / Park Center Drive | Santee | Signal | AM<br>PM | 7.1<br>8.7 | A<br>A |
| 27. Mast Boulevard / Magnolia Avenue | Santee | Signal | AM<br>PM | 32.9<br>26.8 | C<br>C |
| 28. Carlton Oaks Drive / West Hills Parkway | San Diego | Signal | AM<br>PM | 15.0<br>9.8 | B<br>A |
| 29. Carlton Oaks Drive / Pebble Beach Drive | Santee | Signal | AM<br>PM | 8.9<br>5.0 | A<br>A |
| 30. Carlton Oaks Drive / Fanita Parkway | Santee | Signal | AM<br>PM | 10.9<br>9.2 | B<br>A |
| 31. Carlton Oaks Drive / Carlton Hills Boulevard | Santee | Signal | AM<br>PM | 33.0<br>23.3 | C<br>C |
| 32. Riverwalk Drive / Cuyamaca Street | Santee | Signal | AM<br>PM | 14.6<br>14.6 | B<br>B |
| 33. Riverpark Drive / Cuyamaca Street | Santee | Signal | AM<br>PM | 16.7<br>19.9 | B<br>B |
| 34. Town Center Parkway / Cuyamaca Street | Santee | Signal | AM<br>PM | 14.5<br>32.7 | B<br>C |
| 35. Town Center Parkway / Riverview Parkway | Santee | Signal | AM<br>PM | 11.6<br>14.5 | B<br>B |
| 36. Riverview Parkway / Magnolia Avenue | Santee | Signal | AM<br>PM | 10.1<br>11.2 | B<br>B |
| 37. Riverford Road / SR-67 SB Ramps | County/ Caltrans | MSSC | AM<br>PM | 86.0<br>51.0 | F<br>F |
| *(Continued on Next Page)* | | | | | |

TABLE 6–1
EXISTING INTERSECTION OPERATIONS

| Intersection | Jur. | Control Type | Peak Hour | Existing | |
|---|---|---|---|---|---|
| | | | | Delay [a] | LOS [b] |
| *(Continued from Previous Page)* | | | | | |
| 38. Woodside Avenue / SR-67 NB Off-Ramp | County/ Caltrans | Signal | AM | 40.4 | D |
| | | | PM | 43.2 | D |
| 39. Riverford Road / Woodside Avenue | County | Signal | AM | 54.9 | D |
| | | | PM | 31.1 | C |
| 40. Mission Gorge Road / West Hills Parkway | Santee | Signal | AM | 16.1 | B |
| | | | PM | 14.3 | B |
| 41. Mission Gorge Road / SR-52 EB Ramps | Santee/ Caltrans | Signal | AM | 4.1 | A |
| | | | PM | 11.1 | B |
| 42. Mission Gorge Road / SR-52 WB Ramps | Santee/ Caltrans | Signal | AM | 1.8 | A |
| | | | PM | 0.6 | A |
| 43. Mission Gorge Road / SR-125 | Santee/ Caltrans | Signal | AM | 32.6 | C |
| | | | PM | 29.1 | C |
| 44. Mission Gorge Road / Fanita Drive | Santee | Signal | AM | 37.7 | D |
| | | | PM | 29.9 | C |
| 45. Mission Gorge Road / Carlton Hills Boulevard | Santee | Signal | AM | 61.7 | E |
| | | | PM | 38.9 | D |
| 46. Mission Gorge Road / Town Center Parkway | Santee | Signal | AM | 26.2 | C |
| | | | PM | 45.9 | D |
| 47. Mission Gorge Road / Cuyamaca Street | Santee | Signal | AM | 43.3 | D |
| | | | PM | 47.4 | D |
| 48. Mission Gorge Road / Riverview Parkway | Santee | Signal | AM | 19.0 | B |
| | | | PM | 17.0 | B |
| 49. Mission Gorge Road / Cottonwood Avenue | Santee | Signal | AM | 26.7 | C |
| | | | PM | 20.6 | C |
| 50. Mission Gorge Road / Magnolia Avenue | Santee | Signal | AM | 40.9 | D |
| | | | PM | 47.7 | D |
| 51. Woodside Avenue N. / SR-67 SB Off-Ramp | Santee/ Caltrans | AWSC | AM | 26.0 | D |
| | | | PM | 16.0 | C |
| 52. Woodside Avenue / SR-67 NB On-Ramp | Santee/ Caltrans | Signal | AM | 10.0 | A |
| | | | PM | 9.3 | A |
| 53. Fanita Drive / SR-52 WB Off-Ramp | Santee/ Caltrans | MSSC | AM | 26.8 | D |
| | | | PM | 16.7 | C |
| 54. Fanita Drive / SR-52 EB On-Ramp | Santee/ Caltrans | Uncontrolled [f] | AM | 15.2 | C |
| | | | PM | 9.9 | A |
| *(Continued on Next Page)* | | | | | |

## TABLE 6–1
## EXISTING INTERSECTION OPERATIONS

| Intersection | Jur. | Control Type | Peak Hour | Existing | |
|---|---|---|---|---|---|
| | | | | Delay [a] | LOS [b] |
| *(Continued from Previous Page)* | | | | | |
| 55. Buena Vista Avenue / Cuyamaca Street | Santee | Signal | AM<br>PM | 11.2<br>28.9 | B<br>C |
| 56. Cuyamaca Street / SR-52 WB Ramps | Santee/ Caltrans | Signal | AM<br>PM | 2.6<br>3.6 | A<br>A |
| 57. Cuyamaca Street / SR-52 EB Ramps | Santee/ Caltrans | Signal | AM<br>PM | 31.7<br>36.2 | C<br>D |
| 58. Magnolia Avenue / SR-52 WB Ramps / SR-67 SB Ramps | Santee/ Caltrans | Signal | AM<br>PM | 6.8<br>5.9 | A<br>A |
| 59. Magnolia Avenue / SR-52 EB Ramps | Santee/ Caltrans | Signal | AM<br>PM | 8.8<br>20.1 | A<br>C |
| 60. Prospect Avenue / Fanita Drive | Santee | Signal | AM<br>PM | 27.2<br>19.1 | C<br>B |
| 61. Prospect Avenue / Cuyamaca Street | Santee | Signal | AM<br>PM | 29.1<br>34.4 | C<br>C |
| 62. Prospect Avenue / Cottonwood Avenue | Santee | Signal | AM<br>PM | 8.3<br>6.5 | A<br>A |
| 63. Prospect Avenue / Magnolia Avenue | Santee | Signal | AM<br>PM | 20.4<br>28.1 | C<br>C |
| 64. Prospect Avenue / SR-67 NB Off-Ramp | Santee/ Caltrans | Signal | AM<br>PM | 9.5<br>8.6 | A<br>A |
| 65. Prospect Avenue / Graves Avenue | Santee | Signal | AM<br>PM | 20.1<br>33.7 | C<br>C |
| 66. Mast Boulevard / Weston Road | Santee | Signal | AM<br>PM | 5.3<br>1.5 | A<br>A |

***Footnotes:***

a. Average delay expressed in seconds per vehicle.
b. Level of Service
c. Does Not Exist
d. All-Way Stop Controlled intersection. Average intersection delay reported.
e. Minor-Street Stop Controlled intersection. Minor street left-turn delay reported.
f. No traffic control devices are installed at this location. Therefore, the southbound left-turn movement is reported.
g. The HCM methodology does not accurately reflect operations at this intersection during the AM peak hour. Latent demand east of the intersection, as well as upstream congestion from SR-52 WB exceed the limits of the analysis software/methodology. The LOS F result is based on the bottleneck effect of the lane-drop on the WB on-ramp observed in the field.

| SIGNALIZED | | UNSIGNALIZED | |
|---|---|---|---|
| DELAY/LOS THRESHOLDS | | DELAY/LOS THRESHOLDS | |
| Delay | LOS | Delay | LOS |
| 0.0 ≤ 10.0 | A | 0.0 ≤ 10.0 | A |
| 10.1 to 20.0 | B | 10.1 to 15.0 | B |
| 20.1 to 35.0 | C | 15.1 to 25.0 | C |
| 35.1 to 55.0 | D | 25.1 to 35.0 | D |
| 55.1 to 80.0 | E | 35.1 to 50.0 | E |
| ≥ 80.1 | F | ≥ 50.1 | F |

***General Notes:***

1. Jur. = Jurisdiction
2. DNE, "—" = Does not exist

TABLE 6–2
EXISTING STREET SEGMENT OPERATIONS

| Street Segment | Jur. | Capacity (LOS E) [a] | ADT [b] | LOS [c] | V/C [d] |
|---|---|---|---|---|---|
| **Princess Joann Road** | | | | | |
| 1. Cuyamaca St to Magnolia Ave | Santee | 8,000 | 530 | A | 0.066 |
| **Woodglen Vista Drive** | | | | | |
| 2. Cuyamaca St to Magnolia Ave | Santee | 8,000 | 1,700 | A | 0.213 |
| **El Nopal** | | | | | |
| 3. Cuyamaca St to Magnolia Ave | Santee | 8,000 | 3,780 | C | 0.473 |
| 4. Magnolia Ave to Los Ranchitos Rd | Santee | 15,000 | 8,870 | C | 0.591 |
| 5. Los Ranchitos Rd to Riverford Rd | County | 16,200 | 9,810 | D | — |
| **Mast Boulevard** | | | | | |
| 6. SR-52 to West Hills Pkwy | San Diego | 40,000 | 26,440 | C | 0.661 |
| 7. West Hills Pkwy to Medina Dr | Santee | 40,000 | 19,540 | B | 0.489 |
| 8. Pebble Beach Dr to Fanita Pkwy | Santee | 40,000 | 19,590 | B | 0.490 |
| 9. Fanita Pkwy to Carlton Hills Blvd | Santee | 30,000 | 16,800 | B | 0.420 |
| 10. Carlton Hills Blvd to Halberns Blvd | Santee | 40,000 | 19,220 | B | 0.481 |
| 11. Halberns Blvd to Cuyamaca St | Santee | 40,000 | 20,200 | B | 0.505 |
| 12. Cuyamaca St to Magnolia Ave | Santee | 40,000 | 18,490 | B | 0.462 |
| 13. Magnolia Ave to Los Ranchitos Rd | Santee | 15,000 | 7,710 | C | 0.514 |
| 14. West of Riverford Rd | County | 19,000 | 1,810 | A | — |
| **Carlton Oaks Drive** | | | | | |
| 15. West Hills Pkwy to Pebble Beach Dr | Santee | 15,000 | 7,360 | C | 0.491 |
| 16. Fanita Pkwy to Carlton Hills Blvd | Santee | 15,000 | 10,560 | D | 0.704 |
| **Mission Gorge Road** | | | | | |
| 17. Western City Limits to West Hills Pkwy | Santee | 40,000 | 16,510 | B | 0.413 |
| 18. West Hills Pkwy to SR-125 | Santee | 40,000 | 17,000 | B | 0.425 |
| 19. SR-125 to Fanita Dr | Santee | 60,000 | 45,440 | C | 0.757 |
| 20. Fanita Dr to Carlton Hills Blvd | Santee | 60,000 | 41,100 | C | 0.685 |
| 21. Carlton Hills Blvd to Town Center Dr | Santee | 60,000 | 37,960 | C | 0.633 |
| 22. Town Center Pkwy to Cuyamaca St | Santee | 60,000 | 28,630 | B | 0.477 |
| 23. Cuyamaca St to Riverview Pkwy | Santee | 60,000 | 23,140 | A | 0.386 |
| 24. Riverview Pkwy to Cottonwood Ave | Santee | 60,000 | 25,550 | B | 0.426 |
| 25. Cottonwood Ave to Magnolia Ave | Santee | 60,000 | 24,960 | A | 0.416 |
| **Prospect Avenue** | | | | | |
| 26. Fanita Dr to Cuyamaca St | Santee | 15,000 | 8,900 | C | 0.593 |
| 27. Cuyamaca St to Cottonwood Ave | Santee | 15,000 | 9,880 | C | 0.659 |
| **West Hills Parkway** | | | | | |
| 28. Mast Blvd to Mission Gorge Rd | San Diego | 40,000 | 11,610 | A | 0.290 |
| **Fanita Parkway** | | | | | |
| 29. Project Site to Ganley Dr | Santee | DNE | — | — | — |
| 30. Ganley Dr to Lake Canyon Rd | Santee | 10,000 | 2,610 | A | 0.261 |
| 31. Lake Canyon Rd to Mast Blvd | Santee | 10,000 | 3,860 | A | 0.386 |

*(Continued on Next Page)*

TABLE 6–2
EXISTING STREET SEGMENT OPERATIONS

| Street Segment | Jur. | Capacity (LOS E) [a] | ADT [b] | LOS [c] | V/C [d] |
|---|---|---|---|---|---|
| *(Continued from Previous Page)* | | | | | |
| **Fanita Parkway (cont.)** | | | | | |
| 32. Mast Blvd to Carlton Oaks Dr | Santee | 10,000 | 3,330 | A | 0.333 |
| **Fanita Drive** | | | | | |
| 33. Mission Gorge Rd to SR-52 Ramps | Santee | 40,000 | 18,990 | B | 0.475 |
| 34. SR-52 Ramps to Prospect Ave | Santee | 40,000 | 11,650 | A | 0.291 |
| **Carlton Hills Boulevard** | | | | | |
| 35. Lake Canyon Rd to Mast Blvd | Santee | 40,000 | 5,880 | A | 0.147 |
| 36. Mast Blvd to Carlton Oaks Dr | Santee | 40,000 | 10,030 | A | 0.251 |
| 37. Carlton Oaks Dr to Mission Gorge Rd | Santee | 40,000 | 24,960 | C | 0.624 |
| **Halberns Boulevard** | | | | | |
| 38. Lake Canyon Rd to Mast Blvd | Santee | 15,000 | 2,210 | A | 0.147 |
| **Town Center Parkway** | | | | | |
| 39. Mission Gorge Rd to Cuyamaca St | Santee | 40,000 | 19,280 | B | 0.482 |
| 40. Cuyamaca St to Riverview Pkwy | Santee | 10,000 | 5,660 | C | 0.566 |
| **Cuyamaca Street** | | | | | |
| 41. Project Site to Magnolia Ave (future) | Santee | DNE | — | — | — |
| 42. Magnolia Ave to Princess Joann Rd(future) | Santee | DNE | — | — | — |
| 43. Princess Joann Rd to Chaparral Dr (future) | Santee | DNE | — | — | — |
| 44. Chaparral Dr to Woodglen Vista Dr | Santee | 15,000 | 670 | A | 0.045 |
| 45. Woodglen Vista Dr to El Nopal | Santee | 15,000 | 4,360 | A | 0.291 |
| 46. El Nopal to Mast Blvd | Santee | 15,000 | 8,860 | C | 0.591 |
| 47. Mast Blvd to River Park Dr | Santee | 40,000 | 19,600 | B | 0.490 |
| 48. River Park Dr to Town Center Pkwy | Santee | 40,000 | 26,690 | C | 0.667 |
| 49. Town Center Pkwy to Mission Gorge Rd | Santee | 50,000 | 21,850 | B | 0.437 |
| 50. Mission Gorge Rd to SR-52 Ramps | Santee | 50,000 | 39,020 | C | 0.780 |
| 51. SR-52 Ramps to south of Prospect Ave | Santee | 50,000 | 26,060 | B | 0.521 |
| **Riverview Parkway** | | | | | |
| 52. Mission Gorge Rd to Town Center Pkwy | Santee | 40,000 | 7,640 | A | 0.191 |
| 53. Town Center Pkwy to Magnolia Ave | Santee | DNE | — | — | — |
| **Magnolia Avenue** | | | | | |
| 54. Cuyamaca St to Princess Joann Rd | Santee | DNE | — | — | — |
| 55. Princess Joann Rd to Woodglen Vista Dr | Santee | 40,000 | 2,020 | A | 0.051 |
| 56. Woodglen Vista Dr to El Nopal | Santee | 40,000 | 9,030 | A | 0.226 |
| 57. El Nopal to Mast Blvd | Santee | 40,000 | 13,690 | A | 0.342 |
| 58. Mast Blvd to Chubb Ln | Santee | 40,000 | 22,440 | C | 0.561 |
| 59. Chubb Ln to Mission Gorge Rd | Santee | 40,000 | 25,830 | C | 0.646 |
| 60. Mission Gorge Rd to SR-52 Ramps | Santee | 60,000 | 33,870 | B | 0.565 |
| 61. SR-52 Ramps to south of Prospect Ave | Santee | 40,000 | 12,600 | A | 0.315 |
| *(Continued on Next Page)* | | | | | |

TABLE 6–2
EXISTING STREET SEGMENT OPERATIONS

| Street Segment | Jur. | Capacity (LOS E) [a] | ADT [b] | LOS [c] | V/C [d] |
|---|---|---|---|---|---|
| *(Continued from Previous Page)* | | | | | |
| **Woodside Avenue** | | | | | |
| 62. East of Magnolia Ave | Santee | 40,000 | 27,210 | C | 0.680 |
| **N. Woodside Avenue** | | | | | |
| 63. Riverford Rd to Woodside Ave | Santee | 10,000 | 3,390 | A | 0.339 |
| **Riverford Road** | | | | | |
| 64. Riverside Dr to SR-67 Ramps | County | 23,500 [e] | 18,390 | E | — |

***Footnotes:***

a. Capacities based on City of Santee, County of San Diego, and City of San Diego Roadway Classification & LOS table *(See Appendix A).*
b. Average Daily Traffic Volumes
c. Level of Service
d. Volume to Capacity ratio
e. Capacity for "3-Ln Light Collector" interpolated between 2-Ln Light Collector with Continuous Left-Turn Lane (2.2B) and 4-Lane Boulevard with Intermittent Turn Lanes (4.2B).

***General Notes:***

1. Jur. = Jurisdiction
2. DNE, "—" = Does Not Exist
3. County of San Diego does not use V/C ratios as a measure of effectiveness.

TABLE 6–3
EXISTING FREEWAY MAINLINE OPERATIONS

| Freeway Segment | Dir | # of Lanes [a] | Volume [b] | %K [c] | | %D [c] | | Truck Factor | Peak Hour Volume [c] | | V/C [d] | | Density [e] | | LOS [f] | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | AM | PM | AM | PM | | AM | PM | AM | PM | AM | PM | AM | PM |
| **State Route 52** | | | | | | | | | | | | | | | | |
| 1. Santo Rd to Mast Blvd | EB | 3M | 96,000 | 7.81% | 8.27% | 20.29% | 69.62% | 2.60% | 1,521 | 5,527 | 0.236 | 0.907 | 7.8 | 36.4 | A | E |
| | WB | 3M | | 7.81% | 8.27% | 79.71% | 30.38% | 2.60% | 5,976 | 2,412 | 0.980 | 0.375 | 42.9 | 12.3 | E | B |
| 2. Mast Blvd to SR-125 | EB | 2M | 83,000 | 6.68% | 8.59% | 26.47% | 64.97% | 2.60% | 1,468 | 4,632 | 0.334 | 1.053 | 11.3 | — | B | F |
| | WB | 2M | | 6.68% | 8.59% | 73.53% | 35.03% | 2.60% | 4,077 | 2,498 | 0.927 | 0.568 | 38.4 | 19.5 | E | C |
| 3. SR-125 to Cuyamaca St | EB | 2M+1A | 80,000 | 6.16% | 8.88% | 34.88% | 60.08% | 2.60% | 1,719 | 4,268 | 0.260 | 0.647 | 8.9 | 22.6 | A | C |
| | WB | 2M+1A | | 6.16% | 8.88% | 65.12% | 39.92% | 2.60% | 3,209 | 2,836 | 0.486 | 0.430 | 16.6 | 14.7 | B | B |
| 4. Cuyamaca St to SR-67 | EB | 2M+1A | 77,000 | 5.82% | 8.38% | 28.56% | 61.89% | 2.60% | 1,280 | 3,994 | 0.194 | 0.605 | 6.5 | 20.7 | A | C |
| | WB | 2M+1A | | 5.82% | 8.38% | 71.44% | 38.11% | 2.60% | 3,202 | 2,459 | 0.485 | 0.373 | 16.4 | 12.6 | B | B |
| **State Route 67** | | | | | | | | | | | | | | | | |
| 5. Riverford Rd to SR-52 | NB | 2M | 77,000 | 7.28% | 8.44% | 41.43% | 57.53% | 7.30% | 2,322 | 3,739 | 0.553 | 0.891 | 19.1 | 35.7 | C | E |
| | SB | 2M | | 7.28% | 8.44% | 58.57% | 42.47% | 7.30% | 3,283 | 2,760 | 0.783 | 0.658 | 29.1 | 23.2 | D | C |
| 6. South of SR-52 | NB | 2M+2A | 93,000 | 7.28% | 8.44% | 41.43% | 57.53% | 6.70% | 2,805 | 4,516 | 0.333 | 0.536 | 11.5 | 18.5 | B | C |
| | SB | 3M | | 7.28% | 8.44% | 58.57% | 42.47% | 6.70% | 3,965 | 3,334 | 0.627 | 0.527 | 21.9 | 18.2 | C | C |
| **State Route 125** | | | | | | | | | | | | | | | | |
| 7. Grossmont College Dr to SR-52 | NB | 3M+2A | 68,000 | 7.37% | 9.02% | 60.89% | 43.92% | 4.40% | 3,052 | 2,694 | 0.283 | 0.249 | 9.6 | 8.5 | A | A |
| | SB | 4M | | 7.37% | 9.02% | 39.11% | 56.08% | 4.40% | 1,960 | 3,440 | 0.227 | 0.398 | 7.7 | 13.6 | A | B |

***Footnotes:***

a. Lane geometry taken from PeMS lane configurations at corresponding postmile.
b. Existing ADT volumes from most recent Caltrans Traffic Census Program (2016).
c. Peak hour volumes calculated from K and D factors provided in most recent Caltrans Traffic Census Program *Peak Hour Volume Data* (2016).
d. V/C = (Peak Hour Volume/Hourly Capacity)
e. Density measures passenger cars per mile per lane. Density = Flow Rate (passenger-cars/hour/lane) ÷ Speed (average passenger-car speed in mph).
f. LOS = Level of Service

| LOS | Density Range (pc/mi/ln) |
|---|---|
| A | 0 – 11 |
| B | > 11 – 18 |
| C | > 18 – 26 |
| D | > 26 – 35 |
| E | > 35 – 45 |
| F | > 45 |

***General Note:***

1. M = Mainline
2. A = Auxiliary
3. Truck factor sourced to most recent Caltrans Traffic Census Program *Peak Hour Volume Data* (2016).
4. "—" Shown in density column where density exceeds the maximum threshold for LOS F.

# 7.0 TRIP GENERATION/DISTRIBUTION/ASSIGNMENT

Fanita Ranch is a Master Planned Community consisting up to 2,949 housing units, up to 80,000 SF of commercial uses and supporting civic, park, open space uses, and a K-8 school. As previously mentioned, since the completion of the transportation analysis included in this report, the Project Description has slightly changed, resulting in a shift between residential densities, changes to park acreage, and a reduction in school students from 1,000 to 700 students. With these changes, the resulting trip generation decreases as compared to the numbers analyzed in this report. Therefore, the analysis presented herein provides a conservative assessment of the local transportation system. ***Appendix D*** provides the trip generation calculations for the current proposed Project, showing the lower volumes.

As previously discussed earlier in this report, although the Project is proposed to be phased in order to comply with the California Environmental Quality Act (CEQA), the analysis contained in this transportation study adds 100% of Project traffic to baseline conditions. This presents the worst-case summary of Project traffic for the purposes of determining impacts. The impacts are then related back to a trigger point based on the occupied amount of equivalent dwelling units. This is discussed in further detail in *Section 21.4* of this report.

A detailed discussion on unique Project land uses, such as the Farm, Active Adult Residential, and Special Use Area is provided earlier in this report in *Section 2.2*.

The land uses analyzed in this report break down as follows (See matching *Table 2–1* provided earlier in this report:

## LAND USE SUMMARY

| Land Use | Proposed Specific Plan Land Use [a] | | | Land Use Analyzed [a] | | |
|---|---|---|---|---|---|---|
| | Area (Acres) | Residential [b] (Units) | Commercial [c] (Square feet) | Area (Acres) | Residential [b] (Units) | Commercial [c] (Square feet) |
| ***Residential & Village Center*** | | | | | | |
| Village Center [d] *(Average 12 DU/Acre)* | 36.5 acres | 435 | 60,000 SF | 36.5 acres | 435 | 60,000 SF |
| Active Adult *(Average 15 DU/Acre)* | 31.0 acres | 445 | – | 30.9 acres | 445 | – |
| Medium-Density Residential (MDR) *(Average 13 DU/Acre)* | 67.0 acres | 866 | – | 61.3 acres | 790 | – |
| Low-Density Residential (LDR) *(Average 5 DU/Acre)* | 240.8 acres | 1,203 | – | 249.7 acres | 1,279 | – |
| ***Subtotal*** | ***375.3*** acres | ***2,949*** | ***60,000 SF*** | ***378.4*** acres | ***2,949*** | ***60,000 SF*** |
| ***Non-Residential Uses*** | | | | | | |
| School [e] | 15.0 acres | – | – | 19.2 acres | – | – |
| Special Use | 31.9 acres | – | – | 33.5 acres | – | – |
| Agriculture | 38.2 acres | – | 20,000 SF | 36.2 acres | – | 20,000 SF |
| Active Park [f] | 19.7 acres | – | – | 19.9 acres | – | – |
| *Community Park* | *19.7* acres | – | – | *19.9* acres | – | – |
| Passive Parks | 58.3 acres | – | – | 53.5 acres | – | – |
| *Neighborhood Parks* | *30.4* acres | – | – | *27.2* acres | – | – |
| *Mini-Parks* | *16.4* acres | – | – | *14.8* acres | – | – |
| *Community Park* | *11.5* acres | – | – | *11.5* acres | – | – |
| Open Space | 256.0 acres | – | – | 228.0 acres | – | – |
| Roadway Right-of-Ways | 193.3 acres | – | – | 193.9 acres | – | – |
| Habitat Preserve | 1,650.4 acres | – | – | 1,672.9 acres | – | – |
| ***Subtotal*** | ***2,262.8*** acres | – | ***20,000 SF*** | ***2,257.10*** acres | – | ***20,000 SF*** |
| **Total Project** | **2,638.1** acres | **2,949** | **80,000 SF** | **2,635.5** acres | **2,949** | **80,000 SF** |

***Source****: Fanita Ranch Specific Plan*

***Footnotes****:*

a. Since the preparation of this transportation analysis, the Project site plan has been altered resulting in an overall lower trip generation. The description of the Project, trip generation calculations, and traffic analysis provided in this study utilize the land use quantities prior to the change in the site plan, which represents a conservative analysis.

b. Up to 15% of units may be transferred between villages and land uses provided the ADT for the entire project does not exceed the proposed trip generation and the receiving land use area does not exceed the maximum density permitted.

c. Commercial square footage may be transferred between villages and provided the ADT for the entire project does not exceed the proposed trip generation and the receiving land use area does not exceed the floor-area ratio permitted.

d. Includes 1.5-acre fire station.

e. School site would accommodate up to 1,000 students. Since preparation of this transportation analysis, the number of students has been reduced to 700 students, resulting in a lower trip generation. The underlying land use for the school area is MDR. If the reserved school site is not acquired for school use within two (2) years of approval of the final map, the MDR land use may be implemented and the maximum total number of units in the Specific Plan Area shall be 3,008 units. A separate analysis with the additional MDR units without the school is provided in this report. Additional details on "No School" scenario are provided in *Section 13.0* of this report.

f. A 10,000 SF recreation center is proposed as part of the Community Park. This land use is included as a separate line item in the Project trip generation calculations later on in this report.

***General Notes:***

1. The Project also proposes a trail network throughout the site. The trails would traverse through parks, open space, and habitat preserve. Any trips associated with trails would be captured through the park trip generation.
2. DU = Dwelling Units

## 7.1 Trip Generation

The trip generation rates used for the Project land uses are based on corresponding land uses listed in the *(Not So) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region*, April 2002, by SANDAG. Additional rates were sourced to the *Institute of Transportation Engineers (ITE) Trip Generation Manual*, 10th edition where noted.

***Table 7–1*** identifies the trip generation rates for the Proposed Project land uses. ***Table 7–2*** provides the trip generation calculations for all land uses.

The Project consists of various land use types. As briefly states above, SANDAG and ITE rates were sourced in the calculations. The rates are listed below (on the following page) for each use with additional footnotes explaining variances in the rate source:

## TABLE 7–1
## TRIP GENERATION RATES

| Land Use | Source | Rate |
|---|---|---|
| ***Residential*** | | |
| Mixed-Use Village Center *(Average 12 DU/acre)* | SANDAG | 8 /DU |
| Active Adult *(Average 15 DU/acre)* | ITE [a] | 4.27 /DU |
| Medium-Density *(Average 13 DU/acre)* | SANDAG | 8 /DU |
| Low-Density *(Average 5 DU/acre)* | SANDAG | 10 /DU |
| ***Non-Residential*** | | |
| Retail (local serving) | SANDAG | 40 /KSF |
| K-8 School | ITE [b] | 1.85 /student |
| Farm | SANDAG/ITE [c] | 2 /acre |
| Active Park | SANDAG/ITE [d] | 50 /acre |
| Passive Park | SANDAG/ITE [e] | 5 /acre |
| Recreation Center | ITE [f] | 28.82 /KSF |
| RV Parking/Solar Farm | SANDAG [g] | 0.2 /space |

***Footnotes***:

a. For the "Active Adult" land use, SANDAG references the ITE trip generation rates for the source of their "Retirement Community" rate. Therefore, the ITE 251 rate for "Detached Senior Adult Housing" was used.
b. K-8 school will accommodate up to 1,000 students. ITE Charter School 537 used representing a worst-case high trip generating school rate. Since preparation of this transportation analysis, the number of students has been reduced to 700 students, resulting in a lower trip generation.
c. SANDAG "agriculture" rate applied. Since no peak splits are provided by SANDAG, peak splits taken from ITE 818 "Nursery (Wholesale)" rates. Events would not be daily and would occur largely outside the commuter AM and PM peak periods. To account for the potential of infrequent weekly activities, approximately 20,000 SF of the 80,000 SF of retail space has been assigned to the farm use for calculating Project trip generation.
d. Active Park rate sourced to SANDAG rate for "City Park". The Project also proposes a trail network throughout the site. The trails would traverse through parks, open space, and habitat preserve. Any trips associated with trails would be captured through the park trip generation.
e. Passive Park ADT rate sourced to SANDAG rate for "Neighborhood Park". Since no peak splits are provided by SANDAG, peak splits taken from ITE 417 "Regional Park" rates. The Project also proposes a trail network throughout the site. The trails would traverse through parks, open space, and habitat preserve. Any trips associated with trails would be captured through the park trip generation.
f. The 10,000 SF recreation center may be open to public. SANDAG does not provide a rate for this specific use. ITE 495 rate for "Recreational Community Center" applied.
g. Portion of RV parking open to public. Since no rate is provided by SANDAG or ITE for "RV Parking", SANDAG rate for "Industrial Storage" applied.

***General Notes:***

1. Congregate care facilities are permitted within the Village Center. However, should the congregate care use be developed by the Project, it would replace other land uses that are higher trip generators. Therefore, the highest intensity land uses were included in this analysis and a congregate care facility was not specifically analyzed.
2. SANDAG calculates daily trips using a rate based on an independent variable (i.e., dwelling units, students, acres) and expresses AM and PM peak hour trips as a percentage of ADT. ITE rates utilize ratios of the independent variable for calculating ADT, AM and PM peak hour trips.
3. DU = dwelling units
4. KSF = Thousand square feet

### 7.1.1 *Gross Trips*

Gross trips are the total trips to, from, and within the Project site, also called "driveway trips" in the context of smaller development sites. Gross trips include both "primary" trips and "pass-by/diverted trips," which are defined and discussed in the following sections. Applying the rates listed above to the quantities in the beginning of this report section, the following gross trip generation amounts were calculated.

The residential portion of the Project is calculated to generate a gross total of 24,490 ADT with 1,914 trips (499 inbound / 1,415 outbound) during the AM peak hour and 2,393 trips (1,663 inbound / 730 outbound) during the PM peak hour.

The non-residential development, including commercial, school, and parks, is calculated to generate a gross total of 6,723 ADT with 1,284 trips (689 inbound / 595 outbound) during the AM peak hour and 563 trips (261 / 302 outbound) during the PM peak hour.

The entire Project is calculated to generate a gross total of 31,213 ADT with 3,198 trips (1,188 inbound / 2,010 outbound) during the AM peak hour and 2,956 trips (1,924 inbound / 1,032 outbound) during the PM peak hour.

### 7.1.2 *Primary Trips*

*Primary Trips* are new trips on the external street system that occur because a development is built; the development itself becomes one end of a primary trip, either the origin or destination. In the case of a retail development, a primary trip would occur when a driver leaves the origin location with the sole intent of arriving at the retail development, then returning to the origin.

Primary trips account for 45% of commercial trip generation and 60% of the school trip generation based on published SANDAG rates.

### 7.1.3 *Pass-By & Diverted Link Trips*

Trip generation rates are derived from counts taken at the driveways of the various land uses. For many land uses, not all of the trips generated at the driveway represent new trips added to the roadways. This is due to "pass-by" and "diverted link" trips. For the Proposed Project, pass-by and diverted link trips will occur within the Project site. Fanita Parkway, Cuyamaca Street, and Magnolia Avenue are planned to serve as the "driveways" to the Project from the greater Santee area. Typically, pass-by and diverted trips would be drawn from an existing traffic stream on roadways adjacent to or near the Project site. However, in this case it is not expected that drivers with a primary origin and destination outside the Project site would divert into Fanita Ranch to patronize the retail use prior to reaching their ultimate destination. This would result in a substantial reroute from that driver's primary route, given the location of the Project. Therefore, pass-by and diverted link trips were assigned within the internal Project street system.

*Pass-by Trips* are trips made by traffic already using the adjacent roadway that enter the site as an intermediate stop on the way from another destination without changing routes (i.e., a stop at the dry

cleaners on the way home from work). As example of a pass-by trip for the Project would be a residential trip in the Fanita Commons portion of the site that is destined to Fanita Parkway to reach their ultimate destination and makes a quick stop to drop off a child at the on-site school then continues back onto Fanita Parkway.

*Diverted Link Trips* are trips that would divert from a different roadway (other than that fronting a Project land use). An example of a diverted trip would be a residential trip in the Vineyard Village portion of the site that would normally route south to Cuyamaca Street to reach their ultimate destination. The diversion would occur when that trip instead continues further into the site to drop off a child at the on-site school and then has to reroute back to Cuyamaca Street.

As demonstrated by the examples above, pass-by and diverted trips help account for the chained or "linked" trips in traveler behavior. The example trip creates two trips using the gross trip rates, one residential trip and one school trip. However, it is clear that only one trip is being added to the external street system. The pass-by/diverted trips are the mechanism for making this adjustment.

With respect to commercial trip generation, pass-by and diverted link trips account for 55% based on published SANDAG rates. For the school trip generation, pass-by and diverted link trips account for 40% based on published SANDAG rates.

### 7.1.4 *Internal Trips*

Where a project contains a mix of uses that would interact with one another, a deduction against a project's primary trips may be taken to account for the share of trips that would occur internally within the project site. A mixed-use project is a development that blends different land use types whose functions are physically and functionally integrated. A prime example of a mixed-use project would be the combination of residential and retail uses. For a project to be considered mixed use, the key feature is proximity to the integrated land uses. (This does not necessarily mean that a residential use must be located directly above a retail use. These uses can be near each other, within walking/bicycling distance, and within driving distance of each other within the project boundary, i.e. trips do not leave a project site). The Fanita Ranch project ultimately applied an "internal capture" rate of 8.5%, calculated as follows.

The ITE Trip Generation Handbook provides basic procedures for determining internal trips for mixed-use projects. The use of internal capture is applicable when the trip generation estimates use average trip generation rates or equations for stand-alone land uses, which is the case for the Fanita Ranch Project. A summary of the ITE procedure is:

1. Estimate the stand-alone trip generation for each land use within a mixed-use development using average trip generation rates or equations.
2. Determine which land uses interact with each other. For the Fanita Ranch Project, the residential uses will interact with each of the other proposed non-residential land uses: commercial/retail, school, recreation center, farm, and parks. That is, a portion of the

residential trips generated would not leave the site but instead drive to the retail, parks, school, etc.

3. Determine the percentage of trips that the residential land use will produce that can be attracted to each other land use and the resulting internal residential trips. As internal trips on the production side (residential) are always matched by an equal number of internal trips on the attraction side (e.g., the retail, school, and parks), a trip that is produced by the residential and attracted by the non-residential equates to two internal trips by definition. For example, if 50 trips are internalized for the residential land use then an equal number, 50 trips, are also internalized on the attraction land use.

The Project includes different non-residential land uses, including neighborhood parks, a resident recreation center, a school site, and local serving retail uses that complement the residential uses and would considerably reduce external vehicle trip generation from the Project as a whole. These non-residential uses allow residents to shop, recreate, and attend school within the Project site, as opposed to traveling off-site to satisfy these needs; therefore, the vehicle trips associated with these activities would remain internal to the Project site, reducing the total volume of trips the Project would generate on the external road network. The effect this mix of land uses (residential combined with retail, a school site, recreation center, farm and parks) has on a project's net external trip generation is commonly referred to as "internal capture".

The internal capture rate from the SANDAG guide was reviewed for use in the trip generation. The SANDAG guide was published in 2002. At that time, it allowed for a reduction in trip generation for projects that have access to transit and projects that include a mix of uses (such as residential with retail) of up to 15%. Since 2002, a number of studies of mixed-use projects have been conducted that show internal capture percentages that are often considerably higher than the SANDAG guide rates would produce.

For example, in 2010, SANDAG commissioned a comprehensive study of the trip reducing benefits of mixed-use projects, entitled "Trip Generation for Smart Growth" (June 2010). The 2010 study analyzed Travel Behavior Survey trip records for 20 Smart Growth Opportunity Areas comprising a total of approximately 83,500 housing units, 30.3 million square feet of retail, 22.7 million square feet of office, and other smaller amounts of public and industrial uses. The study found an average 36% reduction in vehicle trips based on California Household Survey Data compared to the expected trip generation for these same uses as estimated by the SANDAG Trip Generation Guide. These trip reductions were driven primarily by the internal capture of trips when different land uses are included in close proximity to each other (e.g., residential, office, and retail). The 2010 SANDAG study also examined in more detail six Mixed Use/Transit Oriented Development sites within the San Diego region comprising a total of 1,831 housing units, 374,000 square feet of retail, 369,000 square feet of office space, as well as hotel, theater, and other uses. A comparison of the actual driveway trip counts for these six sites compared to the expected raw trip generation for the various uses (as calculated using the SANDAG Trip Generation Guide) showed an overall 21.3% reduction in trips with the internal capture rate ranging between 16.7% and 26.1% for the six sites.

Other comparable transportation planning agencies have conducted similar studies and established internal capture rates for mixed use projects. The Santa Clara Valley Transportation Authority (VTA) adopted Transportation Impact Analysis Guidelines in October 2014 that allow for trip reductions for mixed use projects. The VTA Guidelines specify a 15% internal capture rate for projects that include retail and residential uses. Additionally, the VTA Guidelines allow for additional reductions to the external trip generation for projects that include Transportation Demand Management (TDM) measures.

***SANDAG Origin-Destination Model***

Internal capture estimates were also performed for the Project using the SANDAG Series 12 model select zone analysis. SANDAG uses an enhanced four-step transportation model. The four steps of the transportation model include trip generation, trip distribution, mode choice, and trip assignment. The primary function of the four-step model, often referred to as the "origin-destination" model, is to pair "production" and "attraction" trip types. Production trips are those land uses that create new trips on the system, e.g. residential uses. Attraction trips are the land uses that those new trips would be destined toward, e.g. employment uses. Intuitively, origin-destination and production-attraction terminology are synonymous with one another. For this reason, when a custom SANDAG model run is requested, the standard of practice is to first calculate a project's trip generation based on proposed land uses. As stated above, the model is looking to pair producing land uses with attractive land uses. For this reason, the trip generation aims to calculate the "net new trips" to the street system, i.e. the "primary" trips. The primary trips are those that will be produced by a project. Once the trip generation is established, the land use and trip generation inputs are provided to SANDAG to run a custom Select Zone Assignment (SZA). The SZA then sends those new trips out to the external street system from a project site for the primary purpose of determining a project's trip distribution. Consistent with this standard approach, LLG calculated the primary trip generation for the proposed Project and inputted the data into the custom SZA. Given the model's ability to recognize a mix of land uses within a project site that are both producing and attracting uses, the model will also calculate the expected amount of trips to remain internal to a project site. For the Fanita Ranch Project, the model forecasted an internal capture reduction rate of 8.5%. This 8.5% reduction applies to the Project's primary trips. The SANDAG model can only analyze primary trips, those with a single origin and destination. Therefore, linked trips must be dealt with through the pass-by and diverted adjustments described in the previous section.

Therefore, although there are studies showing substantial reductions in trip generation for projects with a mix of different land use types similar to the proposed Project, an internal capture reduction rate of 8.5% was applied to the primary trips generated by the Project to provide for a conservative trip generation estimate.

### 7.1.5 *External Trips*

The net external trips were then determined by subtracting the internal trips from the primary trips. As seen in *Table 7–2*, the Project is estimated to generate a total of 26,272 net external daily trips with 2,472 trips in the AM peak hour (843 inbound and 1,629 outbound) and 2,509 trips in the PM peak hour (1,670 inbound and 839 outbound).

TABLE 7–2
PROJECT TRIP GENERATION

| ID | Land Use | Size | | Daily Trip Ends (ADTs) [a] | | | AM Peak Hour | | | | | PM Peak Hour | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Rate [b] | | Volume | Rate [b] | In:Out Split | Volume In | Volume Out | Volume Total | Rate [b] | In:Out Split | Volume In | Volume Out | Volume Total |
| | **Residential** | | | | | | | | | | | | | | | |
| A | Village Center Medium-Density *(Average 12 DU/acre)* | 435 | DU | 8 | /DU | 3,480 | 8% | 20:80 | 56 | 222 | 278 | 10% | 70:30 | 244 | 104 | 348 |
| B | Active Adult [c] *(Average 15 DU/acre)* | 445 | DU | 4.27 | /DU | 1,900 | 0.24 | 33:67 | 35 | 72 | 107 | 0.30 | 61:39 | 82 | 52 | 134 |
| C | Medium-Density *(Average 13 DU/acre)* | 790 | DU | 8 | /DU | 6,320 | 8% | 20:80 | 101 | 405 | 506 | 10% | 70:30 | 442 | 190 | 632 |
| D | Low-Density *(Average 5 DU/acre)* | 1,279 | DU | 10 | /DU | 12,790 | 8% | 30:70 | 307 | 716 | 1,023 | 10% | 70:30 | 895 | 384 | 1,279 |
| E | **Subtotal Residential (A+B+C+D)** | **2,949** | **DU** | | **—** | **24,490** | **—** | **—** | **499** | **1,415** | **1,914** | **—** | **—** | **1,663** | **730** | **2,393** |
| | **Non-Residential** | | | | | | | | | | | | | | | |
| F | Local Serving Retail | 80 | KSF | 40 | /KSF | 3,200 | 3% | 60:40 | 58 | 38 | 96 | 9% | 50:50 | 144 | 144 | 288 |
| G | *Primary Trips* | | | | *45%* | *1,440* | **—** | **—** | *26* | *17* | *43* | **—** | **—** | *65* | *65* | *130* |
| H | *Pass-By/Diverted Trip Reduction* | | | | *55%* | *(1,760)* | **—** | **—** | *(32)* | *(21)* | *(53)* | **—** | **—** | *(79)* | *(79)* | *(158)* |
| I | K-8 School [d] | 1,000 | students | 1.85 | /student | 1,850 | 1.11 | 53:47 | 588 | 522 | 1,110 | 0.14 | 35:65 | 49 | 91 | 140 |
| J | *Primary Trips* | | | | *60%* | *1,110* | **—** | **—** | *353* | *313* | *666* | **—** | **—** | *29* | *55* | *84* |
| K | *Pass-By/Diverted Trip Reduction* | | | | *40%* | *(740)* | **—** | **—** | *(235)* | *(209)* | *(444)* | **—** | **—** | *(20)* | *(36)* | *(56)* |
| L | Agriculture/Farm [e] | 36.2 | Acres | 2 | /acre | 72 | 0.26 | 43:57 | 4 | 5 | 9 | 0.45 | 57:43 | 9 | 7 | 16 |
| M | Active Park [f] | 19.9 | Acres | 50 | /acre | 995 | 4% | 50:50 | 20 | 20 | 40 | 8% | 50:50 | 40 | 40 | 80 |
| N | Passive Park [g] | 53.5 | Acres | 5 | /acre | 268 | 0.15 | 57:43 | 5 | 3 | 8 | 0.2 | 45:55 | 5 | 6 | 11 |
| O | Recreation Center [h] | 10 | KSF | 28.82 | /KSF | 288 | 2.05 | 66:34 | 12 | 6 | 18 | 2.74 | 49:51 | 11 | 12 | 23 |
| P | RV Parking/Solar Farm [i] | 250 | spaces | 0.2 | /space | 50 | 6% | 50:50 | 2 | 1 | 3 | 9% | 50:50 | 3 | 2 | 5 |
| Q | **Subtotal Non-Residential (F+I+L+M+N+O+P)** | | | | | **6,723** | **—** | **—** | **689** | **595** | **1,284** | **—** | **—** | **261** | **602** | **563** |
| | **Gross Trip Generation (E+Q)** | | | | | **31,213** | **—** | **—** | **1,188** | **2,010** | **3,198** | **—** | **—** | **1,924** | **1,032** | **2,956** |
| R | **Total Primary Trips (E+G+J+L+M+N+O+P)** | | | | **—** | **28,713** | **—** | **—** | **921** | **1,780** | **2,701** | **—** | **—** | **1,825** | **917** | **2,742** |
| | **Total Pass-By/Diverted Link Trip Reduction (H+K)** | | | | **—** | **(2,500)** | **—** | **—** | **(267)** | **(230)** | **(497)** | **—** | **—** | **(99)** | **(115)** | **(214)** |
| S | **Internal/Mixed-Use Reduction (R*8.5%) [j]** | | | | **—** | **(2,441)** | **—** | **—** | **(78)** | **(151)** | **(229)** | **—** | **—** | **(155)** | **(78)** | **(233)** |
| | **Net External Trip Generation (R+S)** | | | | **—** | **26,272** | **—** | **—** | **843** | **1,629** | **2,472** | **—** | **—** | **1,670** | **839** | **2,509** |

***Footnotes:***

a. Average Daily Trips
b. Rates are based on SANDAG's *(Not So) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region, April 2002*, for all gross, primary, and pass-by-diverted trip rates, except where noted. SANDAG calculates AM and PM peak hour trips as a percentage of ADT. ITE rates utilize ratios of the independent variable for calculating ADT, AM and PM peak hour trips.
c. SANDAG references the ITE trip generation rates for the source of their "Retirement Community" rate. Therefore, the ITE 251 rate for "Detached Senior Adult Housing" was used.
d. K-8 school will accommodate up to 1,000 students. ITE "Charter School" rate applied, (ITE 537). Since preparation of this transportation analysis, the number of students has been reduced to 700 students, resulting in a lower trip generation.
e. SANDAG "agriculture" rate applied. Since no peak splits are provided by SANDAG, peak splits taken from ITE 818 "Nursery (Wholesale)" rates. Events would not be daily and would occur largely outside the commuter AM and PM peak periods.
f. Active Park rate sourced to SANDAG rate for "City Park". The Project also proposes a trail network throughout the site. The trails would traverse through parks, open space, and habitat preserve. Any trips associated with trails would be captured through the park trip generation.
g. Passive Park ADT rate sourced to SANDAG rate for "Neighborhood Park". Since no peak splits are provided by SANDAG, peak splits taken from ITE 417 "Regional Park" rates.
h. Recreation center may be open to public. SANDAG does not provide a rate for this specific use. ITE 495 rate for "Recreational Community Center" applied. The 10,000 SF recreation center is located within the joint use site, adjacent to the school.
i. Portion of RV parking open to public. Since no rate is provided by SANDAG or ITE for "RV Parking", SANDAG rate for "Industrial Storage" applied.
j. SANDAG mixed-use reduction rate of 8.5% applied, adjusted to reflect the custom SZA model run.

***General Notes:***

1. As previously mentioned, since the completion of the transportation analysis included in this report, the Project Description has slightly changed, resulting in a shift between residential densities, changes to park acreage, and a reduction in school students from 1,000 to 700 students. With these changes, the resulting trip generation decreases as compared to the numbers analyzed in this report. Therefore, the analysis presented herein provides a conservative assessment of the local transportation system.
2. *Appendix D* provides the trip generation calculations for the current proposed Project, showing the lower volumes.

## 7.2 Trip Distribution/Assignment

As previously mentioned, the City of Santee has recently updated and approved its General Plan Mobility Element. Consistent with the Mobility Element traffic analysis, the SANDAG Series 12 Year 2035 traffic model was utilized for all traffic modeling and forecasting. For purposes of distributing Project trips and ultimately determining the study area, the Mobility Element Update model was used to obtain a Select Zone Assignment (SZA).

The street network in the model includes the extensions of Fanita Parkway, Cuyamaca Street, and the extension of Magnolia Avenue to provide access to the Fanita Ranch site (as proposed as Project Design Features), and excludes the extension of Mast Boulevard between the City and County boundaries.

***Appendix E*** provides a graphic depicting the original distribution generated by the SZA model and a marked-up version showing the overall Proposed Project trip distribution with key changes discussed below.

- 29% oriented to/from SR-52 in the west (SZA assigned 19%)
- 33% oriented to/from Mast Boulevard in the west (SZA assigned 24%)
- 20% oriented to/from SR-125 in the south (SZA assigned 7%)

The model distribution was changed since it is believed the model understated the trips on the regional routes due to pre-existing freeway congestion. The SZA selects trip routes based on the proximity of land uses to one another and using travel times based on speeds, roadway capacity, and distance. If the model identifies congestion on a roadway, such as SR-52, the algorithm built into the model will reroute trips to routes it deems shorter and faster. The SANDAG model is a tool to help develop the Project's anticipated trip distribution along with calibration for existing traffic patterns and professional engineering judgment. Therefore, in coordination with City staff, the changes to the SZA trip distribution were made to reflect representations of existing traffic patterns within the study area.

***Figure 7–1*** depicts the trip distribution in the Project area. ***Figure 7–2*** shows the Project assignment traffic volumes for the study area.

Project traffic volumes were added to the Existing baseline volumes to represent Existing + Project conditions. ***Figure 7–3*** shows the Existing + Project traffic volumes for the study area locations.

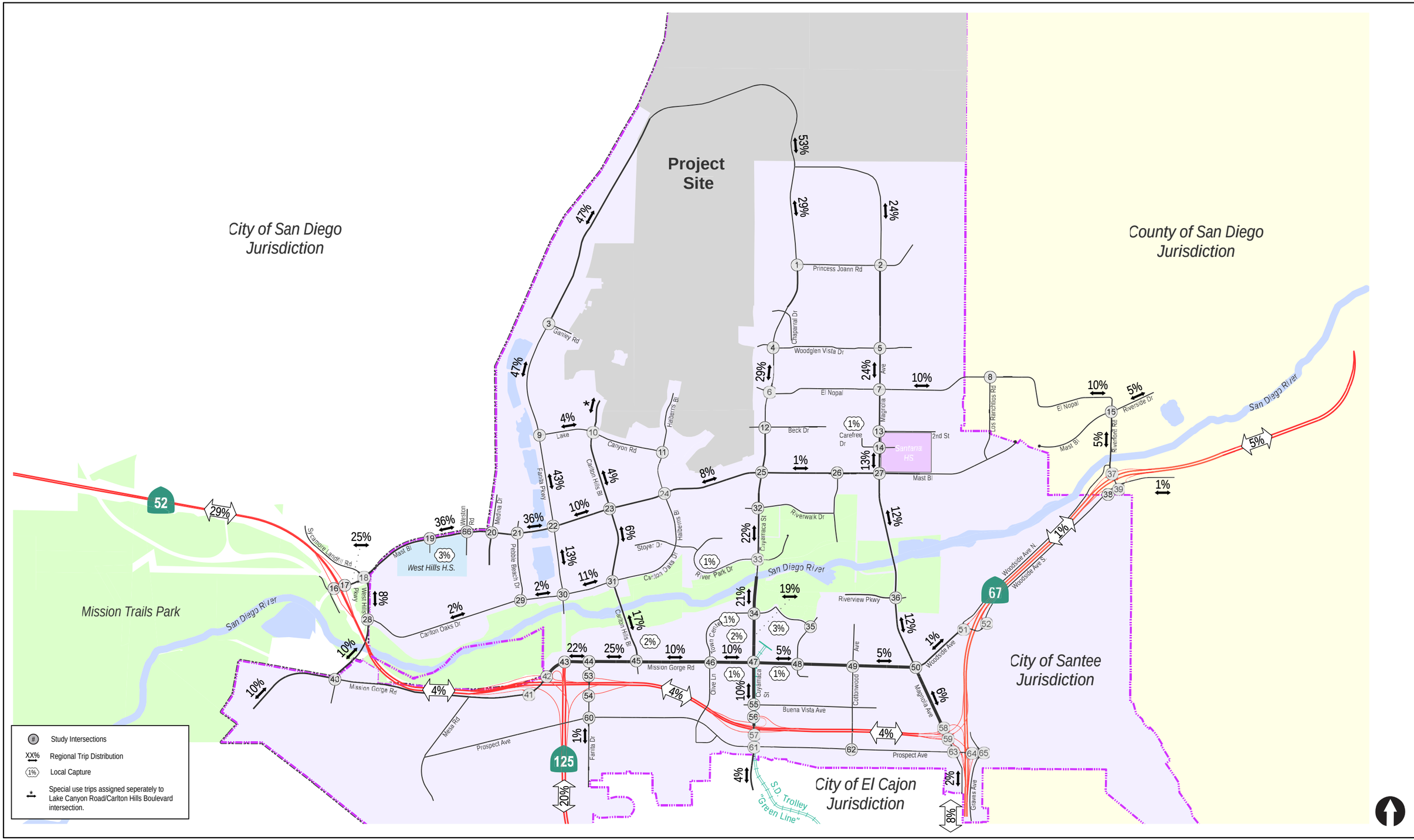


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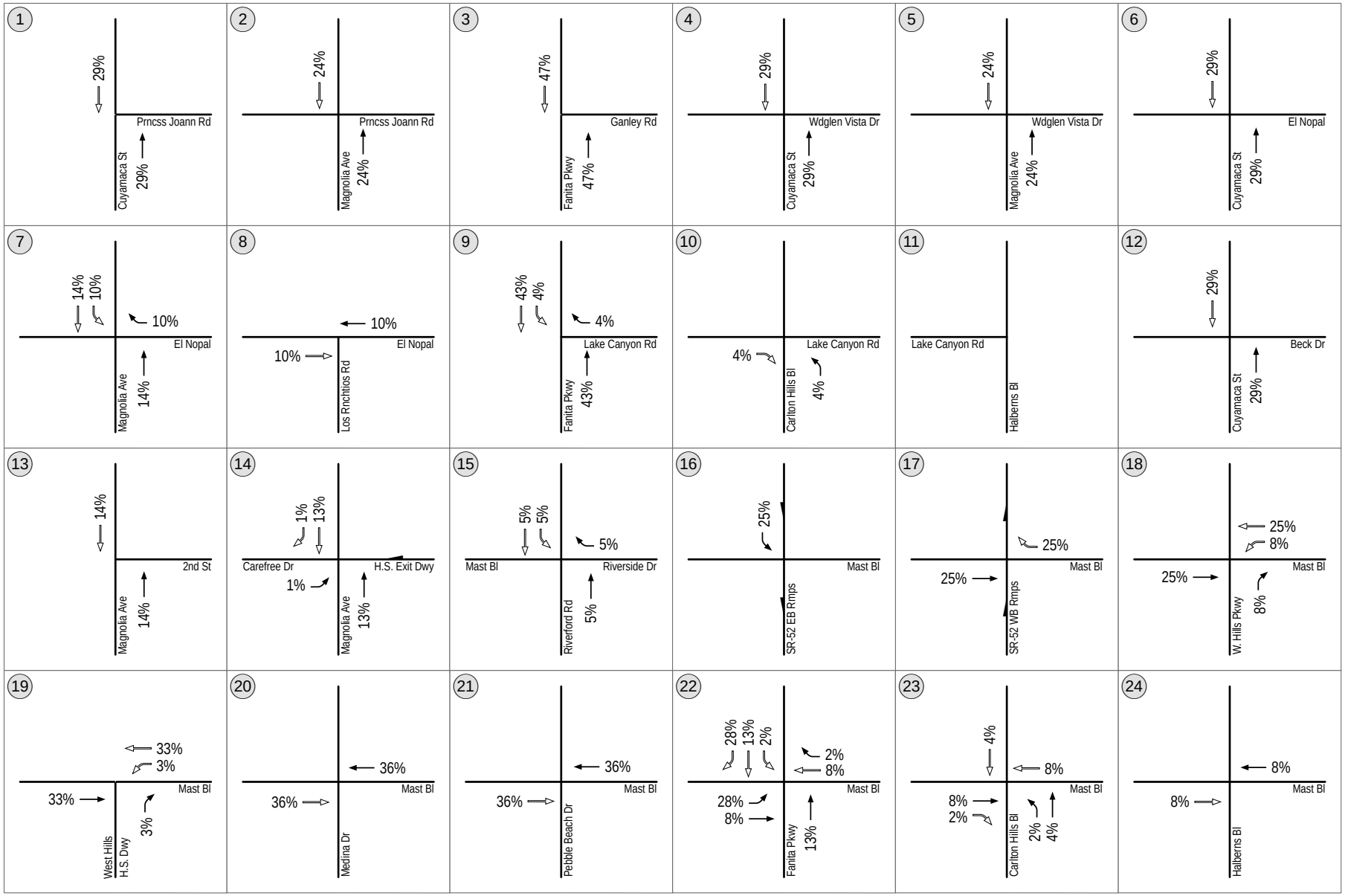
**Figure 7-1**

## Project Traffic Distribution

FANITA RANCH

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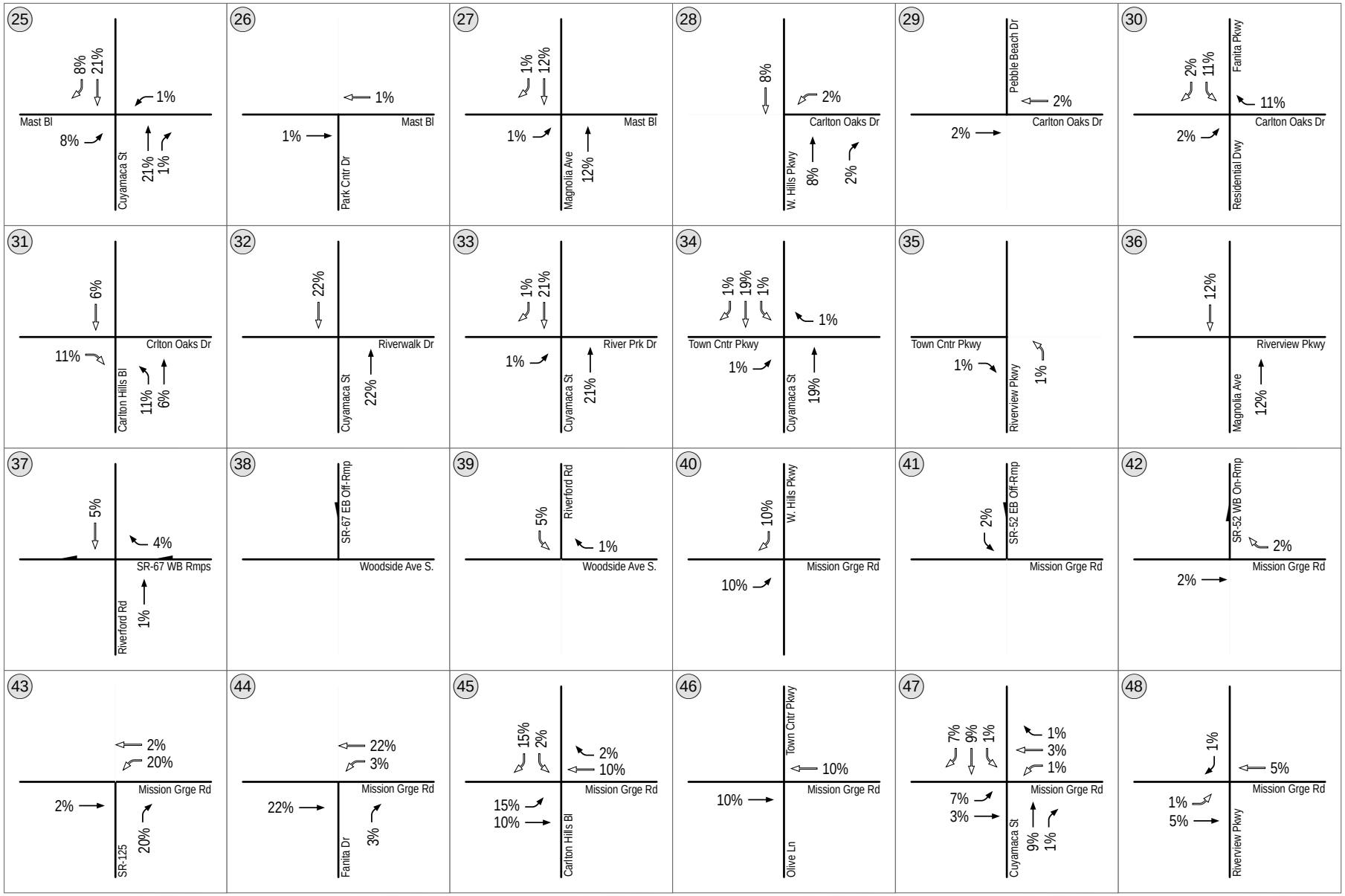
# Study Intersections
X% Inbound Local Trip Distribution
X% Outbound Local Trip Distribution

**Figure 7-1**
**(1 of 3)**

# Project Traffic Distribution

FANITA RANCH

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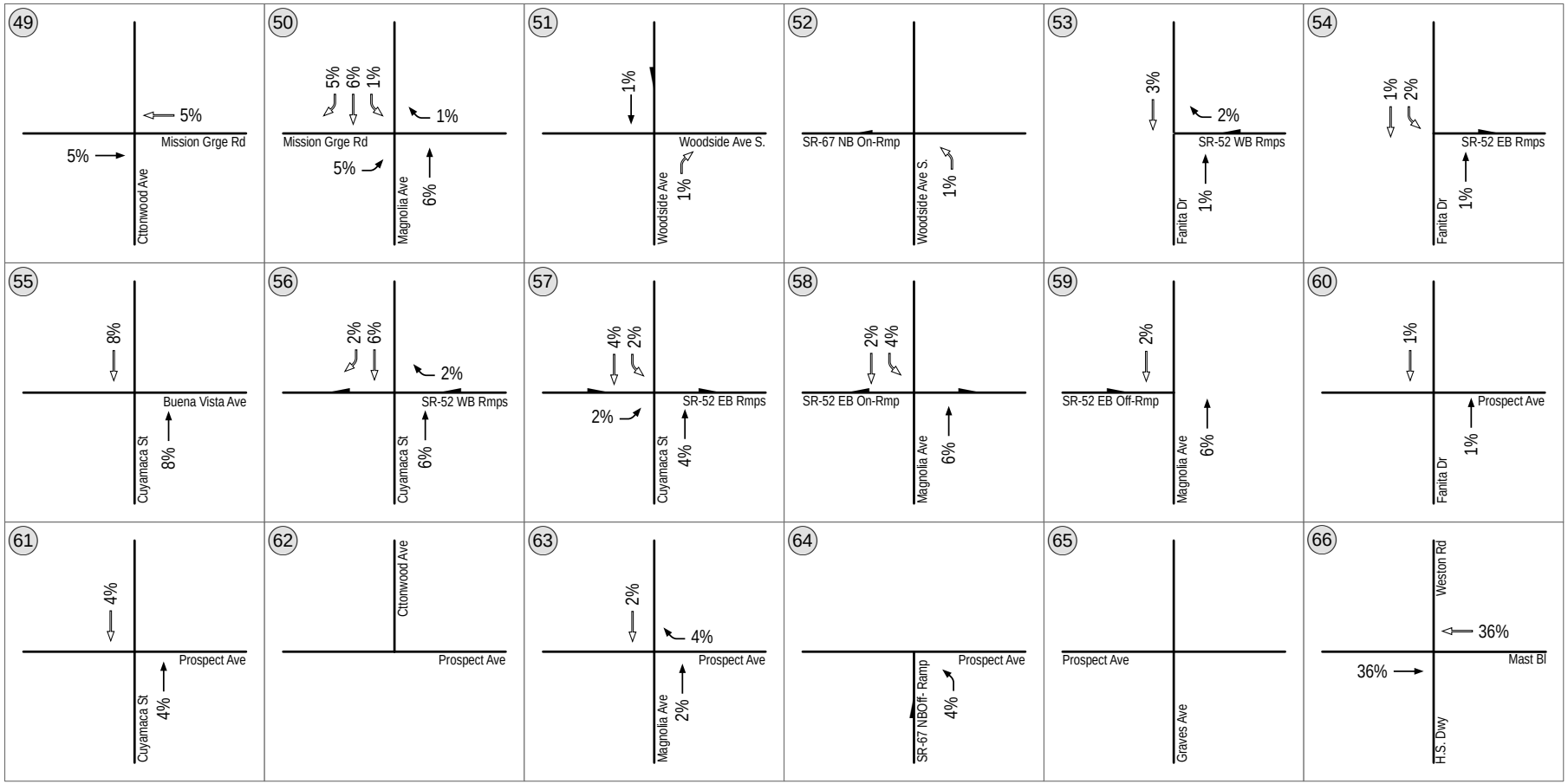
(#) Study Intersections
X% Inbound Local Trip Distribution
X% Outbound Local Trip Distribution

**Figure 7-1**
**(2 of 3)**
# Project Traffic Distribution

FANITA RANCH

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# Study Intersections
X% Inbound Local Trip Distribution
X% Outbound Local Trip Distribution

**Figure 7-1**
**(3 of 3)**

## Project Traffic Distribution

FANITA RANCH

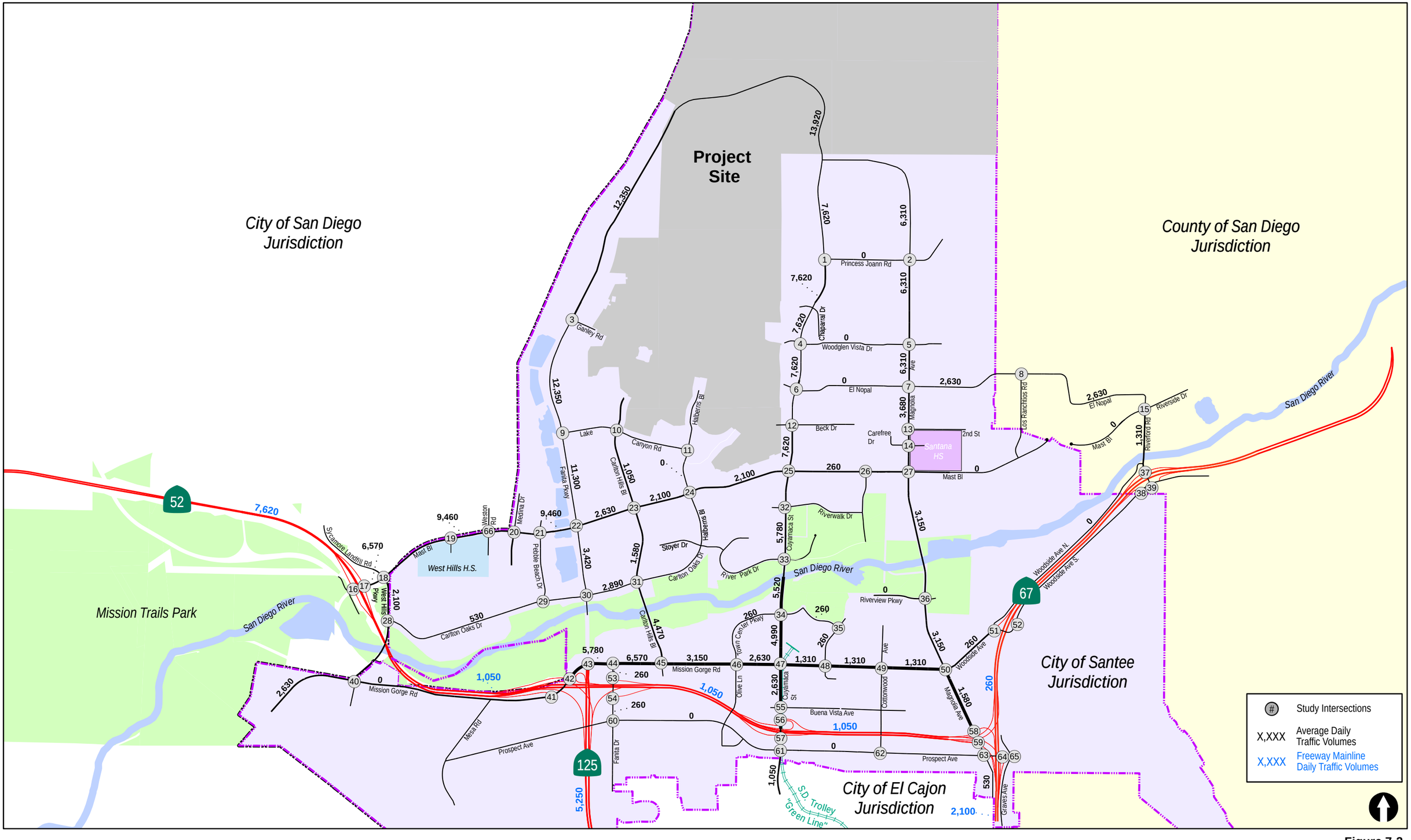


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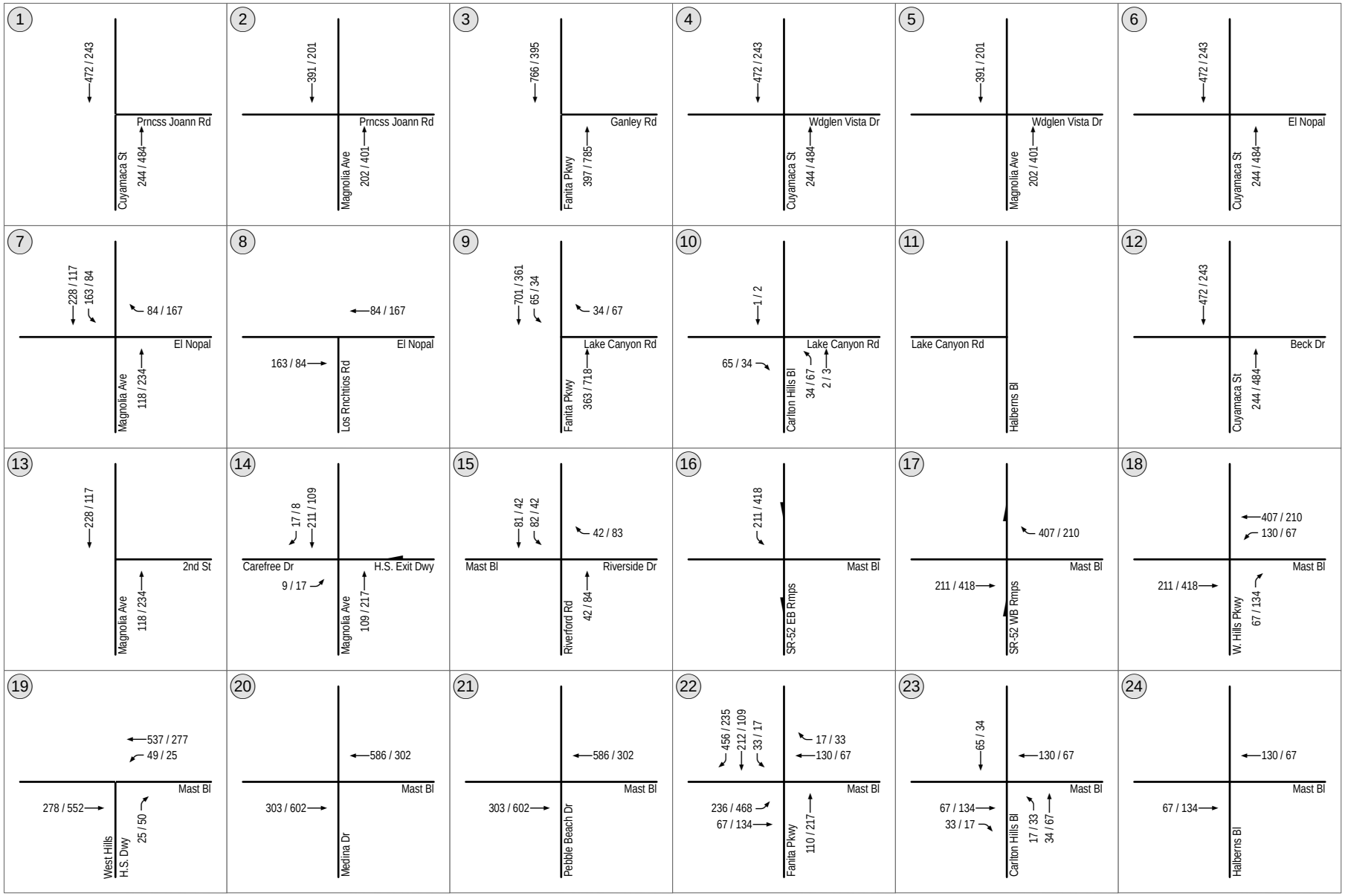
**Figure 7-2**

## Project Traffic Volumes

FANITA RANCH

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# Study Intersections

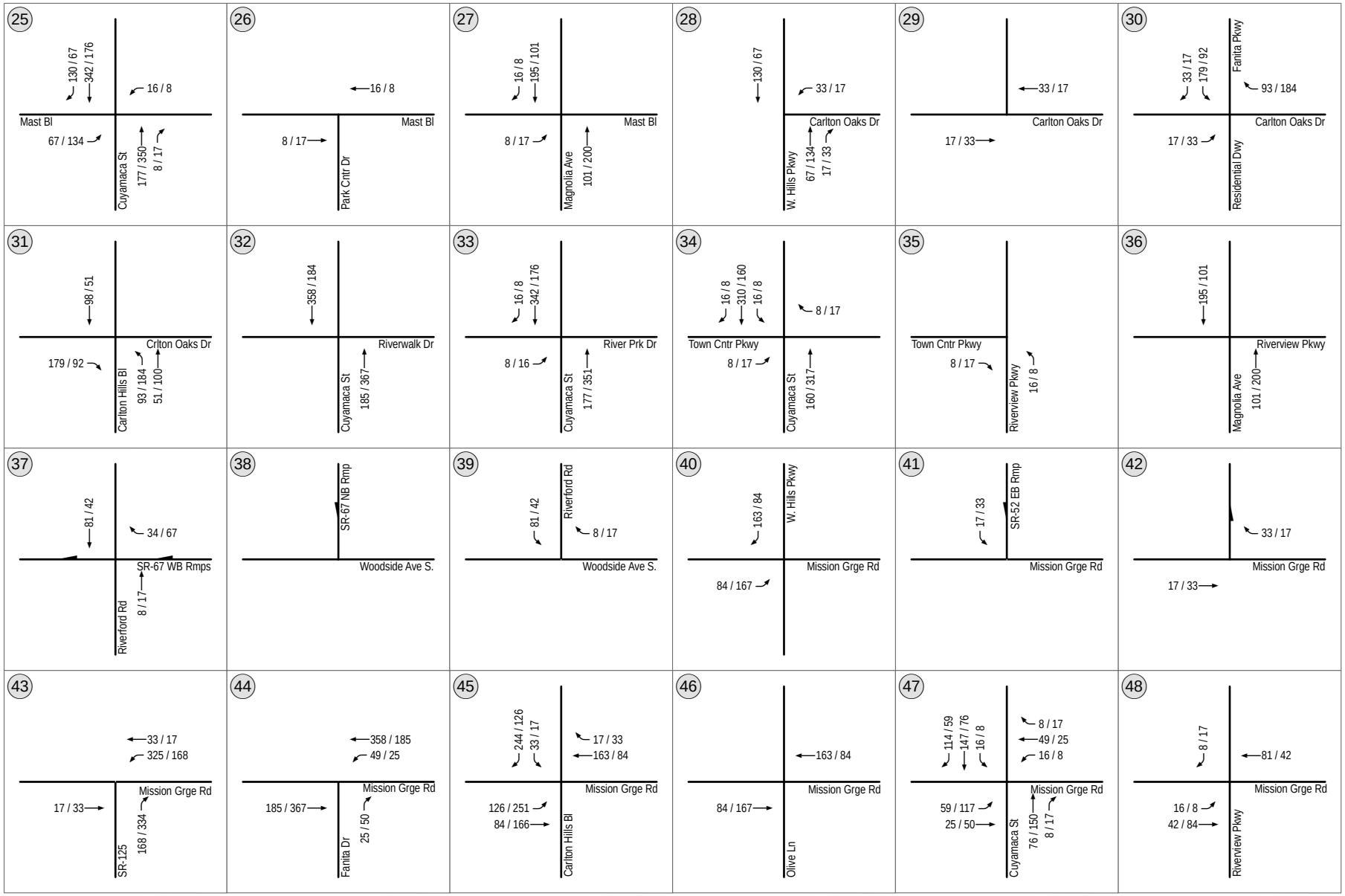
AM / PM — AM / PM Intersection Peak Hour Volumes

**Figure 7-2**
**(1 of 3)**

# Project Traffic Volumes

## AM / PM Peak Hours

FANITA RANCH

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# Study Intersections

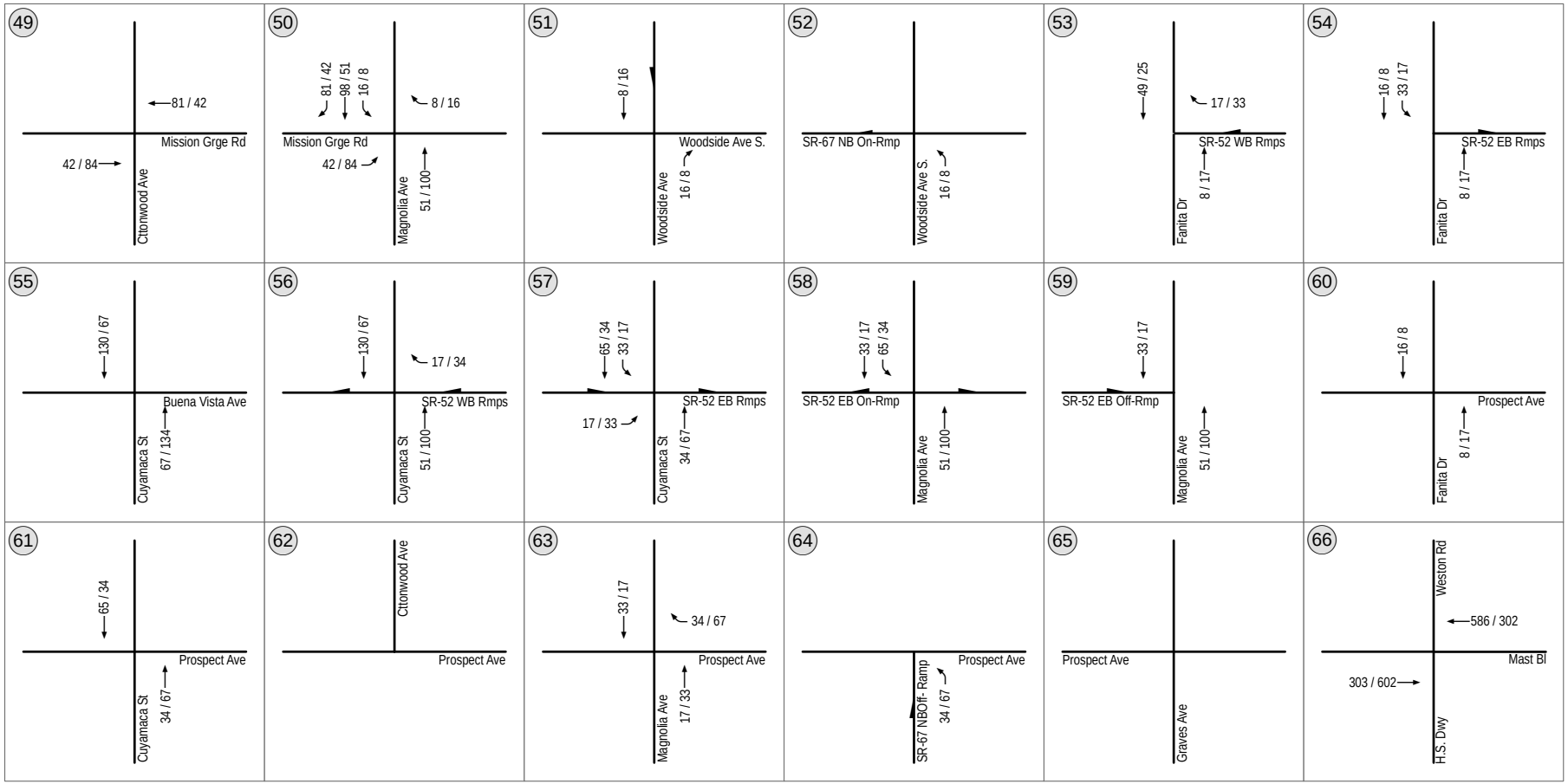
AM / PM — AM / PM Intersection Peak Hour Volumes

**Figure 7-2**
**(2 of 3)**

# Project Traffic Volumes

## AM / PM Peak Hours

FANITA RANCH

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(#) Study Intersections

AM / PM AM / PM Intersection Peak Hour Volumes

**Figure 7-2**
**(3 of 3)**

# Project Traffic Volumes

## AM / PM Peak Hours

FANITA RANCH

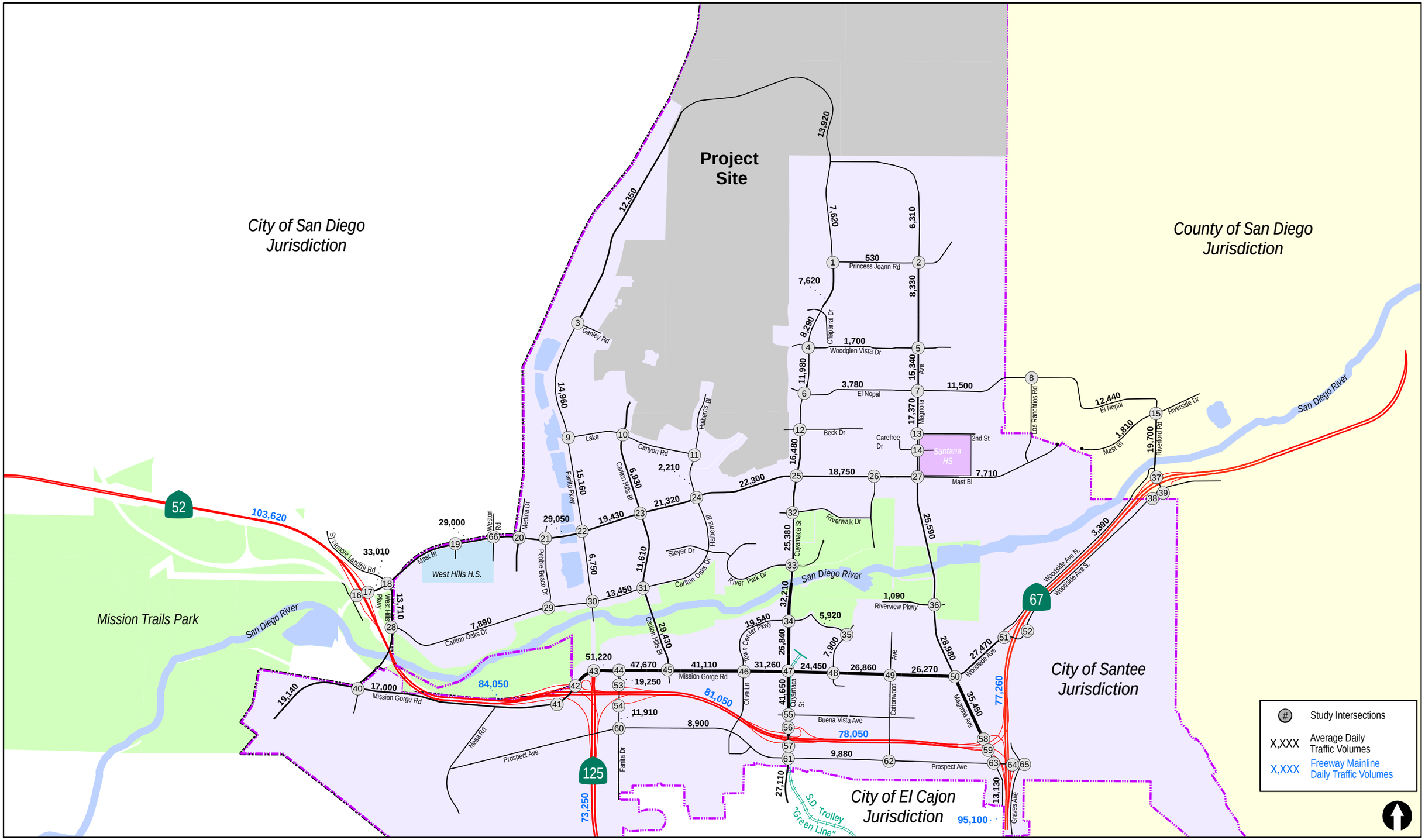


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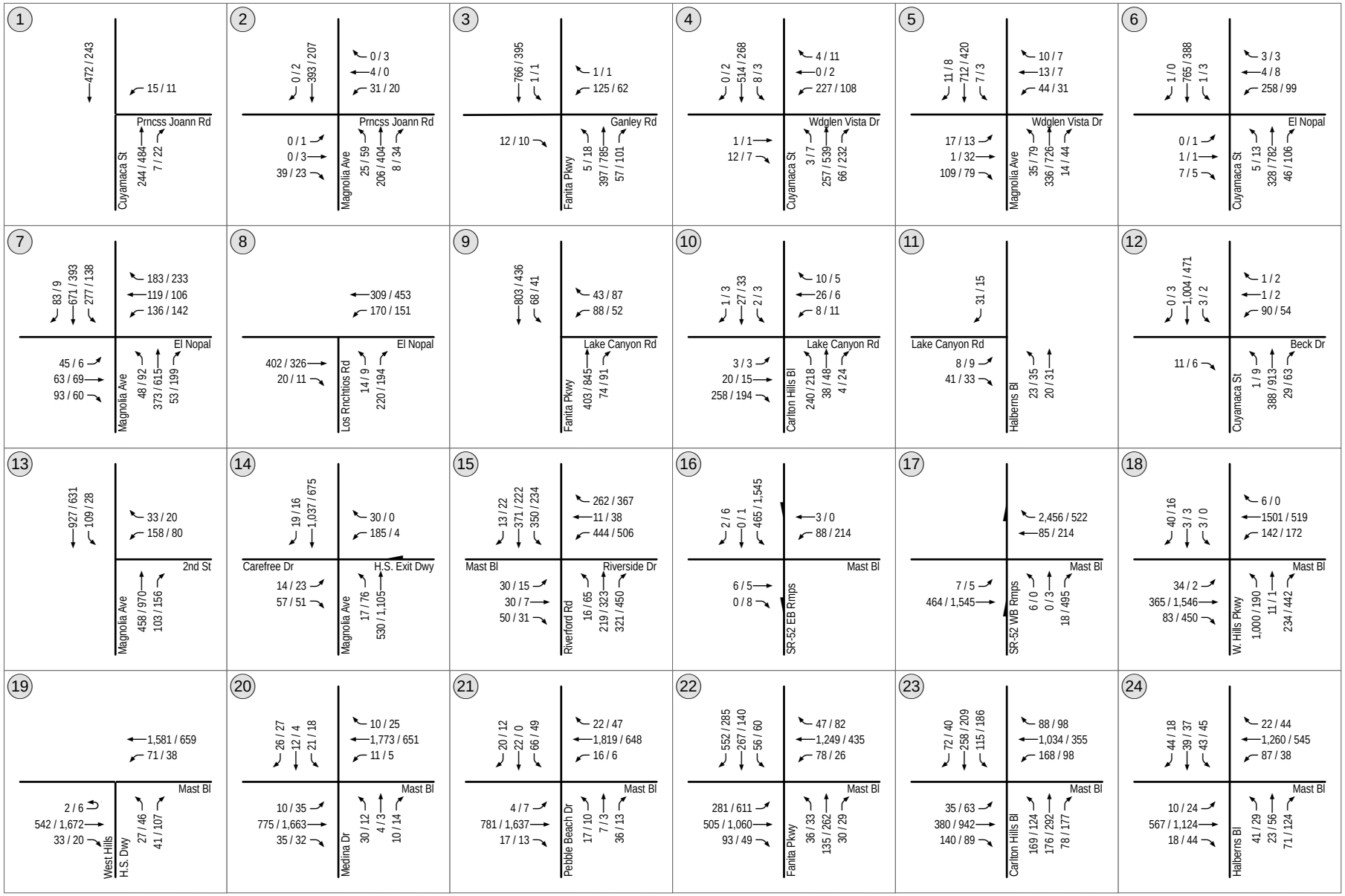
**Figure 7-3**

## Existing + Project Traffic Volumes

FANITA RANCH

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# Study Intersections

AM / PM — AM / PM Intersection Peak Hour Volumes

**Figure 7-3**
**(1 of 3)**

## Existing + Project Traffic Volumes

**AM / PM Peak Hours**

FANITA RANCH

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# Study Intersections

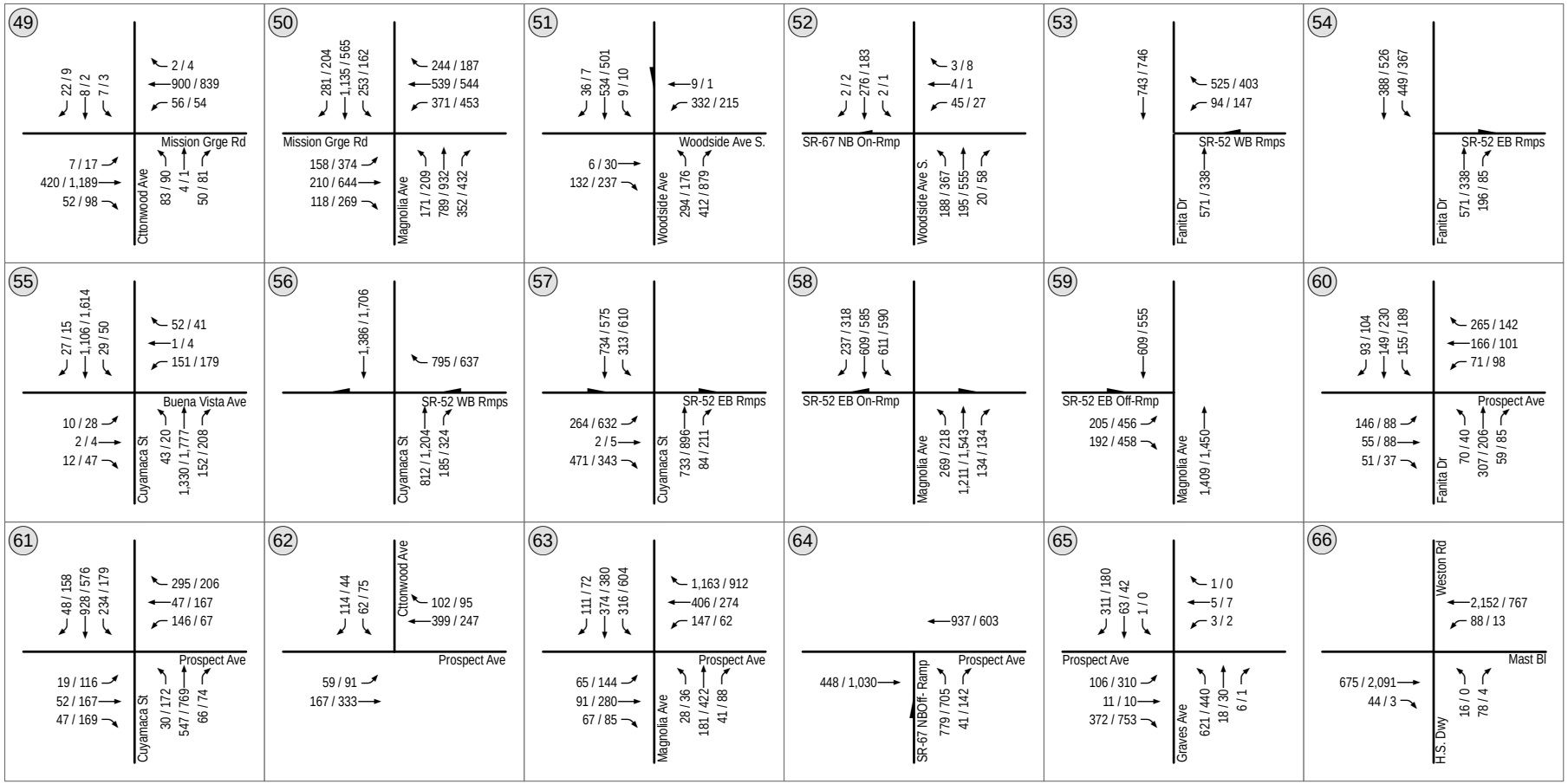
AM / PM AM / PM Intersection Peak Hour Volumes

**Figure 7-3**
**(2 of 3)**

## Existing + Project Traffic Volumes

**AM / PM Peak Hours**

FANITA RANCH

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# Study Intersections
AM / PM — AM / PM Intersection Peak Hour Volumes

**Figure 7-3**
**(3 of 3)**

# Existing + Project Traffic Volumes

## AM / PM Peak Hours

FANITA RANCH

# 8.0 ANALYSIS OF EXISTING + PROJECT SCENARIOS

The following section presents the analysis of Existing + Project study area locations. The Existing + Project condition represents the effect of Project traffic on the existing street network, at the time of traffic data collection without assuming either additional cumulative projects or additional road improvements in the baseline condition. Although this represents an unrealistic condition to assume 100% of the Project would be built over existing conditions, it has been included in compliance with CEQA.

As previously mentioned in *Section 2.3*, Fanita Parkway, Cuyamaca Street, and Magnolia Avenue corridors are proposed to provide access to the Project site and will be built according to the classifications necessary to accommodate Project traffic. Fanita Parkway and Cuyamaca Street would be constructed prior to issuance of the first occupancy permit. In addition, the realignment of the Santee Lakes and PDMWD facilities entry/exit point to complete the fourth leg of the Fanita Parkway/ Ganley Road intersection would occur with the extension of Fanita Parkway. Existing traffic volumes from these two locations were rerouted to the Fanita Parkway/ Ganley Road intersection in the "+ Project" analysis. Magnolia Avenue will also be constructed by the Project from Cuyamaca Street to its existing terminus just north of Princess Joann Road as a Project Design Feature and is included in the Existing + Project analysis.

## 8.1 Peak Hour Intersection Operations

***Table 8–1*** summarizes the Existing + Project intersection operations. As seen in *Table 8–1*, the following study area intersections are calculated to operate at LOS E or F with the addition of Project traffic:

- **Intersection #3. Ganley Road / Fanita Parkway – LOS F (AM/PM peak hours)**
- **Intersection #4. Woodglen Vista Drive / Cuyamaca Street – LOS F (PM peak hour)**
- **Intersection #6. El Nopal / Cuyamaca Street – LOS F (AM/PM peak hours)**
- **Intersection #9. Lake Canyon Road / Fanita Parkway – LOS F (AM/PM peak hours)**
- **Intersection #12. Beck Drive / Cuyamaca Street – LOS F (AM/PM peak hours)**
- **Intersection #17. Mast Boulevard / SR-52 WB Ramps – LOS F (AM peak hour)**
- **Intersection #18. Mast Boulevard / West Hills Parkway – LOS F (AM peak hour)**
- **Intersection #22. Mast Boulevard / Fanita Parkway – LOS F (AM/PM peak hours)**
- **Intersection #25. Mast Boulevard / Cuyamaca Street – LOS E (AM/PM peak hours)**
- **Intersection #37. Riverford Road / SR-67 SB Ramps – LOS F (AM/PM peak hours)**
- **Intersection #39. Riverford Road / Woodside Avenue – LOS E (AM peak hour)**
- **Intersection #45. Mission Gorge Road / Carlton Hills Boulevard – LOS F (AM peak hour)**

Based on the established significance criteria, **twelve (12) significant direct impacts** were calculated with the addition of Project traffic at the study area locations above since the Project-induced increase in delay is greater than 2.0 seconds for LOS E or F operating intersections. ***Appendix F-1*** contains the Existing + Project intersection analysis worksheets.

## 8.2 Daily Street Segment Operations

***Table 8–2*** summarizes the Existing + Project street segment operations. As seen in *Table 8–2*, with the addition of Project traffic, the following study area street segments are calculated to operate at LOS E or F:

- **Segment #5. El Nopal from Los Ranchitos Road to Riverford Road – LOS E**
- **Segment #16. Carlton Oaks Drive from Fanita Parkway to Carlton Hills Boulevard – LOS E**
- **Segment #30. Fanita Parkway from Ganley Drive to Lake Canyon Road – LOS F**
- **Segment #31. Fanita Parkway from Lake Canyon Road to Mast Boulevard – LOS F**
- Segment #41. Cuyamaca Street from Project Site to Magnolia Avenue – LOS E
- **Segment #46. Cuyamaca Street from El Nopal to Mast Boulevard – LOS F**
- **Segment #64. Riverford Road from Riverside Drive to SR-67 Ramps – LOS E**

Based on the established significance criteria, **six (6) significant direct impacts** were calculated with the addition of Project traffic at the study area locations above since the Project-induced change in V/C is greater than 0.02 for these LOS E or F operating street segments. Segment #41 is not deemed to be a significant impact as the intersection operations at both ends of this segment are calculated to operate at LOS C or better. See *Section 16.1.4* for a more detailed discussion and analyses of Cuyamaca Street.

## 8.3 Peak Hour Freeway Segment Operations

***Table 8–3*** shows the volume/capacity freeway segment analyses for the Existing + Project freeway operations. As seen in *Table 8–3*, with the addition of Project traffic, the following study area freeway mainline segments are calculated to operate at LOS E or F during both the AM and PM peak hours.

- **Mainline #1. SR-52 from Santo Road to Mast Boulevard**
    - **Eastbound – LOS E (PM peak hour)**
    - **Westbound – LOS F (AM peak hour)**
- Mainline #2. SR-52 from Mast Boulevard to SR-125
    - Eastbound – LOS F (PM peak hour)
    - Westbound – LOS E (AM peak hour)
- Mainline #5. SR-67 from Riverford Road to SR-52
    - Northbound – LOS E (PM peak hour)

Based on the established significance criteria, **two (2) significant direct impacts** were calculated with the addition of Project traffic on the freeway segments since the Project-induced change in V/C is greater than 0.01 for LOS E or F operating freeway segments. ***Appendix F-2*** contains the HCS freeway analysis sheets.

TABLE 8–1
EXISTING + PROJECT INTERSECTION OPERATIONS

| Intersection | Jur. | Control Type | Peak Hour | Existing | | Existing + Project | | Δ [c] Delay | Sig? |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Delay [a] | LOS [b] | Delay | LOS | | |
| 1. Princess Joann Rd / Cuyamaca St | Santee | DNE/ MSSC [d] | AM | — | — | 15.3 | C | 15.3 | No |
| | | | PM | — | — | 15.4 | C | 15.4 | |
| 2. Princess Joann Rd / Magnolia Ave | Santee | AWSC [e] | AM | 7.6 | A | 12.6 | B | 5.0 | No |
| | | | PM | 7.9 | A | 12.3 | B | 4.4 | |
| 3. Ganley Rd / Fanita Pkwy | Santee | MSSC | AM | 9.3 | A | **>100.0** | **F** | **>2.0** | **Yes** |
| | | | PM | 9.1 | A | **74.4** | **F** | **65.3** | |
| 4. Woodglen Vista Dr / Cuyamaca St | Santee | AWSC | AM | 8.9 | A | 30.0 | D | 21.1 | **Yes** |
| | | | PM | 9.0 | A | **79.5** | **F** | **70.5** | |
| 5. Woodglen Vista Dr / Magnolia Ave | Santee | Signal | AM | 11.9 | B | 13.7 | B | 1.8 | No |
| | | | PM | 10.7 | B | 10.8 | B | 0.1 | |
| 6. El Nopal / Cuyamaca St | Santee | AWSC | AM | 12.0 | B | **>100.0** | **F** | **>2.0** | **Yes** |
| | | | PM | 11.8 | B | **>100.0** | **F** | **>2.0** | |
| 7. El Nopal / Magnolia Ave | Santee | Signal | AM | 23.9 | C | 31.3 | C | 7.4 | No |
| | | | PM | 18.3 | B | 24.4 | C | 6.1 | |
| 8. El Nopal / Los Ranchitos Rd | County | AWSC | AM | 13.9 | B | 23.2 | C | 9.3 | No |
| | | | PM | 14.9 | B | 34.6 | D | 19.7 | |
| 9. Lake Canyon Rd / Fanita Pkwy | Santee | AWSC | AM | 7.9 | A | **>100.0** | **F** | **>2.0** | **Yes** |
| | | | PM | 8.3 | A | **>100.0** | **F** | **>2.0** | |
| 10. Lake Canyon Rd / Carlton Hills Blvd | Santee | AWSC | AM | 10.3 | B | 11.6 | B | 1.3 | No |
| | | | PM | 9.2 | A | 10.4 | A | 1.2 | |
| 11. Lake Canyon Rd / Halberns Blvd | Santee | MSSC | AM | 8.7 | A | 8.7 | A | 0.0 | No |
| | | | PM | 8.7 | A | 8.7 | A | 0.0 | |
| 12. Beck Dr / Cuyamaca St | Santee | AWSC | AM | 22.4 | C | **>100.0** | **F** | **>2.0** | **Yes** |
| | | | PM | 13.3 | B | **>100.0** | **F** | **>2.0** | |
| 13. 2nd Street / Magnolia Ave | Santee | Signal | AM | 8.0 | A | 8.0 | A | 0.0 | No |
| | | | PM | 6.6 | A | 6.7 | A | 0.1 | |
| 14. Carefree Dr / Magnolia Ave | Santee | Signal | AM | 17.4 | B | 21.5 | C | 4.1 | No |
| | | | PM | 9.2 | A | 9.6 | A | 0.4 | |
| 15. Riverford Rd / Riverside Dr | County | Signal | AM | 25.7 | C | 32.5 | C | 6.8 | No |
| | | | PM | 24.3 | C | 30.5 | C | 6.2 | |
| 16. Mast Blvd / SR-52 EB Ramps | San Diego/ Caltrans | Signal | AM | 9.5 | A | 9.6 | A | 0.1 | No |
| | | | PM | 13.1 | B | 17.0 | B | 3.9 | |

*(Continued on Next Page)*

TABLE 8–1
EXISTING + PROJECT INTERSECTION OPERATIONS

| Intersection | Jur. | Control Type | Peak Hour | Existing | | Existing + Project | | Δ [c] Delay | Sig? |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Delay [a] | LOS [b] | Delay | LOS | | |
| *(Continued from Previous Page)* | | | | | | | | | |
| 17. Mast Blvd / SR-52 WB Ramps [g] | San Diego/ Caltrans | Signal | AM | >100.0 | F | **>100.0** | **F** | **>2.0** | **Yes** |
| | | | PM | 10.9 | B | 12.9 | B | 2.0 | |
| 18. Mast Blvd / West Hills Pkwy [g] | San Diego | Signal | AM | >100.0 | F | **>100.0** | **F** | **>2.0** | **Yes** |
| | | | PM | 24.3 | C | 50.4 | D | 26.1 | |
| 19. Mast Blvd / West Hills H.S. | Santee | Signal | AM | 3.9 | A | 5.1 | A | 1.2 | No |
| | | | PM | 7.4 | A | 10.1 | B | 2.7 | |
| 20. Mast Blvd / Medina Dr | Santee | Signal | AM | 3.9 | A | 4.0 | A | 0.1 | No |
| | | | PM | 4.5 | A | 4.6 | A | 0.1 | |
| 21. Mast Blvd / Pebble Beach Dr | Santee | Signal | AM | 5.0 | A | 5.1 | A | 0.1 | No |
| | | | PM | 3.7 | A | 3.8 | A | 0.1 | |
| 22. Mast Blvd / Fanita Pkwy | Santee | Signal | AM | 10.8 | B | **83.4** | **F** | **72.6** | **Yes** |
| | | | PM | 12.0 | B | **83.8** | **F** | **71.8** | |
| 23. Mast Blvd / Carlton Hills Blvd | Santee | Signal | AM | 42.4 | D | 45.4 | D | 3.0 | No |
| | | | PM | 44.8 | D | 47.6 | D | 2.8 | |
| 24. Mast Blvd / Halberns Blvd | Santee | Signal | AM | 13.5 | B | 13.6 | B | 0.1 | No |
| | | | PM | 13.8 | B | 13.9 | B | 0.1 | |
| 25. Mast Blvd / Cuyamaca St | Santee | Signal | AM | 36.9 | D | **72.8** | **E** | **35.9** | **Yes** |
| | | | PM | 33.3 | C | **55.3** | **E** | **22.0** | |
| 26. Mast Blvd / Park Center Dr | Santee | Signal | AM | 7.1 | A | 7.1 | A | 0.0 | No |
| | | | PM | 8.7 | A | 8.7 | A | 0.0 | |
| 27. Mast Blvd / Magnolia Ave | Santee | Signal | AM | 32.9 | C | 33.2 | C | 0.3 | No |
| | | | PM | 26.8 | C | 28.3 | C | 1.5 | |
| 28. Carlton Oaks Dr / West Hills Pkwy | San Diego | Signal | AM | 15.0 | B | 16.1 | B | 1.1 | No |
| | | | PM | 9.8 | A | 10.6 | B | 0.8 | |
| 29. Carlton Oaks Dr / Pebble Beach Dr | Santee | Signal | AM | 8.9 | A | 9.3 | A | 0.4 | No |
| | | | PM | 5.0 | A | 5.0 | A | 0.0 | |
| 30. Carlton Oaks Dr / Fanita Pkwy | Santee | Signal | AM | 10.9 | B | 17.6 | B | 6.7 | No |
| | | | PM | 9.2 | A | 10.6 | B | 1.4 | |
| 31. Carlton Oaks Dr / Carlton Hills Blvd | Santee | Signal | AM | 33.0 | C | 44.2 | D | 11.2 | No |
| | | | PM | 23.3 | C | 28.2 | C | 4.9 | |
| 32. Riverwalk Dr / Cuyamaca St | Santee | Signal | AM | 14.6 | B | 26.1 | C | 11.5 | No |
| | | | PM | 14.6 | B | 20.5 | C | 5.9 | |
| *(Continued on Next Page)* | | | | | | | | | |

TABLE 8–1
EXISTING + PROJECT INTERSECTION OPERATIONS

| Intersection | Jur. | Control Type | Peak Hour | Existing | | Existing + Project | | Δ [c] Delay | Sig? |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Delay [a] | LOS [b] | Delay | LOS | | |
| *(Continued from Previous Page)* | | | | | | | | | |
| 33. Riverpark Dr / Cuyamaca St | Santee | Signal | AM | 16.7 | B | 18.2 | B | 1.5 | No |
| | | | PM | 19.9 | B | 23.5 | C | 3.6 | |
| 34. Town Center Pkwy / Cuyamaca St | Santee | Signal | AM | 14.5 | B | 14.6 | B | 0.1 | No |
| | | | PM | 32.7 | C | 37.4 | D | 4.7 | |
| 35. Town Center Pkwy / Riverview Pkwy | Santee | Signal | AM | 11.6 | B | 12.3 | B | 0.7 | No |
| | | | PM | 14.5 | B | 14.6 | B | 0.1 | |
| 36. Riverview Pkwy / Magnolia Ave | Santee | Signal | AM | 10.1 | B | 11.2 | B | 1.1 | No |
| | | | PM | 11.2 | B | 12.5 | B | 1.3 | |
| 37. Riverford Rd / SR-67 SB Ramps | County/ Caltrans | MSSC | AM | 86.0 | F | **>100.0** | **F** | **34** | **Yes** |
| | | | PM | 51.0 | F | **63.3** | **F** | **67** | |
| 38. Woodside Ave / SR-67 NB Off-Ramp | County/ Caltrans | Signal | AM | 40.4 | D | 45.3 | D | 4.9 | No |
| | | | PM | 43.2 | D | 46.1 | D | 2.9 | |
| 39. Riverford Rd / Woodside Ave | County | Signal | AM | 54.9 | D | **65.8** | **E** | **10.9** | **Yes** |
| | | | PM | 31.1 | C | 34.6 | C | 3.5 | |
| 40. Mission Gorge Rd / West Hills Pkwy | Santee | Signal | AM | 16.1 | B | 21.4 | C | 5.3 | No |
| | | | PM | 14.3 | B | 14.7 | B | 0.4 | |
| 41. Mission Gorge Rd / SR-52 EB Ramps | Santee/ Caltrans | Signal | AM | 4.1 | A | 4.4 | A | 0.3 | No |
| | | | PM | 11.1 | B | 11.9 | B | 0.8 | |
| 42. Mission Gorge Rd / SR-52 WB Ramps | Santee/ Caltrans | Signal | AM | 1.8 | A | 1.8 | A | 0.0 | No |
| | | | PM | 0.6 | A | 0.6 | A | 0.0 | |
| 43. Mission Gorge Rd / SR-125 | Santee/ Caltrans | Signal | AM | 32.6 | C | 49.7 | D | 17.1 | No |
| | | | PM | 29.1 | C | 47.0 | D | 17.9 | |
| 44. Mission Gorge Rd / Fanita Dr | Santee | Signal | AM | 37.7 | D | 40.0 | D | 2.3 | No |
| | | | PM | 29.9 | C | 43.8 | D | 13.9 | |
| 45. Mission Gorge Rd / Carlton Hills Blvd | Santee | Signal | AM | 61.7 | E | **90.2** | **F** | **28.5** | **Yes** |
| | | | PM | 38.9 | D | 45.2 | D | 6.3 | |
| 46. Mission Gorge Rd / Town Center Pkwy | Santee | Signal | AM | 26.2 | C | 26.3 | C | 0.1 | No |
| | | | PM | 45.9 | D | 46.0 | D | 0.1 | |
| 47. Mission Gorge Rd / Cuyamaca St | Santee | Signal | AM | 43.3 | D | 46.7 | D | 3.4 | No |
| | | | PM | 47.4 | D | 53.7 | D | 6.3 | |
| 48. Mission Gorge Rd / Riverview Pkwy | Santee | Signal | AM | 19.0 | B | 19.9 | B | 0.9 | No |
| | | | PM | 17.0 | B | 17.2 | B | 0.2 | |
| *(Continued on Next Page)* | | | | | | | | | |

TABLE 8–1
EXISTING + PROJECT INTERSECTION OPERATIONS

| Intersection | Jur. | Control Type | Peak Hour | Existing | | Existing + Project | | Δ [c] Delay | Sig? |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Delay [a] | LOS [b] | Delay | LOS | | |
| *(Continued from Previous Page)* | | | | | | | | | |
| 49. Mission Gorge Rd / Cottonwood Ave | Santee | Signal | AM | 26.7 | C | 26.8 | C | 0.1 | No |
| | | | PM | 20.6 | C | 20.7 | B | 0.1 | |
| 50. Mission Gorge Rd / Magnolia Ave | Santee | Signal | AM | 40.9 | D | 45.4 | D | 4.5 | No |
| | | | PM | 47.7 | D | 49.1 | D | 1.4 | |
| 51. Woodside Ave / SR-67 SB Off-Ramp | Santee/ Caltrans | AWSC | AM | 26.0 | D | 26.3 | D | 0.3 | No |
| | | | PM | 16.0 | C | 16.3 | C | 0.3 | |
| 52. Woodside Ave / SR-67 NB On-Ramp | Santee/ Caltrans | Signal | AM | 10.0 | A | 10.1 | B | 0.1 | No |
| | | | PM | 9.3 | A | 9.4 | A | 0.1 | |
| 53. Fanita Dr / SR-52 WB Off-Ramp | Santee/ Caltrans | MSSC | AM | 26.8 | D | 29.7 | D | 2.9 | No |
| | | | PM | 16.7 | C | 17.2 | C | 0.5 | |
| 54. Fanita Dr / SR-52 EB On-Ramp | Santee/ Caltrans | Uncontrolled [f] | AM | 15.2 | C | 16.5 | C | 1.3 | No |
| | | | PM | 9.9 | A | 10.1 | B | 0.2 | |
| 55. Buena Vista Ave / Cuyamaca St | Santee | Signal | AM | 11.2 | B | 11.6 | B | 0.4 | No |
| | | | PM | 28.9 | C | 39.8 | D | 10.9 | |
| 56. Cuyamaca St / SR-52 WB Ramps | Santee/ Caltrans | Signal | AM | 2.6 | A | 2.7 | A | 0.1 | No |
| | | | PM | 3.6 | A | 3.8 | A | 0.2 | |
| 57. Cuyamaca St / SR-52 EB Ramps | Santee/ Caltrans | Signal | AM | 31.7 | C | 32.4 | C | 0.7 | No |
| | | | PM | 36.2 | D | 38.3 | D | 2.1 | |
| 58. Magnolia Ave / SR-52 WB Ramps /SR-67 SB | Santee/ Caltrans | Signal | AM | 6.8 | A | 10.0 | A | 3.2 | No |
| | | | PM | 5.9 | A | 5.9 | A | 0.0 | |
| 59. Magnolia Ave / SR-52 EB Ramps | Santee/ Caltrans | Signal | AM | 8.8 | A | 8.8 | A | 0.0 | No |
| | | | PM | 20.1 | C | 21.7 | C | 1.6 | |
| 60. Prospect Ave / Fanita Dr | Santee | Signal | AM | 27.2 | C | 27.5 | C | 0.3 | No |
| | | | PM | 19.1 | B | 19.3 | B | 0.2 | |
| 61. Prospect Ave / Cuyamaca St | Santee | Signal | AM | 29.1 | C | 29.2 | C | 0.1 | No |
| | | | PM | 34.4 | C | 34.5 | C | 0.1 | |
| 62. Prospect Ave / Cottonwood Ave | Santee | Signal | AM | 8.3 | A | 8.3 | A | 0.0 | No |
| | | | PM | 6.5 | A | 6.5 | A | 0.0 | |
| 63. Prospect Ave / Magnolia Ave | Santee | Signal | AM | 20.4 | C | 21.2 | C | 0.8 | No |
| | | | PM | 28.1 | C | 30.0 | C | 1.9 | |
| 64. Prospect Ave / SR-67 NB Off-Ramp | Santee/ Caltrans | Signal | AM | 9.5 | A | 9.7 | A | 0.2 | No |
| | | | PM | 8.6 | A | 9.1 | A | 0.5 | |
| *(Continued on Next Page)* | | | | | | | | | |

## TABLE 8–1
## EXISTING + PROJECT INTERSECTION OPERATIONS

| Intersection | Jur. | Control Type | Peak Hour | Existing | | Existing + Project | | Δ [c] Delay | Sig? |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Delay [a] | LOS [b] | Delay | LOS | | |
| *(Continued from Previous Page)* | | | | | | | | | |
| 65. Prospect Ave / Graves Ave | Santee | Signal | AM | 20.1 | C | 20.1 | C | 0.0 | No |
| | | | PM | 33.7 | C | 33.7 | C | 0.0 | |
| 66. Mast Boulevard / Weston Road | Santee | Signal | AM | 5.3 | A | 5.4 | A | 0.1 | No |
| | | | PM | 1.5 | A | 1.9 | A | 0.4 | |

***Footnotes:***

a. Average delay expressed in seconds per vehicle.
b. Level of Service
c. Δ denotes the increase in delay due to Project.
d. Minor Street Stop Controlled intersection. Minor street left turn delay reported.
e. All-Way Stop Controlled intersection. Average intersection delay reported.
f. No traffic control devices are installed at this location. Therefore, the southbound left-turn movement is reported.
g. The HCM methodology does not accurately reflect operations at this intersection during the AM peak hour. Latent demand east of the intersection, as well as upstream congestion from SR-52 WB exceed the limits of the analysis software/methodology. The LOS F result is based on the bottleneck effect of the lane-drop on the WB on-ramp observed in the field.

| SIGNALIZED | | UNSIGNALIZED | |
|---|---|---|---|
| DELAY/LOS THRESHOLDS | | DELAY/LOS THRESHOLDS | |
| Delay | LOS | Delay | LOS |
| 0.0 ≤ 10.0 | A | 0.0 ≤ 10.0 | A |
| 10.1 to 20.0 | B | 10.1 to 15.0 | B |
| 20.1 to 35.0 | C | 15.1 to 25.0 | C |
| 35.1 to 55.0 | D | 25.1 to 35.0 | D |
| 55.1 to 80.0 | E | 35.1 to 50.0 | E |
| ≥ 80.1 | F | ≥ 50.1 | F |

***General Notes:***

1. Sig = Significant impact, yes or no.
2. Jur. = Jurisdiction.
3. DNE, "—" = Does not exist

TABLE 8–2
EXISTING + PROJECT STREET SEGMENT OPERATIONS

| Street Segment | Jur. | Existing Capacity (LOS E) [a] | Existing | | | Existing + Project | | | Project Volumes | Δ [e] V/C | Sig? |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ADT [b] | LOS [c] | V/C [d] | ADT | LOS | V/C | | | |
| **Princess Joann Road** | | | | | | | | | | | |
| 1. Cuyamaca St to Magnolia Ave | Santee | 8,000 | 530 | A | 0.066 | 530 | A | 0.066 | 0 | 0.000 | No |
| **Woodglen Vista Drive** | | | | | | | | | | | |
| 2. Cuyamaca St to Magnolia Ave | Santee | 8,000 | 1,700 | A | 0.213 | 1,700 | A | 0.213 | 0 | 0.000 | No |
| **El Nopal** | | | | | | | | | | | |
| 3. Cuyamaca St to Magnolia Ave | Santee | 8,000 | 3,780 | C | 0.473 | 3,780 | C | 0.473 | 0 | 0.000 | No |
| 4. Magnolia Ave to Los Ranchitos Rd | Santee | 15,000 | 8,870 | C | 0.591 | 11,500 | D | 0.767 | 2,630 | 0.176 | No |
| 5. Los Ranchitos Rd to Riverford Rd | County | 16,200 | 9,810 | D | — | **12,440** | **E** | — | **2,630** | — | **Yes** |
| **Mast Boulevard** | | | | | | | | | | | |
| 6. SR-52 to West Hills Pkwy | San Diego | 40,000 | 26,440 | C | 0.661 | 33,010 | D | 0.825 | 6,570 | 0.164 | No |
| 7. West Hills Pkwy to Medina Dr | Santee | 40,000 | 19,540 | B | 0.489 | 29,000 | C | 0.725 | 9,460 | 0.236 | No |
| 8. Pebble Beach Dr to Fanita Pkwy | Santee | 40,000 | 19,590 | B | 0.490 | 29,050 | C | 0.726 | 9,460 | 0.236 | No |
| 9. Fanita Pkwy to Carlton Hills Blvd | Santee | 40,000 | 16,800 | B | 0.420 | 19,430 | B | 0.486 | 2,630 | 0.066 | No |
| 10. Carlton Hills Blvd to Halberns Blvd | Santee | 40,000 | 19,220 | B | 0.481 | 21,320 | C | 0.533 | 2,100 | 0.052 | No |
| 11. Halberns Blvd to Cuyamaca St | Santee | 40,000 | 20,200 | B | 0.505 | 22,300 | C | 0.558 | 2,100 | 0.053 | No |
| 12. Cuyamaca St to Magnolia Ave | Santee | 40,000 | 18,490 | B | 0.462 | 18,750 | B | 0.469 | 260 | 0.007 | No |
| 13. Magnolia Ave to Los Ranchitos Rd | Santee | 15,000 | 7,710 | C | 0.514 | 7,710 | C | 0.514 | 0 | 0.000 | No |
| 14. West of Riverford Rd | County | 19,000 | 1,810 | A | — | 1,810 | A | — | 0 | — | No |
| **Carlton Oaks Drive** | | | | | | | | | | | |
| 15. West Hills Pkwy to Pebble Beach Dr | Santee | 15,000 | 7,360 | C | 0.491 | 7,890 | C | 0.526 | 530 | 0.035 | No |
| 16. Fanita Pkwy to Carlton Hills Blvd | Santee | 15,000 | 10,560 | D | 0.704 | **13,450** | **E** | **0.897** | **2,890** | **0.193** | **Yes** |
| **Mission Gorge Road** | | | | | | | | | | | |
| 17. Western City Limits to West Hills Pkwy | Santee | 40,000 | 16,510 | B | 0.413 | 19,140 | B | 0.479 | 2,630 | 0.066 | No |
| 18. West Hills Pkwy to SR-125 | Santee | 40,000 | 17,000 | B | 0.425 | 17,000 | B | 0.425 | 0 | 0.000 | No |
| 19. SR-125 to Fanita Dr | Santee | 60,000 | 45,440 | C | 0.757 | 51,220 | D | 0.854 | 5,780 | 0.097 | No |

*(Continued on Next Page)*

TABLE 8–2
EXISTING + PROJECT STREET SEGMENT OPERATIONS

| Street Segment | Jur. | Existing Capacity (LOS E) [a] | Existing | | | Existing + Project | | | Project Volumes | Δ [e] V/C | Sig? |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ADT [b] | LOS [c] | V/C [d] | ADT | LOS | V/C | | | |
| *(Continued from Previous Page)* | | | | | | | | | | | |
| **Mission Gorge Road (cont.)** | | | | | | | | | | | |
| 20. Fanita Dr to Carlton Hills Blvd | Santee | 60,000 | 41,100 | C | 0.685 | 47,670 | C | 0.795 | 6,570 | 0.110 | No |
| 21. Carlton Hills Blvd to Town Center Pkwy | Santee | 60,000 | 37,960 | C | 0.633 | 41,110 | C | 0.685 | 3,150 | 0.052 | No |
| 22. Town Center Pkwy to Cuyamaca St | Santee | 60,000 | 28,630 | B | 0.477 | 31,260 | B | 0.521 | 2,630 | 0.044 | No |
| 23. Cuyamaca St to Riverview Pkwy | Santee | 60,000 | 23,140 | A | 0.386 | 24,450 | A | 0.408 | 1,310 | 0.022 | No |
| 24. Riverview Pkwy to Cottonwood Ave | Santee | 60,000 | 25,550 | B | 0.426 | 26,860 | B | 0.448 | 1,310 | 0.022 | No |
| 25. Cottonwood Ave to Magnolia Ave | Santee | 60,000 | 24,960 | A | 0.416 | 26,270 | B | 0.438 | 1,310 | 0.022 | No |
| **Prospect Avenue** | | | | | | | | | | | |
| 26. Fanita Dr to Cuyamaca St | Santee | 15,000 | 8,900 | C | 0.593 | 8,900 | C | 0.593 | 0 | 0.000 | No |
| 27. Cuyamaca St to Cottonwood Ave | Santee | 15,000 | 9,880 | C | 0.659 | 9,880 | C | 0.659 | 0 | 0.000 | No |
| **West Hills Parkway** | | | | | | | | | | | |
| 28. Mast Blvd to Mission Gorge Rd | Santee | 40,000 | 11,610 | A | 0.290 | 13,710 | A | 0.343 | 2,100 | 0.053 | No |
| **Fanita Parkway** | | | | | | | | | | | |
| 29. Project Site to Ganley Dr [f] | Santee | DNE/ 15,000 | — | — | — | 12,350 | D | 0.823 | 12,350 | — | No |
| 30. Ganley Dr to Lake Canyon Rd | Santee | 10,000 | 2,610 | A | 0.261 | **14,960** | **F** | **1.496** | **12,350** | **1.235** | **Yes** |
| 31. Lake Canyon Rd to Mast Blvd | Santee | 10,000 | 3,860 | A | 0.386 | **15,160** | **F** | **1.516** | **11,300** | **1.130** | **Yes** |
| 32. Mast Blvd to Carlton Oaks Dr | Santee | 10,000 | 3,330 | A | 0.333 | 6,750 | C | 0.675 | 3,420 | 0.342 | No |
| **Fanita Drive** | | | | | | | | | | | |
| 33. Mission Gorge to SR-52 Ramps | Santee | 40,000 | 18,990 | B | 0.475 | 19,250 | B | 0.481 | 260 | 0.006 | No |
| 34. SR-52 Ramps to Prospect Ave | Santee | 40,000 | 11,650 | A | 0.291 | 11,910 | A | 0.298 | 260 | 0.007 | No |
| **Carlton Hills Boulevard** | | | | | | | | | | | |
| 35. Lake Canyon Rd to Mast Blvd | Santee | 40,000 | 5,880 | A | 0.147 | 6,930 | A | 0.173 | 1,050 | 0.026 | No |
| 36. Mast Blvd to Carlton Oaks Dr | Santee | 40,000 | 10,030 | A | 0.251 | 11,610 | A | 0.290 | 1,580 | 0.039 | No |
| 37. Carlton Oaks Dr to Mission Gorge Rd | Santee | 40,000 | 24,960 | C | 0.624 | 29,430 | C | 0.736 | 4,470 | 0.112 | No |
| *(Continued on Next Page)* | | | | | | | | | | | |

TABLE 8–2
EXISTING + PROJECT STREET SEGMENT OPERATIONS

| Street Segment | Jur. | Existing Capacity (LOS E) [a] | Existing | | | Existing + Project | | | Project Volumes | Δ [e] V/C | Sig? |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ADT [b] | LOS [c] | V/C [d] | ADT | LOS | V/C | | | |
| *(Continued from Previous Page)* | | | | | | | | | | | |
| **Halberns Boulevard** | | | | | | | | | | | |
| 38. Lake Canyon Rd to Mast Blvd | Santee | 10,000 | 2,210 | A | 0.221 | 2,210 | A | 0.221 | 0 | 0.000 | No |
| **Town Center Parkway** | | | | | | | | | | | |
| 39. Mission Gorge Rd to Cuyamaca St | Santee | 40,000 | 19,280 | B | 0.482 | 19,540 | B | 0.489 | 260 | 0.007 | No |
| 40. Cuyamaca St to Riverview Pkwy | Santee | 10,000 | 5,660 | C | 0.377 | 5,920 | C | 0.592 | 260 | 0.026 | No |
| **Cuyamaca Street** | | | | | | | | | | | |
| 41. Project Site to Magnolia Ave [g] | Santee | DNE/ 15,000 | — | — | — | 13,920 | E | 0.928 | 13,920 | 0.928 | No |
| 42. Magnolia Ave to Princess Joann Rd [g] | Santee | DNE/ 15,000 | — | — | — | 7,620 | C | 0.508 | 7,620 | 0.508 | No |
| 43. Princess Joann Rd to Chaparral Dr [g] | Santee | DNE/ 15,000 | — | — | — | 7,620 | C | 0.508 | 7,620 | 0.508 | No |
| 44. Chaparral Dr to Woodglen Vista Dr [g] | Santee | 15,000 | 670 | A | 0.045 | 8,290 | C | 0.553 | 7,620 | 0.508 | No |
| 45. Woodglen Vista Dr to El Nopal | Santee | 15,000 | 4,360 | A | 0.291 | 11,980 | D | 0.799 | 7,620 | 0.508 | No |
| 46. El Nopal to Mast Blvd | Santee | 15,000 | 8,860 | C | 0.591 | **16,480** | **F** | **1.099** | **7,620** | **0.508** | **Yes** |
| 47. Mast Blvd to River Park Dr | Santee | 40,000 | 19,600 | B | 0.490 | 25,380 | C | 0.635 | 5,780 | 0.145 | No |
| 48. River Park Dr to Town Center Pkwy | Santee | 40,000 | 26,690 | C | 0.667 | 32,210 | D | 0.805 | 5,520 | 0.138 | No |
| 49. Town Center Pkwy to Mission Gorge Rd | Santee | 50,000 | 21,850 | B | 0.437 | 26,840 | B | 0.537 | 4,990 | 0.100 | No |
| 50. Mission Gorge Rd to SR-52 Ramps | Santee | 50,000 | 39,020 | C | 0.780 | 41,650 | D | 0.833 | 2,630 | 0.053 | No |
| 51. SR-52 Ramps to south of Prospect Ave | Santee | 50,000 | 26,060 | B | 0.521 | 27,110 | B | 0.542 | 1,050 | 0.021 | No |
| **Riverview Parkway** | | | | | | | | | | | |
| 52. Mission Gorge Rd to Town Center Pkwy | Santee | 40,000 | 7,640 | A | 0.191 | 7,900 | A | 0.198 | 260 | 0.007 | No |
| 53. Town Center Pkwy to Magnolia Ave | Santee | DNE | — | — | — | — | — | — | — | — | No |
| **Magnolia Avenue** | | | | | | | | | | | |
| 54. Cuyamaca St to Princess Joann Rd [h] | Santee | DNE/ 10,000 | — | — | — | 6,310 | C | 0.631 | 6,310 | 0.631 | No |
| 55. Princess Joann Rd to Woodglen Vista Dr | Santee | 40,000 | 2,020 | A | 0.051 | 8,330 | A | 0.208 | 6,310 | 0.157 | No |
| *(Continued on Next Page)* | | | | | | | | | | | |

TABLE 8–2
EXISTING + PROJECT STREET SEGMENT OPERATIONS

| Street Segment | Jur. | Existing Capacity (LOS E) [a] | Existing | | | Existing + Project | | | Project Volumes | Δ [e] V/C | Sig? |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ADT [b] | LOS [c] | V/C [d] | ADT | LOS | V/C | | | |
| *(Continued from Previous Page)* | | | | | | | | | | | |
| **Magnolia Avenue (cont.)** | | | | | | | | | | | |
| 56. Woodglen Vista Dr to El Nopal | Santee | 40,000 | 9,030 | A | 0.226 | 15,340 | B | 0.384 | 6,310 | 0.158 | No |
| 57. El Nopal to Mast Blvd | Santee | 40,000 | 13,690 | A | 0.342 | 17,370 | B | 0.434 | 3,680 | 0.092 | No |
| 58. Mast Blvd to Riverview Pkwy | Santee | 40,000 | 22,440 | C | 0.561 | 25,590 | C | 0.640 | 3,150 | 0.079 | No |
| 59. Riverview Pkwy to Mission Gorge Rd | Santee | 40,000 | 25,830 | C | 0.646 | 28,980 | C | 0.725 | 3,150 | 0.079 | No |
| 60. Mission Gorge Rd to SR-52 Ramps | Santee | 60,000 | 33,870 | B | 0.565 | 35,450 | C | 0.591 | 1,580 | 0.026 | No |
| 61. SR-52 Ramps to south of Prospect Ave | Santee | 40,000 | 12,600 | A | 0.315 | 13,130 | A | 0.328 | 530 | 0.013 | No |
| **Woodside Avenue** | | | | | | | | | | | |
| 62. East of Magnolia Ave | Santee | 40,000 | 27,210 | C | 0.680 | 27,470 | C | 0.687 | 260 | 0.007 | No |
| **N. Woodside Avenue** | | | | | | | | | | | |
| 63. Riverford Rd to Woodside Ave | Santee | 10,000 | 3,390 | A | 0.339 | 3,390 | A | 0.339 | 0 | 0.000 | No |
| **Riverford Road** | | | | | | | | | | | |
| 64. Riverside Dr to SR-67 Ramps | County | 23,500 [i] | 18,390 | E | — | **19,700** | **E** | — | **1,310** | — | **Yes** |

***Footnotes:***

a. Capacities based on City of Santee, County of San Diego, and City of San Diego Roadway Classification & LOS tables (See *Appendix A*).
b. Average Daily Traffic
c. Level of Service
d. Volume to Capacity ratio
e. Δ denotes a Project-induced increase in the Volume to Capacity ratio. For County of San Diego, an increase in Project trips is used to measure impacts.
f. This future section of Fanita Parkway is proposed to be constructed by the Project as a two-lane Parkway with an LOS E capacity of 15,000 ADT.
g. The 15,000 ADT capacity for the existing sections of Cuyamaca Street was continued along this future section providing access to the Project. The intersection operations at both ends of the Cuyamaca Street road segment between the Project Site and Magnolia Avenue report LOS C or better operations. Therefore, adequate operations are expected along this roadway. The section of Cuyamaca Street between Chaparral Drive and Woodglen Vista Drive will be improved to a Four-Lane Major Arterial under Year 2035 conditions as a Project Design Feature to adequately transition to the four-lane section south of Woodglen Vista Drive.
h. The 10,000 ADT capacity for the connection of Magnolia Avenue was used along this future section providing access to the Project.
i. Capacity for "3-Ln Light Collector" interpolated between 2-Ln Light Collector with Continuous Left-Turn Lane (2.2B) and 4-Lane Boulevard with Intermittent Turn Lanes (4.2B).

***General Notes:***

1. Jur = Jurisdiction
2. DNE, "—" = Does not exist
3. Sig = Significant impact, yes or no.
4. County of San Diego does not use V/C ratios as a measure of effectiveness.

TABLE 8–3
EXISTING + PROJECT FREEWAY SEGMENT OPERATIONS

| Freeway Segment | Dir. | Lanes [a] | Existing | | | | | | | | Existing + Project | | | | | | | | Δ V/C [f] | | Sig? |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Volume [b] | | V/C [c] | | Density [d] | | LOS [e] | | Volume | | V/C | | Density | | LOS | | | | |
| | | | AM | PM | AM | PM | AM | PM | AM | PM | AM | PM | AM | PM | AM | PM | AM | PM | AM | PM | |
| **State Route 52** | | | | | | | | | | | | | | | | | | | | | |
| Santo Road to Mast Boulevard | EB | 3M | 1,521 | 5,527 | 0.236 | 0.907 | 7.8 | 36.4 | A | E | 1,765 | 6,011 | 0 .274 | 0.986 | 9.0 | 43.5 | A | **E** | 0.038 | **0.079** | **Yes** |
| | WB | 3M | 5,976 | 2,412 | 0.980 | 0.375 | 42.9 | 12.3 | E | B | 6,448 | 2,655 | 1.058 | 0.413 | — | 13.5 | **F** | B | **0.077** | 0.038 | **Yes** |
| Mast Boulevard to SR-125 | EB | 2M | 1,468 | 4,632 | 0.334 | 1.053 | 11.3 | — | B | F | 1,502 | 4,699 | 0.342 | 1.068 | 11.6 | — | B | F | 0.008 | 0.015 | Yes |
| | WB | 2M | 4,077 | 2,498 | 0.927 | 0.568 | 38.4 | 19.5 | E | C | 4,142 | 2,532 | 0.942 | 0.576 | 39.6 | 19.8 | E | C | 0.015 | 0.008 | No |
| SR-125 to Cuyamaca Street | EB | 2M+1A | 1,719 | 4,268 | 0.260 | 0.647 | 8.9 | 22.6 | A | C | 1,753 | 4,335 | 0.266 | 0.657 | 9.1 | 23.0 | A | C | 0.005 | 0.010 | No |
| | WB | 2M+1A | 3,209 | 2,836 | 0.486 | 0.430 | 16.6 | 14.7 | B | B | 3,274 | 2,870 | 0.496 | 0.435 | 17.0 | 14.9 | B | B | 0.010 | 0.005 | No |
| Cuyamaca Street to SR-67 | EB | 2M+1A | 1,280 | 3,994 | 0.194 | 0.605 | 6.5 | 20.7 | A | C | 1,345 | 4,028 | 0.204 | 0.610 | 6.9 | 20.9 | A | C | 0.010 | 0.005 | No |
| | WB | 2M+1A | 3,202 | 2,459 | 0.485 | 0.373 | 16.4 | 12.6 | B | B | 3,236 | 2,526 | 0.490 | 0.383 | 16.6 | 13.0 | B | B | 0.005 | 0.010 | No |
| **State Route 67** | | | | | | | | | | | | | | | | | | | | | |
| Riverford Road to SR-52 | NB | 2M | 2,322 | 3,739 | 0.553 | 0.891 | 19.1 | 35.7 | C | E | 2,338 | 3,747 | 0.557 | 0.892 | 19.2 | 35.9 | C | E | 0.004 | 0.002 | No |
| | SB | 2M | 3,283 | 2,760 | 0.783 | 0.658 | 29.1 | 23.2 | D | C | 3,291 | 2,777 | 0.785 | 0.663 | 29.3 | 23.4 | D | C | 0.002 | 0.004 | No |
| SR-52 to Bradley Ave | NB | 2M+2A | 2,805 | 4,516 | 0.333 | 0.536 | 11.5 | 18.5 | B | C | 2,872 | 4,650 | 0.341 | 0.552 | 11.8 | 19.1 | B | C | 0.008 | 0.016 | No |
| | SB | 3M | 3,965 | 3,334 | 0.627 | 0.527 | 21.9 | 18.2 | C | C | 4,095 | 3,401 | 0.648 | 0.538 | 22.8 | 18.6 | C | C | 0.020 | 0.010 | No |

*(Continued on Next Page)*

## TABLE 8–3
## EXISTING + PROJECT FREEWAY SEGMENT OPERATIONS

| Freeway Segment | Dir. | Lanes [a] | Existing | | | | | | | | Existing + Project | | | | | | | | Δ V/C [f] | | Sig? |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Volume [b] | | V/C [c] | | Density [d] | | LOS [e] | | Volume | | V/C | | Density | | LOS | | | | |
| | | | AM | PM | AM | PM | AM | PM | AM | PM | AM | PM | AM | PM | AM | PM | AM | PM | AM | PM | |
| *(Continued From Previous Page)* | | | | | | | | | | | | | | | | | | | | | |
| **State Route 125** | | | | | | | | | | | | | | | | | | | | | |
| Grossmont College Dr to SR-52 | NB | 3M+2A | 3,052 | 2,694 | 0.283 | 0.249 | 9.6 | 8.5 | A | A | 3,221 | 3,028 | 0.298 | 0.280 | 10.2 | 9.6 | A | A | 0.015 | 0.031 | No |
| | SB | 4M | 1,960 | 3,440 | 0.227 | 0.398 | 7.7 | 13.6 | A | B | 2,286 | 3,608 | 0.265 | 0.418 | 9.0 | 14.2 | A | B | 0.038 | 0.020 | No |

***Footnotes:***

a. Lane geometry taken from PeMS lane configurations at corresponding postmile.
b. Existing volume calculated from most recent Caltrans Traffic Census Program *Peak Hour Volume Data* (2016). See *Table 6–3* for K and D factors.
c. V/C = (Peak Hour Volume/Hourly Capacity)
d. Density measures passenger cars per mile per lane. Density = Flow Rate (passenger-cars/hour/lane) ÷ Speed (average passenger-car speed in mph).
e. Level of Service
f. "Δ" denotes the Project-induced increase in V/C. Per City Guidelines, a significant impact occurs when the V/C is increased by greater than 0.01 for LOS E or LOS F.

| LOS | Density Range (pc/mi/ln) |
|---|---|
| A | 0 – 11 |
| B | > 11 – 18 |
| C | > 18 – 26 |
| D | > 26 – 35 |
| E | > 35 – 45 |
| F | > 45 |

***General Note:***

1. M = Mainline
2. A = Auxiliary
3. Sig? = Significant impact, yes or no.
4. "—" Shown in density column where density exceeds the maximum threshold for LOS F.

# 9.0 NEAR-TERM CUMULATIVE CONDITIONS

Cumulative projects are other projects in the study area that are expected to be constructed and occupied between the date of existing data collection (January/February 2018) and the expected near-term timeframe for the Project, thus adding traffic to the local circulation system. LLG researched projects within the City of Santee, City of San Diego, City of El Cajon and County of San Diego to identify cumulative projects in the study area that could be constructed and generating traffic in the Project vicinity. Based on the most recent information received from local agencies, 55 cumulative development projects are planned for the area for the near-term condition. The following is a brief description of each of the cumulative projects.

***Table 9–1*** provides a summary of the cumulative projects trip generation summary.

TABLE 9–1
CUMULATIVE DEVELOPMENT PROJECTS SUMMARY

| No. | Name/Applicant | Description | ADT [a] | AM | | PM | | Status |
|---|---|---|---|---|---|---|---|---|
| | | | | In | Out | In | Out | |
| 1. | GA Development LLC | 6-lot residential subdivision | 60 | 2 | 3 | 4 | 2 | Approved – Not Built |
| 2. | D'Lazio | 20 condominiums | 160 | 3 | 10 | 11 | 5 | Approved – Under Construction |
| 3. | East County Estates | 17 single-family homes | 170 | 4 | 10 | 12 | 5 | Completed [c] |
| 4. | Las Olivitas | 18 condominiums | 144 | 2 | 10 | 10 | 4 | Completed [c] |
| 5. | Santee View Estates | 27-lot residential subdivision | 270 | 7 | 15 | 19 | 8 | Approved – Not Built |
| 6. | Woodside Terrace | 4-lot residential subdivision | 40 | 1 | 2 | 3 | 1 | Approved – Under Construction |
| 7. | Tyree & Vidovich Investments, LLC | 4-lot residential subdivision | 40 | 1 | 2 | 3 | 1 | Completed [c] |
| 8. | Cornerstone | 128 condo units | 768 | 12 | 49 | 48 | 21 | Approved – Under Construction |
| 9. | Santee Townhomes | 10 townhome units | 80 | 1 | 5 | 6 | 2 | Approved – Not Built |
| 10. | Prospect Fields | 75-unit multi-family | 600 | 10 | 38 | 42 | 18 | Completed [c] |
| 11. | River Village | 82 single family residential units | 820 | 20 | 46 | 57 | 25 | Completed [c] |
| 12. | Infill Development Company | 4-lot residential subdivision | 40 | 1 | 2 | 3 | 4 | Approved – Under Construction |

*(Continue to Next Page)*

TABLE 9–1
CUMULATIVE DEVELOPMENT PROJECTS SUMMARY

| No. | Name/Applicant | Description | ADT [a] | AM | | PM | | Status |
|---|---|---|---|---|---|---|---|---|
| | | | | In | Out | In | Out | |
| *(Continue from Previous Page)* | | | | | | | | |
| 13. | Village Run Homes, LLC | 40 dwelling unit subdivision | 400 | 10 | 22 | 28 | 12 | Approved – Not Built |
| 14. | Karl Strauss | Brewery, warehouse, tasting room, & restaurant | 1,509 | 80 | 21 | 74 | 93 | Approved – Not Built |
| 15. | Hattie Davison Properties | 113 condominiums | 904[b] | 14 | 58 | 63 | 27 | Approved – Not Built |
| 16. | Walker Trails | 67 condominiums | 536 | 9 | 34 | 38 | 16 | Approved – Under Construction |
| 17. | Prospect Estates II | 53 single-family | 530 | 13 | 29 | 37 | 16 | Approved – Not Built |
| 18. | Costco and Expanded Food Court | Fuel facility with 11 dispensers | 1,063 | 37 | 37 | 43 | 42 | Completed [c] |
| 19. | Weston (formerly Castlerock) | 415 detached dwelling units | 4,150 | 100 | 232 | 291 | 124 | Approved – Under Construction |
| 20. | Calvary Chapel | 9.3 KSF church expansion | 84 | 2 | 2 | 4 | 3 | Completed [c] |
| 21. | Tyler Street Subdivision | 14 single-family homes | 140 | 3 | 8 | 10 | 4 | Pending Entitlement |
| 22. | Carribean Way | 42 condominiums | 336 | 5 | 22 | 24 | 10 | Approved – Under Construction |
| 23. | Talwar | 8 condominiums | 64 | 1 | 4 | 4 | 2 | Approved – Not Built |
| 24. | Lantern Crest Ridge Phase II | 46-bed memory care facility | 115 | 3 | 2 | 5 | 4 | Pending Entitlement |
| 25. | Graves/Prospect Commercial | Convenience store, coffee shop | 1,200 | 48 | 48 | 48 | 48 | Pending Entitlement |
| 26. | Sharp Medical Office Building | 86 KSF medical office | 3,107 | 163 | 43 | 86 | 221 | Approved – Under Construction |
| 27. | Parkside (formerly Hillside Meadows) | 63 single family homes and 62 condominiums | 1,126 | 23 | 67 | 79 | 34 | Pending Entitlement |
| 28. | Cuyamaca Service Station | Gas, retail, office, car wash | 1,334 | 54 | 53 | 41 | 42 | Approved – Not Built |
| 29. | Panera Bread | Fast Food w/ Drive Through | 2,631 | 92 | 92 | 63 | 63 | Completed [c] |
| *(Continued on Next Page)* | | | | | | | | |

TABLE 9–1
CUMULATIVE DEVELOPMENT PROJECTS SUMMARY

| No. | Name/Applicant | Description | ADT [a] | AM | | PM | | Status |
|---|---|---|---|---|---|---|---|---|
| | | | | In | Out | In | Out | |
| *(Continued from Previous Page)* | | | | | | | | |
| 30. | Sycamore Landfill | Master plan expansion | 2,920 | 176 | 116 | 70 | 105 | Approved – Under Construction |
| 31. | Padre Dam / Santee Lakes Expansion | Operational trips related to master plan improvements | 120 | 20 | 20 | 20 | 20 | Approved – Under Construction |
| 32. | Carlton Oaks Country Club | Single family, assisted living, hotel, and restaurant expansion | 2,380 | 56 | 117 | 155 | 74 | Pending Entitlement |
| 33. | Garmo Brothers | Gas station, restaurant | 1,364 | 60 | 54 | 36 | 34 | Approved –Not Built |
| 34. | Toby Foster | Commercial | 250 | 5 | 3 | 12 | 11 | Approved – Under Construction |
| 35. | Meng Subdivision | 24 multi-family residential | 192 | 3 | 12 | 13 | 6 | Approved – Not Built |
| 36. | Woodspring Suites | 120-room hotel | 840 | 27 | 40 | 46 | 30 | Approved – Not Built |
| 37. | Handel's Ice Cream | Commercial | 68 | 1 | 1 | 3 | 3 | Approved – Not Built |
| 38. | Apts. Inc | 11 multi-family residential | 88 | 1 | 6 | 6 | 3 | Pending Entitlement |
| 39. | Tower Glass | Industrial | 275 | 27 | 3 | 7 | 26 | Approved – Not Built |
| 40. | Studio Movie Grill | Entertainment, restaurant | 3,700 | 13 | 0 | 179 | 117 | Pending Entitlement |
| 41. | County Property 2 | 365 multi-family residential | 2,920 | 47 | 187 | 204 | 88 | Pending Entitlement |
| 42. | County Property 1 | 130 multi-family residential | 1,040 | 17 | 66 | 73 | 31 | Pending Entitlement |
| 43. | KDS & Assoc. | Warehouse | 37 | 4 | 1 | 2 | 4 | Pending Entitlement |
| 44. | Cameron Bros | Commercial | 12,883 | 309 | 206 | 644 | 644 | Pending Entitlement |
| 45. | Jacor | Office/warehouse | 21 | 2 | 1 | 1 | 2 | Approved – Not Built |
| *(Continued on Next Page)* | | | | | | | | |

TABLE 9–1
CUMULATIVE DEVELOPMENT PROJECTS SUMMARY

| No. | Name/Applicant | Description | ADT [a] | AM | | PM | | Status |
|---|---|---|---|---|---|---|---|---|
| | | | | In | Out | In | Out | |
| *(Continued from Previous Page)* | | | | | | | | |
| 46. | Rayo Wholesale | Warehouse | 25 | 2 | 1 | 2 | 2 | Approved – Under Construction |
| 47. | Lantern Crest Phase III | 360 residential apartments | 2,880 | 46 | 184 | 202 | 86 | Approved – Under Construction |
| 48. | Rockvill Residential | 59 residential apartments | 590 | 14 | 33 | 41 | 18 | Pending Entitlement |
| 49. | All Right Storage | 87 KSF Storage | 175 | 6 | 5 | 8 | 8 | Pending Entitlement |
| 50. | County ARCC | 25 KSF Gov't Office | 755 | 61 | 7 | 27 | 64 | Completed |
| 51. | Gondala Skate | 28 KSF Industrial | 229 | 23 | 2 | 5 | 22 | Approved – Not Built |
| 52. | Lunar Lane | 7 KSF Industrial | 59 | 5 | 1 | 1 | 6 | Pending Entitlement |
| 53. | Kalasho Gas Station | Gas Station | 900 | 32 | 31 | 36 | 36 | Pending Entitlement |
| 54. | Conejo Subdivision | 5 single-family residential | 50 | 1 | 3 | 4 | 1 | Pending Entitlement |
| 55. | Prospect Avenue Subdivision | 14 single-family residential | 140 | 3 | 8 | 10 | 4 | Pending Entitlement |

***Footnotes:***

a. Average daily traffic.
b. Cumulative project #15 results in a net reduction of 327 daily trips when credit for the existing tenant is taken.
c. Projects noted as completed were fully constructed after the date of existing data collection. Therefore, the trips associated with these projects were added to the near-term cumulative condition.

The cumulative condition is subject to change on a constant basis, given the time period for permit processing on a large project, such as the Fanita Ranch Project, takes many years to complete. The baseline conditions are developed at the initiation of the transportation study (data collection 2018) and between that time and Project approval, the list of cumulative development projects fluctuates as projects are built, withdrawn, or newly entered into the entitlement process. Because of this phenomenon, a comprehensive approach to developing the near-term condition is to include the individual cumulative projects on the street system in addition to general growth in the area developed using an annual growth factor between baseline traffic count data (Year 2018) and buildout volumes forecasted in the City of Santee Mobility Element (Year 2035). The Mobility Element utilized the SANDAG Series 12 Year 2035 traffic model to evaluate the effect of buildout of the General Plan future land uses on the street network within the City and surrounding area. To arrive at Existing + Cumulative Projects conditions, cumulative projects and calculated annual growth were added to the existing baseline condition.

No future upgrades to the study area street network were assumed in the near-term cumulative analysis.

***Figure 9–1*** depicts the Cumulative Only traffic volumes, ***Figure 9–2*** depicts the Existing + Cumulative Projects traffic volumes, and ***Figure 9–3*** depicts the Existing + Cumulative Projects + Project traffic volumes.

***Appendix G*** contains cumulative projects and cumulative growth traffic data.

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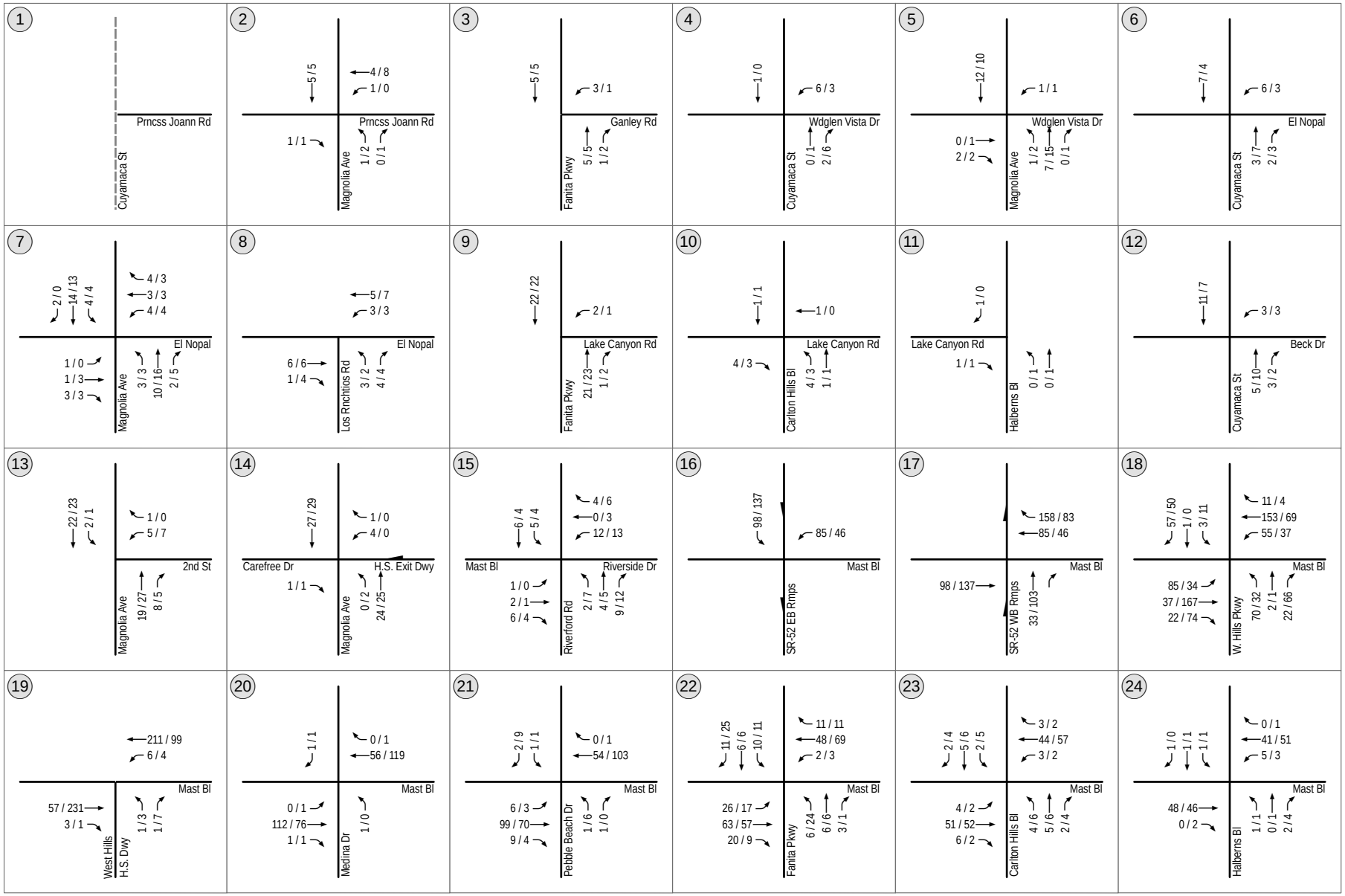
Figure 9-1

# Cumulative Only Traffic Volumes

FANITA RANCH

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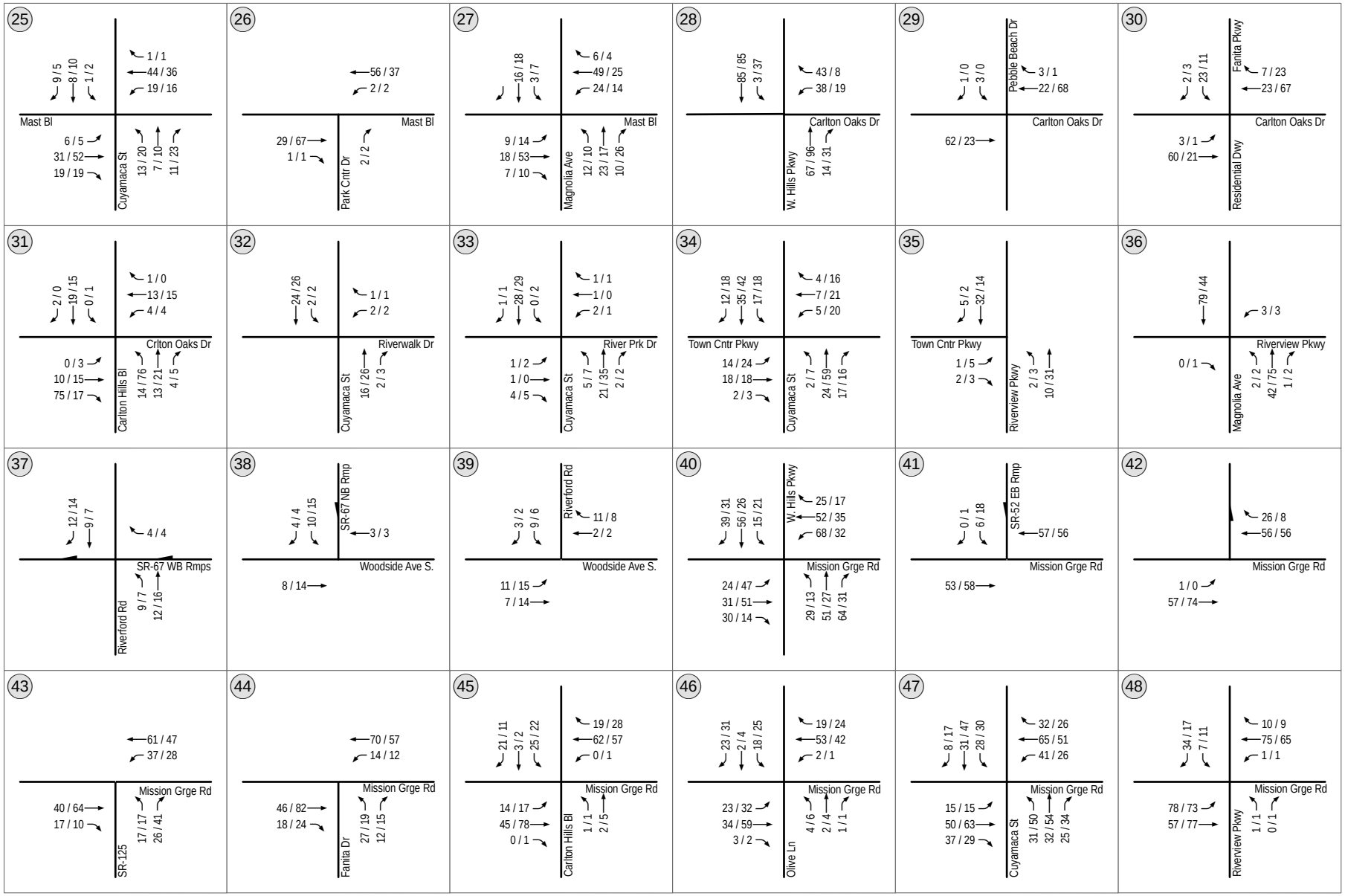
# Study Intersections
AM / PM AM / PM Intersection Peak Hour Volumes
Project Access Roads

**Figure 9-1**
**(1 of 3)**

# Cumulative Projects Traffic Volumes
## AM / PM Peak Hours

FANITA RANCH

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# Study Intersections

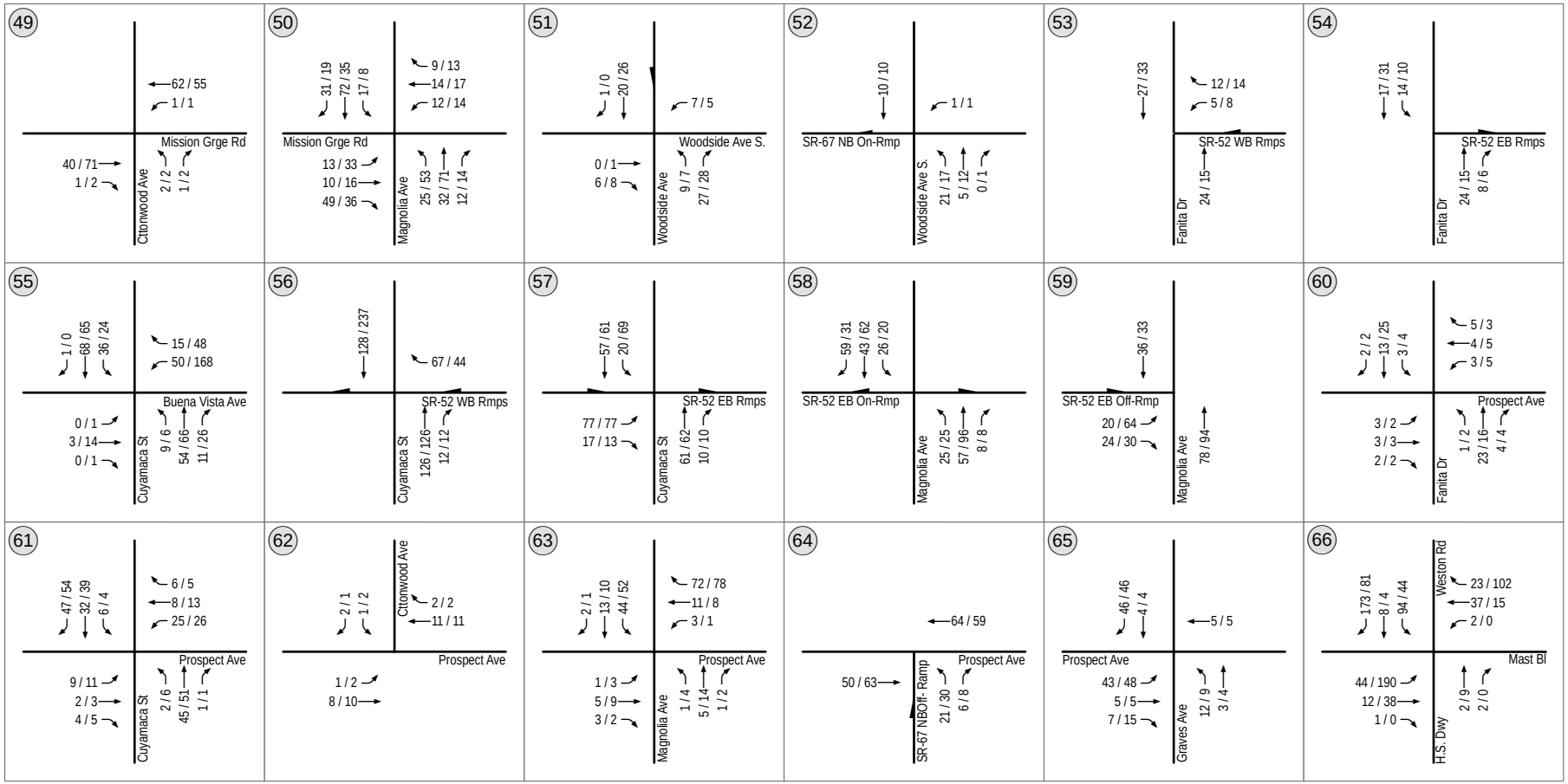
AM / PM → AM / PM Intersection Peak Hour Volumes

**Figure 9-1**
**(2 of 3)**

# Cumulative Projects Traffic Volumes

## AM / PM Peak Hours

FANITA RANCH

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(#) Study Intersections

AM / PM → AM / PM Intersection Peak Hour Volumes

**Figure 9-1**
**(3 of 3)**

# Cumulative Projects Traffic Volumes

## AM / PM Peak Hours

FANITA RANCH

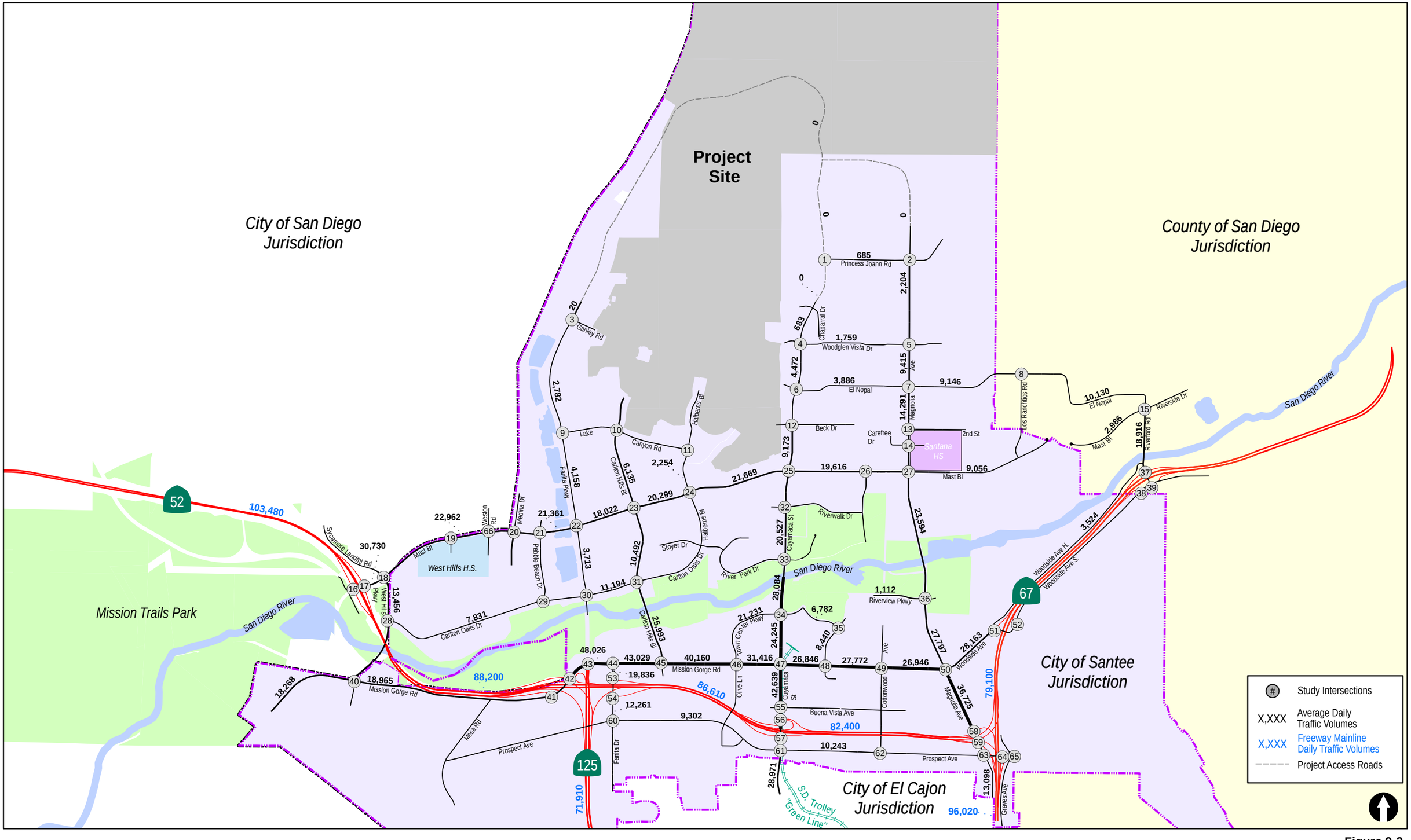


Figure 9-2

## Existing + Cumulative Projects Traffic Volumes

FANITA RANCH

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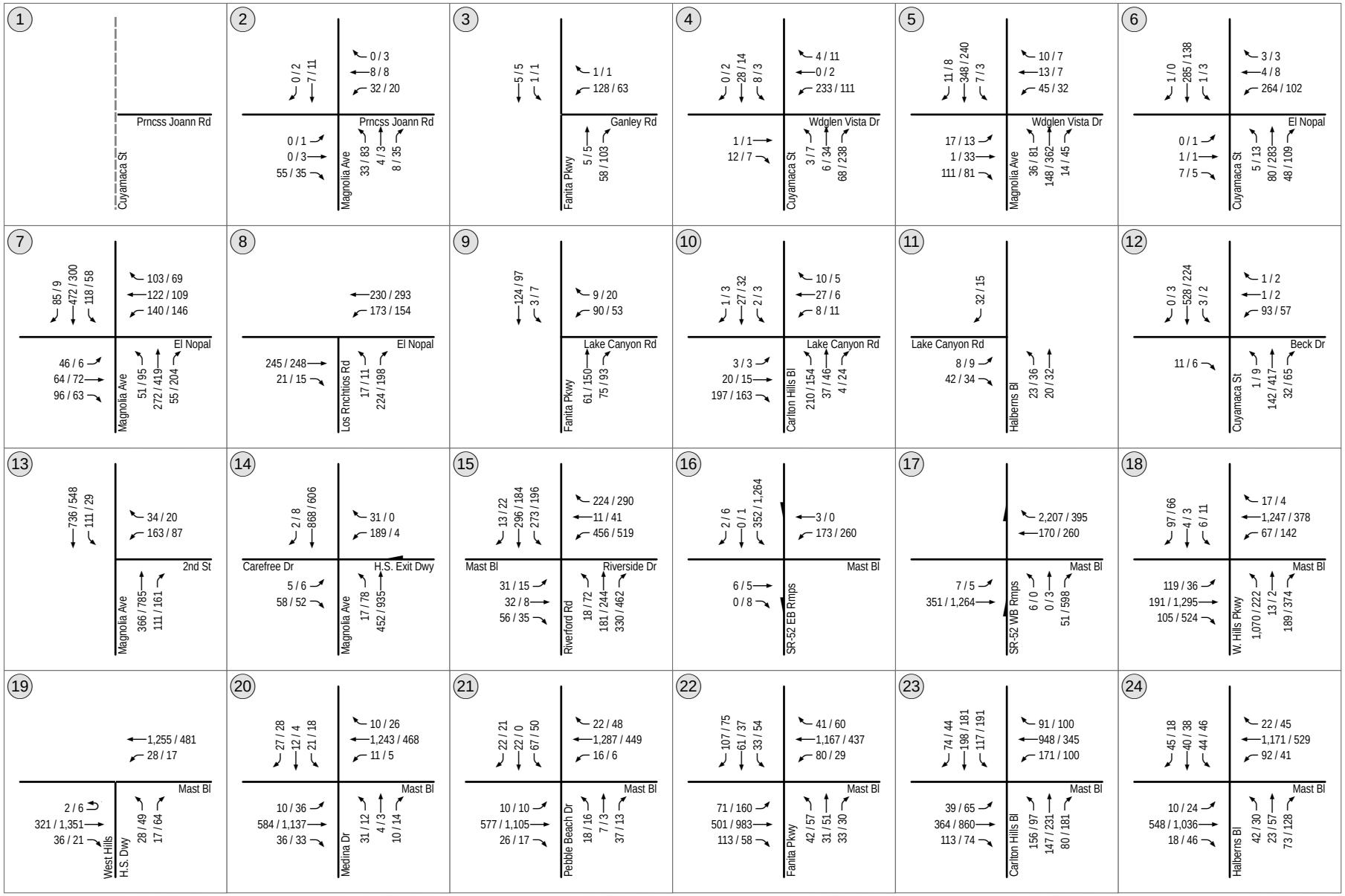


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# Study Intersections

AM / PM — AM / PM Intersection Peak Hour Volumes

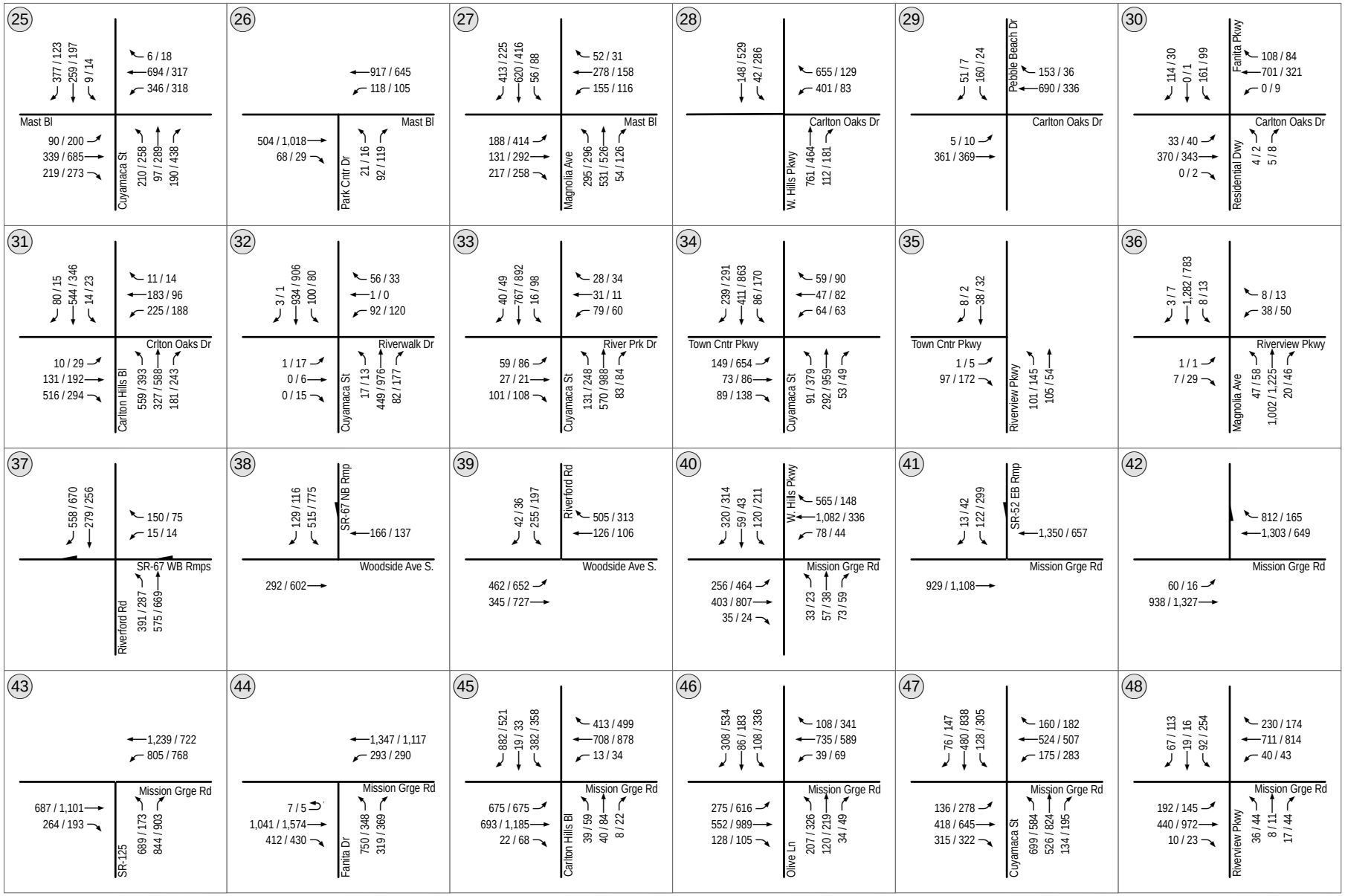
Project Access Roads

**Figure 9-2**
**(1 of 3)**

# Existing + Cumulative Projects Traffic Volumes

## AM / PM Peak Hours

FANITA RANCH

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# Study Intersections

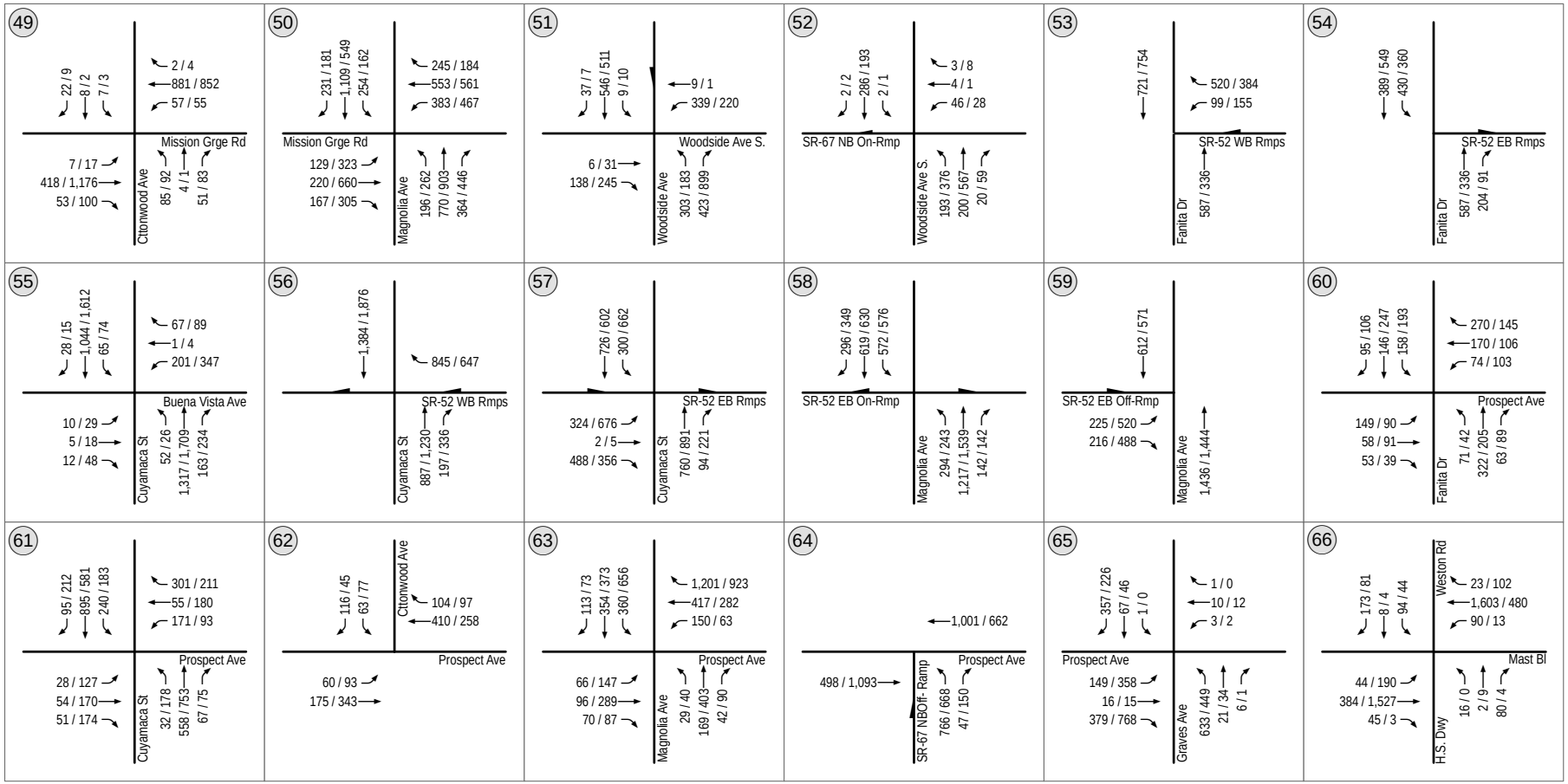
AM / PM AM / PM Intersection Peak Hour Volumes

**Figure 9-2**
**(2 of 3)**

## Existing + Cumulative Projects Traffic Volumes

### AM / PM Peak Hours

FANITA RANCH

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# Study Intersections

AM / PM — AM / PM Intersection Peak Hour Volumes

**Figure 9-2**
**(3 of 3)**

## Existing + Cumulative Projects Traffic Volumes

**AM / PM Peak Hours**

FANITA RANCH

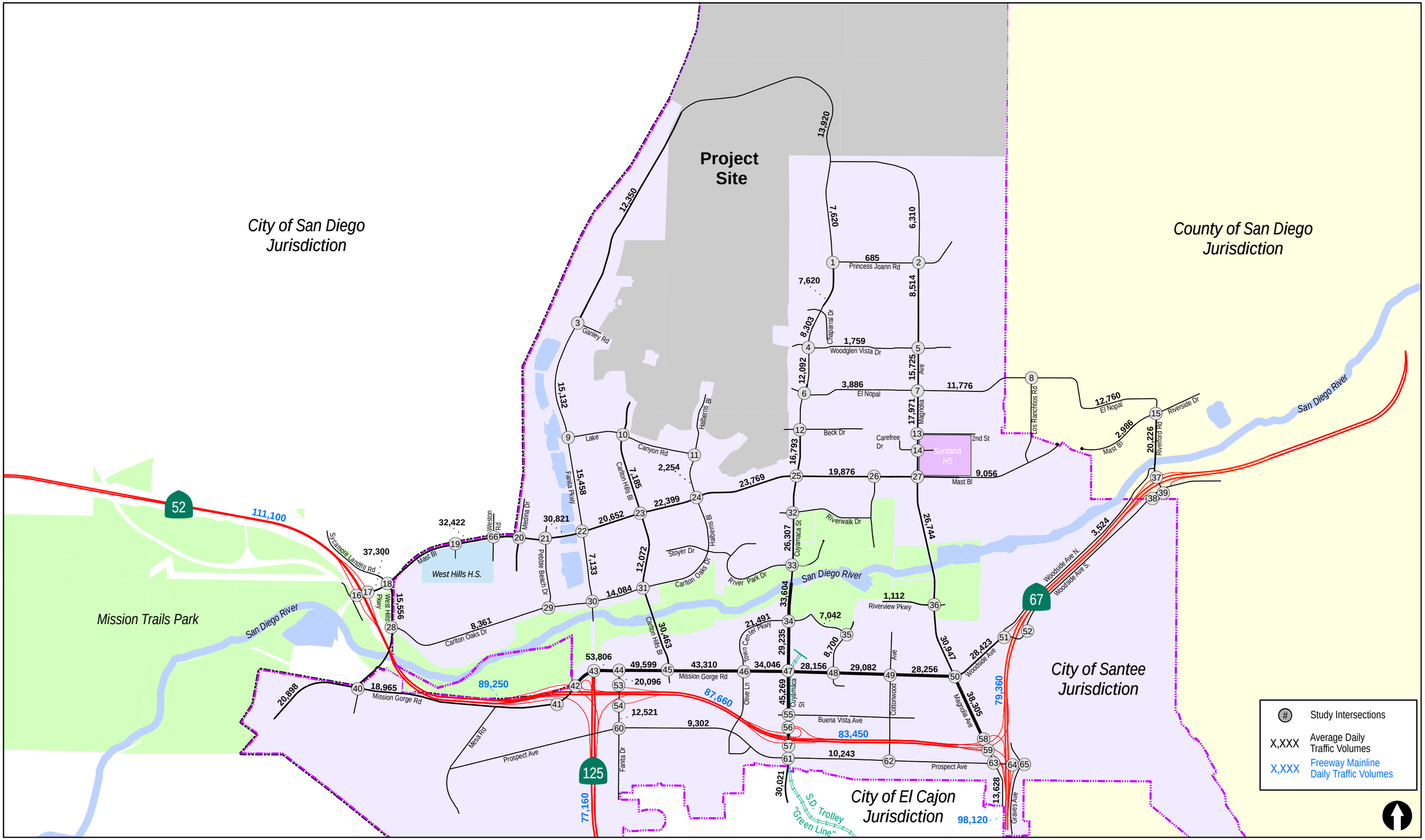


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**Figure 9-3**

## Existing + Cumulative Projects + Project Traffic Volumes

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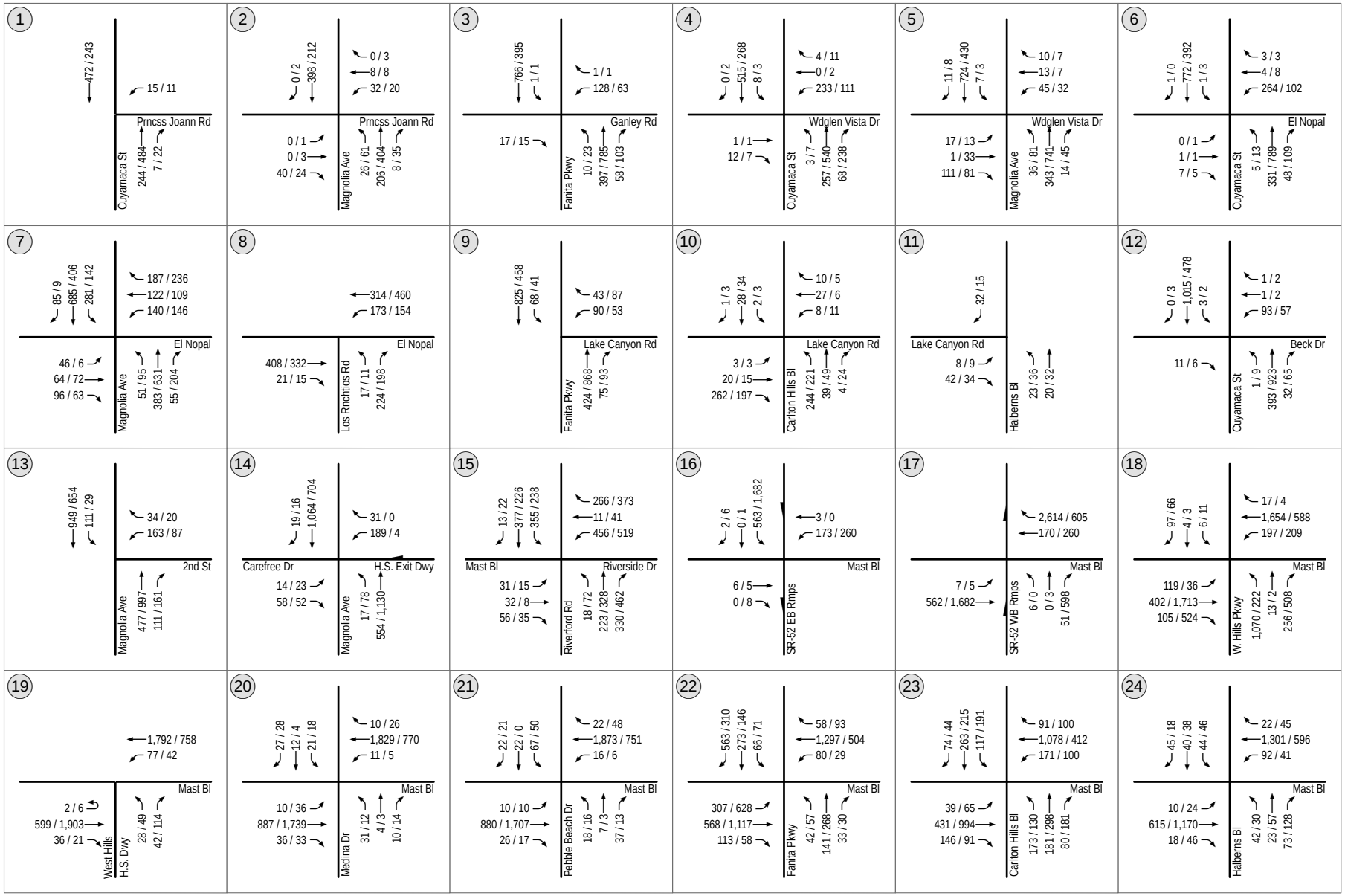


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# Study Intersections

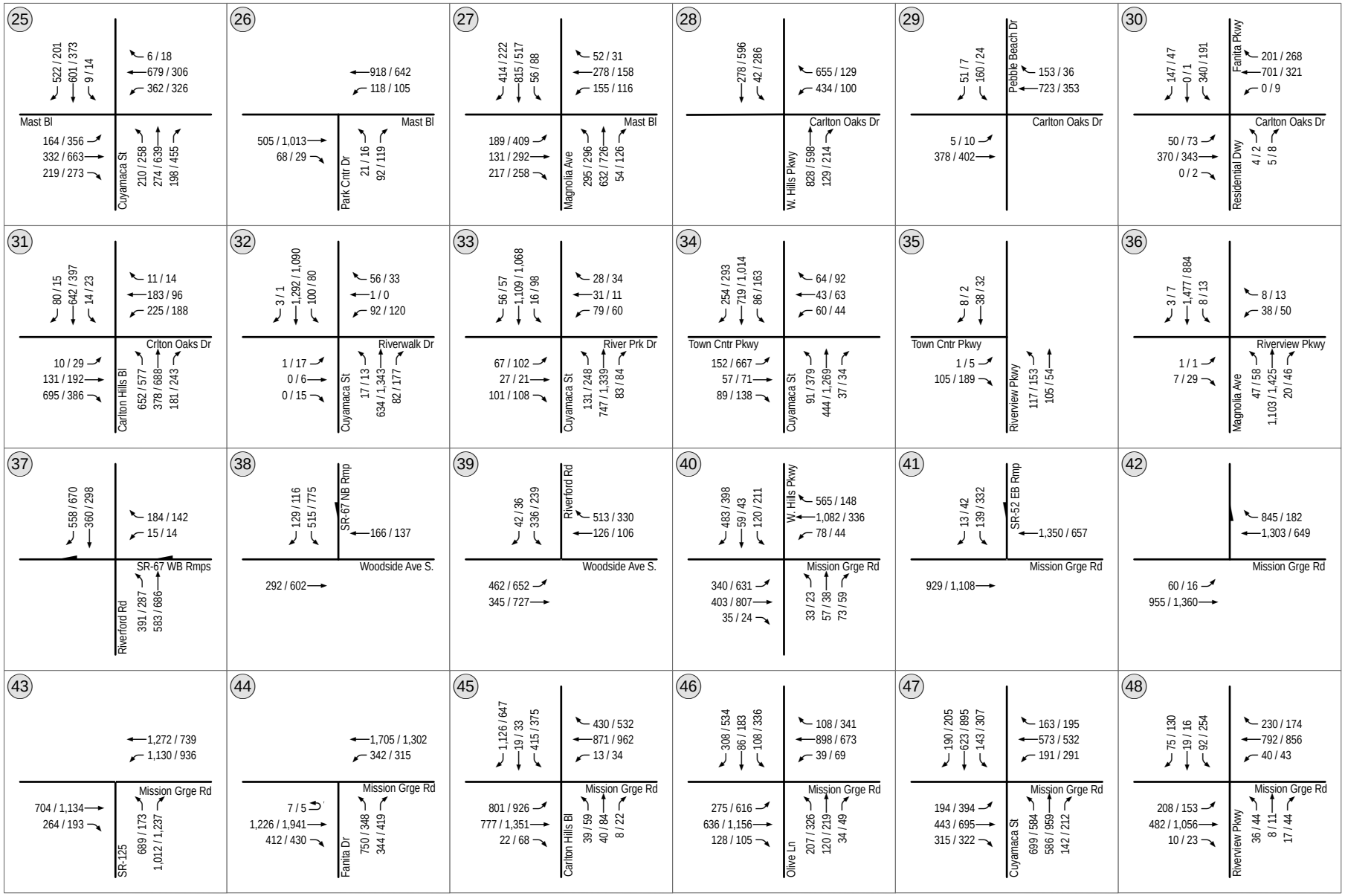
AM / PM — AM / PM Intersection Peak Hour Volumes

**Figure 9-3**
**(1 of 3)**

# Existing + Cumulative Projects + Project Traffic Volumes

## AM / PM Peak Hours

FANITA RANCH

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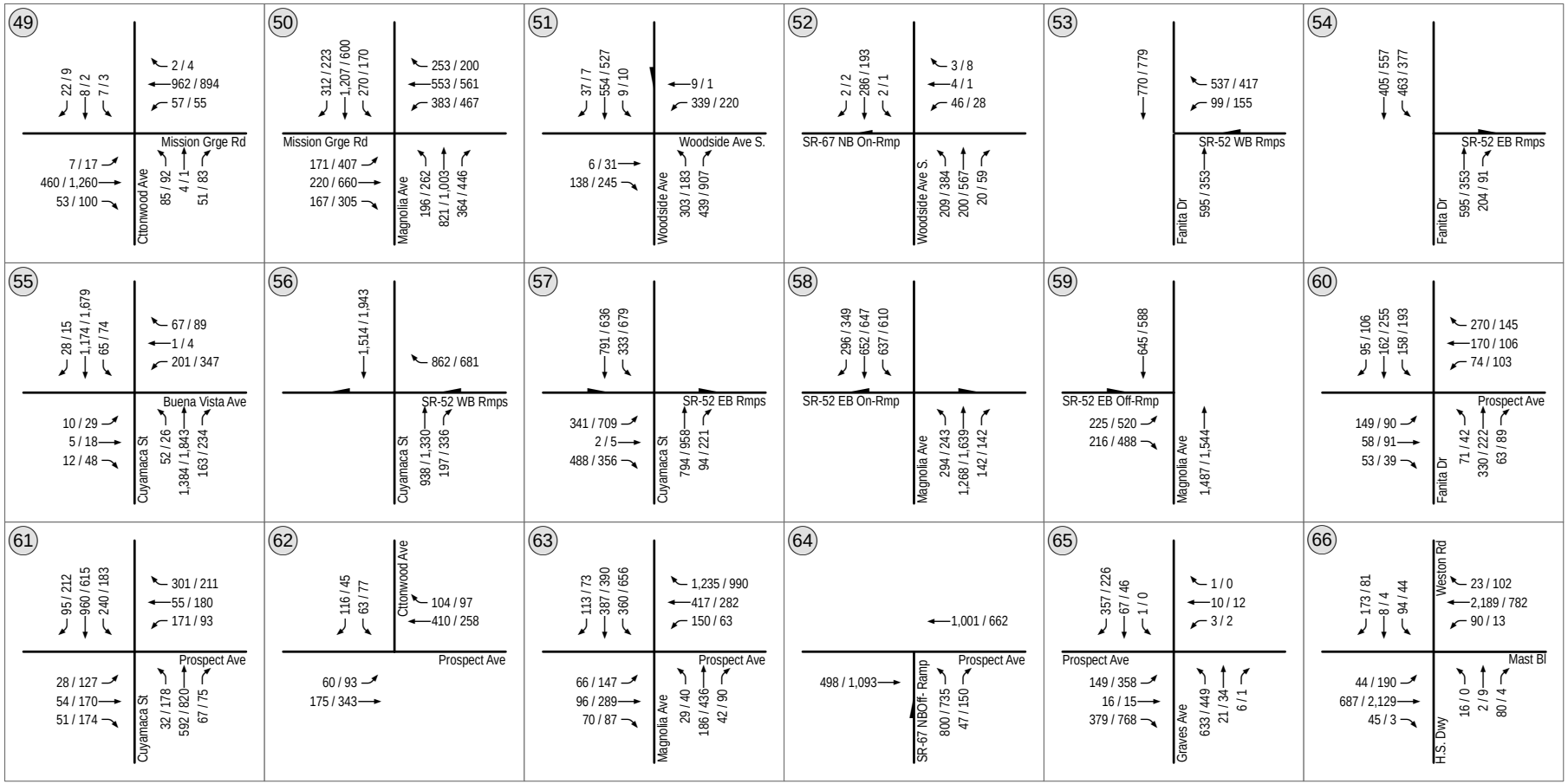
# Study Intersections
AM / PM AM / PM Intersection Peak Hour Volumes

**Figure 9-3**
**(2 of 3)**

## Existing + Cumulative Projects + Project Traffic Volumes
### AM / PM Peak Hours

FANITA RANCH

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# Study Intersections

AM / PM → AM / PM Intersection Peak Hour Volumes

**Figure 9-3**
**(3 of 3)**

## Existing + Cumulative Projects + Project Traffic Volumes

**AM / PM Peak Hours**

FANITA RANCH

# 10.0 ANALYSIS OF NEAR-TERM CUMULATIVE SCENARIOS

The Existing + Cumulative Projects scenario is an assessment of the impact of ambient growth due to cumulative development projects within the general study area in relation to the existing conditions. The Existing + Cumulative Projects + Project scenario is an assessment of the impact of the total Project in relation to the near-term baseline condition. These analyses include intersection, street segment and freeway mainline operations.

As previously mentioned in *Section 2.3*, Fanita Parkway, Cuyamaca Street, and Magnolia Avenue corridors are proposed to provide access to the Project site and will be built according to the classifications necessary to accommodate Project traffic. Fanita Parkway and Cuyamaca Street would be constructed prior to issuance of the first occupancy permit. In addition, the realignment of the Santee Lakes and PDMWD facilities entry/exit point to complete the fourth leg of the Fanita Parkway/ Ganley Road intersection would occur with the extension of Fanita Parkway. Existing traffic volumes from these two locations were rerouted to the Fanita Parkway/ Ganley Road intersection in the "+ Project" analysis. Magnolia Avenue will also be constructed by the Project from Cuyamaca Street to its existing terminus just north of Princess Joann Road and is included in the Existing + Cumulative Projects + Project analysis.

## 10.1 Existing + Cumulative Projects

### 10.1.1 *Peak Hour Intersection Operations*

***Table 10–1*** summarizes the Existing + Cumulative Projects intersection operations. As seen in *Table 10–1*, the following study area intersections are calculated to operate at LOS E or F under Existing + Cumulative Projects conditions:

- Intersection #17. Mast Boulevard / SR-52 WB Ramps – LOS F (AM peak hour)
- Intersection #18. Mast Boulevard / West Hills Parkway – LOS F (AM peak hour)
- Intersection #37. Riverford Road / SR-67 SB Ramps – LOS F (AM/PM peak hours)
- Intersection #39. Riverford Road / Woodside Avenue – LOS E (AM peak hour)
- Intersection #45. Mission Gorge Road / Carlton Hills Boulevard – LOS E (AM peak hour)
- Intersection #55. Buena Vista Avenue / Cuyamaca Street – LOS F (PM peak hour)

***Appendix H-1*** contains the Existing + Cumulative Projects peak hour intersection calculation worksheets.

### 10.1.2 *Daily Street Segment Operations*

***Table 10–2*** summarizes the Existing + Cumulative Projects street operations. As seen in *Table 10–2*, the following study area street segments are calculated to operate at LOS E or F under Existing + Cumulative Projects conditions:

- Segment #64. Riverford Road, Riverside Drive to SR-67 Ramps – LOS E

### 10.1.3 *Peak Hour Freeway Mainline Operations*

***Table 10–3*** shows that the following study area freeway mainline segments are calculated to operate at LOS E or worse under Existing + Cumulative Projects conditions:

- Mainline #1. SR-52 from Santo Road to Mast Boulevard
  - Eastbound – LOS E (PM peak hour)
  - Westbound – LOS F (AM peak hour)
- Mainline #2. SR-52 from Mast Boulevard to SR-125
  - Eastbound – LOS F (PM peak hour)
  - Westbound – LOS E (AM peak hour)
- Mainline #5. SR-67 from Riverford Road to SR-52
  - Northbound – LOS E (PM peak hour)

***Appendix H-2*** contains the Existing + Cumulative Projects HCS freeway analysis sheets.

## 10.2 Existing + Cumulative Projects + Project

### 10.2.1 *Peak Hour Intersection Operations*

*Table 10–1* summarizes the Existing + Cumulative Projects + Project intersection operations. As seen in *Table 10–1*, the following study area intersections are calculated to operate at LOS E or F conditions with the addition of Project traffic:

- **Intersection #3. Ganley Road / Fanita Parkway – LOS F (AM/PM peak hours)**
- **Intersection #4. Woodglen Vista Drive / Cuyamaca Street – LOS F (PM peak hour)**
- **Intersection #6. El Nopal / Cuyamaca Street – LOS F (AM/PM peak hours)**
- **Intersection #8. El Nopal / Los Ranchitos Road – LOS E (PM peak hour)**
- **Intersection #9. Lake Canyon Road / Fanita Parkway – LOS F (AM/PM peak hours)**
- **Intersection #12. Beck Drive / Cuyamaca Street – LOS F (AM/PM peak hours)**
- **Intersection #17. Mast Boulevard / SR-52 WB Ramps – LOS F (AM peak hour)**
- **Intersection #18. Mast Boulevard / West Hills Parkway – LOS F (AM/PM peak hours)**
- **Intersection #22. Mast Boulevard / Fanita Parkway – LOS F (AM/PM peak hours)**
- **Intersection #25. Mast Boulevard / Cuyamaca Street – LOS E (AM/PM peak hours)**
- **Intersection #37. Riverford Road / SR-67 SB Ramps – LOS F (AM/PM peak hours)**
- **Intersection #39. Riverford Road / Woodside Avenue – LOS E (AM peak hour)**
- **Intersection #45. Mission Gorge Road / Carlton Hills Boulevard – LOS F (AM peak hour)**
- **Intersection #47. Mission Gorge Road / Cuyamaca Street – LOS E (PM peak hour)**
- **Intersection #55. Buena Vista Avenue – Cuyamaca Street – LOS F (PM peak hour)**

Based on the established significance criteria, **fifteen (15) significant direct impacts** were calculated with the addition of Project traffic at the study area locations above since the Project-induced increase in delay is greater than 2.0 seconds for LOS E or F operating intersections. ***Appendix I-1*** contains the Existing + Cumulative Projects + Project peak hour intersection calculation worksheets.

### 10.2.2 *Daily Street Segment Operations*

*Table 10–2* summarizes the Existing + Cumulative Projects + Project street segment operations. As seen in *Table 10–2*, the following study area street segments are calculated to operate at LOS E or F with the addition of Project traffic:

- **Segment #5. El Nopal from Los Ranchitos Road to Riverford Road – LOS E**
- **Segment #6. Mast Boulevard from SR-52 to West Hills Parkway – LOS E**
- **Segment #16. Carlton Oaks Drive from Fanita Parkway to Carlton Hills Boulevard – LOS E**
- **Segment #30. Fanita Parkway from Ganley Drive/Santee Lakes Boulevard to Lake Canyon Road – LOS F**
- **Segment #31. Fanita Parkway from Lake Canyon Road to Mast Boulevard – LOS F**
- Segment #41. Cuyamaca Street from Project Site to Magnolia Avenue – LOS E
- **Segment #46. Cuyamaca Street from El Nopal to Mast Boulevard – LOS F**
- **Segment #50. Cuyamaca Street from Mission Gorge Road to SR-52 Ramps – LOS E**
- **Segment #64. Riverford Road from Riverside Drive to SR-67 Ramps – LOS E**

Based on the established significance criteria, **eight (8) significant direct impacts** were calculated with the addition of Project traffic at the study area locations above since the Project-induced change in V/C is greater than 0.02 for these LOS E or F operating street segments. Segment #41 is not deemed to be a significant impact as the intersection operations at both ends of this segment are calculated to operate at LOS C or better. See *Section 16.1.4* for a more detailed discussion and analyses of Cuyamaca Street.

### 10.2.3 *Peak Hour Freeway Mainline Operations*

*Table 10–3* shows that the following study area freeway mainline segments are calculated to operate at LOS E or F with the addition of Project traffic to the Existing + Cumulative Projects condition.

- **Mainline #1. SR-52 from Santo Road to Mast Boulevard**
  - **Eastbound – LOS F (PM peak hour)**
  - **Westbound – LOS F (AM peak hour)**
- Mainline #2. SR-52 from Mast Boulevard to SR-125

- Eastbound – LOS F (PM peak hour)
- Westbound – LOS E (AM peak hour)

- Mainline #5. SR-67 from Riverford Road to SR-52
  - Northbound – LOS E (PM peak hour)

Based on the established significance criteria, **two (2) significant direct impacts** were calculated with the addition of Project traffic at study area freeway mainline segments since the Project-induced change in V/C is greater than 0.01 for LOS E or F operating freeway segments.

***Appendix I-2*** contains the Existing + Cumulative Projects + Project HCS freeway analysis sheets.

TABLE 10–1
EXISTING + CUMULATIVE PROJECTS INTERSECTION OPERATIONS

| Intersection | Jur. | Control Type | Peak Hour | Existing + Cumulative | | Existing + Cumulative + Project | | Δ [c] Delay | Sig? |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Delay [a] | LOS [b] | Delay | LOS | | |
| 1. Princess Joann Rd / Cuyamaca St | Santee | DNE / MSSC | AM | — | — | 15.3 | C | — | No |
| | | | PM | — | — | 15.4 | C | — | |
| 2. Princess Joann Rd / Magnolia Ave | Santee | AWSC[d] | AM | 7.7 | A | 12.8 | B | 5.1 | No |
| | | | PM | 7.9 | A | 12.4 | B | 4.5 | |
| 3. Ganley Rd / Fanita Pkwy | Santee | MSSC[e] | AM | 9.4 | A | **>100.0** | **F** | **>2.0** | **Yes** |
| | | | PM | 9.2 | A | **80.7** | **F** | **71.5** | |
| 4. Woodglen Vista Dr / Cuyamaca St | Santee | AWSC | AM | 8.9 | A | 30.9 | D | 22.0 | **Yes** |
| | | | PM | 9.1 | A | **82.9** | **F** | **73.8** | |
| 5. Woodglen Vista Dr / Magnolia Ave | Santee | Signal | AM | 12.0 | B | 13.8 | B | 1.8 | No |
| | | | PM | 10.7 | B | 10.8 | B | 0.1 | |
| 6. El Nopal / Cuyamaca St | Santee | AWSC | AM | 12.3 | B | **>100.0** | **F** | **>2.0** | **Yes** |
| | | | PM | 12.1 | B | **>100.0** | **F** | **>2.0** | |
| 7. El Nopal / Magnolia Ave | Santee | Signal | AM | 24.3 | C | 32.2 | C | 7.9 | No |
| | | | PM | 18.6 | B | 25.4 | C | 6.8 | |
| 8. El Nopal / Los Ranchitos Rd | County | AWSC | AM | 14.4 | B | 24.6 | C | 10.2 | **Yes** |
| | | | PM | 15.5 | C | **38.0** | **E** | **22.5** | |
| 9. Lake Canyon Rd / Fanita Pkwy | Santee | AWSC | AM | 8.1 | A | **>100.0** | **F** | **>2.0** | **Yes** |
| | | | PM | 8.5 | A | **>100.0** | **F** | **>2.0** | |
| 10. Lake Canyon Rd / Carlton Hills Blvd | Santee | AWSC | AM | 10.4 | B | 11.9 | B | 1.5 | No |
| | | | PM | 9.3 | A | 10.5 | B | 1.2 | |
| 11. Lake Canyon Rd / Halberns Blvd | Santee | MSSC | AM | 8.7 | A | 8.7 | A | 0.0 | No |
| | | | PM | 8.7 | A | 8.7 | A | 0.0 | |
| 12. Beck Dr / Cuyamaca St | Santee | AWSC | AM | 24.1 | C | **>100.0** | **F** | **>2.0** | **Yes** |
| | | | PM | 13.7 | B | **>100.0** | **F** | **>2.0** | |
| 13. 2nd Street / Magnolia Ave | Santee | Signal | AM | 8.2 | A | 8.2 | A | 0.0 | No |
| | | | PM | 6.7 | A | 7.0 | A | 0.3 | |
| 14. Carefree Dr / Magnolia Ave | Santee | Signal | AM | 17.8 | B | 22.4 | C | 4.6 | No |
| | | | PM | 9.3 | A | 9.8 | A | 0.5 | |
| 15. Riverford Rd / Riverside Dr | County | Signal | AM | 26.5 | C | 33.9 | C | 7.4 | No |
| | | | PM | 25.1 | C | 31.9 | C | 6.8 | |
| 16. Mast Blvd / SR-52 EB Ramps | San Diego/ Caltrans | Signal | AM | 10.5 | B | 10.8 | B | 0.3 | No |
| | | | PM | 15.3 | B | 23.8 | C | 8.5 | |

*(Continued on Next Page)*

TABLE 10–1
EXISTING + CUMULATIVE PROJECTS INTERSECTION OPERATIONS

| Intersection | Jur. | Control Type | Peak Hour | Existing + Cumulative | | Existing + Cumulative + Project | | Δ [c] Delay | Sig? |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Delay [a] | LOS [b] | Delay | LOS | | |
| *(Continued from Previous Page)* | | | | | | | | | |
| 17. Mast Blvd / SR-52 WB Ramps [g] | San Diego/ Caltrans | Signal | AM | >100.0 | F | **>100.0** | **F** | **>2.0** | **Yes** |
| | | | PM | 13.1 | B | 16.8 | B | 3.7 | |
| 18. Mast Blvd / West Hills Pkwy [g] | San Diego | Signal | AM | >100.0 | F | **>100.0** | **F** | **>2.0** | **Yes** |
| | | | PM | 37.5 | D | **89.1** | **F** | **51.6** | |
| 19. Mast Blvd / West Hills H.S. | Santee | Signal | AM | 3.8 | A | 5.1 | A | 1.3 | No |
| | | | PM | 7.4 | A | 11.5 | B | 4.1 | |
| 20. Mast Blvd / Medina Dr | Santee | Signal | AM | 3.7 | A | 3.8 | A | 0.1 | No |
| | | | PM | 4.1 | A | 4.2 | A | 0.1 | |
| 21. Mast Blvd / Pebble Beach Dr | Santee | Signal | AM | 4.9 | A | 5.0 | A | 0.1 | No |
| | | | PM | 3.9 | A | 4.0 | A | 0.1 | |
| 22. Mast Blvd / Fanita Pkwy | Santee | Signal | AM | 12.5 | B | **91.8** | **F** | **79.3** | **Yes** |
| | | | PM | 13.5 | B | **91.7** | **F** | **78.2** | |
| 23. Mast Blvd / Carlton Hills Blvd | Santee | Signal | AM | 43.2 | D | 47.5 | D | 4.3 | No |
| | | | PM | 45.9 | D | 49.6 | D | 3.7 | |
| 24. Mast Blvd / Halberns Blvd | Santee | Signal | AM | 13.6 | B | 13.7 | B | 0.1 | No |
| | | | PM | 13.9 | B | 14.0 | B | 0.1 | |
| 25. Mast Blvd / Cuyamaca St | Santee | Signal | AM | 38.0 | D | **70.0** | **E** | **32.0** | **Yes** |
| | | | PM | 33.7 | C | **57.7** | **E** | **24.0** | |
| 26. Mast Blvd / Park Center Dr | Santee | Signal | AM | 7.1 | A | 7.1 | A | 0.0 | No |
| | | | PM | 8.9 | A | 8.8 | A | 0.0 | |
| 27. Mast Blvd / Magnolia Ave | Santee | Signal | AM | 36.6 | D | 36.9 | D | 0.3 | No |
| | | | PM | 28.1 | C | 30.2 | C | 2.1 | |
| 28. Carlton Oaks Dr / West Hills Pkwy | San Diego | Signal | AM | 16.9 | B | 19.0 | B | 2.1 | No |
| | | | PM | 11.4 | B | 13.1 | B | 1.7 | |
| 29. Carlton Oaks Dr / Pebble Beach Dr | Santee | Signal | AM | 9.0 | A | 9.5 | A | 0.5 | No |
| | | | PM | 5.0 | A | 5.0 | A | 0.0 | |
| 30. Carlton Oaks Dr / Fanita Pkwy | Santee | Signal | AM | 11.6 | B | 19.1 | B | 7.5 | No |
| | | | PM | 9.5 | A | 11.1 | B | 1.6 | |
| 31. Carlton Oaks Dr / Carlton Hills Blvd | Santee | Signal | AM | 34.9 | C | 51.3 | D | 16.4 | No |
| | | | PM | 24.3 | C | 30.6 | C | 6.3 | |
| 32. Riverwalk Dr / Cuyamaca St | Santee | Signal | AM | 15.0 | B | 28.7 | C | 13.7 | No |
| | | | PM | 15.0 | B | 21.8 | C | 6.8 | |
| *(Continued on Next Page)* | | | | | | | | | |

TABLE 10–1
EXISTING + CUMULATIVE PROJECTS INTERSECTION OPERATIONS

| Intersection | Jur. | Control Type | Peak Hour | Existing + Cumulative | | Existing + Cumulative + Project | | Δ [c] Delay | Sig? |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Delay [a] | LOS [b] | Delay | LOS | | |
| *(Continued from Previous Page)* | | | | | | | | | |
| 33. Riverpark Dr / Cuyamaca St | Santee | Signal | AM | 17.1 | B | 18.9 | B | 1.8 | No |
| | | | PM | 20.6 | C | 25.0 | C | 4.4 | |
| 34. Town Center Pkwy / Cuyamaca St | Santee | Signal | AM | 14.9 | B | 15.1 | B | 0.2 | No |
| | | | PM | 36.1 | D | 42.5 | D | 6.4 | |
| 35. Town Center Pkwy / Riverview Pkwy | Santee | Signal | AM | 10.9 | B | 11.6 | B | 0.7 | No |
| | | | PM | 13.2 | B | 13.3 | B | 0.1 | |
| 36. Riverview Pkwy / Magnolia Ave | Santee | Signal | AM | 10.6 | B | 12.1 | B | 1.5 | No |
| | | | PM | 11.8 | B | 13.4 | B | 1.6 | |
| 37. Riverford Rd / SR-67 SB Ramps | County/ Caltrans | MSSC | AM | >100.0 | F | **>100.0** | **F** | **34** | **Yes** |
| | | | PM | 59.1 | F | **78.4** | **F** | **67** | |
| 38. Woodside Ave / SR-67 NB Off-Ramp | County/ Caltrans | Signal | AM | 41.3 | D | 46.1 | D | 4.8 | No |
| | | | PM | 44.3 | D | 47.7 | D | 3.4 | |
| 39. Riverford Rd / Woodside Ave | County | Signal | AM | 60.3 | E | **72.2** | **E** | **11.9** | **Yes** |
| | | | PM | 33.0 | C | 36.8 | D | 3.8 | |
| 40. Mission Gorge Rd / West Hills Pkwy | Santee | Signal | AM | 22.0 | C | 29.3 | C | 7.3 | No |
| | | | PM | 16.5 | B | 16.9 | B | 0.4 | |
| 41. Mission Gorge Rd / SR-52 EB Ramps | Santee/ Caltrans | Signal | AM | 4.1 | A | 4.4 | A | 0.3 | No |
| | | | PM | 11.1 | B | 11.9 | B | 0.8 | |
| 42. Mission Gorge Rd / SR-52 WB Ramps | Santee/ Caltrans | Signal | AM | 1.8 | A | 1.8 | A | 0.0 | No |
| | | | PM | 0.6 | A | 0.6 | A | 0.0 | |
| 43. Mission Gorge Rd / SR-125 | Santee/ Caltrans | Signal | AM | 33.8 | C | 39.3 | D | 5.5 | No |
| | | | PM | 29.9 | C | 49.3 | D | 19.4 | |
| 44. Mission Gorge Rd / Fanita Dr | Santee | Signal | AM | 38.7 | D | 41.1 | D | 2.4 | No |
| | | | PM | 31.9 | C | 50.2 | D | 18.3 | |
| 45. Mission Gorge Rd / Carlton Hills Blvd | Santee | Signal | AM | 65.3 | E | **94.0** | **F** | **28.7** | **Yes** |
| | | | PM | 39.2 | D | 46.4 | D | 7.2 | |
| 46. Mission Gorge Rd / Town Center Pkwy | Santee | Signal | AM | 26.7 | C | 26.8 | C | 0.1 | No |
| | | | PM | 48.6 | D | 48.7 | D | 0.1 | |
| 47. Mission Gorge Rd / Cuyamaca St | Santee | Signal | AM | 44.4 | D | 48.2 | D | 3.8 | **Yes** |
| | | | PM | 49.7 | D | **60.6** | **E** | **10.9** | |
| 48. Mission Gorge Rd / Riverview Pkwy | Santee | Signal | AM | 37.3 | D | 41.6 | D | 4.3 | No |
| | | | PM | 21.0 | C | 21.6 | C | 0.6 | |
| *(Continued on Next Page)* | | | | | | | | | |

TABLE 10–1
EXISTING + CUMULATIVE PROJECTS INTERSECTION OPERATIONS

| Intersection | Jur. | Control Type | Peak Hour | Existing + Cumulative | | Existing + Cumulative + Project | | Δ [c] Delay | Sig? |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Delay [a] | LOS [b] | Delay | LOS | | |
| *(Continued from Previous Page)* | | | | | | | | | |
| 49. Mission Gorge Rd / Cottonwood Ave | Santee | Signal | AM | 26.6 | C | 26.4 | C | 0.1 | No |
| | | | PM | 20.5 | C | 20.4 | C | 0.1 | |
| 50. Mission Gorge Rd / Magnolia Ave | Santee | Signal | AM | 47.6 | D | 52.5 | D | 4.9 | No |
| | | | PM | 50.4 | D | 51.4 | D | 1.0 | |
| 51. Woodside Ave / SR-67 SB Off-Ramp | Santee/ Caltrans | AWSC | AM | 29.3 | D | 29.6 | D | 0.3 | No |
| | | | PM | 17.1 | C | 17.4 | C | 0.3 | |
| 52. Woodside Ave / SR-67 NB On-Ramp | Santee/ Caltrans | Signal | AM | 10.1 | B | 10.2 | B | 0.1 | No |
| | | | PM | 9.5 | A | 9.5 | A | 0.0 | |
| 53. Fanita Dr / SR-52 WB Off-Ramp | Santee/ Caltrans | MSSC | AM | 30.1 | D | 33.7 | D | 3.5 | No |
| | | | PM | 17.6 | C | 18.2 | C | 0.5 | |
| 54. Fanita Dr / SR-52 EB On-Ramp | Santee/ Caltrans | Uncontrolled[f] | AM | 16.4 | C | 18.0 | C | 1.6 | No |
| | | | PM | 10.1 | B | 10.4 | B | 0.3 | |
| 55. Buena Vista Ave / Cuyamaca St | Santee | Signal | AM | 18.5 | B | 20.1 | C | 1.6 | **Yes** |
| | | | PM | >100.0 | F | **>100.0** | **F** | **>2.0** | |
| 56. Cuyamaca St / SR-52 WB Ramps | Santee/ Caltrans | Signal | AM | 2.9 | A | 2.9 | A | 0.0 | No |
| | | | PM | 3.8 | A | 4.0 | A | 0.2 | |
| 57. Cuyamaca St / SR-52 EB Ramps | Santee/ Caltrans | Signal | AM | 33.8 | C | 34.8 | C | 1.0 | No |
| | | | PM | 44.2 | D | 46.6 | D | 2.4 | |
| 58. Magnolia Ave / SR-52 WB Ramps /SR-67 SB | Santee/ Caltrans | Signal | AM | 7.3 | A | 11.3 | B | 4.0 | No |
| | | | PM | 5.8 | A | 5.8 | A | 0.0 | |
| 59. Magnolia Ave / SR-52 EB Ramps | Santee/ Caltrans | Signal | AM | 9.5 | A | 9.6 | A | 0.1 | No |
| | | | PM | 26.1 | C | 30.0 | C | 3.9 | |
| 60. Prospect Ave / Fanita Dr | Santee | Signal | AM | 29.3 | C | 29.7 | C | 0.4 | No |
| | | | PM | 19.5 | B | 19.7 | B | 0.2 | |
| 61. Prospect Ave / Cuyamaca St | Santee | Signal | AM | 29.9 | C | 30.0 | C | 0.1 | No |
| | | | PM | 35.1 | D | 35.2 | D | 0.1 | |
| 62. Prospect Ave / Cottonwood Ave | Santee | Signal | AM | 8.4 | A | 8.4 | A | 0.0 | No |
| | | | PM | 6.6 | A | 6.6 | A | 0.0 | |
| 63. Prospect Ave / Magnolia Ave | Santee | Signal | AM | 21.6 | C | 22.4 | C | 0.8 | No |
| | | | PM | 30.8 | C | 32.7 | C | 1.9 | |
| 64. Prospect Ave / SR-67 NB Off-Ramp | Santee/ Caltrans | Signal | AM | 9.9 | A | 10.2 | B | 0.3 | No |
| | | | PM | 9.1 | A | 9.6 | A | 0.5 | |
| *(Continued on Next Page)* | | | | | | | | | |

## TABLE 10–1
## EXISTING + CUMULATIVE PROJECTS INTERSECTION OPERATIONS

| Intersection | Jur. | Control Type | Peak Hour | Existing + Cumulative | | Existing + Cumulative + Project | | Δ [c] Delay | Sig? |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Delay [a] | LOS [b] | Delay | LOS | | |
| *(Continued from Previous Page)* | | | | | | | | | |
| 65. Prospect Ave / Graves Ave | Santee | Signal | AM | 22.6 | C | 22.6 | C | 0.0 | No |
| | | | PM | 40.3 | D | 40.3 | D | 0.0 | |
| 66. Mast Boulevard / Weston Road | Santee | Signal | AM | 21.9 | C | 36.2 | D | 14.3 | No |
| | | | PM | 20.0 | B | 20.1 | C | 0.1 | |

***Footnotes:***

a. Average delay expressed in seconds per vehicle.
b. Level of Service
c. Δ denotes the increase in delay due to Project.
d. All-Way Stop Controlled intersection. Average intersection delay reported.
e. Minor Street Stop Controlled intersection. Minor street left turn delay reported.
f. No traffic control devices are installed at this location. Therefore, the southbound left-turn movement is reported.
g. The HCM methodology does not accurately reflect operations at this intersection during the AM peak hour. Latent demand east of the intersection, as well as upstream congestion from SR-52 WB exceed the limits of the analysis software/methodology. The LOS F result is based on the bottleneck effect of the lane-drop on the WB on-ramp observed in the field.

| SIGNALIZED | | UNSIGNALIZED | |
|---|---|---|---|
| DELAY/LOS THRESHOLDS | | DELAY/LOS THRESHOLDS | |
| Delay | LOS | Delay | LOS |
| 0.0 ≤ 10.0 | A | 0.0 ≤ 10.0 | A |
| 10.1 to 20.0 | B | 10.1 to 15.0 | B |
| 20.1 to 35.0 | C | 15.1 to 25.0 | C |
| 35.1 to 55.0 | D | 25.1 to 35.0 | D |
| 55.1 to 80.0 | E | 35.1 to 50.0 | E |
| ≥ 80.1 | F | ≥ 50.1 | F |

***General Notes:***

1. Sig = Significant impact, yes or no.
2. Jur. = Jurisdiction
3. DNE, "—" = Does not exist

TABLE 10–2
EXISTING + CUMULATIVE PROJECTS STREET SEGMENT OPERATIONS

| Street Segment | Jur. | Existing Capacity (LOS E) [a] | Existing + Cumulative | | | Existing + Cumulative + Project | | | Project Volumes | Δ [e] V/C | Sig? |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ADT [b] | LOS [c] | V/C [d] | ADT | LOS | V/C | | | |
| **Princess Joann Road** | | | | | | | | | | | |
| 1. Cuyamaca St to Magnolia Ave | Santee | 8,000 | 685 | A | 0.086 | 685 | A | 0.086 | 0 | 0.000 | No |
| **Woodglen Vista Drive** | | | | | | | | | | | |
| 2. Cuyamaca St to Magnolia Ave | Santee | 8,000 | 1,759 | A | 0.220 | 1,759 | A | 0.220 | 0 | 0.000 | No |
| **El Nopal** | | | | | | | | | | | |
| 3. Cuyamaca St to Magnolia Ave | Santee | 8,000 | 3,886 | C | 0.486 | 3,886 | C | 0.486 | 0 | 0.000 | No |
| 4. Magnolia Ave to Los Ranchitos Rd | Santee | 15,000 | 9,146 | C | 0.610 | 11,776 | D | 0.785 | 2,630 | 0.175 | No |
| 5. Los Ranchitos Rd to Riverford Rd | County | 16,200 | 10,130 | D | — | **12,760** | **E** | — | **2,630** | — | **Yes** |
| **Mast Boulevard** | | | | | | | | | | | |
| 6. SR-52 to West Hills Pkwy | San Diego | 40,000 | 30,730 | D | 0.768 | **37,300** | **E** | **0.933** | **6,570** | **0.164** | **Yes** |
| 7. West Hills Pkwy to Medina Dr | Santee | 40,000 | 22,962 | C | 0.574 | 32,422 | D | 0.811 | 9,460 | 0.237 | No |
| 8. Pebble Beach Dr to Fanita Pkwy | Santee | 40,000 | 21,361 | C | 0.534 | 30,821 | D | 0.771 | 9,460 | 0.237 | No |
| 9. Fanita Pkwy to Carlton Hills Blvd | Santee | 40,000 | 18,022 | B | 0.451 | 20,652 | B | 0.516 | 2,630 | 0.066 | No |
| 10. Carlton Hills Blvd to Halberns Blvd | Santee | 40,000 | 20,299 | B | 0.507 | 22,399 | C | 0.560 | 2,100 | 0.053 | No |
| 11. Halberns Blvd to Cuyamaca St | Santee | 40,000 | 21,669 | C | 0.542 | 23,769 | C | 0.594 | 2,100 | 0.053 | No |
| 12. Cuyamaca St to Magnolia Ave | Santee | 40,000 | 19,616 | B | 0.490 | 19,876 | B | 0.497 | 260 | 0.007 | No |
| 13. Magnolia Ave to Los Ranchitos Rd | Santee | 15,000 | 9,056 | C | 0.604 | 9,056 | C | 0.604 | 0 | 0.000 | No |
| 14. West of Riverford Rd | County | 19,000 | 2,986 | A | — | 2,986 | A | — | 0 | — | No |
| **Carlton Oaks Drive** | | | | | | | | | | | |
| 15. West Hills Pkwy to Pebble Beach Dr | Santee | 15,000 | 7,831 | C | 0.522 | 8,361 | C | 0.557 | 530 | 0.035 | No |
| 16. Fanita Pkwy to Carlton Hills Blvd | Santee | 15,000 | 11,194 | D | 0.746 | **14,084** | **E** | **0.939** | **2,890** | **0.193** | **Yes** |
| **Mission Gorge Road** | | | | | | | | | | | |
| 17. Western City Limits to West Hills Pkwy | Santee | 40,000 | 18,268 | B | 0.457 | 20,898 | B | 0.522 | 2,630 | 0.066 | No |
| 18. West Hills Pkwy to SR-125 | Santee | 40,000 | 18,965 | B | 0.474 | 18,965 | B | 0.474 | 0 | 0.000 | No |
| 19. SR-125 to Fanita Dr | Santee | 60,000 | 48,026 | C | 0.800 | 53,806 | D | 0.897 | 5,780 | 0.096 | No |

*(Continued on Next Page)*

TABLE 10–2
EXISTING + CUMULATIVE PROJECTS STREET SEGMENT OPERATIONS

| Street Segment | Jur. | Existing Capacity (LOS E) [a] | Existing + Cumulative | | | Existing + Cumulative + Project | | | Project Volumes | Δ [e] V/C | Sig? |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ADT [b] | LOS [c] | V/C [d] | ADT | LOS | V/C | | | |
| *(Continued from Previous Page)* | | | | | | | | | | | |
| **Mission Gorge Road (cont.)** | | | | | | | | | | | |
| 20. Fanita Dr to Carlton Hills Blvd | Santee | 60,000 | 43,029 | C | 0.719 | 49,599 | C | 0.827 | 6,570 | 0.110 | No |
| 21. Carlton Hills Blvd to Town Center Pkwy | Santee | 60,000 | 40,160 | C | 0.669 | 43,310 | C | 0.722 | 3,150 | 0.053 | No |
| 22. Town Center Pkwy to Cuyamaca St | Santee | 60,000 | 31,416 | B | 0.524 | 34,046 | B | 0.567 | 2,630 | 0.044 | No |
| 23. Cuyamaca St to Riverview Pkwy | Santee | 60,000 | 26,846 | B | 0.447 | 28,156 | B | 0.469 | 1,310 | 0.022 | No |
| 24. Riverview Pkwy to Cottonwood Ave | Santee | 60,000 | 27,772 | B | 0.463 | 29,082 | B | 0.485 | 1,310 | 0.022 | No |
| 25. Cottonwood Ave to Magnolia Ave | Santee | 60,000 | 26,946 | B | 0.449 | 28,256 | B | 0.471 | 1,310 | 0.022 | No |
| **Prospect Avenue** | | | | | | | | | | | |
| 26. Fanita Dr to Cuyamaca St | Santee | 15,000 | 9,302 | C | 0.620 | 9,302 | C | 0.620 | 0 | 0.000 | No |
| 27. Cuyamaca St to Cottonwood Ave | Santee | 15,000 | 10,243 | D | 0.683 | 10,243 | D | 0.683 | 0 | 0.000 | No |
| **West Hills Parkway** | | | | | | | | | | | |
| 28. Mast Blvd to Mission Gorge Rd | Santee | 40,000 | 13,456 | A | 0.336 | 15,556 | B | 0.389 | 2,100 | 0.053 | No |
| **Fanita Parkway** | | | | | | | | | | | |
| 29. Project Site to Ganley Dr [f] | Santee | DNE/ 15,000 | — | — | — | 12,350 | D | 1.235 | 12,350 | — | No |
| 30. Ganley Dr to Lake Canyon Rd | Santee | 10,000 | 2,782 | A | 0.278 | **15,132** | **F** | **1.513** | **12,350** | **1.235** | **Yes** |
| 31. Lake Canyon Rd to Mast Blvd | Santee | 10,000 | 4,158 | B | 0.416 | **15,458** | **F** | **1.546** | **11,300** | **1.130** | **Yes** |
| 32. Mast Blvd to Carlton Oaks Dr | Santee | 10,000 | 3,713 | A | 0.371 | 7,133 | C | 0.713 | 3,420 | 0.342 | No |
| **Fanita Drive** | | | | | | | | | | | |
| 33. Mission Gorge to SR-52 Ramps | Santee | 40,000 | 19,836 | B | 0.496 | 20,096 | B | 0.502 | 260 | 0.006 | No |
| 34. SR-52 Ramps to Prospect Ave | Santee | 40,000 | 12,261 | A | 0.307 | 12,521 | A | 0.313 | 260 | 0.006 | No |
| **Carlton Hills Boulevard** | | | | | | | | | | | |
| 35. Lake Canyon Rd to Mast Blvd | Santee | 40,000 | 6,135 | A | 0.153 | 7,185 | A | 0.180 | 1,050 | 0.027 | No |
| 36. Mast Blvd to Carlton Oaks Dr | Santee | 40,000 | 10,492 | A | 0.262 | 12,072 | A | 0.302 | 1,580 | 0.040 | No |
| 37. Carlton Oaks Dr to Mission Gorge Rd | Santee | 40,000 | 25,993 | C | 0.650 | 30,463 | D | 0.762 | 4,470 | 0.112 | No |
| *(Continued on Next Page)* | | | | | | | | | | | |

TABLE 10–2
EXISTING + CUMULATIVE PROJECTS STREET SEGMENT OPERATIONS

| Street Segment | Jur. | Existing Capacity (LOS E) [a] | Existing + Cumulative | | | Existing + Cumulative + Project | | | Project Volumes | Δ [e] V/C | Sig? |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ADT [b] | LOS [c] | V/C [d] | ADT | LOS | V/C | | | |
| *(Continued from Previous Page)* | | | | | | | | | | | |
| **Halberns Boulevard** | | | | | | | | | | | |
| 38. Lake Canyon Rd to Mast Blvd | Santee | 10,000 | 2,254 | A | 0.225 | 2,254 | A | 0.225 | 0 | 0.000 | No |
| **Town Center Parkway** | | | | | | | | | | | |
| 39. Mission Gorge Rd to Cuyamaca St | Santee | 40,000 | 21,231 | C | 0.531 | 21,491 | C | 0.537 | 260 | 0.006 | No |
| 40. Cuyamaca St to Riverview Pkwy | Santee | 10,000 | 6,782 | C | 0.678 | 7,042 | C | 0.704 | 260 | 0.026 | No |
| **Cuyamaca Street** | | | | | | | | | | | |
| 41. Project Site to Magnolia Ave [g] | Santee | DNE/ 15,000 | — | — | — | 13,920 | E | 0.928 | 13,920 | — | No |
| 42. Magnolia Ave to Princess Joann Rd [g] | Santee | DNE/ 15,000 | — | — | — | 7,620 | C | 0.508 | 7,620 | — | No |
| 43. Princess Joann Rd to Chaparral Dr [g] | Santee | DNE/ 15,000 | — | — | — | 7,620 | C | 0.508 | 7,620 | — | No |
| 44. Chaparral Dr to Woodglen Vista Dr [g] | Santee | 15,000 | 683 | A | 0.046 | 8,303 | C | 0.554 | 7,620 | 0.508 | No |
| 45. Woodglen Vista Dr to El Nopal | Santee | 15,000 | 4,472 | A | 0.298 | 12,092 | D | 0.806 | 7,620 | 0.508 | No |
| 46. El Nopal to Mast Blvd | Santee | 15,000 | 9,173 | C | 0.612 | **16,793** | **F** | **1.120** | **7,620** | **0.508** | **Yes** |
| 47. Mast Blvd to River Park Dr | Santee | 40,000 | 20,527 | B | 0.513 | 26,307 | C | 0.658 | 5,780 | 0.145 | No |
| 48. River Park Dr to Town Center Pkwy | Santee | 40,000 | 28,084 | C | 0.702 | 33,604 | D | 0.840 | 5,520 | 0.138 | No |
| 49. Town Center Pkwy to Mission Gorge Rd | Santee | 50,000 | 24,245 | B | 0.485 | 29,235 | C | 0.585 | 4,990 | 0.100 | No |
| 50. Mission Gorge Rd to SR-52 Ramps | Santee | 50,000 | 42,639 | D | 0.853 | **45,269** | **E** | **0.905** | **2,630** | **0.052** | **Yes** |
| 51. SR-52 Ramps to south of Prospect Ave | Santee | 50,000 | 28,971 | C | 0.579 | 30,021 | C | 0.600 | 1,050 | 0.021 | No |
| **Riverview Parkway** | | | | | | | | | | | |
| 52. Mission Gorge Rd to Town Center Pkwy | Santee | 40,000 | 8,440 | A | 0.211 | 8,700 | A | 0.218 | 260 | 0.007 | No |
| 53. Town Center Pkwy to Magnolia Ave | Santee | DNE | — | — | — | — | — | — | 0 | — | No |
| **Magnolia Avenue** | | | | | | | | | | | |
| 54. Cuyamaca St to Princess Joann Rd [h] | Santee | DNE/ 10,000 | — | — | — | 6,310 | C | 0.631 | 6,310 | — | No |
| 55. Princess Joann Rd to Woodglen Vista Dr | Santee | 40,000 | 2,204 | A | 0.055 | 8,514 | A | 0.213 | 6,310 | 0.158 | No |
| 56. Woodglen Vista Dr to El Nopal | Santee | 40,000 | 9,415 | A | 0.235 | 15,725 | B | 0.393 | 6,310 | 0.158 | No |

*(Continued on Next Page)*

TABLE 10–2
EXISTING + CUMULATIVE PROJECTS STREET SEGMENT OPERATIONS

| Street Segment | Jur. | Existing Capacity (LOS E) [a] | Existing + Cumulative | | | Existing + Cumulative + Project | | | Project Volumes | Δ [e] V/C | Sig? |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ADT [b] | LOS [c] | V/C [d] | ADT | LOS | V/C | | | |
| *(Continued from Previous Page)* | | | | | | | | | | | |
| **Magnolia Avenue (cont.)** | | | | | | | | | | | |
| 57. El Nopal to Mast Blvd | Santee | 40,000 | 14,291 | A | 0.357 | 17,971 | B | 0.449 | 3,680 | 0.092 | No |
| 58. Mast Blvd to Riverview Pkwy | Santee | 40,000 | 23,594 | C | 0.590 | 26,744 | C | 0.669 | 3,150 | 0.079 | No |
| 59. Riverview Pkwy to Mission Gorge Rd | Santee | 40,000 | 27,797 | C | 0.695 | 30,947 | D | 0.774 | 3,150 | 0.079 | No |
| 60. Mission Gorge Rd to SR-52 Ramps | Santee | 60,000 | 36,725 | C | 0.612 | 38,305 | C | 0.638 | 1,580 | 0.026 | No |
| 61. SR-52 Ramps to south of Prospect Ave | Santee | 40,000 | 13,098 | A | 0.327 | 13,628 | A | 0.341 | 530 | 0.014 | No |
| **Woodside Avenue** | | | | | | | | | | | |
| 62. East of Magnolia Ave | Santee | 40,000 | 28,163 | C | 0.704 | 28,423 | C | 0.711 | 260 | 0.007 | No |
| **N. Woodside Avenue** | | | | | | | | | | | |
| 63. Riverford Rd to Woodside Ave | Santee | 10,000 | 3,524 | A | 0.352 | 3,524 | A | 0.352 | 0 | 0.000 | No |
| **Riverford Road** | | | | | | | | | | | |
| 64. Riverside Dr to SR-67 Ramps | County | 23,500 [i] | 18,916 | E | — | **20,226** | **E** | — | **1,310** | — | **Yes** |

***Footnotes:***

a. Capacities based on City of Santee, County of San Diego, and City of San Diego Roadway Classification & LOS tables (See *Appendix A*).
b. Average Daily Traffic
c. Level of Service
d. Volume to Capacity ratio
e. Δ denotes a Project-induced increase in the Volume to Capacity ratio. For County of San Diego, an increase in Project trips is used to measure impacts.
f. This future section of Fanita Parkway is proposed to be constructed by the Project as a two-lane Parkway with an LOS E capacity of 15,000 ADT.
g. The 15,000 ADT capacity for the existing sections of Cuyamaca Street was continued along this future section providing access to the Project. The intersection operations at both ends of the Cuyamaca Street road segment between the Project Site and Magnolia Avenue report LOS C or better operations. Therefore, adequate operations are expected along this roadway. The section of Cuyamaca Street between Chaparral Drive and Woodglen Vista Drive will be improved to a Four-Lane Major Arterial under Year 2035 conditions as a Project Design Feature to adequately transition to the four-lane section south of Woodglen Vista Drive.
h. The 10,000 ADT capacity for the connection of Magnolia Avenue was used along this future section providing access to the Project.
i. Capacity for "3-Ln Light Collector" interpolated between 2-Ln Light Collector with Continuous Left-Turn Lane (2.2B) and 4-Lane Boulevard with Intermittent Turn Lanes (4.2B).

***General Notes:***

1. Jur = Jurisdiction
2. DNE, "—" = Does not exist
3. Sig = Significant impact, yes or no
4. County of San Diego does not use V/C ratios as a measure of effectiveness.

TABLE 10–3
EXISTING + CUMULATIVE PROJECTS FREEWAY SEGMENT OPERATIONS

| Freeway Segment | Dir. | Lanes [a] | Existing + Cumulative | | | | | | | | Existing + Cumulative + Project | | | | | | | | Δ V/C [f] | | Sig? |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Volume [b] | | V/C [c] | | Density [d] | | LOS [e] | | Volume | | V/C | | Density | | LOS | | | | |
| | | | AM | PM | AM | PM | AM | PM | AM | PM | AM | PM | AM | PM | AM | PM | AM | PM | AM | PM | |
| **State Route 52** | | | | | | | | | | | | | | | | | | | | | |
| Santo Road to Mast Boulevard | EB | 3M | 1,640 | 5,958 | 0.255 | 0.977 | 8.4 | 42.6 | A | E | 1,884 | 6,442 | 0.293 | 1.056 | 9.6 | — | A | **F** | 0.038 | **0.079** | **Yes** |
| | WB | 3M | 6,442 | 2,600 | 1.056 | 0.404 | — | 13.3 | F | B | 6,914 | 2,843 | 1.134 | 0.442 | — | 14.5 | **F** | B | **0.078** | 0.038 | **Yes** |
| Mast Boulevard to SR-125 | EB | 2M | 1,560 | 4,922 | 0.355 | 1.119 | 12.0 | — | B | F | 1,594 | 4,989 | 0.363 | 1.134 | 12.3 | — | B | F | 0.008 | 0.015 | No |
| | WB | 2M | 4,332 | 2,654 | 0.985 | 0.603 | 43.5 | 20.8 | E | C | 4,397 | 2,688 | 1.000 | 0.611 | 44.9 | 21.1 | E | C | 0.015 | 0.008 | No |
| SR-125 to Cuyamaca Street | EB | 2M+1A | 1,861 | 4,621 | 0.282 | 0.700 | 9.6 | 24.9 | A | C | 1,895 | 4,688 | 0.287 | 0.710 | 9.8 | 25.3 | A | C | 0.005 | 0.010 | No |
| | WB | 2M+1A | 3,474 | 3,070 | 0.527 | 0.465 | 18.1 | 15.9 | B | B | 3,539 | 3,104 | 0.536 | 0.470 | 18.4 | 16.1 | C | B | 0.009 | 0.005 | No |
| Cuyamaca Street to SR-67 | EB | 2M+1A | 1,370 | 4,274 | 0.208 | 0.648 | 7.0 | 22.4 | A | C | 1,435 | 4,308 | 0.218 | 0.653 | 7.3 | 22.6 | A | C | 0.010 | 0.005 | No |
| | WB | 2M+1A | 3,426 | 2,632 | 0.519 | 0.399 | 17.6 | 13.5 | B | B | 3,460 | 2,699 | 0.524 | 0.409 | 17.8 | 13.9 | B | B | 0.005 | 0.010 | No |
| **State Route 67** | | | | | | | | | | | | | | | | | | | | | |
| Riverford Road to SR-52 | NB | 2M | 2,386 | 3,841 | 0.568 | 0.915 | 19.7 | 37.5 | C | E | 2,402 | 3,849 | 0.572 | 0.917 | 19.8 | 37.7 | C | E | 0.004 | 0.002 | No |
| | SB | 2M | 3,373 | 2,835 | 0.805 | 0.676 | 30.3 | 24.0 | D | C | 3,381 | 2,852 | 0.807 | 0.681 | 30.4 | 24.2 | D | C | 0.002 | 0.004 | No |
| SR-52 to Bradley Ave | NB | 2M+2A | 2,896 | 4,662 | 0.344 | 0.553 | 11.9 | 19.1 | B | C | 2,963 | 4,796 | 0.352 | 0.569 | 12.2 | 19.7 | B | C | 0.008 | 0.016 | No |
| | SB | 3M | 4,094 | 3,442 | 0.647 | 0.545 | 22.7 | 18.8 | C | C | 4,224 | 3,509 | 0.668 | 0.555 | 23.6 | 19.2 | C | C | 0.021 | 0.010 | No |

*(Continued on Next Page)*

## TABLE 10–3
## EXISTING + CUMULATIVE PROJECTS FREEWAY SEGMENT OPERATIONS

| Freeway Segment | Dir. | Lanes [a] | Existing + Cumulative | | | | | | | | Existing + Cumulative + Project | | | | | | | | Δ V/C [f] | | Sig? |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Volume [b] | | V/C [c] | | Density [d] | | LOS [e] | | Volume | | V/C | | Density | | LOS | | | | |
| | | | AM | PM | AM | PM | AM | PM | AM | PM | AM | PM | AM | PM | AM | PM | AM | PM | AM | PM | |
| *(Continued From Previous Page)* | | | | | | | | | | | | | | | | | | | | | |
| **State Route 125** | | | | | | | | | | | | | | | | | | | | | |
| Grossmont College Dr to SR-52 | NB | 3M+2A | 3,227 | 2,849 | 0.299 | 0.264 | 10.2 | 9.0 | A | A | 3,396 | 3,183 | 0.314 | 0.295 | 10.7 | 10.0 | A | A | 0.015 | 0.031 | No |
| | SB | 4M | 2,073 | 3,638 | 0.240 | 0.421 | 8.2 | 14.3 | A | B | 2,399 | 3,806 | 0.278 | 0.440 | 9.5 | 15.0 | A | B | 0.038 | 0.019 | No |

***Footnotes:***

a. Lane geometry taken from PeMS lane configurations at corresponding postmile.
b. Existing volume calculated from most recent Caltrans *Traffic Census Program* Peak Hour Volume Data (2016). See *Table 6–3* for K and D factors. Cumulative assignment added to existing volumes to arrive at Existing + Cumulative.
c. V/C = (Peak Hour Volume/Hourly Capacity)
d. Density measures passenger cars per mile per lane. Density = Flow Rate (passenger-cars/hour/lane) ÷ Speed (average passenger-car speed in mph).
e. Level of Service
f. "Δ" denotes the Project-induced increase in V/C. Per City Guidelines, a significant impact occurs when the V/C is increased by greater than 0.01 for LOS E or LOS F.

| LOS | Density Range (pc/mi/ln) |
|---|---|
| A | 0 – 11 |
| B | > 11 – 18 |
| C | > 18 – 26 |
| D | > 26 – 35 |
| E | > 35 – 45 |
| F | > 45 |

***General Note:***

1. M = Mainline
2. A = Auxiliary
3. Sig? = Significant impact, yes or no.
4. "—" Shown in density column where density exceeds the maximum threshold for LOS F.

# 11.0 YEAR 2035 CONDITIONS

As previously mentioned in this report, traffic modeling data was obtained from the adopted City of Santee Mobility Element. The SANDAG Series 12 Year 2035 traffic model was validated and calibrated for use in the *City of Santee Circulation Element Update Technical Report and TIS*, prepared by Chen Ryan, July 2017 to reflect the vehicular travel patterns within the City of Santee and carry those patterns forward as future traffic is assigned to the network. The Year 2035 analysis provides a Plan-to-Plan analysis comparison between the Adopted General Plan Land Use and the General Plan Amendment Land Use proposed by the Project.

## 11.1 Land Use and Network Conditions

The future Year 2035 Mobility Element model was developed by inputting the future Year 2035 land uses from the City's Adopted General Plan Land Use Element as well as the planned roadway classifications to reflect future network conditions. Within the study area, the Mobility Element traffic model assumes the Adopted General Plan land use within the Project site. The General Plan land uses within the site assume the construction of 1,380 residential units, as well as commercial, parkland, civic and open space uses. In order to provide access to the Adopted General Plan land uses, the model also assumed the future extensions of Fanita Parkway, Cuyamaca Street, and Magnolia Avenue were built to their planned Mobility Element classifications and capacities.

The Mobility Element is then developed based on an evaluation of the expected increase in traffic within the City due to buildout of the General Plan land uses. The Mobility Element traffic model did not assume the widening of SR-52 to six lanes nor the extension of Mast Boulevard between the City and County.

For the purposes of conducting the Year 2035 analysis, the General Plan buildout traffic volumes were analyzed against the existing street network. No future roadway improvements or ultimate roadway classifications and capacities were used, however, the model did assume the Adopted General Plan land uses within the Proposed Project site. With this assumption, the connections of Fanita Parkway, Cuyamaca Street and Magnolia Avenue were assumed in the baseline Year 2035 condition per the Mobility Element future classifications. In addition, the realignment of the Santee Lakes and PDMWD facilities entry/exit point to complete the fourth leg of the Fanita Parkway/ Ganley Road intersection would occur with the extension of Fanita Parkway by the proposed Project.

***Table 11–1*** provides a comparison of the existing roadway classifications and the planned Mobility Element roadway classifications for study area street segments in the Year 2035.

TABLE 11–1
YEAR 2035 ROADWAY CLASSIFICATIONS

| Street Segment | Currently Built As (Assumed in Analysis) | Existing Capacity (LOS E) [a] | Mobility Element Update Classification | ME Capacity (LOS E) [a] |
|---|---|---|---|---|
| **Princess Joann Road** | | | | |
| 1. Cuyamaca St to Magnolia Ave | Residential Collector | 8,000 | Residential Collector | 8,000 |
| **Woodglen Vista Drive** | | | | |
| 2. Cuyamaca St to Magnolia Ave | Residential Collector | 8,000 | Residential Collector | 8,000 |
| **El Nopal** | | | | |
| 3. Cuyamaca St to Magnolia Ave | Residential Collector | 8,000 | Residential Collector | 8,000 |
| 4. Magnolia Ave to Los Ranchitos Rd | Collector (2L w/ TWLTL) | 15,000 | Collector (2L w/ TWLTL) | 15,000 |
| 5. Los Ranchitos Rd to Riverford Rd [b] | 2.2E Light Collector | 16,200 | 2.2E Light Collector | 16,200 |
| **Mast Boulevard** | | | | |
| 6. SR-52 to West Hills Pkwy | Major Arterial (4L) | 40,000 | Major Arterial (4L) | 40,000 |
| 7. West Hills Pkwy to Medina Dr | Major Arterial (4L) | 40,000 | Major Arterial (4L) | 40,000 |
| 8. Pebble Beach Dr to Fanita Pkwy | Major Arterial (4L) | 40,000 | Major Arterial (4L) | 40,000 |
| 9. Fanita Pkwy to Carlton Hills Blvd | Major Arterial (4L) | 40,000 | Major Arterial (4L) | 40,000 |
| 10. Carlton Hills Blvd to Halberns Blvd | Major Arterial (4L) | 40,000 | Major Arterial (4L) | 40,000 |
| 11. Halberns Blvd to Cuyamaca St | Major Arterial (4L) | 40,000 | Major Arterial (4L) | 40,000 |
| 12. Cuyamaca St to Magnolia Ave | Major Arterial (4L) | 40,000 | Major Arterial (4L) | 40,000 |
| 13. Magnolia Ave to Los Ranchitos Rd | Collector (2L) | 15,000 | Collector (2L w/ TWLTL) | 15,000 |
| 14. West of Riverford Rd | Collector (2L) | 19,000 | Major Arterial (4L) | 37,000 |
| **Carlton Oaks Drive** | | | | |
| 15. West Hills Pkwy to Pebble Beach Dr | Collector (2L w/ TWLTL) | 15,000 | Collector (2L w/ TWLTL) | 15,000 |
| 16. Fanita Pkwy to Carlton Hills Blvd | Collector (2L w/ TWLTL) | 15,000 | Collector (2L w/ TWLTL) | 15,000 |
| **Mission Gorge Road** | | | | |
| 17. Western City Limits to West Hills Pkwy | Major Arterial (4L) | 40,000 | Major Arterial (4L) | 40,000 |
| 18. West Hills Pkwy to SR-125 | Major Arterial (4L) | 40,000 | Major Arterial (4L) | 40,000 |
| 19. SR-125 to Fanita Dr | Prime Arterial (6L) | 60,000 | Prime Arterial (6L) | 60,000 |

*(Continued on Next Page)*

TABLE 11–1
YEAR 2035 ROADWAY CLASSIFICATIONS

| Street Segment | Currently Built As (Assumed in Analysis) | Existing Capacity (LOS E) [a] | Mobility Element Update Classification | ME Capacity (LOS E) [a] |
|---|---|---|---|---|
| *(Continued from Previous Page)* | | | | |
| **Mission Gorge Road (cont.)** | | | | |
| 20. Fanita Dr to Carlton Hills Blvd | Prime Arterial (6L) | 60,000 | Prime Arterial (6L) | 60,000 |
| 21. Carlton Hills Blvd to Town Center Pkwy | Prime Arterial (6L) | 60,000 | Prime Arterial (6L) | 60,000 |
| 22. Town Center Pkwy to Cuyamaca St | Prime Arterial (6L) | 60,000 | Prime Arterial (6L) | 60,000 |
| 23. Cuyamaca St to Riverview Pkwy | Prime Arterial (6L) | 60,000 | Prime Arterial (6L) | 60,000 |
| 24. Riverview Pkwy to Cottonwood Ave | Prime Arterial (6L) | 60,000 | Major Arterial (4L/D) | 40,000 |
| 25. Cottonwood Ave to Magnolia Ave | Prime Arterial (6L) | 60,000 | Major Arterial (4L/D) | 40,000 |
| **Prospect Avenue** | | | | |
| 26. Fanita Dr to Cuyamaca St | Collector (2L w/ TWLTL) | 15,000 | Collector (2L w/ TWLTL) | 15,000 |
| 27. Cuyamaca St to Cottonwood Ave | Collector (2L w/ TWLTL) | 15,000 | Collector (2L w/ TWLTL) | 15,000 |
| **West Hills Parkway** | | | | |
| 28. Mast Blvd to Mission Gorge Rd | Major Arterial (4L) | 40,000 | Major Arterial (4L) | 40,000 |
| **Fanita Parkway** | | | | |
| 29. Project Site to Ganley Dr [d] | DNE | DNE | 2L Parkway | 10,000 |
| 30. Ganley Dr to Lake Canyon Rd | Collector (2L no fronting property) | 10,000 | 2L Parkway | 10,000 |
| 31. Lake Canyon Rd to Mast Blvd | Collector (2L no fronting property) | 10,000 | Parkway (2L w/ TWLTL) | 15,000 |
| 32. Mast Blvd to Carlton Oaks Dr | Collector (2L no fronting property) | 10,000 | Parkway | 10,000 |
| **Fanita Drive** | | | | |
| 33. Mission Gorge to SR-52 Ramps | Major Arterial (4L) | 40,000 | Major Arterial (4L) | 40,000 |
| 34. SR-52 Ramps to Prospect Ave | Major Arterial (4L) | 40,000 | Major Arterial (4L) | 40,000 |
| *(Continued on Next Page)* | | | | |

TABLE 11–1
YEAR 2035 ROADWAY CLASSIFICATIONS

| Street Segment | Currently Built As (Assumed in Analysis) | Existing Capacity (LOS E) [a] | Mobility Element Update Classification | ME Capacity (LOS E) [a] |
|---|---|---|---|---|
| *(Continued from Previous Page)* | | | | |
| **Carlton Hills Boulevard** | | | | |
| 35. Lake Canyon Rd to Mast Blvd | Major Arterial (4L) | 40,000 | Major Arterial (4L) | 40,000 |
| 36. Mast Blvd to Carlton Oaks Dr | Major Arterial (4L) | 40,000 | Major Arterial (4L) | 40,000 |
| 37. Carlton Oaks Dr to Mission Gorge Rd | Major Arterial (4L) | 40,000 | Major Arterial (4L) | 40,000 |
| **Halberns Boulevard** | | | | |
| 38. Lake Canyon Rd to Mast Blvd | Collector (2L w/ TWLTL) | 15,000 | Collector (2L w/ TWLTL) | 15,000 |
| **Town Center Parkway** | | | | |
| 39. Mission Gorge Rd to Cuyamaca St | Parkway (4L w/ Raised Median) | 40,000 | Parkway (4L w/ Raised Median) | 40,000 |
| 40. Cuyamaca St to Riverview Pkwy | Collector (2L w/ TWLTL) | 10,000 | Parkway (2L) | 10,000 |
| **Cuyamaca Street** | | | | |
| 41. Project Site to Magnolia Avenue [d] | DNE | DNE | Collector (2L w/ TWLTL) | 15,000 |
| 42. Magnolia Avenue to Princess Joann Rd [d] | DNE | DNE | Collector (2L w/ TWLTL) | 15,000 |
| 43. Princess Joann Rd to Woodglen Vista Dr | Collector (2L w/ Raised Median) | 15,000 | Major Arterial (4L) | 40,000 |
| 44. Woodglen Vista Dr to El Nopal | Collector (2L w/ Raised Median) | 15,000 | Major Arterial (4L) | 40,000 |
| 45. El Nopal to Mast Blvd | Collector (2-3L w/ Raised Median) | 15,000 | Major Arterial (4L) | 40,000 |
| 46. Mast Blvd to River Park Dr | Major Arterial (4L) | 40,000 | Major Arterial (4L) | 40,000 |
| 47. River Park Dr to Town Center Pkwy | Major Arterial (4L) | 40,000 | Major Arterial (4L) | 40,000 |
| 48. Town Center Pkwy to Mission Gorge Rd | Major Arterial (6L) | 50,000 | Prime Arterial (6L) | 60,000 |
| 49. Mission Gorge Rd to SR-52 Ramps | Major Arterial (6L) | 50,000 | Prime Arterial (6L) | 60,000 |
| 50. SR-52 Ramps to south of Prospect Ave | Major Arterial (6L) | 50,000 | Prime Arterial (6L) | 60,000 |
| *(Continued on Next Page)* | | | | |

TABLE 11–1
YEAR 2035 ROADWAY CLASSIFICATIONS

| Street Segment | Currently Built As (Assumed in Analysis) | Existing Capacity (LOS E) [a] | Mobility Element Update Classification | ME Capacity (LOS E) [a] |
|---|---|---|---|---|
| *(Continued from Previous Page)* | | | | |
| **Riverview Parkway** | | | | |
| 51. Mission Gorge Rd to Town Center Pkwy | Collector (4L w/o TWLTL) | 40,000 | Parkway (4L) | 40,000 |
| 52. Town Center Pkwy to Magnolia Ave | DNE | DNE | Parkway (2L w/ TWLTL) | 15,000 |
| **Magnolia Avenue** | | | | |
| 53. Cuyamaca St to Princess Joann Rd [d] | DNE | DNE | Parkway (4L) | 40,000 |
| 54. Princess Joann Rd to Woodglen Vista Dr | Major Arterial (4L) | 40,000 | Major Arterial (4L) | 40,000 |
| 55. Woodglen Vista Dr to El Nopal | Major Arterial (4L) | 40,000 | Major Arterial (4L) | 40,000 |
| 56. El Nopal to Mast Blvd | Major Arterial (4L) | 40,000 | Major Arterial (4L) | 40,000 |
| 57. Mast Blvd to Riverview Pkwy | Major Arterial (4L) | 40,000 | Major Arterial (4L) | 40,000 |
| 58. Riverview Pkwy to Mission Gorge Rd | Major Arterial (4L) | 40,000 | Major Arterial (4L) | 40,000 |
| 59. Mission Gorge Rd to SR-52 Ramps | Prime Arterial (6L) | 60,000 | Prime Arterial (6L) | 60,000 |
| 60. SR-52 Ramps to south of Prospect Ave | Major Arterial (4L) | 40,000 | Major Arterial (4L) | 40,000 |
| **Woodside Avenue** | | | | |
| 61. East of Magnolia Avenue | Major Arterial (4L) | 40,000 | Major Arterial (4L) | 40,000 |
| **N. Woodside Avenue** | | | | |
| 62. Riverford Road to Woodside Avenue | Collector (2L no fronting property) | 10,000 | Collector (2L w/ TWLTL) | 15,000 |
| **Riverford Road** | | | | |
| 63. Riverside Drive to SR-67 Ramps | Modified 4.1B Major Road w/ Intermittent Turn Lane | 23,500 [c] | 6.2 Prime Arterial | 57,000 |

***Footnotes:***

a. Capacities based on Adopted City of Santee Mobility Element (ME) Roadway Classification & LOS table *(See Appendix A).*
b. Roadway located within County of San Diego.
c. Capacity for "3-Ln Light Collector" interpolated between 2-Ln Light Collector with Continuous Left-Turn Lane (2.2B) and 4-Lane Boulevard with Intermittent Turn Lanes (4.2B).
d. The connections of Fanita Parkway (10,000 ADT capacity), Cuyamaca Street (15,000 ADT capacity), and Magnolia Avenue (10,000 ADT capacity) were assumed in the baseline Year 2035 analysis using the Mobility Element classifications and capacities.

***General Notes:***

1. DNE = Does not exist.
2. ME = Mobility Element.

## 11.2 Traffic Volumes

Year 2035 baseline traffic volumes were taken from the Adopted Mobility Element traffic volume forecasts, where provided, for intersections, street segments and freeway mainline segments. As previously mentioned, the General Plan land uses within the site assume the construction of 1,380 residential units, as well as commercial, parkland, civic and open space uses. Therefore, the Year 2035 Baseline traffic volumes represent the buildout of the Adopted General Plan Land Use. The Project proposes to amend the General Plan Land Uses to increase the residential unit count to 2,949 DU, in addition to developing non-residential uses similar to the Adopted General Plan Land Uses. Therefore, the net increase in trips generated by the proposed Project were added to the Year 2035 baseline Mobility Element volumes to arrive at Year 2035 With Project traffic volumes. A detailed review of the Mobility Element traffic model and the traffic study for the previously-approved Fanita project (Adopted General Plan Land Use) was conducted to inform baseline Year 2035 traffic volumes on the key roadways leading to the Project site (Fanita Parkway, Cuyamaca Street, and Magnolia Avenue) where the Mobility Element volumes are either lacking or differ substantially from the project traffic assignment anticipated by that study. This was done to ensure a proper evaluation of the net increase in trips due to the proposed Project.

It was observed that the Traffic Analysis Zones (TAZs) from the Mobility Element model distribute traffic volumes via Zone Connectors (ZCs) to these roadways inconsistent with existing travel patterns in the area. This is a common occurrence when preparing City-wide traffic models and is typically only uncovered when a project-specific traffic model run is commissioned. For example, Santee Lakes Recreational Park runs adjacent to Fanita Parkway north and south of Mast Boulevard and has three (3) access points. The main access to Santee Lakes is south of Mast Boulevard with secondary access just north of Lake Canyon Road and RV access just south of Ganley Road. The majority of trips to/from Santee Lakes occur south of Mast Boulevard. However, the Mobility Element model assigns 100% of Santee Lakes traffic to Fanita Parkway between Lake Canyon Road and Ganley Road. This resulted in 6,400 daily trips being assigned to this segment in the future, with little to no increase in land use intensity, whereas 2,610 ADT were observed on this segment today. Calibration efforts were undertaken to ensure accurate traffic patterns were forecasted on these key roadways in the future. In addition, with the realignment of the Santee Lakes and PDMWD access points to the fourth leg of the Fanita Parkway/ Ganley Road intersection proposed by the Project, baseline Year 2035 traffic volumes from these two locations were rerouted to the Fanita Parkway/ Ganley Road intersection in the "+ Project" analysis.

Some Year 2035 Mobility Element traffic volumes (Year 2035 Baseline) were forecasted lower than existing 2018 traffic counts collected for use in this traffic study. The base year for existing conditions from the Mobility Element was 2013. Therefore, to represent the anticipated growth on the street system with buildout of the General Plan and to provide for a conservative analysis, the volumes at these locations were increased using an annual growth factor interpolated from Mobility Element existing 2013 volumes and recently collected 2018 volumes to reach Year 2035 conditions at affected locations. ***Figure 11–1*** shows the Year 2035 Baseline volumes. ***Figure 11–2*** shows the Year 2035 Net Project traffic volumes and ***Figure 11–3*** shows the Year 2035 With Project traffic volumes.

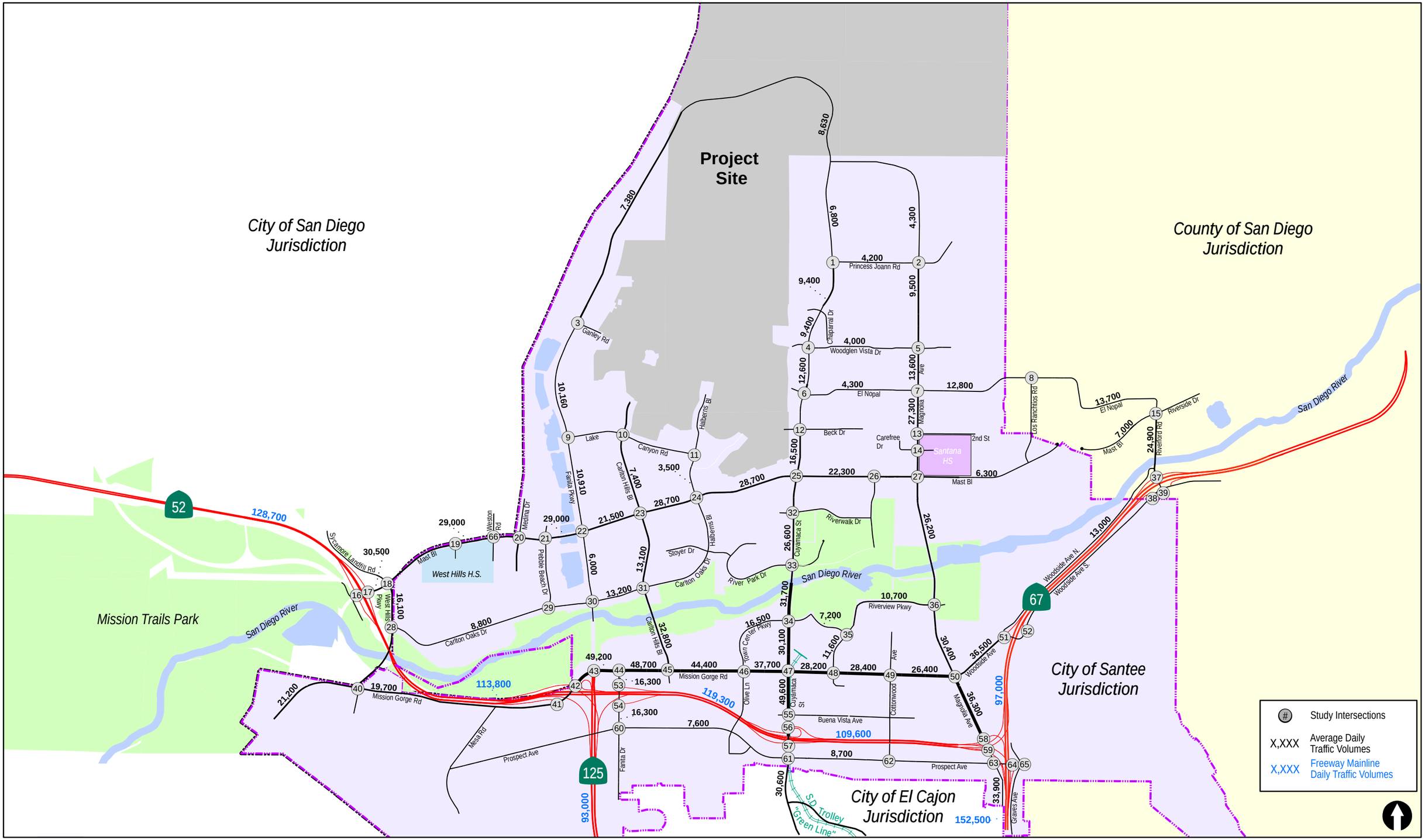


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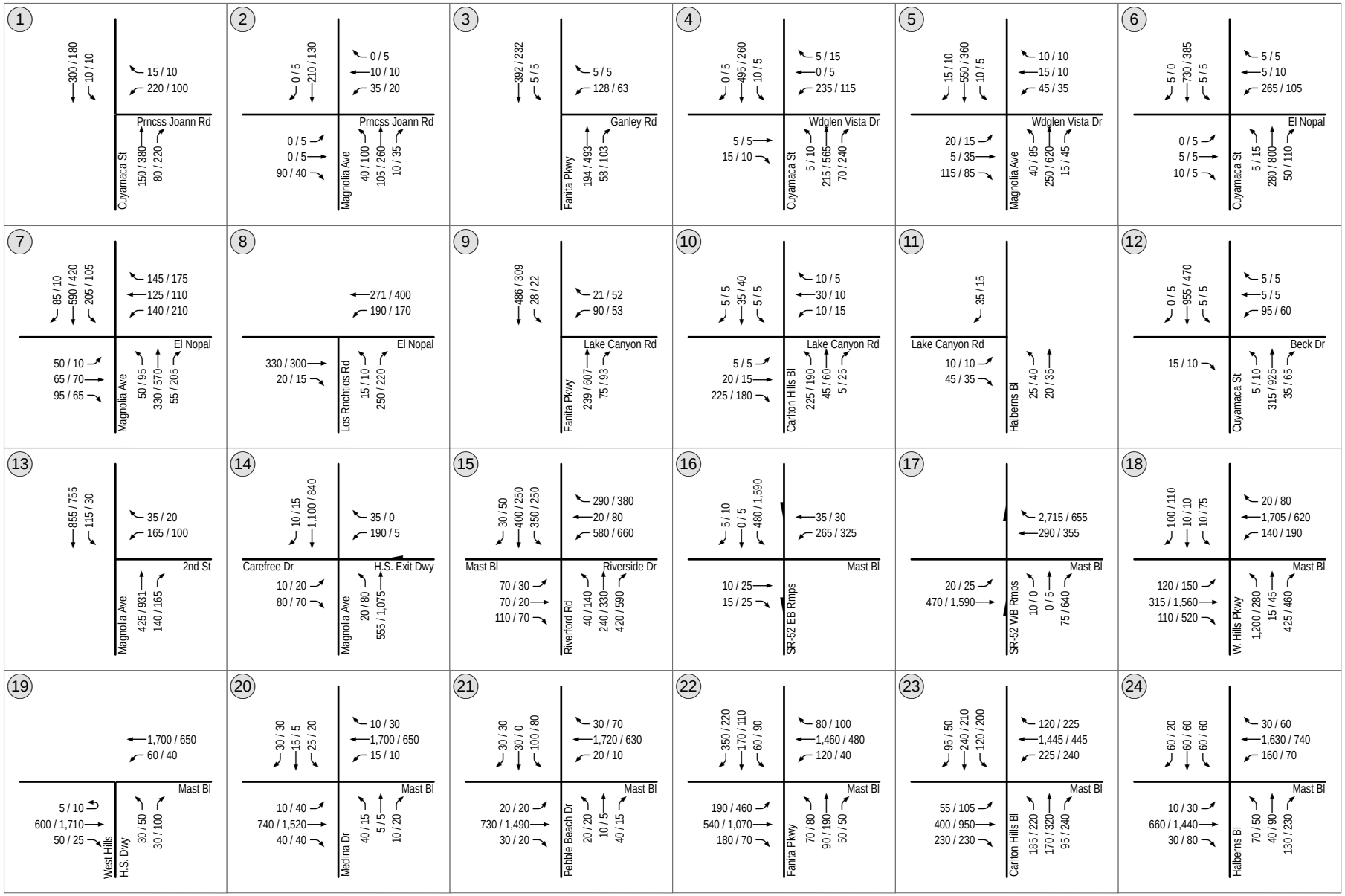
**Figure 11-1**

## Year 2035 Baseline Traffic Volumes

FANITA RANCH

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(#) Study Intersections

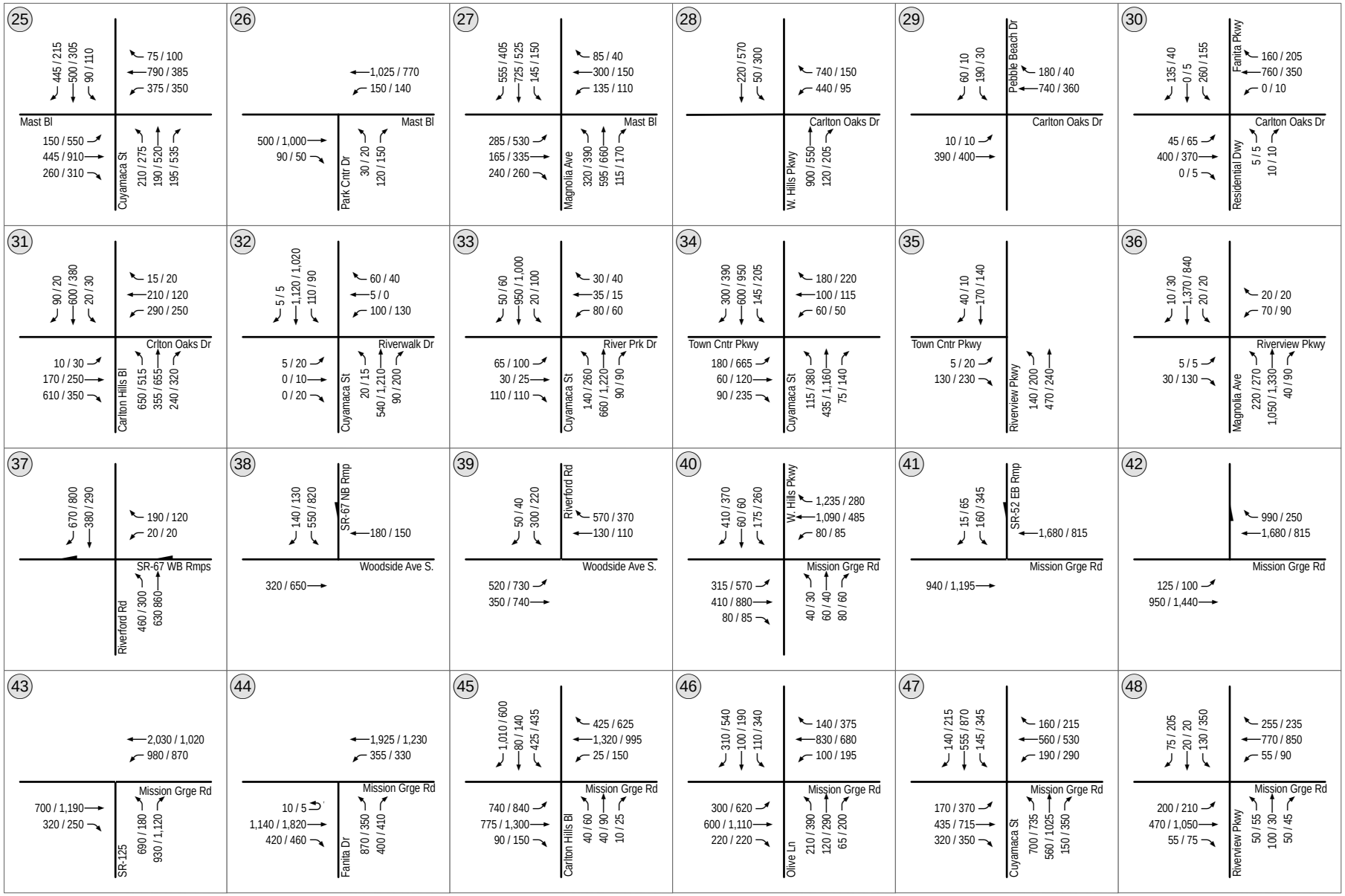
AM / PM — AM / PM Intersection Peak Hour Volumes

**Figure 11-1**
**(1 of 3)**

# Year 2035 Baseline Traffic Volumes

## AM / PM Peak Hours

FANITA RANCH

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# Study Intersections

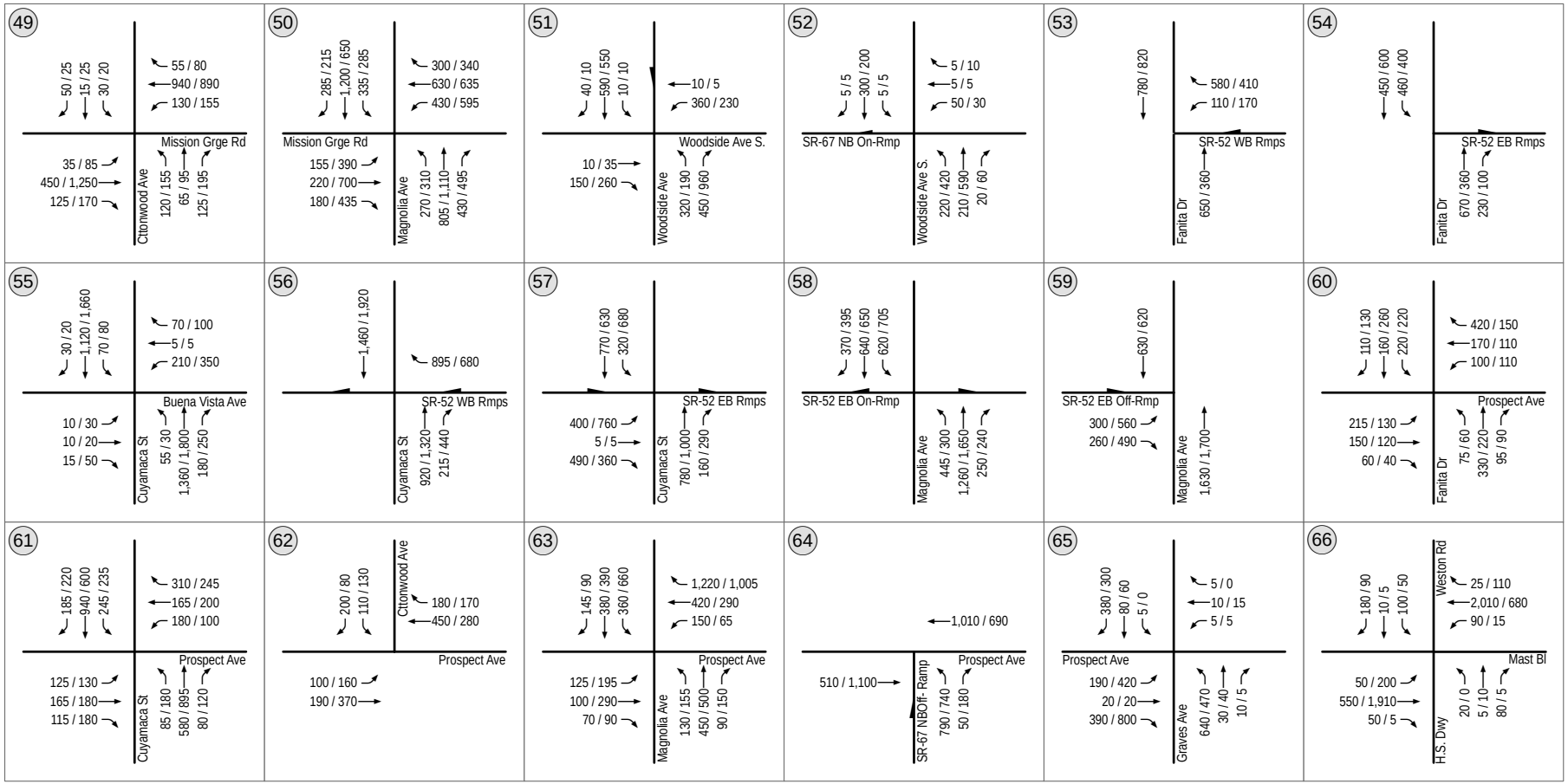
AM / PM — AM / PM Intersection Peak Hour Volumes

**Figure 11-1**
**(2 of 3)**

## Year 2035 Baseline Traffic Volumes

**AM / PM Peak Hours**

FANITA RANCH

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# Study Intersections

AM / PM → AM / PM Intersection Peak Hour Volumes

**Figure 11-1**
**(3 of 3)**

# Year 2035 Baseline Traffic Volumes

## AM / PM Peak Hours

FANITA RANCH

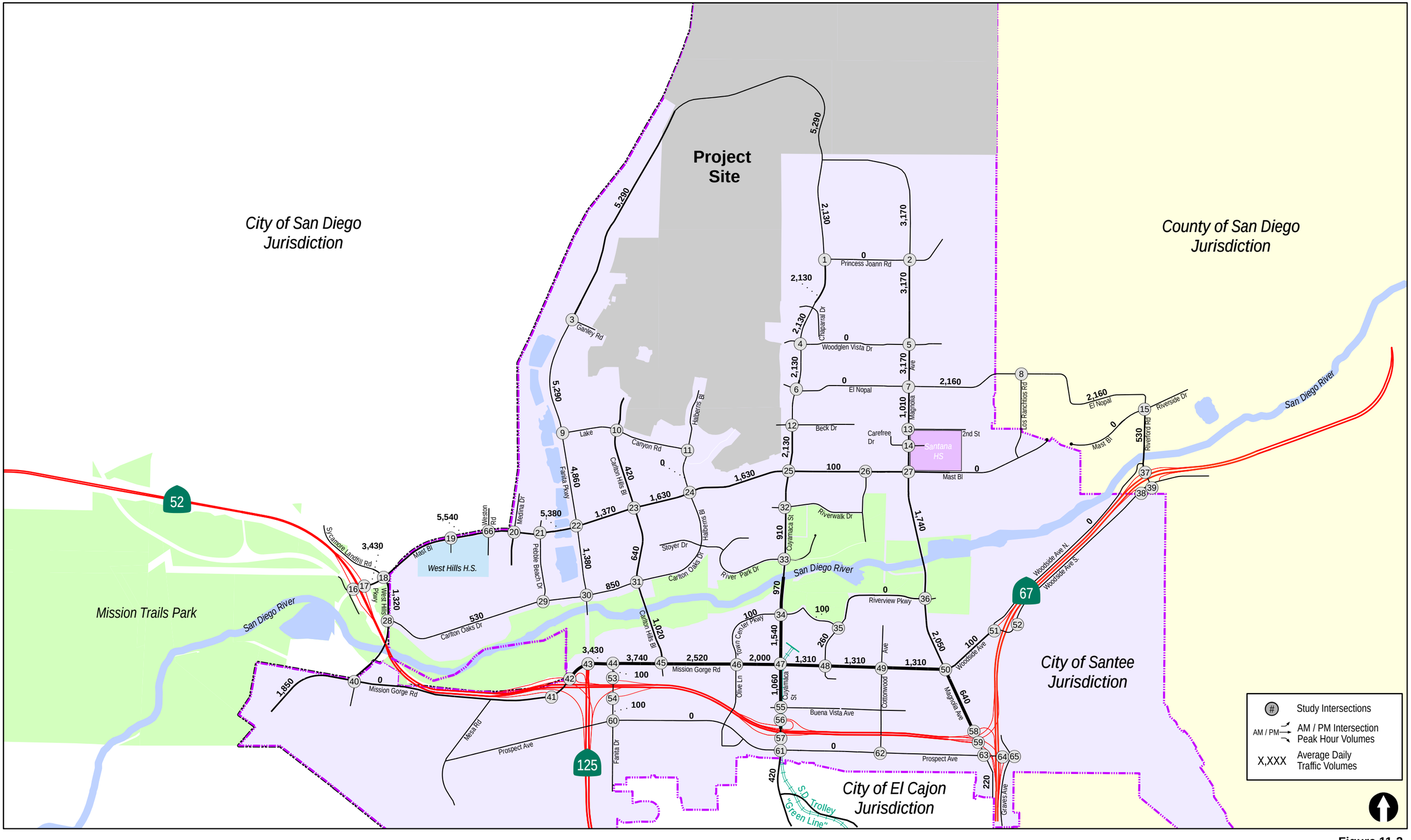


Figure 11-2

# Year 2035 Net Project Traffic Volumes

FANITA RANCH

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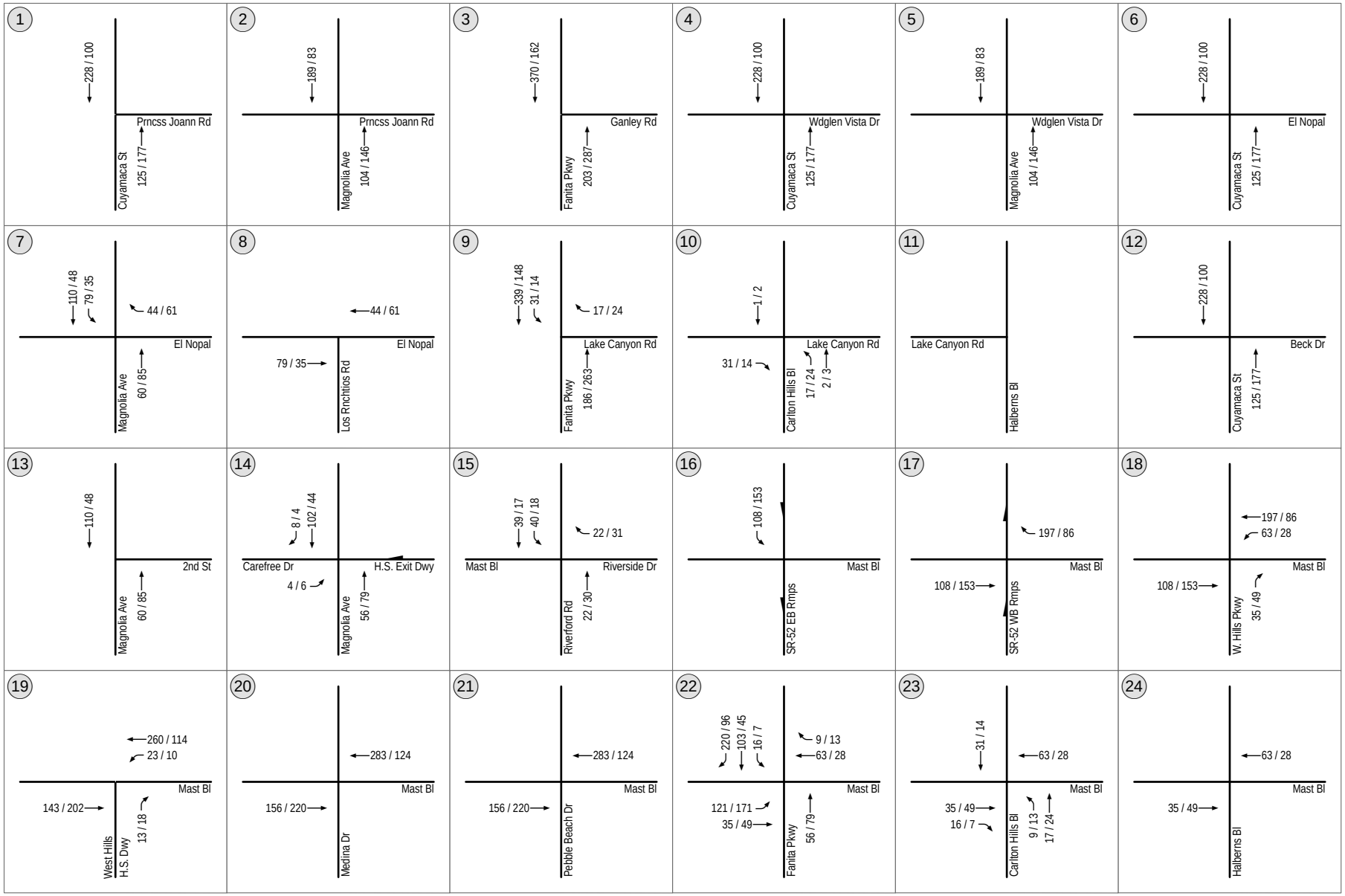


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# Study Intersections

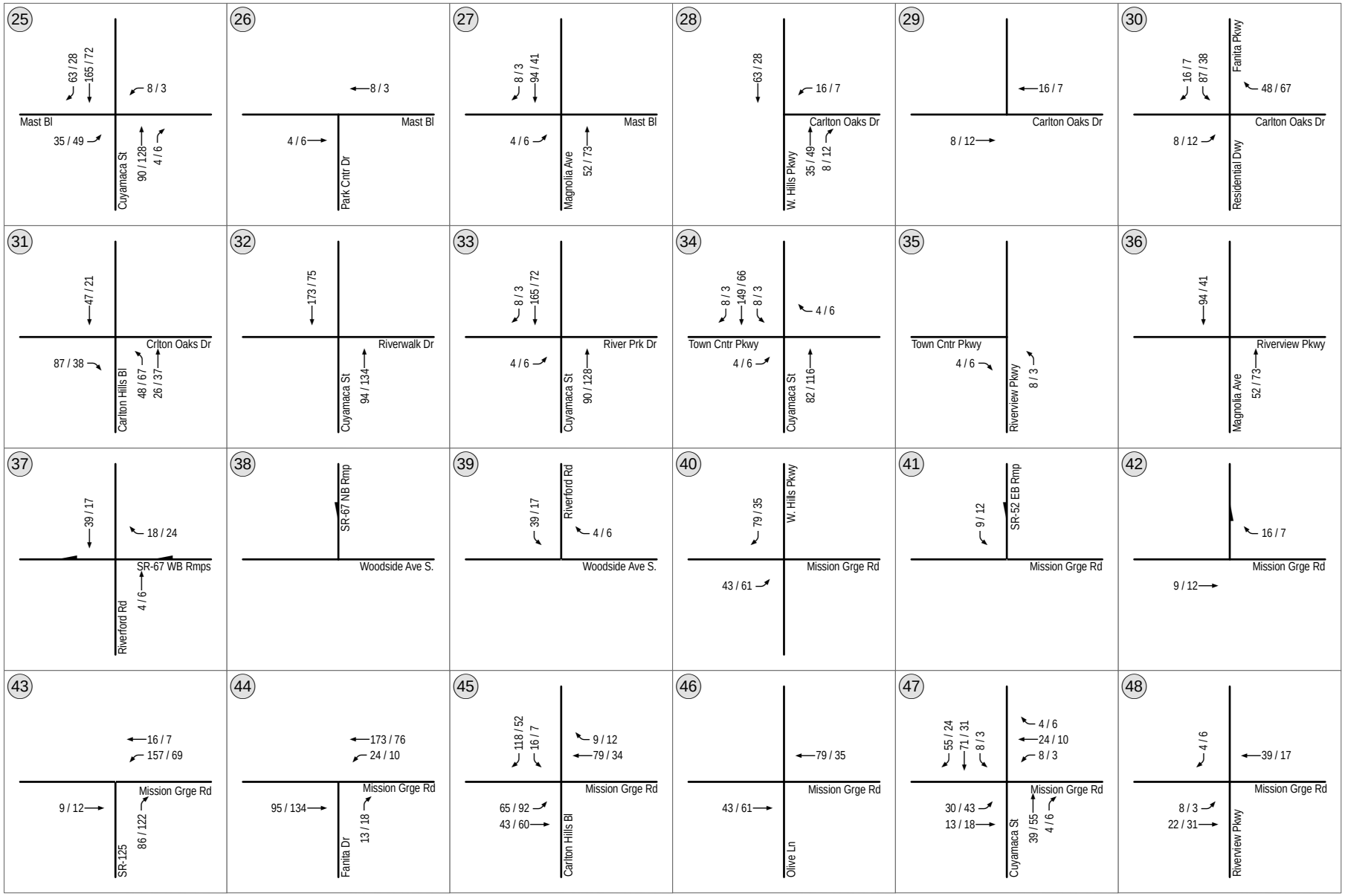
AM / PM — AM / PM Intersection Peak Hour Volumes

**Figure 11-2**
**(1 of 3)**

# Year 2035 Net Project Traffic Volumes

## AM / PM Peak Hours

FANITA RANCH

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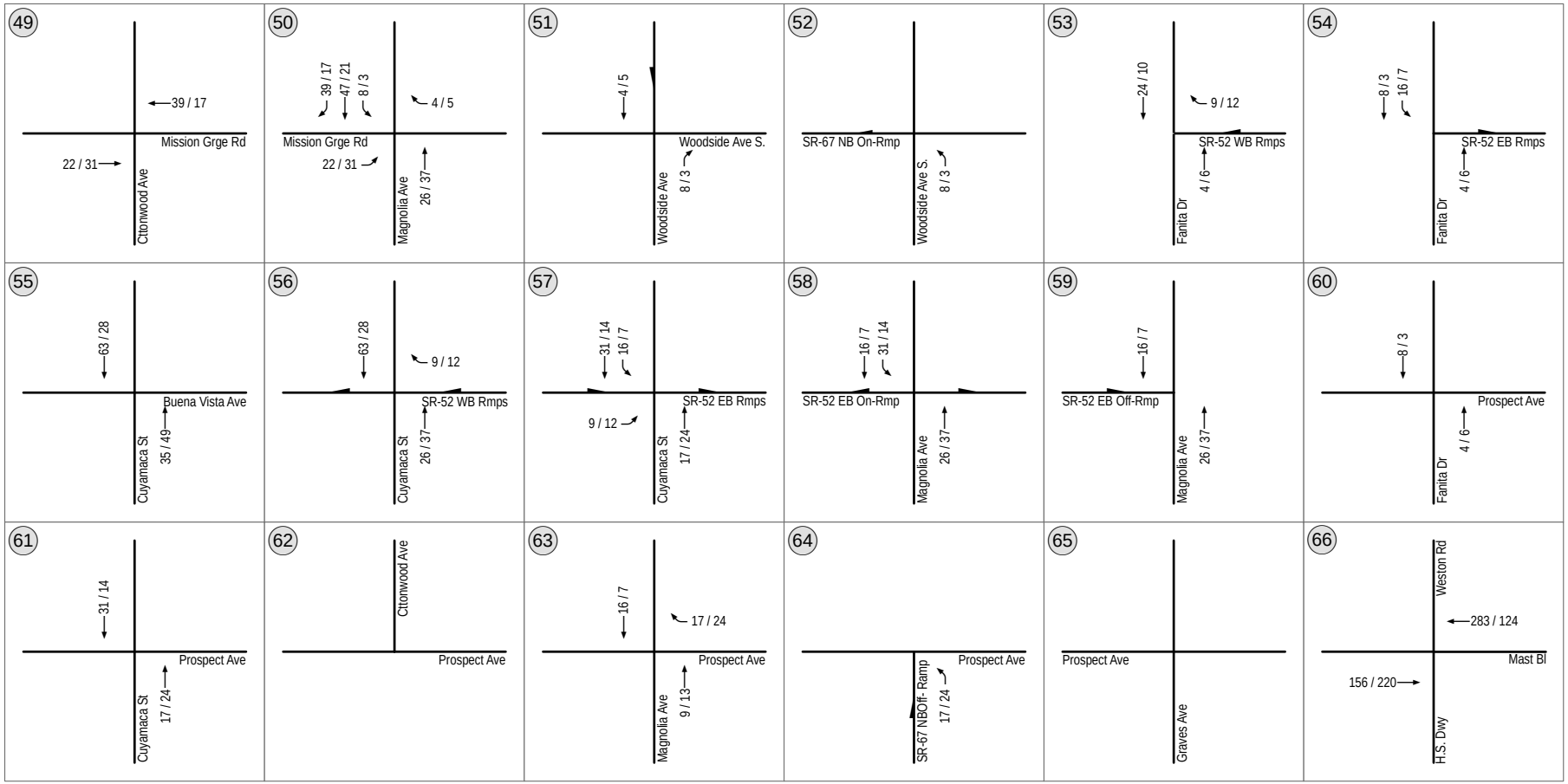
(#) Study Intersections
AM / PM AM / PM Intersection Peak Hour Volumes

**Figure 11-2**
**(2 of 3)**

# Year 2035 Net Project Traffic Volumes

**AM / PM Peak Hours**

FANITA RANCH

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(#) Study Intersections

AM / PM → AM / PM Intersection Peak Hour Volumes

**Figure 11-2**
**(3 of 3)**

# Year 2035 Net Project Traffic Volumes

**AM / PM Peak Hours**

FANITA RANCH

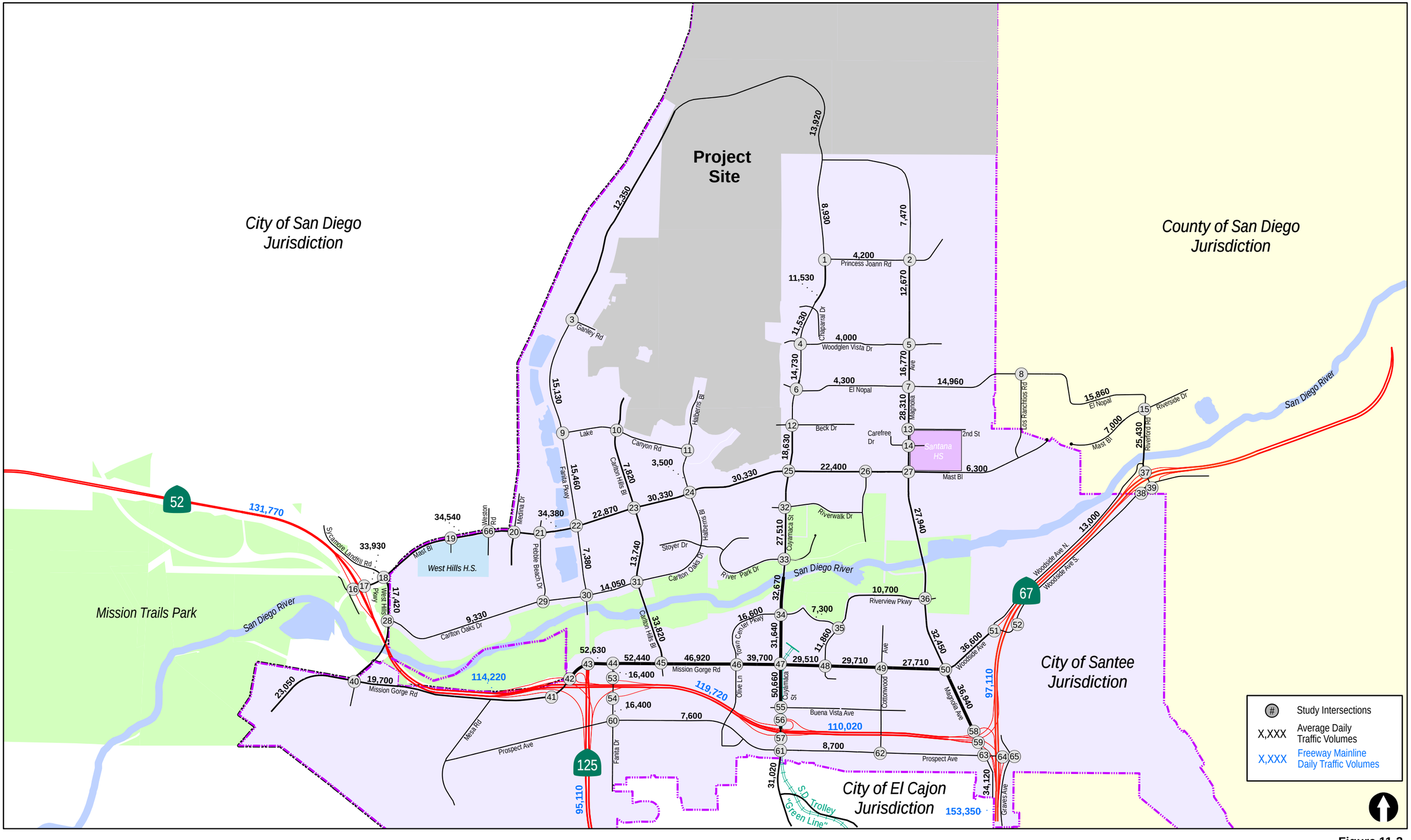


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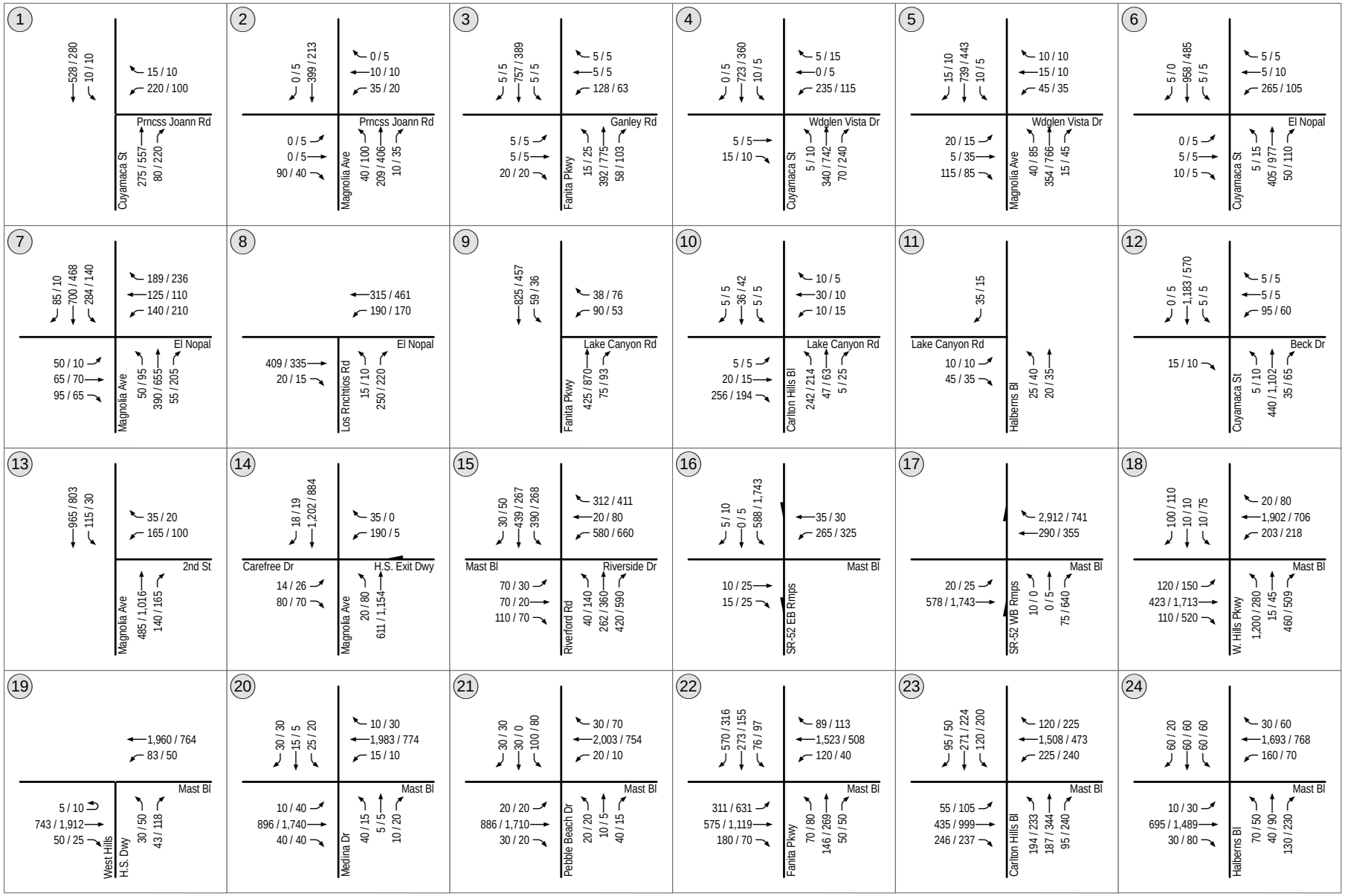
**Figure 11-3**

## Year 2035 With Project Traffic Volumes

FANITA RANCH

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# Study Intersections

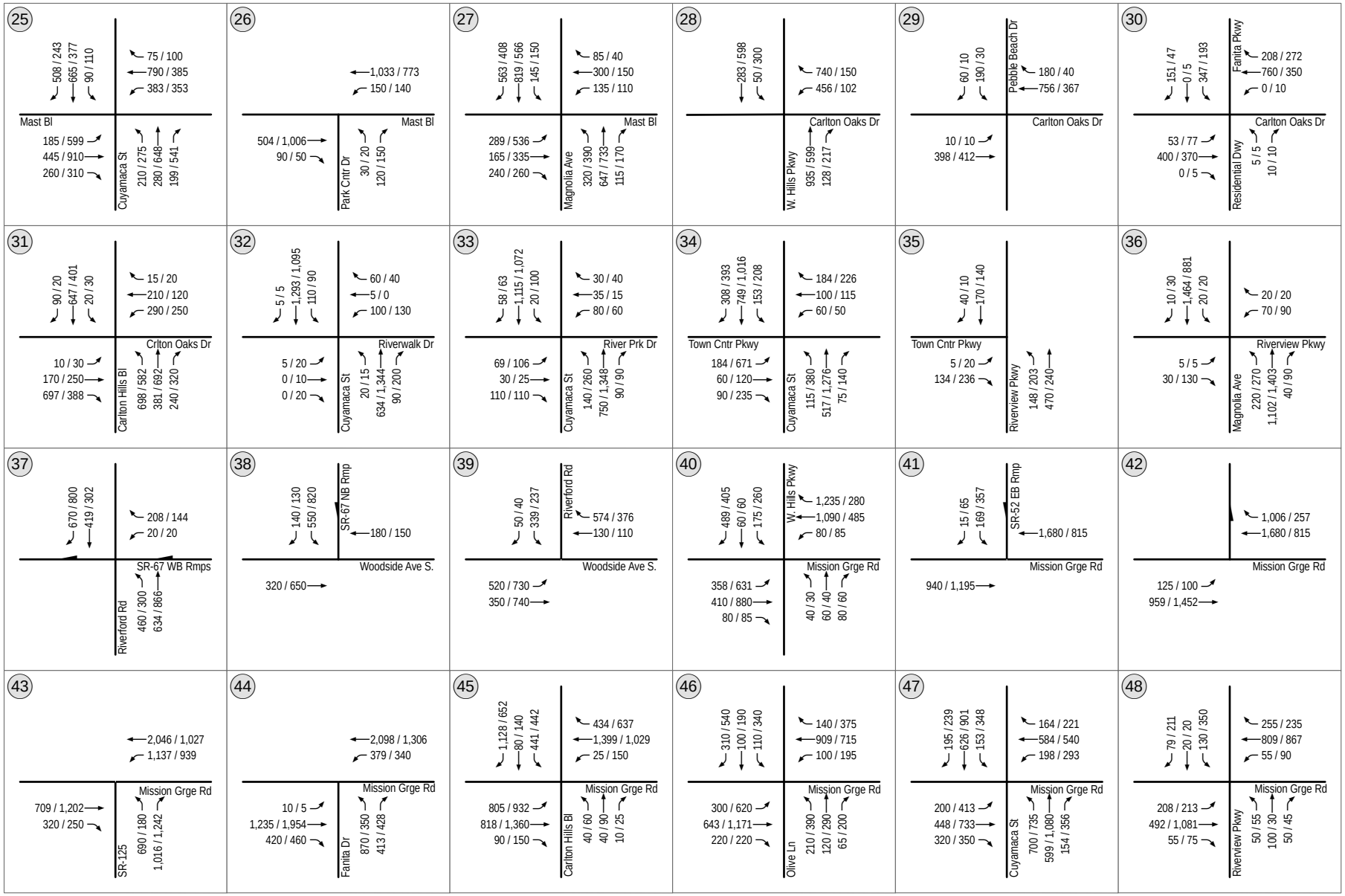
AM / PM — AM / PM Intersection Peak Hour Volumes

**Figure 11-3**
**(1 of 3)**

# Year 2035 With Project Traffic Volumes

## AM / PM Peak Hours

FANITA RANCH

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# Study Intersections

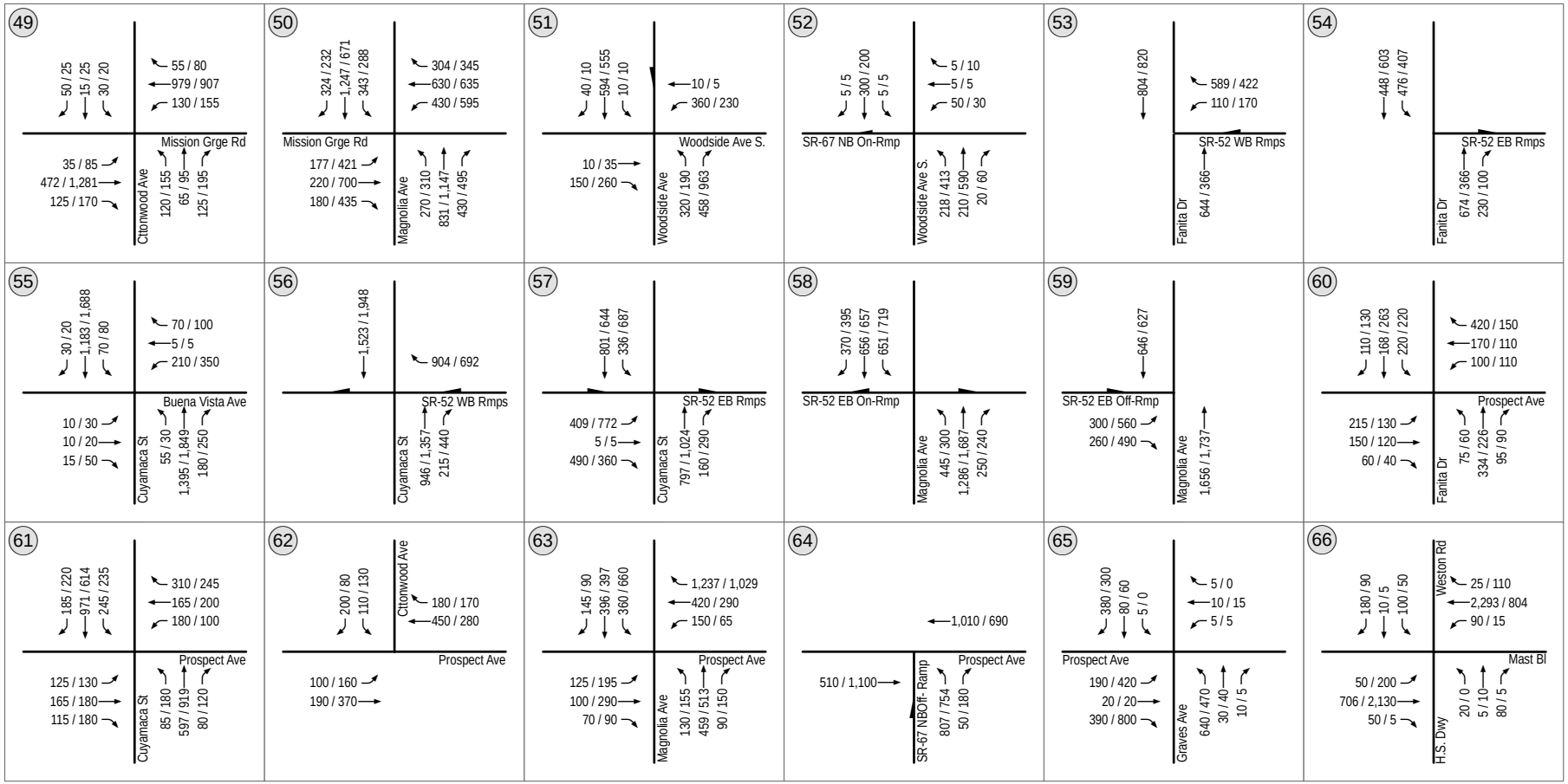
AM / PM AM / PM Intersection Peak Hour Volumes

**Figure 11-3**
**(2 of 3)**

## Year 2035 With Project Traffic Volumes

**AM / PM Peak Hours**

FANITA RANCH

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# Study Intersections
AM / PM — AM / PM Intersection Peak Hour Volumes

**Figure 11-3**
**(3 of 3)**

## Year 2035 With Project Traffic Volumes
### AM / PM Peak Hours

FANITA RANCH

# 12.0 ANALYSIS OF YEAR 2035 SCENARIOS

The Year 2035 scenario is an assessment of the impact of ambient growth due to buildout of the City's Adopted General Plan land uses within the general study area. The Year 2035 With Project scenario is an assessment of the impact of the net increase in traffic due to the Project in relation to the Year 2035 baseline condition which assumes the Adopted General Plan land use for the Project site. These analyses include intersection, street segment and freeway mainline operations.

As previously discussed in *Section 11.0,* the Mobility Element traffic model assumed the Adopted General Plan Land Uses within the proposed Project site. With this assumption, the connections of Fanita Parkway, Cuyamaca Street and Magnolia Avenue were included in the baseline Year 2035 conditions per their Mobility Element classifications and capacities. Therefore, both the baseline and "with" Project analysis include these access serving roadways. For the "with" Project analysis, improvements to the future connections of Fanita Parkway, Cuyamaca Street, and Magnolia Avenue beyond their Mobility Element classifications are included as Project Design Features.

## 12.1 Year 2035 Baseline

### 12.1.1 *Peak Hour Intersection Operations*

***Table 12–1*** summarizes the Year 2035 Baseline intersection operations. As seen in *Table 12–1*, the following study area intersections are calculated to operate at LOS E or F under Year 2035 Baseline conditions:

- Intersection #4. Woodglen Vista Drive / Cuyamaca Street – LOS F (PM peak hour)
- Intersection #6. El Nopal / Cuyamaca Street – LOS F (AM/PM peak hours)
- Intersection #12. Beck Drive / Cuyamaca Street – LOS F (AM/PM peak hours)
- Intersection #17. Mast Boulevard / SR-52 WB Ramps – LOS F (AM peak hour)
- Intersection #18. Mast Boulevard / West Hills Parkway – LOS F/E (AM/PM peak hours)
- Intersection #22. Mast Boulevard / Fanita Parkway – LOS E (AM/PM peak hours)
- Intersection #25. Mast Boulevard / Cuyamaca Street – LOS E/F (AM/PM peak hours)
- Intersection #37. Riverford Road / SR-67 SB Ramps – LOS F (AM/PM peak hours)
- Intersection #39. Riverford Road / Woodside Avenue – LOS F (AM peak hour)
- Intersection #40. Mission Gorge Road / West Hills Parkway – LOS F (AM peak hour)
- Intersection #45. Mission Gorge Road / Carlton Hills Boulevard – LOS F/E (AM/PM peak hours)
- Intersection #46. Mission Gorge Road / Town Center Parkway – LOS E (PM peak hour)
- Intersection #47. Mission Gorge Road / Cuyamaca Street – LOS E (PM peak hour)
- Intersection #49. Mission Gorge Road / Cottonwood Avenue – LOS F (AM/PM peak hours)
- Intersection #50. Mission Gorge Road / Magnolia Avenue – LOS E (AM/PM peak hours)
- Intersection #51. Woodside Avenue / SR-67 SB Off-Ramp – LOS E (AM peak hour)
- Intersection #53. Fanita Drive / SR-52 WB Off-Ramp – LOS F (AM peak hour)

- Intersection #55. Buena Vista Avenue / Cuyamaca Street – LOS F (PM peak hour)
- Intersection #60. Prospect Avenue / Fanita Drive – LOS E (AM peak hour)

***Appendix J-1*** contains the Year 2035 Baseline peak hour intersection calculation worksheets.

### 12.1.2 *Daily Street Segment Operations*

***Table 12–2*** summarizes the Year 2035 Baseline street segment operations. As seen in *Table 12–2*, the following study area street segments are calculated to operate at LOS E or F under Year 2035 Baseline conditions:

- Segment #5. El Nopal from Los Ranchitos Road to Riverford Road – LOS E
- Segment #16. Carlton Oaks Drive from Fanita Parkway to Carlton Hills Boulevard – LOS E
- Segment #30. Fanita Parkway from Ganley Drive/Santee Lakes Boulevard to Lake Canyon Road – LOS E
- Segment #31. Fanita Parkway from Lake Canyon Road to Mast Boulevard – LOS F
- Segment #46. Cuyamaca Street from El Nopal to Mast Boulevard – LOS F
- Segment #50. Cuyamaca Street from Mission Gorge Road to SR-52 Ramps – LOS E
- Segment #62. Woodside Avenue east of Magnolia Avenue – LOS E
- Segment #63. N. Woodside Avenue from Riverford Road to Woodside Avenue – LOS F
- Segment #64. Riverford Road from Riverside Drive to SR-67 Ramps – LOS F

### 12.1.3 *Peak Hour Freeway Mainline Operations*

***Table 12–3*** summarizes the Year 2035 Baseline freeway mainline segment operations. As seen in *Table 12–3*, the following study area freeway mainline segments are calculated to operate at LOS E or F under Year 2035 Baseline conditions:

- Mainline #1. SR-52 from Santo Road to Mast Boulevard:
  - Eastbound LOS F – PM peak hour
  - Westbound: LOS F – AM peak hour
- Mainline #2: SR-52 Mast Boulevard to SR-125
  - Eastbound: LOS F – PM peak hour
  - Westbound: LOS F – AM peak hour
- Mainline #3: SR-52 from SR-125 to Cuyamaca Street
  - Eastbound: LOS E – PM peak hour
- Mainline #5: SR-67 from Riverford Road to SR-52
  - Northbound: LOS F – PM peak hour
  - Southbound: LOS E – AM peak hour

- Mainline #6: SR-67 from SR-52 to Bradley Avenue
  - Northbound: LOS E – PM peak hour
  - Southbound: LOS F – AM peak hour

***Appendix J-2*** contains the Year 2035 Baseline peak hour HCS freeway analysis sheets.

## 12.2 Year 2035 With Project

### 12.2.1 *Peak Hour Intersection Operations*

*Table 12–1* summarizes the Year 2035 With Project intersection operations. As seen in *Table 12–1*, the following study area intersections are calculated to operate at LOS E or F conditions with the addition of Project traffic:

- **Intersection #1. Princess Joann Road / Cuyamaca Street – LOS E (AM peak hour)**
- **Intersection #3. Ganley Road / Fanita Parkway – LOS F (AM/PM peak hours)**
- **Intersection #4. Woodglen Vista Drive / Cuyamaca Street – LOS F (AM/PM peak hours)**
- **Intersection #6. El Nopal / Magnolia Avenue – LOS F (AM/PM peak hours)**
- **Intersection #8. El Nopal / Los Ranchitos Road – LOS E(PM peak hour)**
- **Intersection #9. Lake Canyon Road / Fanita Parkway – LOS F (AM/PM peak hours)**
- **Intersection #12. Beck Drive / Cuyamaca Street – LOS F (AM/PM peak hours)**
- **Intersection #17. Mast Boulevard / SR-52 WB Ramps – LOS F (AM peak hour)**
- **Intersection #18. Mast Boulevard / West Hills Parkway – LOS F (AM/PM peak hours)**
- **Intersection #22. Mast Boulevard / Fanita Parkway – LOS F (AM/PM peak hours)**
- **Intersection #25. Mast Boulevard / Cuyamaca Street – LOS E/F (AM/PM peak hours)**
- **Intersection #37. Riverford Road / SR-67 SB Ramps – LOS F (AM/PM peak hours)**
- **Intersection #39. Riverford Road / Woodside Avenue – LOS F (AM peak hour)**
- **Intersection #40. Mission Gorge Road / West Hills Parkway – LOS F (AM peak hour)**
- **Intersection #45. Mission Gorge Road / Carlton Hills Boulevard – LOS F/E (AM/PM peak hours)**
- Intersection #46. Mission Gorge Road / Town Center Parkway – LOS E (PM peak hour)
- **Intersection #47. Mission Gorge Road / Cuyamaca Street – LOS F (PM peak hour)**
- Intersection #49. Mission Gorge Road / Cottonwood Avenue – LOS F (AM/PM peak hours)
- Intersection #50. Mission Gorge Road / Magnolia Avenue – LOS E (AM/PM peak hours)
- Intersection #51. Woodside Avenue N / SR-67 SB Off-Ramp – LOS E (AM peak hour)
- Intersection #53. Fanita Drive / SR-52 WB Off-Ramp – LOS F (AM peak hour)
- **Intersection #55. Buena Vista Avenue / Cuyamaca Street – LOS F (PM peak hour)**
- Intersection #60. Prospect Avenue / Fanita Drive – LOS E (AM peak hour)

Based on the established significance criteria, **seventeen (17) significant cumulative impacts** were calculated with the addition of Project traffic at the study area locations above since the Project-induced change in delay is greater than 2.0 seconds for LOS E or F operating intersections.

***Appendix K-1*** contains the Year 2035 With Project peak hour intersection calculation worksheets.

### 12.2.2 *Daily Segment Operations*

*Table 12–2* summarizes the Year 2035 With Project street segment operations. As seen in *Table 12–2*, the following study area street segments are calculated to operate at LOS E or F conditions with the addition of Project traffic:

- **Segment #4. El Nopal from Magnolia Avenue to Los Ranchitos Road – LOS E**
- **Segment #5. El Nopal from Los Ranchitos Road to Riverford Road – LOS E**
- **Segment #16. Carlton Oaks Drive from Fanita Parkway to Carlton Hills Boulevard – LOS E**
- **Segment #30. Fanita Parkway from Ganley Drive / Santee Lakes Boulevard to Lake Canyon Road – LOS F**
- **Segment #31. Fanita Parkway from Lake Canyon Road to Mast Boulevard – LOS F**
- Segment #41. Cuyamaca Street from Project Site to Magnolia Avenue – LOS E
- **Segment #45. Cuyamaca Street from Woodglen Vista Drive to El Nopal – LOS E**
- **Segment #46. Cuyamaca Street from El Nopal to Mast Boulevard – LOS F**
- **Segment #50. Cuyamaca Street from Mission Gorge Road to SR-52 Ramps – LOS F**
- Segment #62. Woodside Avenue east of Magnolia Avenue – LOS E
- Segment #63. N. Woodside Avenue from Riverford Road to Woodside Avenue – LOS F
- **Segment #64. Riverford Road from Riverside Drive to SR-67 Ramps – LOS F**

Based on the established significance criteria, **nine (9) significant cumulative impacts** were calculated with the addition of Project traffic at study area locations above since the Project-induced change in V/C is greater than 0.02 for these LOS E or F operating street segments. Segment #41 is not deemed to be a significant impact as the intersection operations at both ends of this segment are calculated to operate at LOS C or better. See *Section 16.1.4* for a more detailed discussion and analyses of Cuyamaca Street.

### 12.2.3 *Peak Hour Freeway Mainline Operations*

*Table 12–3* summarizes the Year 2035 With Project freeway mainline segment operations. As seen in *Table 12–3*, the following study area freeway mainline segments are calculated to operate at LOS E or F conditions with the addition of Project:

- **Mainline #1. SR-52 from Santo Road to Mast Boulevard**
  - **Eastbound: LOS F – PM peak hour**
  - **Westbound: LOS F – AM peak hour**

- Mainline #2. SR-52 from Mast Boulevard to SR-125
    - Eastbound: LOS F – PM peak hour
    - Westbound: LOS F – AM peak hour
- Mainline #3. SR-125 to Cuyamaca Street
    - Eastbound: LOS E – PM peak hour
- Mainline #5. SR-67 from Riverford Road to SR-52
    - Northbound: LOS F – PM peak hour
    - Southbound: LOS E – AM peak hour
- Mainline #6. SR-67 from SR-52 to Bradley Avenue
    - Northbound: LOS E – PM peak hour
    - Southbound: LOS F – AM peak hour

***Appendix K-2*** contains the Year 2035 With Project peak hour HCS freeway sheets.

Based on the established significance criteria, **two (2) significant cumulative impacts** were calculated with the addition of Project traffic at study area freeway mainline segments since the Project-induced change in V/C is greater than 0.01 for LOS F operating freeway segments.

TABLE 12–1
YEAR 2035 INTERSECTION OPERATIONS

| Intersection | Jur. | Control Type | Peak Hour | Year 2035 Baseline | | Year 2035 + Project | | Δ [c] Delay | Sig? |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Delay [a] | LOS [b] | Delay | LOS | | |
| 1. Princess Joann Rd / Cuyamaca St | Santee | MSSC | AM | 17.8 | C | **49.0** | **E** | **31.2** | **Yes** |
| | | | PM | 15.8 | C | 24.4 | C | 8.6 | |
| 2. Princess Joann Rd / Magnolia Ave | Santee | AWSC[d] | AM | 9.4 | A | 13.5 | B | 4.1 | No |
| | | | PM | 9.6 | A | 12.7 | B | 3.1 | |
| 3. Ganley Rd / Fanita Pkwy | Santee | MSSC[e] | AM | 17.9 | C | **>100.0** | **F** | **>2.0** | **Yes** |
| | | | PM | 18.7 | C | **93.9** | **F** | **75.2** | |
| 4. Woodglen Vista Dr / Cuyamaca St | Santee | AWSC | AM | 26.6 | D | **>100.0** | **F** | **>2.0** | **Yes** |
| | | | PM | 98.7 | F | **>100.0** | **F** | **>2.0** | |
| 5. Woodglen Vista Dr / Magnolia Ave | Santee | Signal | AM | 13.2 | B | 14.1 | B | 0.9 | No |
| | | | PM | 10.1 | B | 10.2 | B | 0.1 | |
| 6. El Nopal / Cuyamaca St | Santee | AWSC | AM | >100.0 | F | **>100.0** | **F** | **>2.0** | **Yes** |
| | | | PM | >100.0 | F | **>100.0** | **F** | **>2.0** | |
| 7. El Nopal / Magnolia Ave | Santee | Signal | AM | 27.0 | C | 30.8 | C | 3.8 | No |
| | | | PM | 22.6 | C | 26.5 | C | 3.9 | |
| 8. El Nopal / Los Ranchitos Rd | County | AWSC | AM | 19.9 | C | 28.4 | D | 8.5 | **Yes** |
| | | | PM | 29.3 | D | **45.5** | **E** | **16.2** | |
| 9. Lake Canyon Rd / Fanita Pkwy | Santee | AWSC | AM | 15.8 | C | **>100.0** | **F** | **>2.0** | **Yes** |
| | | | PM | 35.0 | D | **>100.0** | **F** | **>2.0** | |
| 10. Lake Canyon Rd / Carlton Hills Blvd | Santee | AWSC | AM | 11.1 | B | 11.9 | B | 0.8 | No |
| | | | PM | 10.0 | A | 10.4 | B | 0.4 | |
| 11. Lake Canyon Rd / Halberns Blvd | Santee | MSSC | AM | 8.8 | A | 8.8 | A | 0.0 | No |
| | | | PM | 8.8 | A | 8.8 | A | 0.0 | |
| 12. Beck Dr / Cuyamaca St | Santee | AWSC | AM | >100.0 | F | **>100.0** | **F** | **>2.0** | **Yes** |
| | | | PM | >100.0 | F | **>100.0** | **F** | **>2.0** | |
| 13. 2nd Street / Magnolia Ave | Santee | Signal | AM | 8.3 | A | 8.3 | A | 0.0 | No |
| | | | PM | 6.9 | A | 7.2 | A | 0.3 | |
| 14. Carefree Dr / Magnolia Ave | Santee | Signal | AM | 19.9 | B | 22.0 | C | 2.1 | No |
| | | | PM | 10.4 | B | 10.7 | B | 0.3 | |
| 15. Riverford Rd / Riverside Dr | County | Signal | AM | 44.3 | D | 54.8 | D | 10.5 | No |
| | | | PM | 42.7 | D | 49.0 | D | 6.3 | |
| 16. Mast Blvd / SR-52 EB Ramps | San Diego/ Caltrans | Signal | AM | 12.4 | B | 12.7 | B | 0.3 | No |
| | | | PM | 33.6 | C | 52.1 | D | 18.5 | |

*(Continued on Next Page)*

TABLE 12–1
YEAR 2035 INTERSECTION OPERATIONS

| Intersection | Jur. | Control Type | Peak Hour | Year 2035 Baseline | | Year 2035 + Project | | Δ [c] Delay | Sig? |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Delay [a] | LOS [b] | Delay | LOS | | |
| *(Continued from Previous Page)* | | | | | | | | | |
| 17. Mast Blvd / SR-52 WB Ramps [g] | San Diego/ Caltrans | Signal | AM | >100.0 | F | **>100.0** | **F** | **>2.0** | **Yes** |
| | | | PM | 18.1 | B | 20.6 | C | 2.5 | |
| 18. Mast Blvd / West Hills Pkwy [g] | San Diego | Signal | AM | >100.0 | F | **>100.0** | **F** | **>2.0** | **Yes** |
| | | | PM | 68.3 | E | **94.3** | **F** | **26.0** | |
| 19. Mast Blvd / West Hills H.S. | Santee | Signal | AM | 4.7 | A | 5.6 | A | 0.9 | No |
| | | | PM | 10.3 | B | 12.4 | B | 2.1 | |
| 20. Mast Blvd / Medina Dr | Santee | Signal | AM | 3.8 | A | 3.9 | A | 0.1 | No |
| | | | PM | 3.9 | A | 4.0 | A | 0.1 | |
| 21. Mast Blvd / Pebble Beach Dr | Santee | Signal | AM | 11.1 | B | 12.5 | B | 1.4 | No |
| | | | PM | 4.5 | A | 4.6 | A | 0.1 | |
| 22. Mast Blvd / Fanita Pkwy | Santee | Signal | AM | 73.7 | E | **>100.0** | **F** | **>2.0** | **Yes** |
| | | | PM | 56.9 | E | **>100.0** | **F** | **>2.0** | |
| 23. Mast Blvd / Carlton Hills Blvd | Santee | Signal | AM | 48.3 | D | 54.0 | D | 5.7 | No |
| | | | PM | 49.6 | D | 49.7 | D | 0.1 | |
| 24. Mast Blvd / Halberns Blvd | Santee | Signal | AM | 19.1 | B | 19.2 | B | 0.1 | No |
| | | | PM | 32.1 | C | 32.7 | C | 0.6 | |
| 25. Mast Blvd / Cuyamaca St | Santee | Signal | AM | 55.2 | E | **78.0** | **E** | **22.8** | **Yes** |
| | | | PM | >100.0 | F | **>100.0** | **F** | **>2.0** | |
| 26. Mast Blvd / Park Center Dr | Santee | Signal | AM | 7.8 | A | 7.8 | A | 0.0 | No |
| | | | PM | 10.2 | B | 10.2 | B | 0.0 | |
| 27. Mast Blvd / Magnolia Ave | Santee | Signal | AM | 53.3 | D | 54.2 | D | 0.9 | No |
| | | | PM | 41.3 | D | 42.6 | D | 1.3 | |
| 28. Carlton Oaks Dr / West Hills Pkwy | San Diego | Signal | AM | 20.1 | C | 20.9 | C | 0.8 | No |
| | | | PM | 13.1 | B | 14.0 | B | 0.9 | |
| 29. Carlton Oaks Dr / Pebble Beach Dr | Santee | Signal | AM | 10.8 | B | 11.2 | B | 0.4 | No |
| | | | PM | 5.2 | A | 5.2 | A | 0.0 | |
| 30. Carlton Oaks Dr / Fanita Pkwy | Santee | Signal | AM | 16.6 | B | 21.6 | C | 5.0 | No |
| | | | PM | 10.4 | B | 11.3 | B | 0.9 | |
| 31. Carlton Oaks Dr / Carlton Hills Blvd | Santee | Signal | AM | 45.1 | D | 54.2 | D | 9.1 | No |
| | | | PM | 35.3 | C | 39.5 | D | 4.2 | |
| 32. Riverwalk Dr / Cuyamaca St | Santee | Signal | AM | 20.1 | C | 32.2 | C | 12.1 | No |
| | | | PM | 21.0 | C | 26.3 | C | 5.3 | |
| *(Continued on Next Page)* | | | | | | | | | |

TABLE 12–1
YEAR 2035 INTERSECTION OPERATIONS

| Intersection | Jur. | Control Type | Peak Hour | Year 2035 Baseline | | Year 2035 + Project | | Δ [c] Delay | Sig? |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Delay [a] | LOS [b] | Delay | LOS | | |
| *(Continued from Previous Page)* | | | | | | | | | |
| 33. Riverpark Dr / Cuyamaca St | Santee | Signal | AM | 18.4 | B | 19.8 | B | 1.4 | No |
| | | | PM | 23.7 | C | 26.1 | C | 2.4 | |
| 34. Town Center Pkwy / Cuyamaca St | Santee | Signal | AM | 18.9 | B | 19.3 | B | 0.4 | No |
| | | | PM | 50.0 | D | 52.9 | D | 2.9 | |
| 35. Town Center Pkwy / Riverview Pkwy | Santee | Signal | AM | 8.4 | A | 8.5 | A | 0.1 | No |
| | | | PM | 11.9 | B | 12.2 | B | 0.3 | |
| 36. Riverview Pkwy / Magnolia Ave | Santee | Signal | AM | 25.7 | C | 31.1 | C | 5.4 | No |
| | | | PM | 27.6 | C | 30.5 | C | 2.9 | |
| 37. Riverford Rd / SR-67 SB Ramps | County/ Caltrans | MSSC | AM | >100.0 | F | **>100.0** | **F** | **15** | **Yes** |
| | | | PM | >100.0 | F | **>100.0** | **F** | **18** | |
| 38. Woodside Ave / SR-67 NB Off-Ramp | County/ Caltrans | Signal | AM | 46.9 | D | 49.8 | D | 2.9 | No |
| | | | PM | 51.8 | D | 54.6 | D | 2.8 | |
| 39. Riverford Rd / Woodside Ave | County | Signal | AM | 96.9 | F | **>100.0** | **F** | **7.4** | **Yes** |
| | | | PM | 47.7 | D | 50.6 | D | 2.9 | |
| 40. Mission Gorge Rd / West Hills Pkwy | Santee | Signal | AM | >100.0 | F | **>100.0** | **F** | **>2.0** | **Yes** |
| | | | PM | 19.8 | B | 20.3 | C | 0.5 | |
| 41. Mission Gorge Rd / SR-52 EB Ramps | Santee/ Caltrans | Signal | AM | 4.4 | A | 4.6 | A | 0.2 | No |
| | | | PM | 11.7 | B | 11.9 | B | 0.2 | |
| 42. Mission Gorge Rd / SR-52 WB Ramps | Santee/ Caltrans | Signal | AM | 3.0 | A | 3.0 | A | 0.0 | No |
| | | | PM | 1.8 | A | 1.8 | A | 0.0 | |
| 43. Mission Gorge Rd / SR-125 | Santee/ Caltrans | Signal | AM | 32.1 | C | 44.9 | D | 12.8 | No |
| | | | PM | 40.1 | C | 49.2 | C | 9.1 | |
| 44. Mission Gorge Rd / Fanita Dr | Santee | Signal | AM | 43.7 | D | 45.5 | D | 1.8 | No |
| | | | PM | 41.7 | D | 52.2 | D | 10.5 | |
| 45. Mission Gorge Rd / Carlton Hills Blvd | Santee | Signal | AM | 83.1 | F | **>100.0** | **F** | **>2.0** | **Yes** |
| | | | PM | 56.3 | E | **66.8** | **E** | **10.5** | |
| 46. Mission Gorge Rd / Town Center Pkwy | Santee | Signal | AM | 30.0 | C | 30.1 | C | 0.1 | No |
| | | | PM | 65.1 | E | 65.2 | E | 0.1 | |
| 47. Mission Gorge Rd / Cuyamaca St | Santee | Signal | AM | 45.6 | D | 47.7 | D | 2.1 | **Yes** |
| | | | PM | 79.0 | E | **88.5** | **F** | **9.5** | |
| 48. Mission Gorge Rd / Riverview Pkwy | Santee | Signal | AM | 41.9 | D | 44.1 | D | 2.2 | No |
| | | | PM | 43.3 | D | 44.1 | D | 0.8 | |
| *(Continued on Next Page)* | | | | | | | | | |

TABLE 12–1
YEAR 2035 INTERSECTION OPERATIONS

| Intersection | Jur. | Control Type | Peak Hour | Year 2035 Baseline | | Year 2035 + Project | | Δ [c] Delay | Sig? |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Delay [a] | LOS [b] | Delay | LOS | | |
| *(Continued from Previous Page)* | | | | | | | | | |
| 49. Mission Gorge Rd / Cottonwood Ave | Santee | Signal | AM | 90.2 | F | 90.3 | F | 0.1 | No |
| | | | PM | 186.5 | F | 186.6 | F | 0.1 | |
| 50. Mission Gorge Rd / Magnolia Ave | Santee | Signal | AM | 58.5 | E | 60.0 | E | 1.5 | No |
| | | | PM | 66.3 | E | 68.2 | E | 1.9 | |
| 51. Woodside Ave / SR-67 SB Off-Ramp | Santee/ Caltrans | AWSC | AM | 39.6 | E | 39.9 | E | 0.3 | No |
| | | | PM | 19.4 | C | 19.6 | C | 0.2 | |
| 52. Woodside Ave / SR-67 NB On-Ramp | Santee/ Caltrans | Signal | AM | 10.6 | B | 10.7 | B | 0.1 | No |
| | | | PM | 10.1 | B | 10.1 | B | 0.0 | |
| 53. Fanita Dr / SR-52 WB Off-Ramp | Santee/ Caltrans | MSSC | AM | 55.3 | F | 57.2 | F | 1.9 | No |
| | | | PM | 19.7 | C | 19.9 | C | 0.2 | |
| 54. Fanita Dr / SR-52 EB On-Ramp | Santee/ Caltrans | Uncontrolled[f] | AM | 21.9 | C | 23.5 | C | 1.6 | No |
| | | | PM | 10.7 | B | 10.9 | B | 0.2 | |
| 55. Buena Vista Ave / Cuyamaca St | Santee | Signal | AM | 38.0 | D | 41.5 | D | 3.5 | **Yes** |
| | | | PM | >100.0 | F | **>100.0** | **F** | **>2.0** | |
| 56. Cuyamaca St / SR-52 WB Ramps | Santee/ Caltrans | Signal | AM | 3.0 | A | 3.1 | A | 0.1 | No |
| | | | PM | 4.3 | A | 4.4 | A | 0.1 | |
| 57. Cuyamaca St / SR-52 EB Ramps | Santee/ Caltrans | Signal | AM | 36.0 | D | 36.3 | D | 0.3 | No |
| | | | PM | 50.2 | D | 53.0 | D | 2.8 | |
| 58. Magnolia Ave / SR-52 WB Ramps /SR-67 SB | Santee/ Caltrans | Signal | AM | 7.4 | A | 9.9 | A | 2.5 | No |
| | | | PM | 5.8 | A | 5.8 | A | 0.0 | |
| 59. Magnolia Ave / SR-52 EB Ramps | Santee/ Caltrans | Signal | AM | 12.2 | B | 12.4 | B | 0.2 | No |
| | | | PM | 46.2 | D | 50.5 | D | 4.3 | |
| 60. Prospect Ave / Fanita Dr | Santee | Signal | AM | 64.5 | E | 64.8 | E | 0.3 | No |
| | | | PM | 23.0 | C | 23.3 | C | 0.3 | |
| 61. Prospect Ave / Cuyamaca St | Santee | Signal | AM | 35.5 | D | 35.6 | D | 0.1 | No |
| | | | PM | 38.8 | D | 38.9 | D | 0.1 | |
| 62. Prospect Ave / Cottonwood Ave | Santee | Signal | AM | 10.6 | B | 10.6 | B | 0.0 | No |
| | | | PM | 7.9 | A | 7.9 | A | 0.0 | |
| 63. Prospect Ave / Magnolia Ave | Santee | Signal | AM | 33.6 | C | 34.3 | C | 0.7 | No |
| | | | PM | 39.9 | D | 40.5 | D | 0.6 | |
| 64. Prospect Ave / SR-67 NB Off-Ramp | Santee/ Caltrans | Signal | AM | 10.1 | A | 10.3 | B | 0.2 | No |
| | | | PM | 9.8 | A | 10.0 | A | 0.2 | |
| *(Continued on Next Page)* | | | | | | | | | |

## TABLE 12–1
## YEAR 2035 INTERSECTION OPERATIONS

| Intersection | Jur. | Control Type | Peak Hour | Year 2035 Baseline | | Year 2035 + Project | | Δ [c] Delay | Sig? |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Delay [a] | LOS [b] | Delay | LOS | | |
| *(Continued from Previous Page)* | | | | | | | | | |
| 65. Prospect Ave / Graves Ave | Santee | Signal | AM | 25.2 | C | 25.2 | C | 0.0 | No |
| | | | PM | 53.5 | D | 53.5 | D | 0.0 | |
| 66. Mast Boulevard / Weston Road | Santee | Signal | AM | 29.1 | C | 49.3 | D | 20.2 | No |
| | | | PM | 10.5 | B | 10.6 | B | 0.1 | |

***Footnotes:***

a. Average delay expressed in seconds per vehicle.
b. Level of Service
c. Δ denotes the increase in delay due to Project.
d. All-Way Stop Controlled intersection. Average intersection delay reported.
e. Minor Street Stop Controlled intersection. Minor street left turn delay reported.
f. No traffic control devices are installed at this location. Therefore, the southbound left-turn movement is reported.
g. The HCM methodology does not accurately reflect operations at this intersection during the AM peak hour. Latent demand east of the intersection, as well as upstream congestion from SR-52 WB exceed the limits of the analysis software/methodology. The LOS F result is based on the bottleneck effect of the lane-drop on the WB on-ramp observed in the field.

| SIGNALIZED | | UNSIGNALIZED | |
|---|---|---|---|
| DELAY/LOS THRESHOLDS | | DELAY/LOS THRESHOLDS | |
| Delay | LOS | Delay | LOS |
| 0.0 ≤ 10.0 | A | 0.0 ≤ 10.0 | A |
| 10.1 to 20.0 | B | 10.1 to 15.0 | B |
| 20.1 to 35.0 | C | 15.1 to 25.0 | C |
| 35.1 to 55.0 | D | 25.1 to 35.0 | D |
| 55.1 to 80.0 | E | 35.1 to 50.0 | E |
| ≥ 80.1 | F | ≥ 50.1 | F |

***General Notes:***

1. Sig = Significant impact, yes or no.
2. Jur. = Jurisdiction

TABLE 12–2
YEAR 2035 STREET SEGMENT OPERATIONS

| Street Segment | Jur. | Existing Capacity (LOS E) [a] | ME Capacity (LOS E) [a] | Year 2035 Baseline | | | Year 2035 + Project | | | Δ [e] V/C | Project Volumes | Sig? |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | ADT [b] | LOS [c] | V/C [d] | ADT | LOS | V/C | | | |
| **Princess Joann Road** | | | | | | | | | | | | |
| 1. Cuyamaca St to Magnolia Ave | Santee | 8,000 | 8,000 | 4,200 | C | 0.525 | 4,200 | C | 0.525 | 0.000 | 0 | No |
| **Woodglen Vista Drive** | | | | | | | | | | | | |
| 2. Cuyamaca St to Magnolia Ave | Santee | 8,000 | 8,000 | 4,000 | C | 0.500 | 4,000 | C | 0.500 | 0.000 | 0 | No |
| **El Nopal** | | | | | | | | | | | | |
| 3. Cuyamaca St to Magnolia Ave | Santee | 8,000 | 8,000 | 4,300 | C | 0.538 | 4,300 | C | 0.538 | 0.000 | 0 | No |
| 4. Magnolia Ave to Los Ranchitos Rd | Santee | 15,000 | 15,000 | 12,800 | D | 0.853 | **14,960** | **E** | **0.997** | **0.144** | **2,160** | **Yes** |
| 5. Los Ranchitos Rd to Riverford Rd | County | 16,200 | 16,200 | 13,700 | E | — | **15,860** | **E** | — | — | **2,160** | **Yes** |
| **Mast Boulevard** | | | | | | | | | | | | |
| 6. SR-52 to West Hills Pkwy | San Diego | 40,000 | 40,000 | 30,500 | D | 0.763 | 33,930 | D | 0.848 | 0.085 | 3,430 | No |
| 7. West Hills Pkwy to Medina Dr | Santee | 40,000 | 40,000 | 29,000 | C | 0.725 | 34,540 | D | 0.864 | 0.139 | 5,540 | No |
| 8. Pebble Beach Dr to Fanita Pkwy | Santee | 40,000 | 40,000 | 29,000 | C | 0.725 | 34,380 | D | 0.860 | 0.135 | 5,380 | No |
| 9. Fanita Pkwy to Carlton Hills Blvd | Santee | 40,000 | 40,000 | 21,500 | C | 0.538 | 22,870 | C | 0.572 | 0.034 | 1,370 | No |
| 10. Carlton Hills Blvd to Halberns Blvd | Santee | 40,000 | 40,000 | 28,700 | C | 0.718 | 30,330 | D | 0.758 | 0.040 | 1,630 | No |
| 11. Halberns Blvd to Cuyamaca St | Santee | 40,000 | 40,000 | 28,700 | C | 0.718 | 30,330 | D | 0.758 | 0.040 | 1,630 | No |
| 12. Cuyamaca St to Magnolia Ave | Santee | 40,000 | 40,000 | 22,300 | C | 0.558 | 22,400 | C | 0.560 | 0.002 | 100 | No |
| 13. Magnolia Ave to Los Ranchitos Rd | Santee | 15,000 | 15,000 | 6,300 | B | 0.420 | 6,300 | B | 0.420 | 0.000 | 0 | No |
| 14. West of Riverford Rd | County | 19,000 | 37,000 | 7,000 | B | — | 7,000 | B | — | — | 0 | No |
| **Carlton Oaks Drive** | | | | | | | | | | | | |
| 15. West Hills Pkwy to Pebble Beach Dr | Santee | 15,000 | 15,000 | 8,800 | C | 0.587 | 9,330 | C | 0.622 | 0.035 | 530 | No |
| 16. Fanita Pkwy to Carlton Hills Blvd | Santee | 15,000 | 15,000 | 13,200 | E | 0.880 | **14,050** | **E** | **0.937** | **0.057** | **850** | **Yes** |

*(Continued on Next Page)*

TABLE 12–2
YEAR 2035 STREET SEGMENT OPERATIONS

| Street Segment | Jur. | Existing Capacity (LOS E) [a] | ME Capacity (LOS E) [a] | Year 2035 Baseline | | | Year 2035 + Project | | | Δ [e] V/C | Project Volumes | Sig? |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | ADT [b] | LOS [c] | V/C [d] | ADT | LOS | V/C | | | |
| *(Continued from Previous Page)* | | | | | | | | | | | | |
| **Mission Gorge Road** | | | | | | | | | | | | |
| 17. Western City Limits to West Hills Pkwy | Santee | 40,000 | 40,000 | 21,200 | C | 0.530 | 23,050 | C | 0.576 | 0.046 | 1,850 | No |
| 18. West Hills Pkwy to SR-125 | Santee | 40,000 | 40,000 | 19,700 | B | 0.493 | 19,700 | B | 0.493 | 0.000 | 0 | No |
| 19. SR-125 to Fanita Dr | Santee | 60,000 | 60,000 | 49,200 | C | 0.820 | 52,630 | D | 0.877 | 0.057 | 3,430 | No |
| 20. Fanita Dr to Carlton Hills Blvd | Santee | 60,000 | 60,000 | 48,700 | C | 0.812 | 52,440 | D | 0.874 | 0.062 | 3,740 | No |
| 21. Carlton Hills Blvd to Town Center Pkwy | Santee | 60,000 | 60,000 | 44,400 | C | 0.740 | 46,920 | C | 0.782 | 0.042 | 2,520 | No |
| 22. Town Center Pkwy to Cuyamaca St | Santee | 60,000 | 60,000 | 37,700 | C | 0.628 | 39,700 | C | 0.662 | 0.034 | 2,000 | No |
| 23. Cuyamaca St to Riverview Pkwy | Santee | 60,000 | 60,000 | 28,200 | B | 0.470 | 29,510 | B | 0.492 | 0.022 | 1,310 | No |
| 24. Riverview Pkwy to Cottonwood Ave | Santee | 60,000 | 40,000 | 28,400 | B | 0.473 | 29,710 | B | 0.495 | 0.022 | 1,310 | No |
| 25. Cottonwood Ave to Magnolia Ave | Santee | 60,000 | 40,000 | 26,400 | B | 0.440 | 27,710 | B | 0.462 | 0.022 | 1,310 | No |
| **Prospect Avenue** | | | | | | | | | | | | |
| 26. Fanita Dr to Cuyamaca St | Santee | 15,000 | 15,000 | 7,600 | C | 0.507 | 7,600 | C | 0.507 | 0.000 | 0 | No |
| 27. Cuyamaca St to Cottonwood Ave | Santee | 15,000 | 15,000 | 8,700 | C | 0.580 | 8,700 | C | 0.580 | 0.000 | 0 | No |
| **West Hills Parkway** | | | | | | | | | | | | |
| 28. Mast Blvd to Mission Gorge Rd | Santee | 40,000 | 40,000 | 16,100 | B | 0.403 | 17,420 | B | 0.436 | 0.033 | 1,320 | No |
| **Fanita Parkway** | | | | | | | | | | | | |
| 29. Project Site to Ganley Dr [f] | Santee | DNE | 10,000/ 15,000 | 7,380 | C | 0.738 | 12,350 | D | 0.823 | 0.085 | 5,290 | No |
| 30. Ganley Dr to Lake Canyon Rd | Santee | 10,000 | 10,000 | 9,920 | E | 0.992 | **15,130** | **F** | **1.513** | **0.497** | **5,290** | **Yes** |
| 31. Lake Canyon Rd to Mast Blvd | Santee | 10,000 | 15,000 | 10,910 | F | 1.091 | **15,460** | **F** | **1.546** | **0.455** | **4,860** | **Yes** |
| 32. Mast Blvd to Carlton Oaks Dr | Santee | 10,000 | 10,000 | 6,000 | C | 0.600 | 7,380 | C | 0.738 | 0.138 | 1,380 | No |
| *(Continued on Next Page)* | | | | | | | | | | | | |

TABLE 12–2
YEAR 2035 STREET SEGMENT OPERATIONS

| Street Segment | Jur. | Existing Capacity (LOS E) [a] | ME Capacity (LOS E) [a] | Year 2035 Baseline | | | Year 2035 + Project | | | Δ [e] V/C | Project Volumes | Sig? |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | ADT [b] | LOS [c] | V/C [d] | ADT | LOS | V/C | | | |
| *(Continued from Previous Page)* | | | | | | | | | | | | |
| **Fanita Drive** | | | | | | | | | | | | |
| 33. Mission Gorge to SR-52 Ramps | Santee | 40,000 | 40,000 | 16,300 | B | 0.408 | 16,400 | B | 0.410 | 0.002 | 100 | No |
| 34. SR-52 Ramps to Prospect Ave | Santee | 40,000 | 40,000 | 16,300 | B | 0.408 | 16,400 | B | 0.410 | 0.002 | 100 | No |
| **Carlton Hills Boulevard** | | | | | | | | | | | | |
| 35. Lake Canyon Rd to Mast Blvd | Santee | 40,000 | 40,000 | 7,400 | A | 0.185 | 7,820 | A | 0.196 | 0.011 | 420 | No |
| 36. Mast Blvd to Carlton Oaks Dr | Santee | 40,000 | 40,000 | 13,100 | A | 0.328 | 13,740 | A | 0.344 | 0.016 | 640 | No |
| 37. Carlton Oaks Dr to Mission Gorge Rd | Santee | 40,000 | 40,000 | 32,800 | D | 0.820 | 33,820 | D | 0.846 | 0.026 | 1,020 | No |
| **Halberns Boulevard** | | | | | | | | | | | | |
| 38. Lake Canyon Rd to Mast Blvd | Santee | 15,000 | 15,000 | 3,500 | A | 0.233 | 3,500 | A | 0.233 | 0.000 | 0 | No |
| **Town Center Parkway** | | | | | | | | | | | | |
| 39. Mission Gorge Rd to Cuyamaca St | Santee | 40,000 | 40,000 | 16,500 | B | 0.413 | 16,600 | B | 0.415 | 0.002 | 100 | No |
| 40. Cuyamaca St to Riverview Pkwy | Santee | 10,000 | 10,000 | 7,200 | C | 0.720 | 7,300 | C | 0.730 | 0.010 | 100 | No |
| **Cuyamaca Street** | | | | | | | | | | | | |
| 41. Project Site to Magnolia Ave [g] | Santee | DNE/ 15,000 | 15,000 | 8,630 | C | 0.575 | 13,920 | E | 0.928 | 0.353 | 5,290 | No [g] |
| 42. Magnolia Ave to Princess Joann Rd [g] | Santee | DNE/ 15,000 | 40,000 | 6,800 | B | 0.453 | 8,930 | C | 0.595 | 0.142 | 2,130 | No |
| 43. Princess Joann Rd to Chaparral Dr [g] | Santee | DNE/ 15,000 | 40,000 | 9,400 | C | 0.627 | 11,530 | D | 0.769 | 0.142 | 2,130 | No |
| 44. Chaparral Dr to Woodglen Vista Dr [g] | Santee | 15,000 | 40,000 | 9,400 | C | 0.627 | 11,530 | D | 0.769 | 0.142 | 2,130 | No |
| 45. Woodglen Vista Dr to El Nopal | Santee | 15,000 | 40,000 | 12,600 | D | 0.840 | **14,730** | **E** | **0.982** | **0.142** | **2,130** | **Yes** |
| 46. El Nopal to Mast Blvd | Santee | 15,000 | 40,000 | 16,500 | F | 1.100 | **18,630** | **F** | **1.242** | **0.142** | **2,130** | **Yes** |
| 47. Mast Blvd to River Park Dr | Santee | 40,000 | 40,000 | 26,600 | C | 0.665 | 27,510 | C | 0.688 | 0.023 | 910 | No |
| 48. River Park Dr to Town Center Pkwy | Santee | 40,000 | 40,000 | 31,700 | D | 0.793 | 32,670 | D | 0.817 | 0.024 | 970 | No |
| 49. Town Center Pkwy to Mission Gorge Rd | Santee | 50,000 | 60,000 | 30,100 | C | 0.602 | 31,640 | C | 0.633 | 0.031 | 1,540 | No |
| *(Continued on Next Page)* | | | | | | | | | | | | |

TABLE 12–2
YEAR 2035 STREET SEGMENT OPERATIONS

| Street Segment | Jur. | Existing Capacity (LOS E) [a] | ME Capacity (LOS E) [a] | Year 2035 Baseline | | | Year 2035 + Project | | | Δ [e] V/C | Project Volumes | Sig? |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | ADT [b] | LOS [c] | V/C [d] | ADT | LOS | V/C | | | |
| *(Continued from Previous Page)* | | | | | | | | | | | | |
| **Cuyamaca Street (cont.)** | | | | | | | | | | | | |
| 50. Mission Gorge Rd to SR-52 Ramps | Santee | 50,000 | 60,000 | 49,600 | E | 0.992 | **50,660** | **F** | **1.013** | **0.021** | **1,060** | **Yes** |
| 51. SR-52 Ramps to south of Prospect Ave | Santee | 50,000 | 60,000 | 30,600 | C | 0.612 | 31,020 | C | 0.620 | 0.008 | 420 | No |
| **Riverview Parkway** | | | | | | | | | | | | |
| 52. Mission Gorge Rd to Town Center Pkwy | Santee | 40,000 | 40,000 | 11,600 | A | 0.290 | 11,860 | A | 0.297 | 0.007 | 260 | No |
| 53. Town Center Pkwy to Magnolia Ave | Santee | DNE | 15,000 | 10,700 | D | 0.713 | 10,700 | D | 0.713 | 0.00 | 0 | No |
| **Magnolia Avenue** | | | | | | | | | | | | |
| 54. Cuyamaca St to Princess Joann Rd [h] | Santee | DNE/ 10,000 | 40,000 | 4,300 | B | 0.430 | 7,470 | C | 0.747 | 0.317 | 3,170 | No |
| 55. Princess Joann Rd to Woodglen Vista Dr | Santee | 40,000 | 40,000 | 9,500 | A | 0.238 | 12,670 | A | 0.317 | 0.079 | 3,170 | No |
| 56. Woodglen Vista Dr to El Nopal | Santee | 40,000 | 40,000 | 13,600 | A | 0.340 | 16,770 | B | 0.419 | 0.079 | 3,170 | No |
| 57. El Nopal to Mast Blvd | Santee | 40,000 | 40,000 | 27,300 | C | 0.683 | 28,310 | C | 0.708 | 0.025 | 1,010 | No |
| 58. Mast Blvd to Riverview Pkwy | Santee | 40,000 | 40,000 | 26,200 | C | 0.655 | 27,940 | C | 0.699 | 0.044 | 1,740 | No |
| 59. Riverview Pkwy to Mission Gorge Rd | Santee | 40,000 | 40,000 | 30,400 | D | 0.760 | 32,450 | D | 0.811 | 0.051 | 2,050 | No |
| 60. Mission Gorge Rd to SR-52 Ramps | Santee | 60,000 | 60,000 | 36,300 | C | 0.605 | 36,940 | C | 0.616 | 0.011 | 640 | No |
| 61. SR-52 Ramps to south of Prospect Ave | Santee | 40,000 | 40,000 | 33,900 | D | 0.848 | 34,120 | D | 0.853 | 0.005 | 220 | No |
| **Woodside Avenue** | | | | | | | | | | | | |
| 62. East of Magnolia Avenue | Santee | 40,000 | 40,000 | 36,500 | E | 0.913 | 36,600 | E | 0.915 | 0.002 | 100 | No |
| **N. Woodside Avenue** | | | | | | | | | | | | |
| 63. Riverford Road to Woodside Avenue | Santee | 10,000 | 15,000 | 13,000 | F | 1.300 | 13,000 | F | 1.300 | 0.000 | 0 | No |
| **Riverford Road** | | | | | | | | | | | | |
| 64. Riverside Drive to SR-67 Ramps | County | 23,500 | 57,000 | 24,900 | F | — | **25,430** | **F** | — | — | **530** | **Yes** |
| *(Continued on Next Page)* | | | | | | | | | | | | |

TABLE 12–2
YEAR 2035 STREET SEGMENT OPERATIONS

| Street Segment | Jur. | Existing Capacity (LOS E) [a] | ME Capacity (LOS E) [a] | Year 2035 Baseline | | | Year 2035 + Project | | | Δ [e] V/C | Project Volumes | Sig? |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | ADT [b] | LOS [c] | V/C [d] | ADT | LOS | V/C | | | |
| *(Continued from Previous Page)* | | | | | | | | | | | | |

***Footnotes:***

a. Capacities based on City of Santee, County of San Diego, and City of San Diego Roadway Classification & LOS tables (See *Appendix A*). Existing capacities used in the Year 2035 analysis.
b. Average Daily Traffic
c. Level of Service
d. Volume to Capacity ratio
e. Δ denotes a Project-induced increase in the Volume to Capacity ratio. For County of San Diego, an increase in Project trips is used to measure impacts.
f. The Mobility Element classifies this section of Fanita Parkway as a 10,000 ADT Two-Lane Undivided Parkway. The Project proposes to construct this roadway as a Two-Lane Divided Parkway enhancing the capacity to 15,000 ADT.
g. The 15,000 ADT capacity for the existing sections of Cuyamaca Street was continued along this future section providing access to the Project. The intersection operations at both ends of the Cuyamaca Street road segment between the Project Site and Magnolia Avenue report LOS D or better operations. Therefore, adequate operations are expected along this roadway. See *Section 16.1.4* for detailed analyses of Cuyamaca Street. In addition, the section of Cuyamaca Street between Chaparral Drive and Woodglen Vista Drive will be improved to a Four-Lane Major Arterial under Year 2035 conditions as a Project Design Feature to adequately transition to the four-lane section south of Woodglen Vista Drive required as Year 2035 Project mitigation.
h. The 10,000 ADT capacity for the connection of Magnolia Avenue was used along this future section providing access to the Project.

***General Notes:***

1. Sig = Significant impact, yes or no.
2. ME = Mobility Element
3. DNE = Does not exist
4. County of San Diego does not use V/C ratios as a measure of effectiveness.

TABLE 12–3
YEAR 2035 FREEWAY SEGMENT OPERATIONS

| Freeway Segment | Dir. | Lanes [a] | Year 2035 Baseline | | | | | | | | Year 2035 + Project | | | | | | | | Δ V/C [f] | | Sig? |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Volume [b] | | V/C [c] | | Density [d] | | LOS [e] | | Volume | | V/C | | Density | | LOS | | | | |
| | | | AM | PM | AM | PM | AM | PM | AM | PM | AM | PM | AM | PM | AM | PM | AM | PM | AM | PM | |
| **State Route 52** | | | | | | | | | | | | | | | | | | | | | |
| Santo Road to Mast Boulevard | EB | 3M | 2,039 | 7,410 | 0.317 | 1.215 | 10.4 | — | A | F | 2,164 | 7,587 | 0.336 | 1.245 | 11.0 | — | A | **F** | 0.020 | **0.029** | **Yes** |
| | WB | 3M | 8,012 | 3,233 | 1.314 | 0.503 | — | 16.5 | F | B | 8,240 | 3,333 | 1.351 | 0.518 | — | 17.1 | **F** | B | **0.037** | 0.015 | **Yes** |
| Mast Boulevard to SR-125 | EB | 2M | 2,012 | 6,351 | 0.458 | 1.444 | 15.5 | - | B | F | 2,029 | 6,375 | 0.461 | 1.449 | 15.6 | — | B | F | 0.003 | 0.005 | No |
| | WB | 2M | 5,590 | 3,424 | 1.271 | 0.778 | — | 28.7 | F | D | 5,621 | 3,438 | 1.278 | 0.782 | — | 28.9 | F | D | 0.007 | 0.003 | No |
| SR-125 to Cuyamaca Street | EB | 2M+1A | 2,563 | 6,365 | 0.388 | 0.965 | 13.2 | 41.6 | B | E | 2,580 | 6,389 | 0.391 | 0.968 | 13.3 | 41.9 | B | E | 0.003 | 0.004 | No |
| | WB | 2M+1A | 4,786 | 4,229 | 0.725 | 0.641 | 26.1 | 22.4 | D | C | 4,817 | 4,243 | 0.730 | 0.643 | 26.3 | 22.5 | D | C | 0.005 | 0.002 | No |
| Cuyamaca Street to SR-67 | EB | 2M+1A | 1,822 | 5,684 | 0.276 | 0.861 | 9.3 | 33.6 | A | D | 1,853 | 5,698 | 0.281 | 0.863 | 9.5 | 33.7 | A | D | 0.005 | 0.002 | No |
| | WB | 2M+1A | 4,557 | 3,500 | 0.690 | 0.530 | 24.3 | 18.0 | C | B | 4,574 | 3,524 | 0.693 | 0.534 | 24.5 | 18.1 | C | C | 0.003 | 0.004 | No |
| **State Route 67** | | | | | | | | | | | | | | | | | | | | | |
| Riverford Road to SR-52 | NB | 2M | 2,926 | 4,710 | 0.697 | 1.122 | 24.9 | — | C | F | 2,934 | 4,713 | 0.699 | 1.122 | 24.9 | — | C | F | 0.002 | 0.001 | No |
| | SB | 2M | 4,136 | 3,477 | 0.987 | 0.829 | 43.7 | 31.7 | E | D | 4,140 | 3,483 | 0.988 | 0.831 | 43.8 | 31.9 | E | D | 0.001 | 0.002 | No |
| SR-52 to Bradley Ave | NB | 2M+2A | 4,600 | 7,405 | 0.546 | 0.888 | 18.9 | 35.6 | C | E | 4,635 | 7,454 | 0.550 | 0.894 | 19.0 | 36.0 | C | E | 0.004 | 0.006 | No |
| | SB | 3M | 6,502 | 5,466 | 1.028 | 0.865 | — | 34.0 | F | D | 6,565 | 5,494 | 1.038 | 0.869 | — | 34.3 | F | D | 0.010 | 0.004 | No |

*(Continued on Next Page)*

## TABLE 12–3
## YEAR 2035 FREEWAY SEGMENT OPERATIONS

| Freeway Segment | Dir. | Lanes [a] | Year 2035 Baseline | | | | | | | | Year 2035 + Project | | | | | | | | Δ V/C [f] | | Sig? |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Volume [b] | | V/C [c] | | Density [d] | | LOS [e] | | Volume | | V/C | | Density | | LOS | | | | |
| | | | AM | PM | AM | PM | AM | PM | AM | PM | AM | PM | AM | PM | AM | PM | AM | PM | AM | PM | |
| *(Continued From Previous Page)* | | | | | | | | | | | | | | | | | | | | | |
| **State Route 125** | | | | | | | | | | | | | | | | | | | | | |
| Grossmont College Dr to SR-52 | NB | 3M+2A | 4,173 | 3,684 | 0.386 | 0.341 | 13.2 | 11.6 | B | B | 4,259 | 3,806 | 0.394 | 0.352 | 13.4 | 12.0 | B | B | 0.008 | 0.011 | No |
| | SB | 4M | 2,681 | 4,704 | 0.310 | 0.544 | 10.6 | 18.6 | A | C | 2,838 | 4,773 | 0.328 | 0.552 | 11.2 | 18.9 | B | C | 0.018 | 0.008 | No |

***Footnotes:***

a. Lane geometry taken from PeMS lane configurations at corresponding postmile.
b. Existing volume calculated from most recent Caltrans *Traffic Census Program* Peak Hour Volume Data (2016) and grown against Mobility Element forecast volumes to reach Year 2035 conditions.
c. V/C = (Peak Hour Volume/Hourly Capacity)
d. Density measures passenger cars per mile per lane. Density = Flow Rate (passenger-cars/hour/lane) ÷ Speed (average passenger-car speed in mph).
e. Level of Service
f. "Δ" denotes the Project-induced increase in V/C. Per City Guidelines, a significant impact occurs when the V/C is increased by greater than 0.01 for LOS E or LOS F.

| LOS | Density Range (pc/mi/ln) |
|---|---|
| A | 0 – 11 |
| B | > 11 – 18 |
| C | > 18 – 26 |
| D | > 26 – 35 |
| E | > 35 – 45 |
| F | > 45 |

***General Note:***

1. M = Mainline
2. A = Auxiliary
3. Sig? = Significant impact, yes or no.
4. "—" Shown in density column where density exceeds the maximum threshold for LOS F.

# 13.0 NO SCHOOL PROJECT SCENARIO

As previously mentioned, since the completion of the transportation analysis included in this report, the Project Description has slightly changed, resulting in a shift between residential densities, changes to park acreage, and a reduction in school students from 1,000 to 700 students. With these changes, the resulting trip generation decreases as compared to the numbers analyzed in this report. Therefore, the analysis presented herein provides a conservative assessment of the local transportation system.

The Project proposes to develop a K-8 school within the site. A secondary scenario has been analyzed to assess traffic conditions without the inclusion of a school as part of the Project. Without the school, an additional 59 single-family units, or approximately 2% of the total residential DU of the Proposed Project, were assumed. This 2% increase is based on the overall land use plan and maximum density requirements. (See the Fanita Ranch Specific Plan for additional details.) The total residential units, therefore, changed from 2,949 DU with the school to 3,008 DU without the school.

Overall, without the school and with the additional residential units attributed to the single-family density range, the primary trip generation is shown to decrease. The primary trip generation decreases without the school due to the classification of the school as a "charter school" land use which has a higher external trip generation. A charter school has the potential to attract students within a larger radius than a typical public school which tends to serve the immediate neighborhood. Thus, with the school included in the trip generation, a higher external trip generation was calculated. Without the charter school, the number of external trips is reduced even with an increase in the residential trips. The basic calculations are as follows:

> 1,000-Student Charter School x 1.85 trips/student = 1,850 GrossTrips (x 45% Primary Trips) = *1,110 Fewer Primary Trips Without the School*
>
> 59 Residential Units x 10 ADT/unit = *590 More Primary Trips Without the School*
>
> Net Change in Primary Trip Generation = *520 Fewer Primary Trips Without the School*

With an increased proportion of residential development and without a school on-site, the share of internal/mixed-use activity would be expected to decrease as compared to the proposed Project. The non-residential gross ADT decreases about 27.5% from 6,723 ADT under the proposed Project to 4,873 ADT under the "No School" scenario. Thus, the internal capture rate applied to the "No School" scenario was proportionally decreased from 8.5% to 6.2%. See *Section 7.1.4* for more details on the internal trip reductions. With this lowered internal/mixed-use capture rate, there is a reduction in the primary trip generation and the total external trip generation for the Project without the school increases from 26,272 ADT to 26,445 ADT.

It should be noted that with the reduction in the school enrollment from 1,000 to 700 students, changes in trip generation with and without the school experience the same increases and decreases described above. See *Appendix D* for the current Project trip generation calculations.

***Table 13–1*** below shows the change in trip generation without the school.

The trip distribution shown in *Figure 7–1* provided earlier in this report was used to assign No School Scenario Project trips to the study area street system.

***Figure 13–1*** illustrates the Project Traffic Volumes under the No School Scenario. ***Figure 13–2*** shows the Year 2035 Net Project Traffic Volumes under the No School Scenario. ***Figure 13–3*** through ***Figure 13–5*** show the traffic volumes for the Existing + Project (No School Scenario), Existing + Cumulative Projects + Project (No School Scenario), and Year 2035 With Project (No School Scenario) assuming the connection of Magnolia Avenue, respectively.

TABLE 13–1
PROJECT TRIP GENERATION (NO SCHOOL SCENARIO)

| ID | Land Use | Size | | Daily Trip Ends (ADTs) [a] | | | AM Peak Hour | | | | | PM Peak Hour | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Rate [b] | | Volume | % of ADT | In:Out Split | Volume In | Volume Out | Volume Total | % of ADT | In:Out Split | Volume In | Volume Out | Volume Total |
| | **Residential** | | | | | | | | | | | | | | | |
| A | Village Center Medium-Density *(Average 12 DU/acre)* | 435 | DU | 8 | /DU | 3,480 | 8% | 20:80 | 56 | 222 | 278 | 10% | 70:30 | 244 | 104 | 348 |
| B | Active Adult [c] *(Average 15 DU/acre)* | 445 | DU | 4.27 | /DU | 1,900 | 0.24 | 33:67 | 35 | 72 | 107 | 0.30 | 61:39 | 82 | 52 | 134 |
| C | Medium-Density *(Average 13 DU/acre)* | 790 | DU | 8 | /DU | 6,320 | 8% | 20:80 | 101 | 405 | 506 | 10% | 70:30 | 442 | 190 | 632 |
| D | Low-Density *(Average 5 DU/acre)* | 1,338 | DU | 10 | /DU | 13,380 | 8% | 30:70 | 321 | 749 | 1,070 | 10% | 70:30 | 937 | 401 | 1,338 |
| E | **Subtotal Residential (A+B+C+D)** | **3,008** | **DU** | | **—** | **25,080** | **—** | **—** | **513** | **1,448** | **1,961** | **—** | **—** | **1,705** | **747** | **2,452** |
| | **Non-Residential** | | | | | | | | | | | | | | | |
| F | Local Serving Retail | 80 | KSF | 40 | /KSF | 3,200 | 3% | 60:40 | 58 | 38 | 96 | 9% | 50:50 | 144 | 144 | 288 |
| G | *Primary Trips* | | | | *45%* | *1,440* | **—** | **—** | *26* | *17* | *43* | **—** | **—** | *65* | *65* | *130* |
| H | *Pass-By/Diverted Trip Reduction* | | | | *55%* | *(1,760)* | **—** | **—** | *(32)* | *(21)* | *(53)* | **—** | **—** | *(79)* | *(79)* | *(158)* |
| I | Agriculture/Farm [d] | 36.2 | Acres | 2 | /acre | 72 | 0.26 | 43:57 | 4 | 5 | 9 | 0.45 | 57:43 | 9 | 7 | 16 |
| J | Active Park [e] | 19.9 | Acres | 50 | /acre | 995 | 4% | 50:50 | 20 | 20 | 40 | 8% | 50:50 | 40 | 40 | 80 |
| K | Passive Park [f] | 53.5 | Acres | 5 | /acre | 268 | 0.15 | 57:43 | 5 | 3 | 8 | 0.2 | 45:55 | 5 | 6 | 11 |
| L | Recreation Center [g] | 10 | KSF | 28.82 | /KSF | 288 | 1.76 | 66:34 | 12 | 6 | 18 | 2.31 | 47:53 | 11 | 12 | 23 |
| M | RV Parking/Solar Farm [h] | 250 | spaces | 0.2 | /space | 50 | 6% | 50:50 | 2 | 1 | 3 | 9% | 50:50 | 3 | 2 | 5 |
| N | **Subtotal Non-Residential (F+I+J+K+L+M)** | | | | | **4,873** | **—** | **—** | **101** | **73** | **174** | **—** | **—** | **212** | **211** | **423** |
| | **Gross Trip Generation (E+N)** | | | | | **29,953** | **—** | **—** | **614** | **1,521** | **2,135** | **—** | **—** | **1,917** | **958** | **2,875** |
| O | **Total Primary Trips (E+G+I+J+K+L+M)** | | | **—** | | **28,193** | **—** | **—** | **582** | **1,500** | **2,082** | **—** | **—** | **1,838** | **879** | **2,717** |
| | **Total Pass-By/Diverted Link Trip Reduction (H)** | | | **—** | | **(1,760)** | **—** | **—** | **(32)** | **(21)** | **(177)** | **—** | **—** | **(79)** | **(79)** | **(158)** |
| P | **Internal/Mixed-Use Reduction (O*6.2%) [i]** | | | **—** | | **(1,748)** | **—** | **—** | **(36)** | **(93)** | **(129)** | **—** | **—** | **(114)** | **(54)** | **(168)** |
| | **Net External Trip Generation (O+P)** | | | **—** | | **26,445** | **—** | **—** | **546** | **1,407** | **1,953** | **—** | **—** | **1,724** | **825** | **2,549** |

***Footnotes:***

a. Average Daily Trips
b. Rates are based on SANDAG's *(Not So) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region, April 2002*, for all gross, primary, and pass-by-diverted trip rates, except where noted.
c. SANDAG references the ITE trip generation rates for the source of their "Retirement Community" rate. Therefore, the ITE 251 rate for "Detached Senior Adult Housing" was used.
d. SANDAG "agriculture" rate applied. Since no peak splits are provided by SANDAG, peak splits taken from ITE 818 "Nursery (Wholesale)" rates. Events would not be daily and would occur largely outside the commuter AM and PM peak periods.
e. Active Park rate sourced to SANDAG rate for "City Park". The Project also proposes a trail network throughout the site. The trails would traverse through parks, open space, and habitat preserve. Any trips associated with trails would be captured through the park trip generation.
f. Passive Park ADT rate sourced to SANDAG rate for "Neighborhood Park". Since no peak splits are provided by SANDAG, peak splits taken from ITE 417 "Regional Park" rates.
g. Recreation center may be open to public. SANDAG does not provide a rate for this specific use. ITE 495 rate for "Recreational Community Center" applied. The 10,000 SF recreation center is located within the joint use site, adjacent to the school.
h. Portion of RV parking open to public. Since no rate is provided by SANDAG or ITE for "RV Parking", SANDAG rate for "Industrial Storage" applied.
i. SANDAG mixed-use reduction rate of 6.2% applied, adjusted to reflect the proportion of non-residential ADT as compared to the proposed Project (*Table 7–2*). See *Section 13.0* text for details.

***General Notes:***

1. As previously mentioned, since the completion of the transportation analysis included in this report, the Project Description has slightly changed, resulting in a shift between residential densities, changes to park acreage, and a reduction in school students from 1,000 to 700 students. With these changes, the resulting trip generation decreases as compared to the numbers analyzed in this report. Therefore, the analysis presented herein provides a conservative assessment of the local transportation system.
2. *Appendix D* provides the trip generation calculations for the current proposed Project, showing the lower volumes.

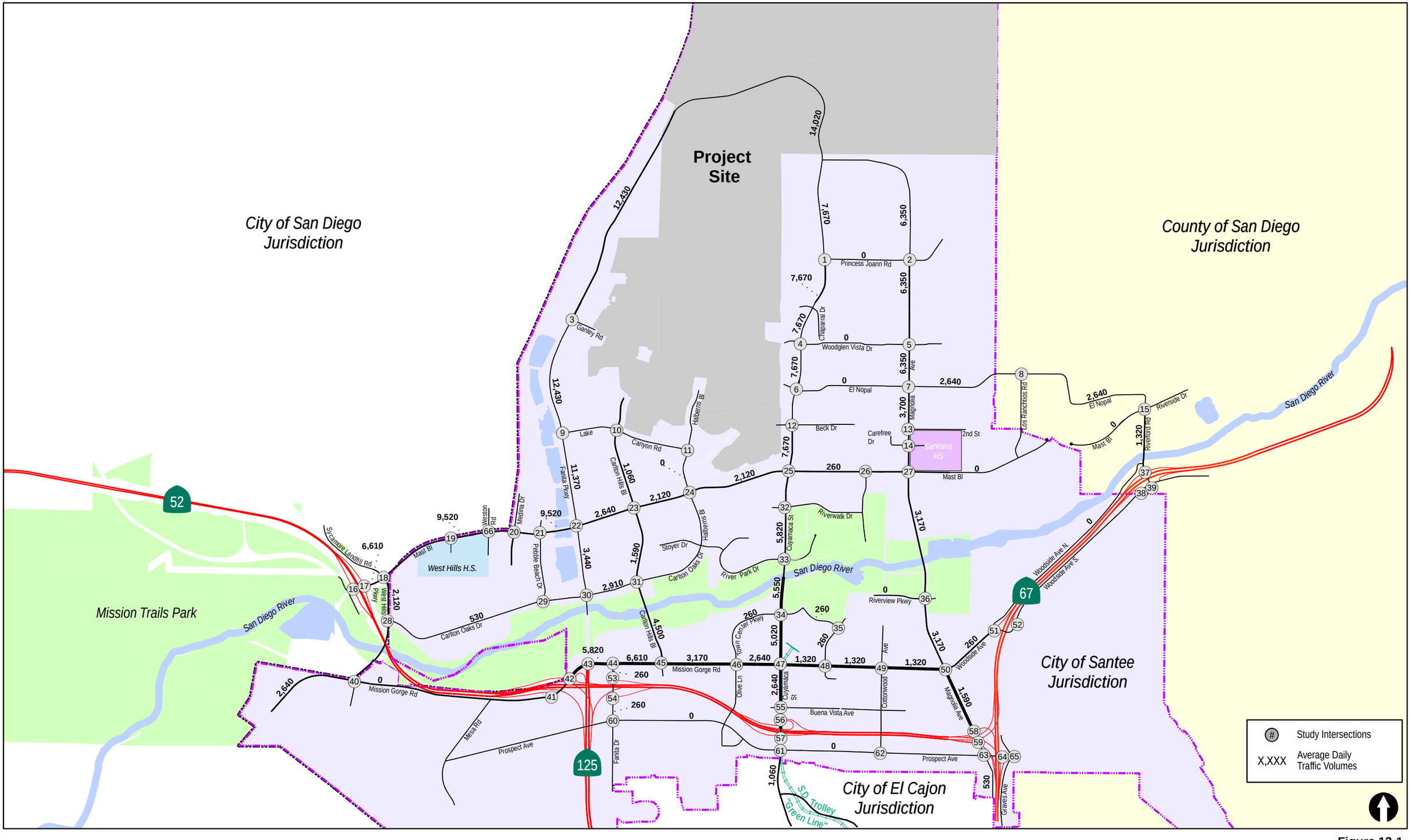


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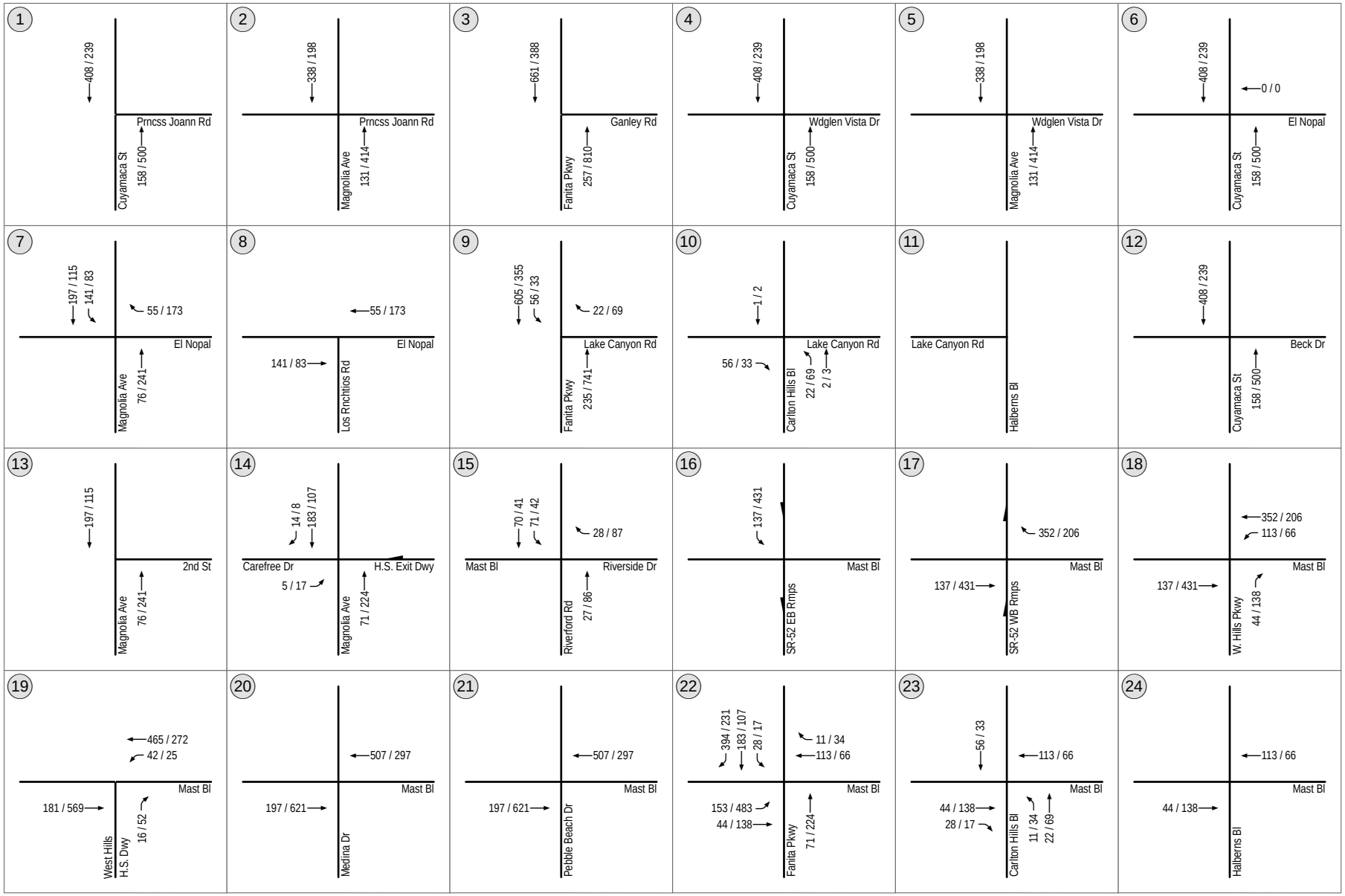
**Figure 13-1**

## Project Traffic Volumes
**(No School Scenario)**

FANITA RANCH

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(#) Study Intersections

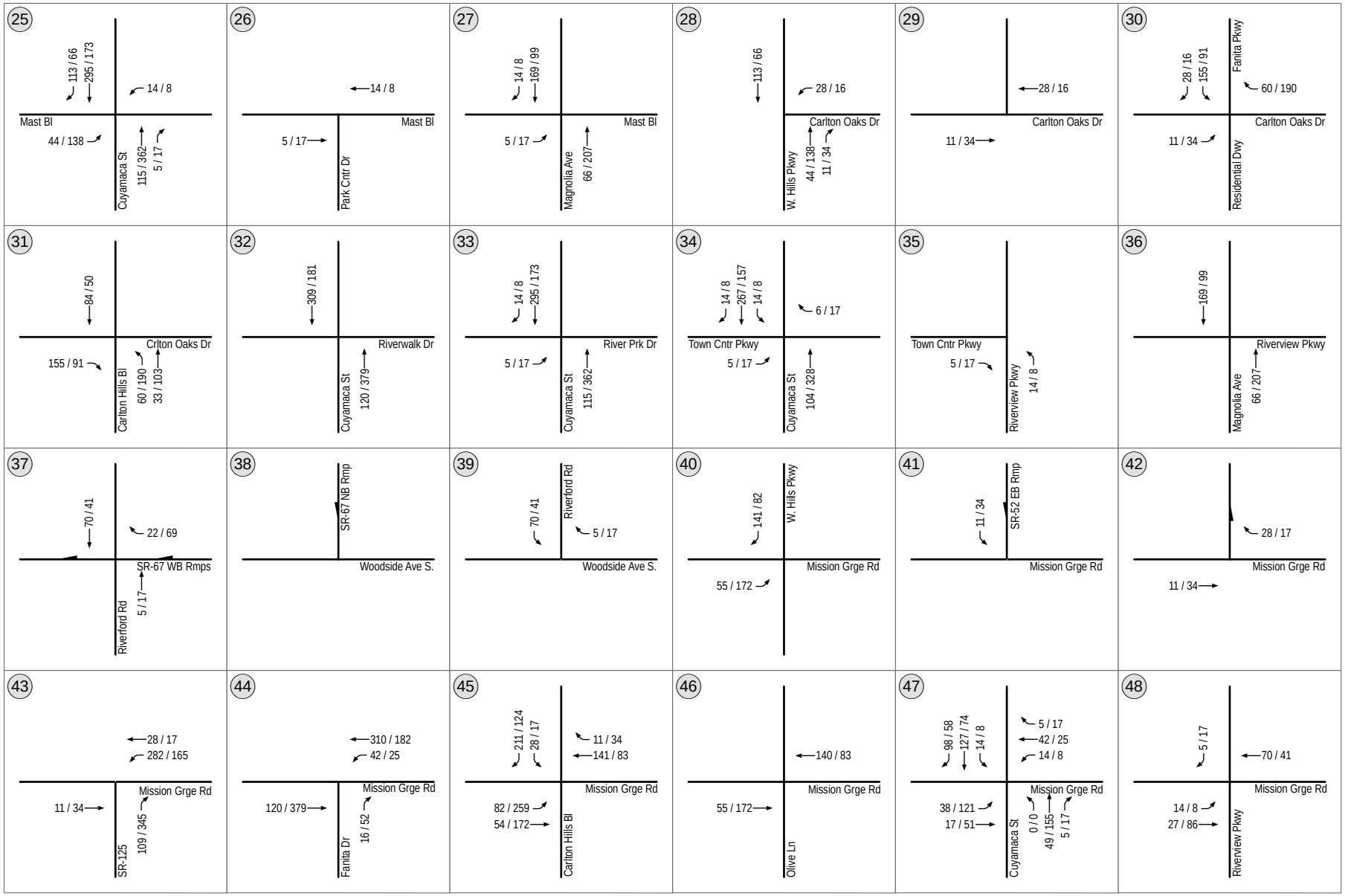
AM / PM → AM / PM Intersection Peak Hour Volumes

**Figure 13-1**
**(1 of 3)**

# Project Traffic Volumes

**(No School Scenario)**

FANITA RANCH

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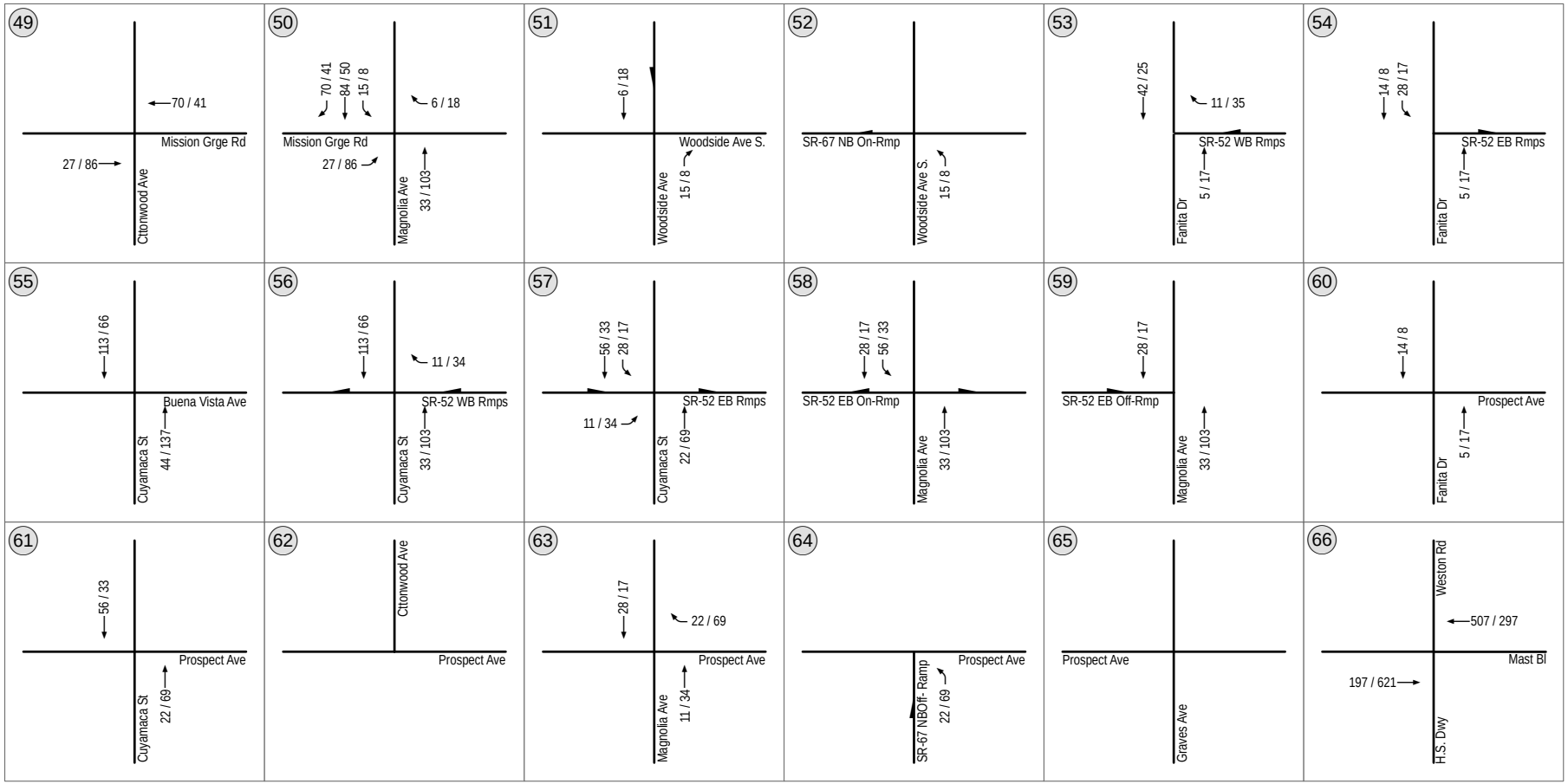
(#) Study Intersections

AM / PM AM / PM Intersection Peak Hour Volumes

**Figure 13-1**
**(2 of 3)**

# Project Traffic Volumes
**(No School Scenario)**

FANITA RANCH

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(#) Study Intersections

AM / PM AM / PM Intersection Peak Hour Volumes

**Figure 13-1**
**(3 of 3)**

# Project Traffic Volumes
## (No School Scenario)

FANITA RANCH

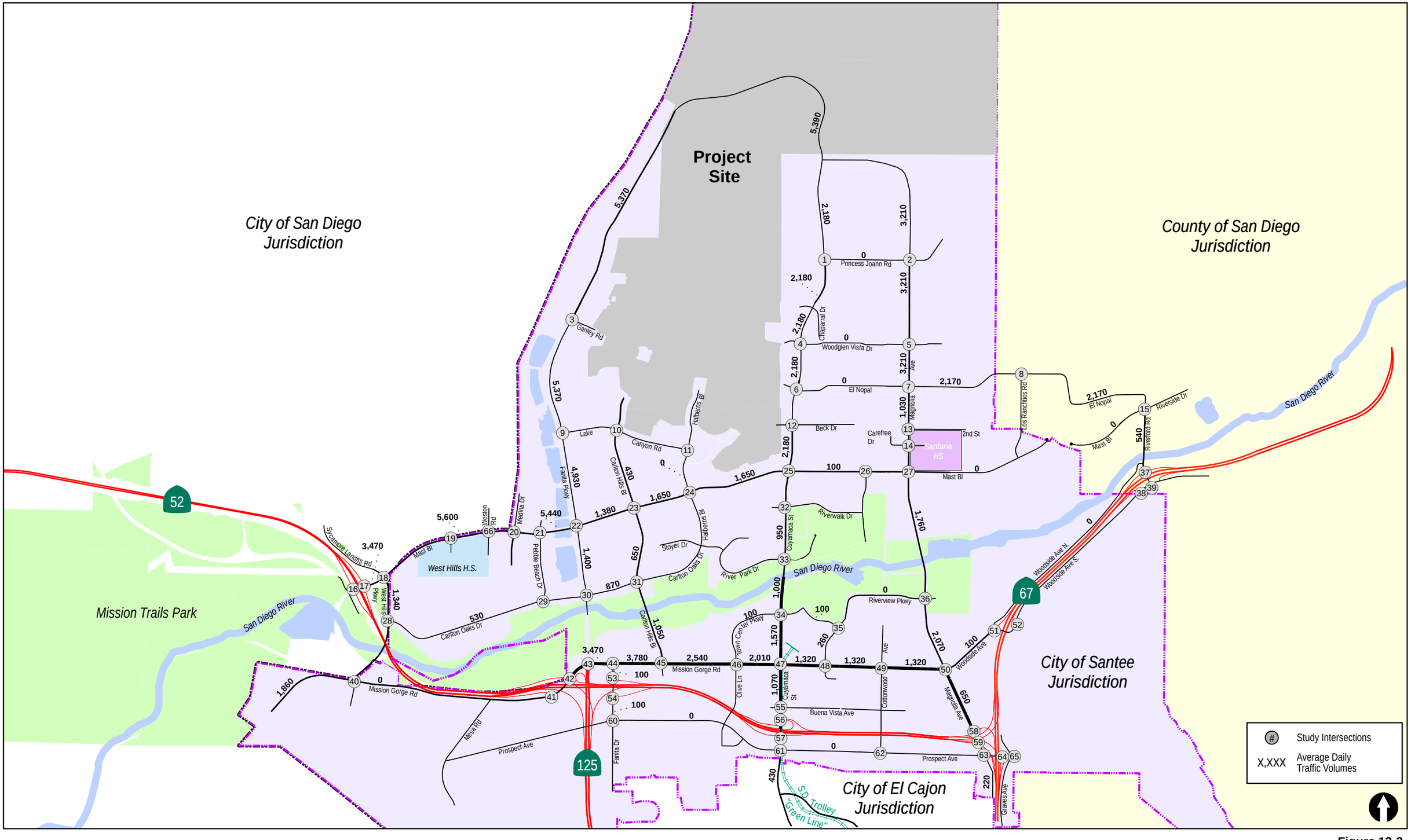


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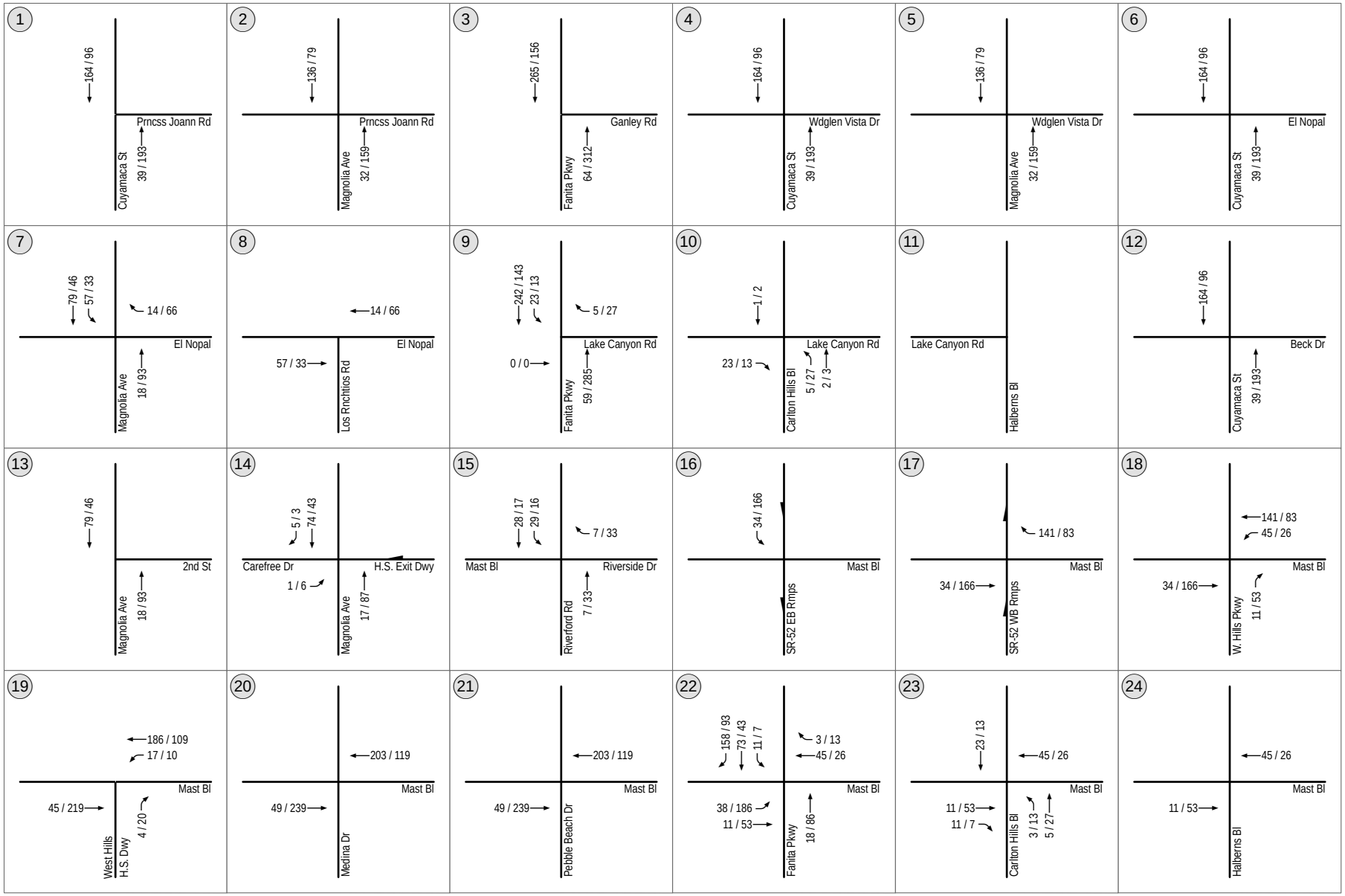
**Figure 13-2**

## Year 2035 Net Project Traffic Volumes
**(No School Scenario)**

FANITA RANCH

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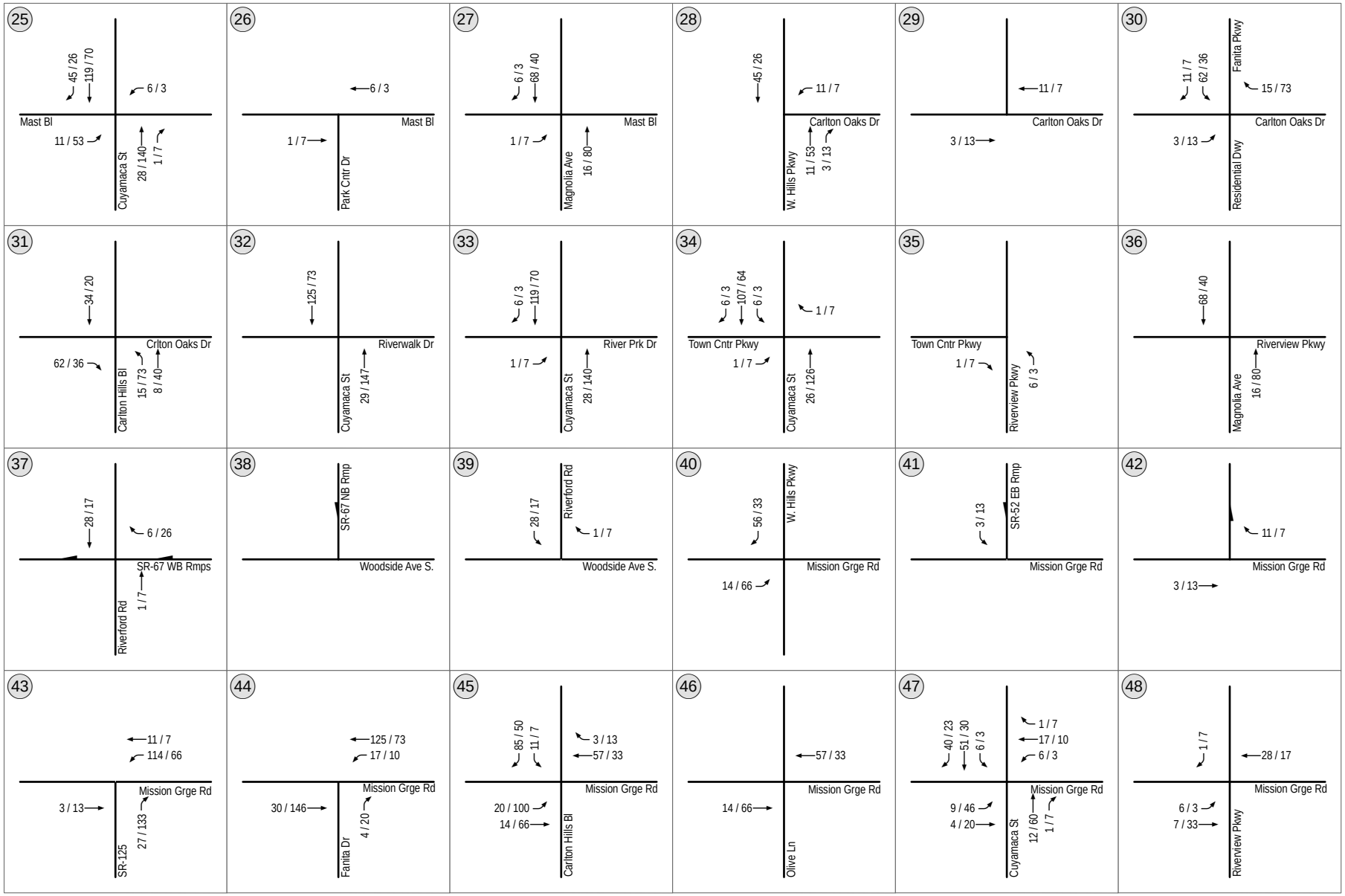
# Study Intersections
AM / PM AM / PM Intersection Peak Hour Volumes
Project Access Roads

**Figure 13-2**
**(1 of 3)**

# Year 2035 Net Project Traffic Volumes
**(No School Scenario)**

FANITA RANCH

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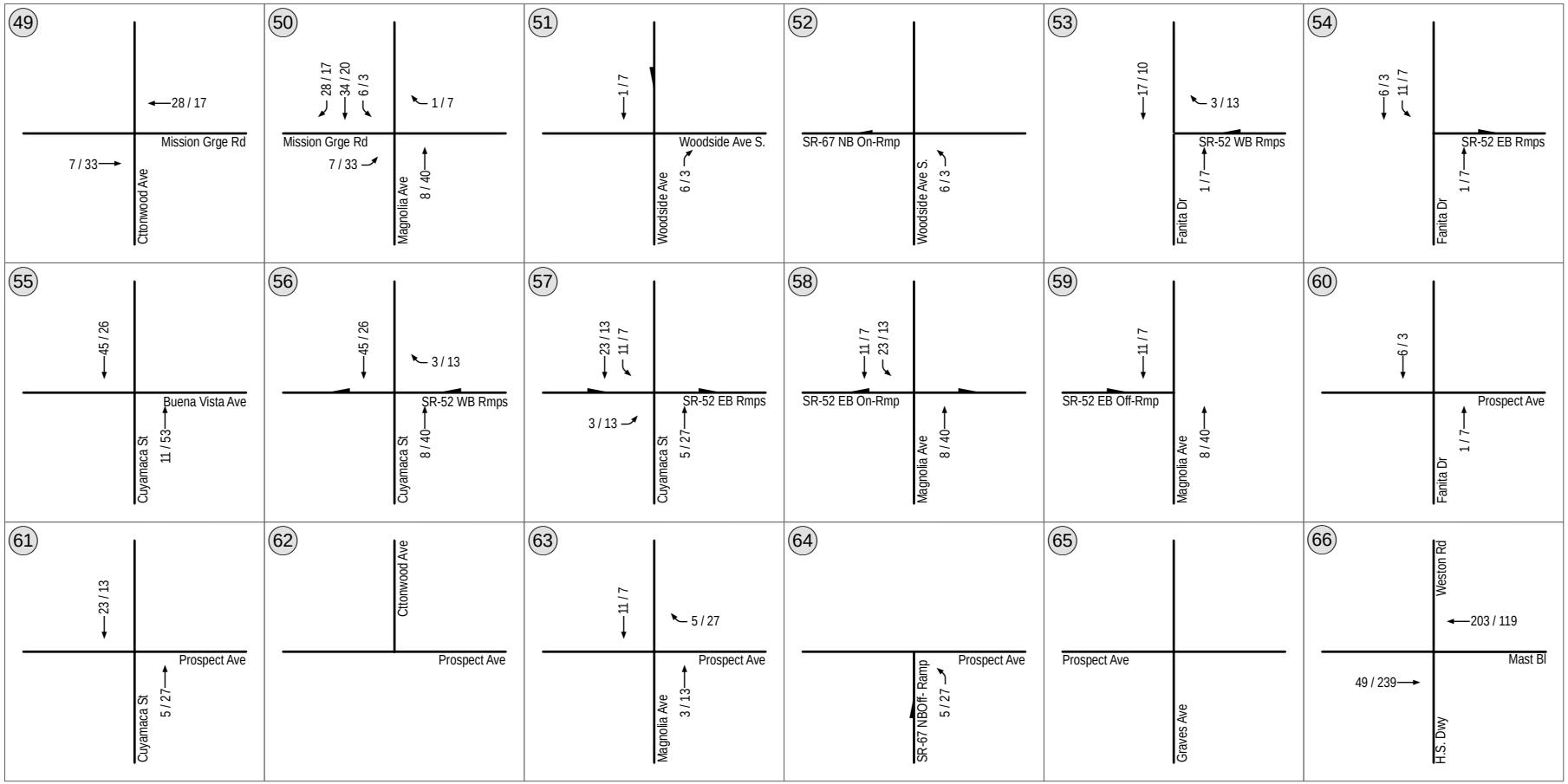
# Study Intersections

AM / PM — AM / PM Intersection Peak Hour Volumes

**Figure 13-2**
**(2 of 3)**

# Year 2035 Net Project Traffic Volumes
**(No School Scenario)**

FANITA RANCH

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(#) Study Intersections
AM / PM AM / PM Intersection Peak Hour Volumes

**Figure 13-2**
**(3 of 3)**

# Year 2035 Net Project Traffic Volumes
**(No School Scenario)**

FANITA RANCH

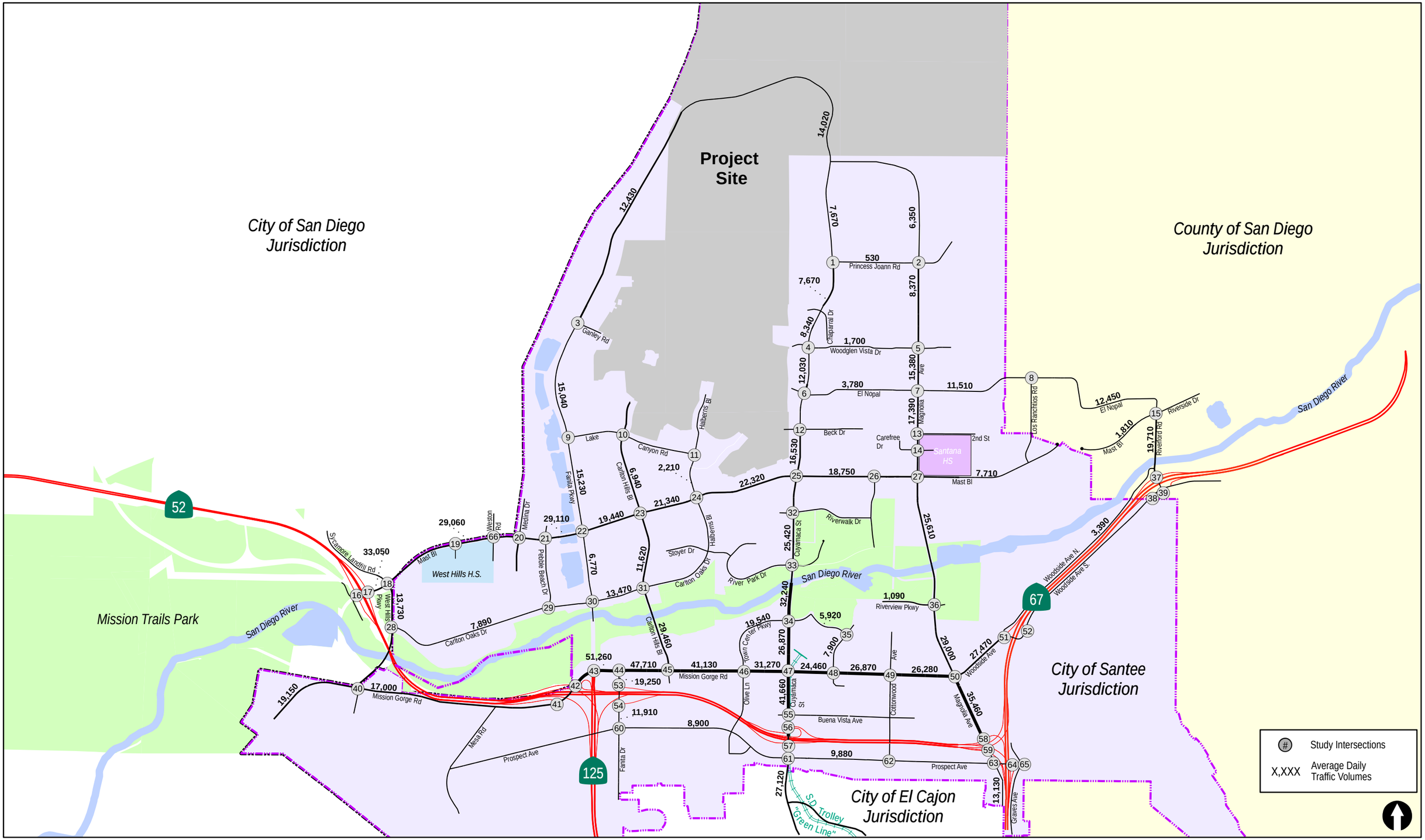


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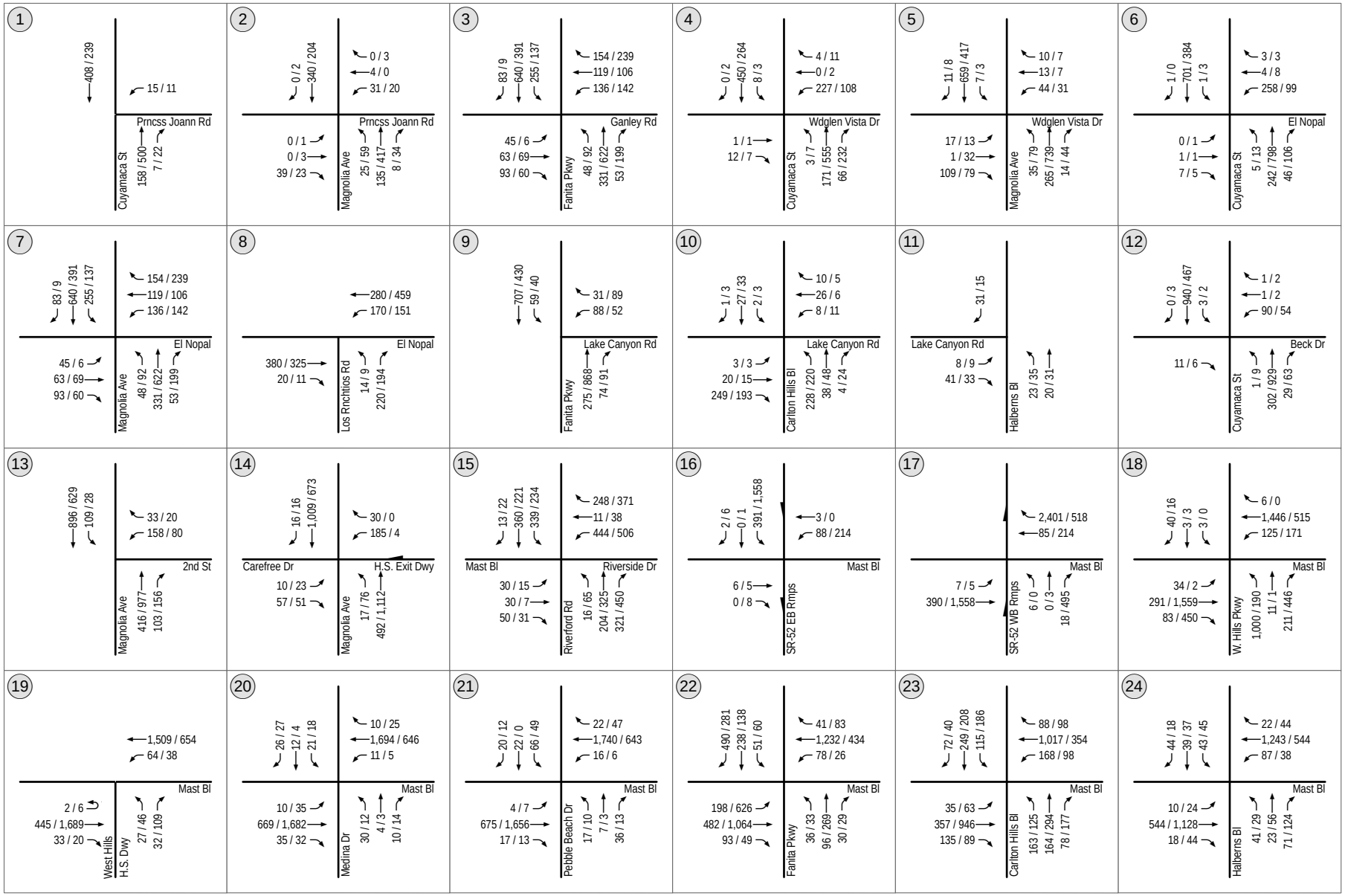
**Figure 13-3**

## Existing + Project Traffic Volumes
**(No School Scenario)**

FANITA RANCH

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# Study Intersections

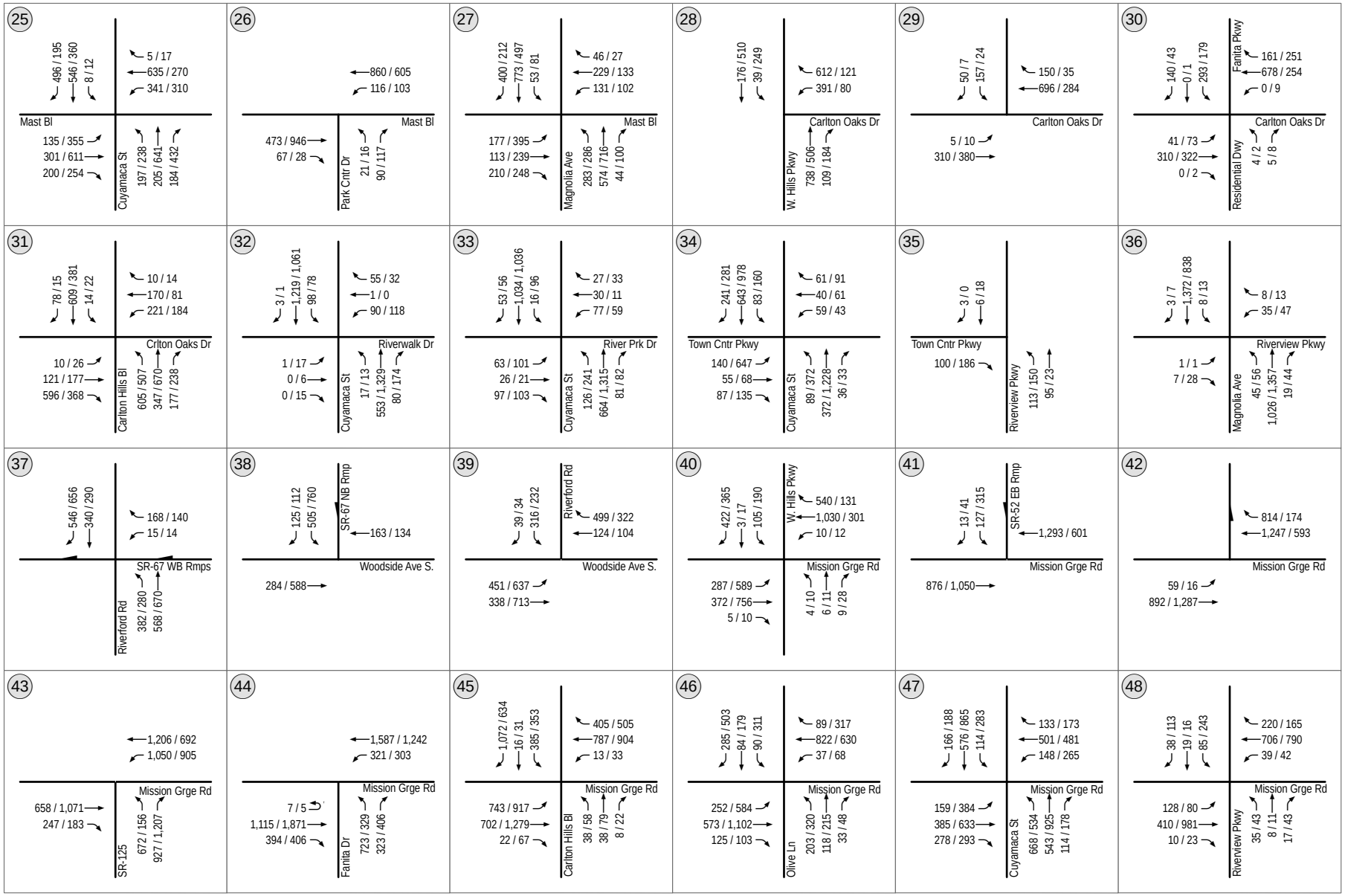
AM / PM — AM / PM Intersection Peak Hour Volumes

**Figure 13-3**
**(1 of 3)**

## Existing + Project Traffic Volumes

**(No School Scenario)**

FANITA RANCH

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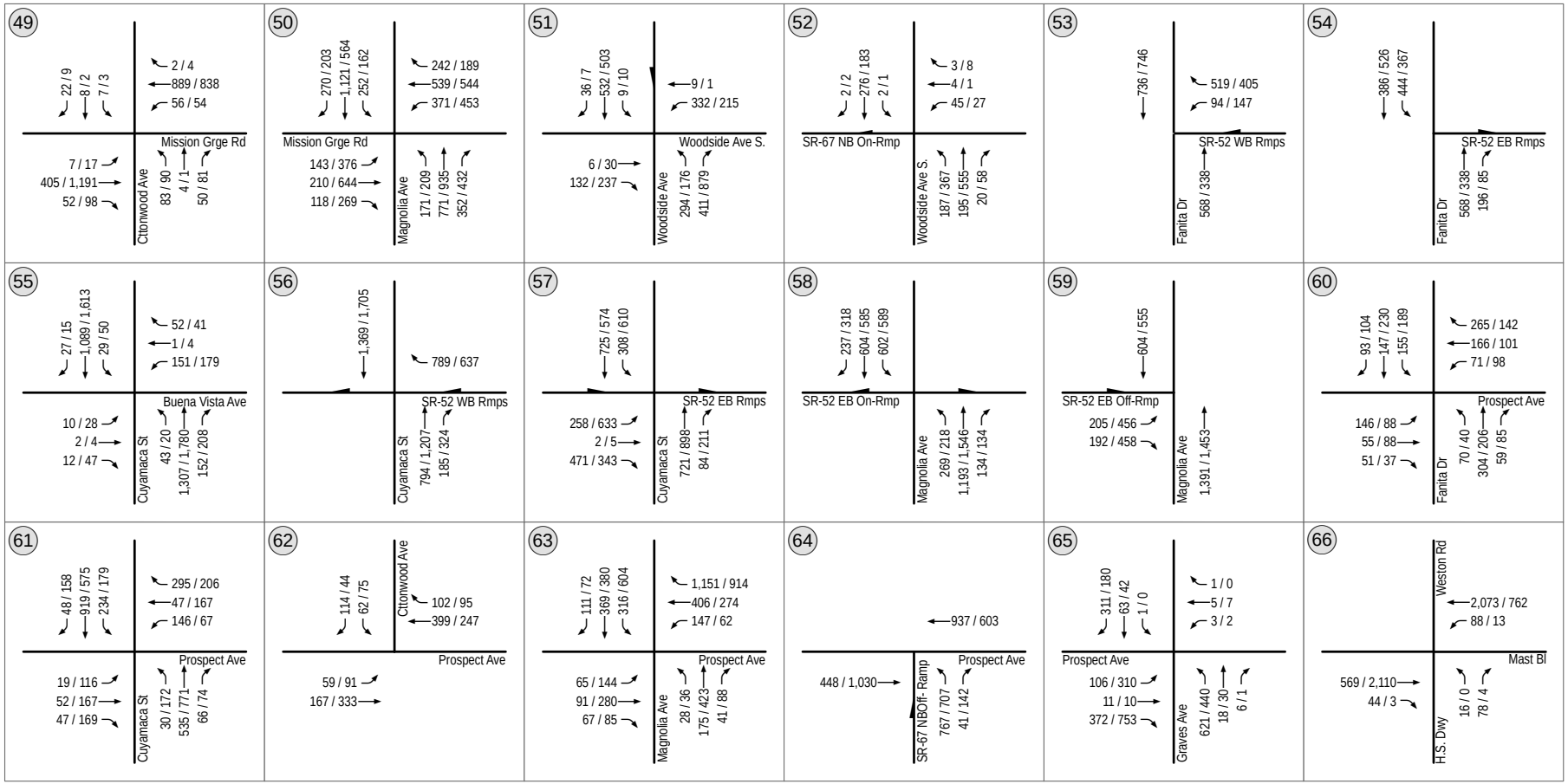
# Study Intersections

AM / PM AM / PM Intersection Peak Hour Volumes

**Figure 13-3**
**(2 of 3)**

## Existing + Project Traffic Volumes
**(No School Scenario)**

FANITA RANCH

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(#) Study Intersections

AM / PM → AM / PM Intersection Peak Hour Volumes

**Figure 13-3**
**(3 of 3)**

# Existing + Project Traffic Volumes

**(No School Scenario)**

FANITA RANCH

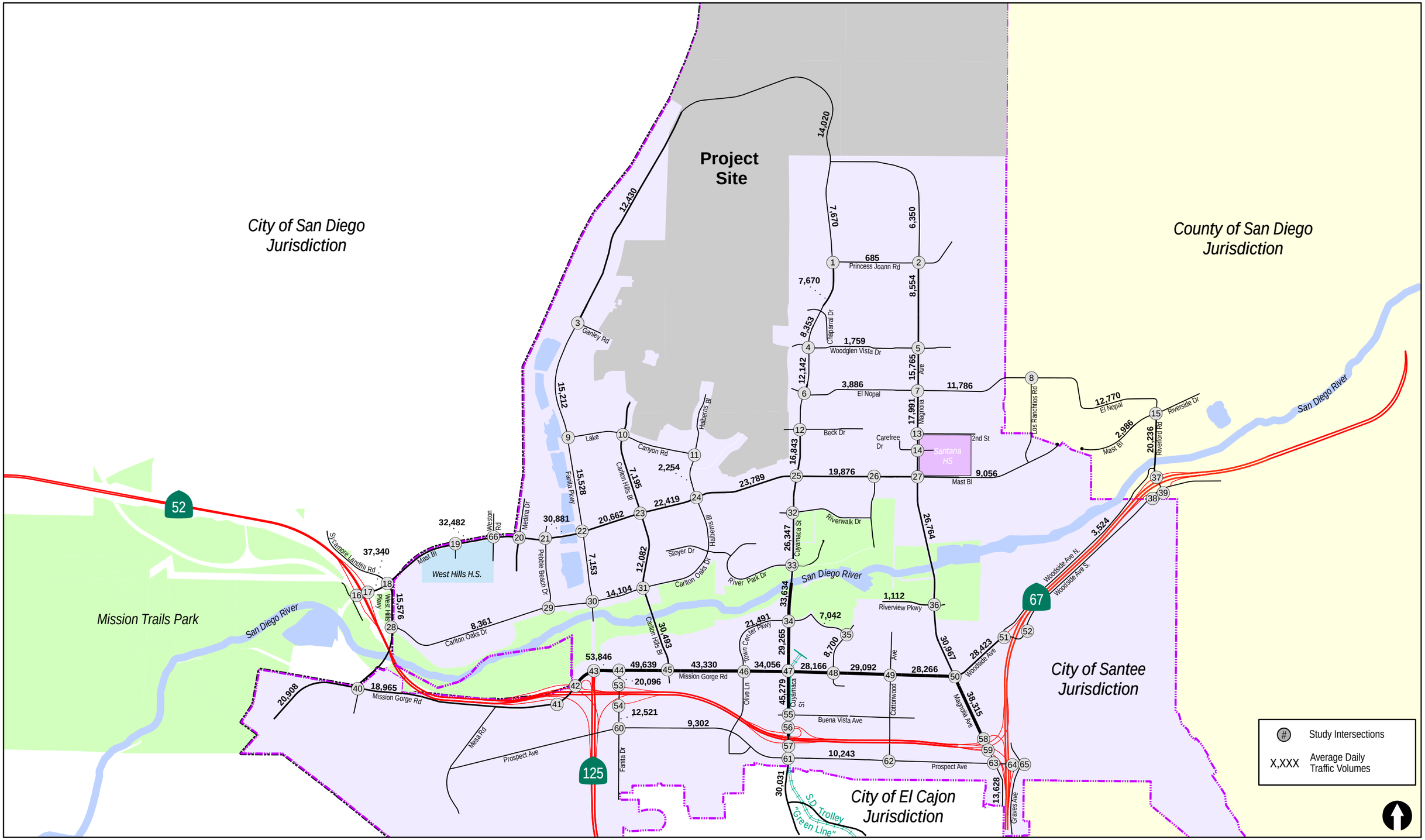


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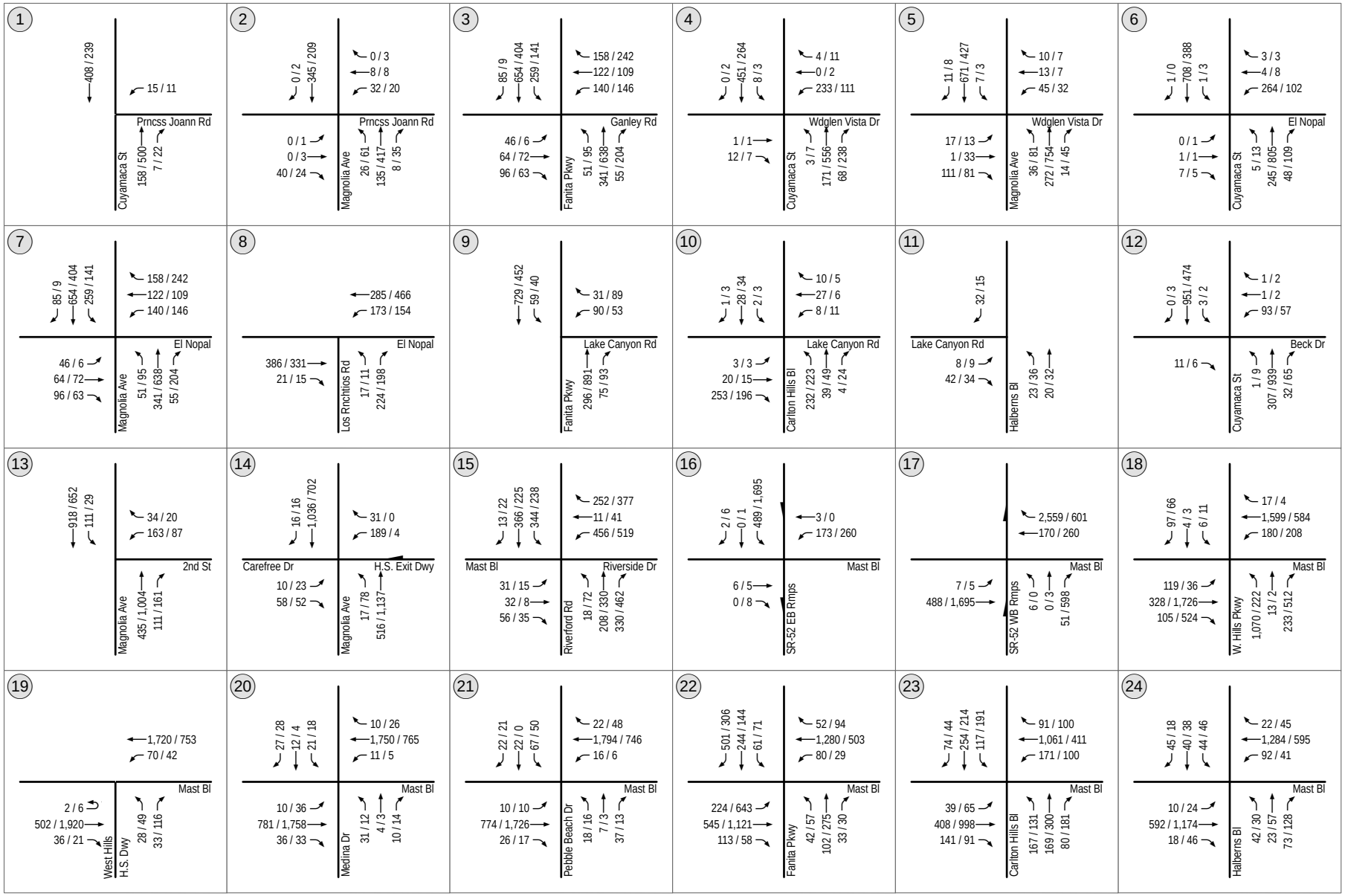
**Figure 13-4**

## Existing + Cumulative Projects + Project Traffic Volumes
**(No School Scenario)**

FANITA RANCH

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# Study Intersections

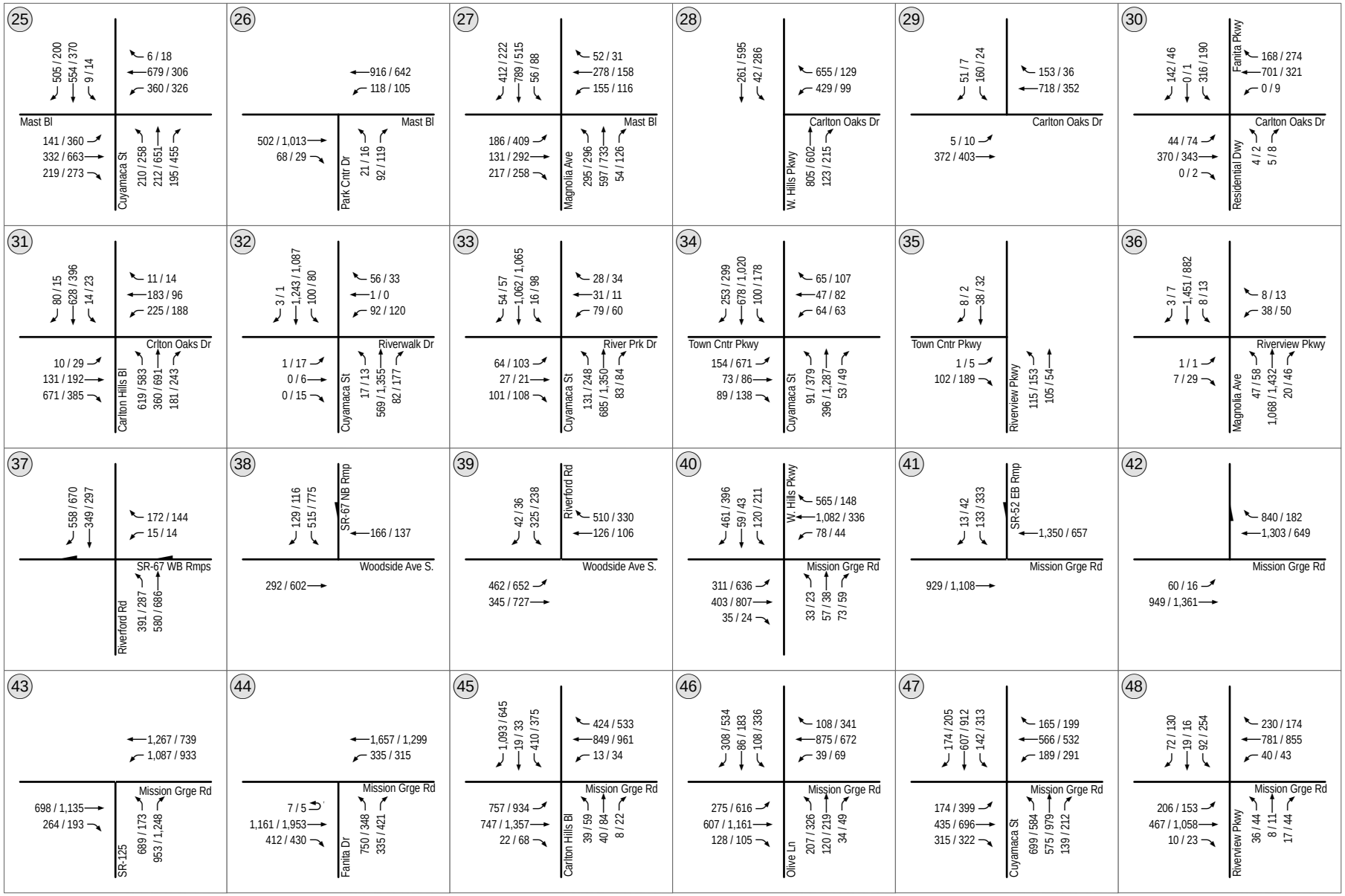
AM / PM — AM / PM Intersection Peak Hour Volumes

**Figure 13-4**
**(1 of 3)**

## Existing + Cumulative Projects + Project Traffic Volumes

**(No School Scenario)**

FANITA RANCH

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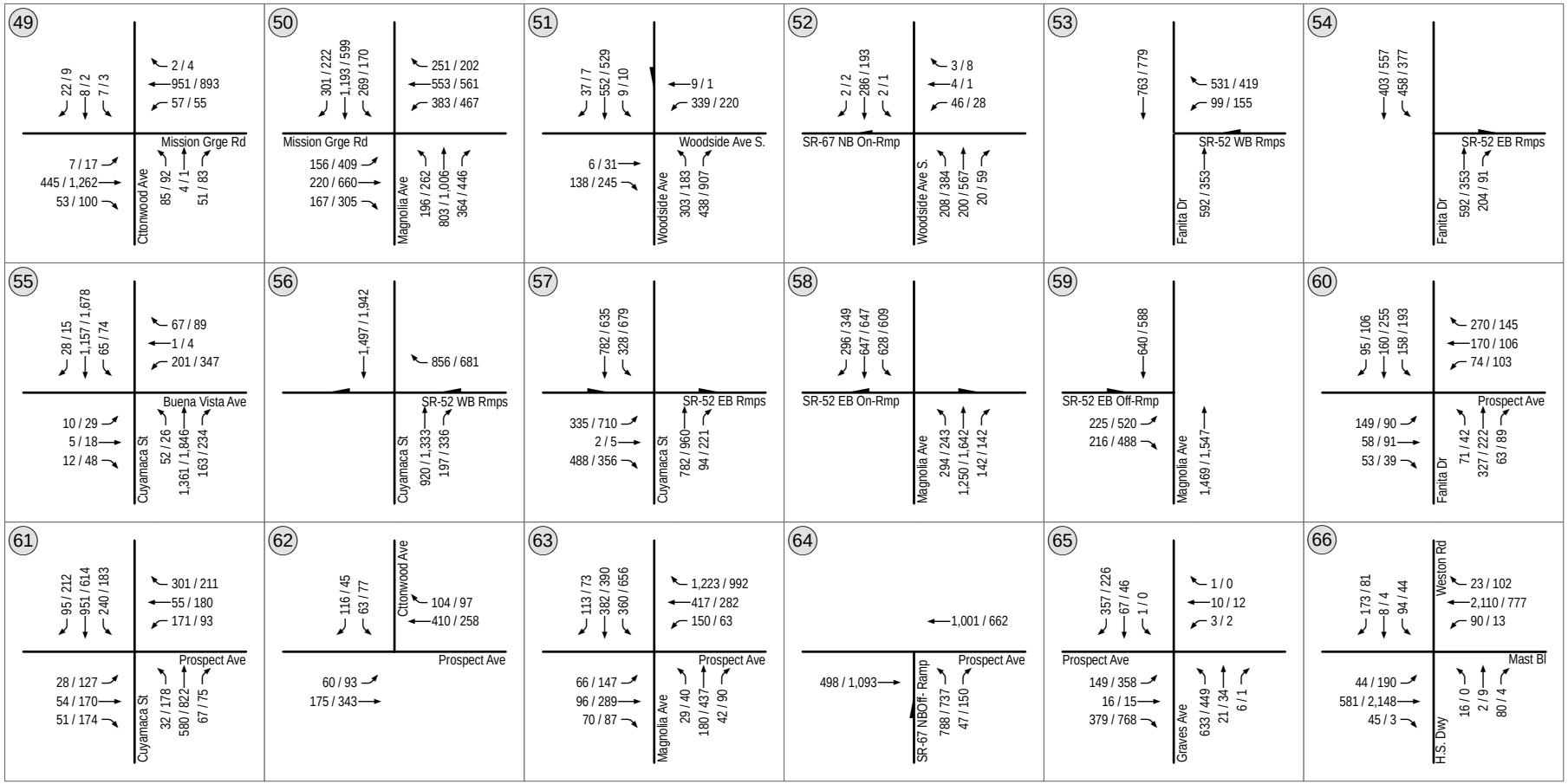
# Study Intersections
AM / PM AM / PM Intersection Peak Hour Volumes

**Figure 13-4**
**(2 of 3)**

## Existing + Cumulative Projects + Project Traffic Volumes
**(No School Scenario)**

FANITA RANCH

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# Study Intersections
AM / PM — AM / PM Intersection Peak Hour Volumes

**Figure 13-4**
**(3 of 3)**

## Existing + Cumulative Projects + Project Traffic Volumes
**(No School Scenario)**

FANITA RANCH

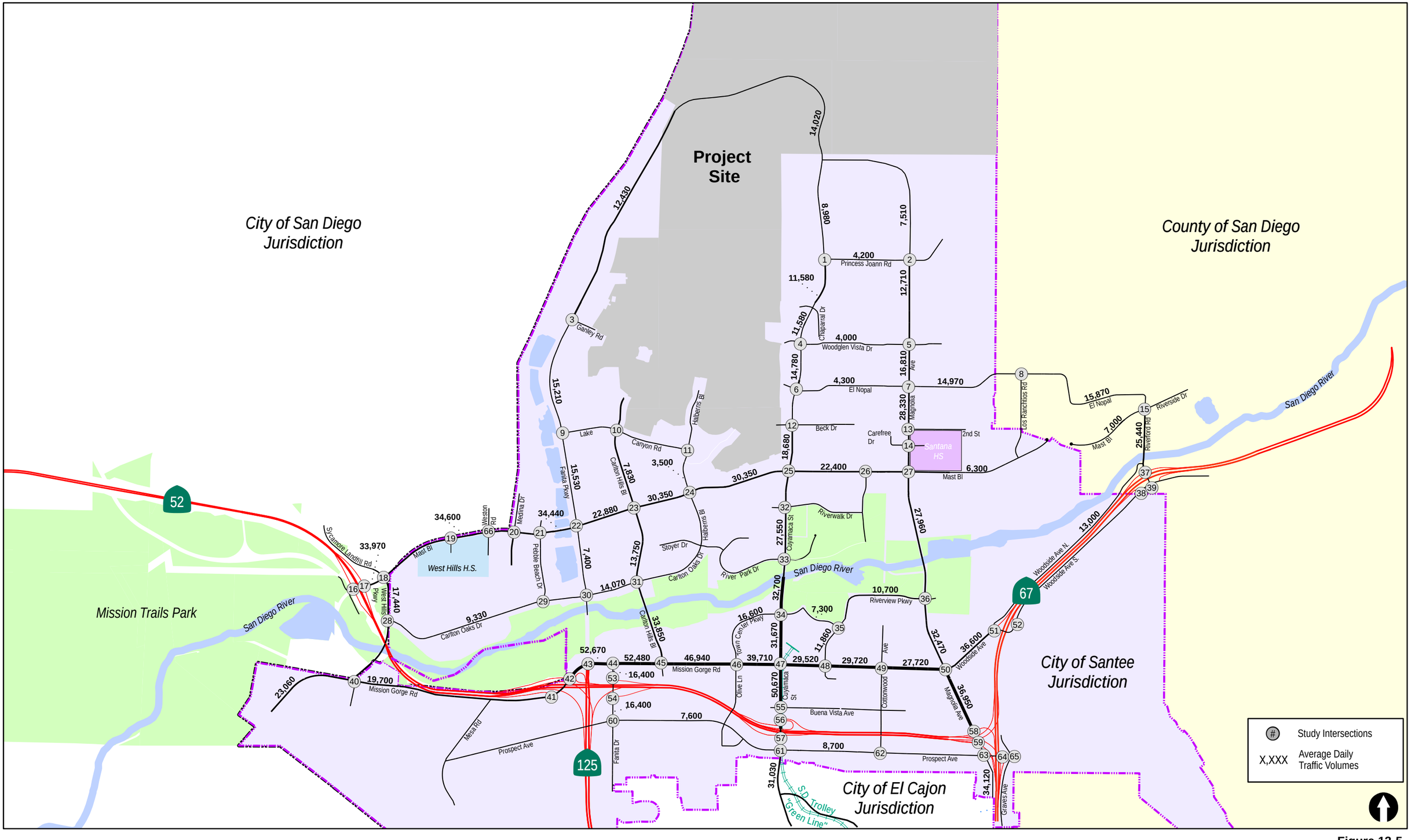


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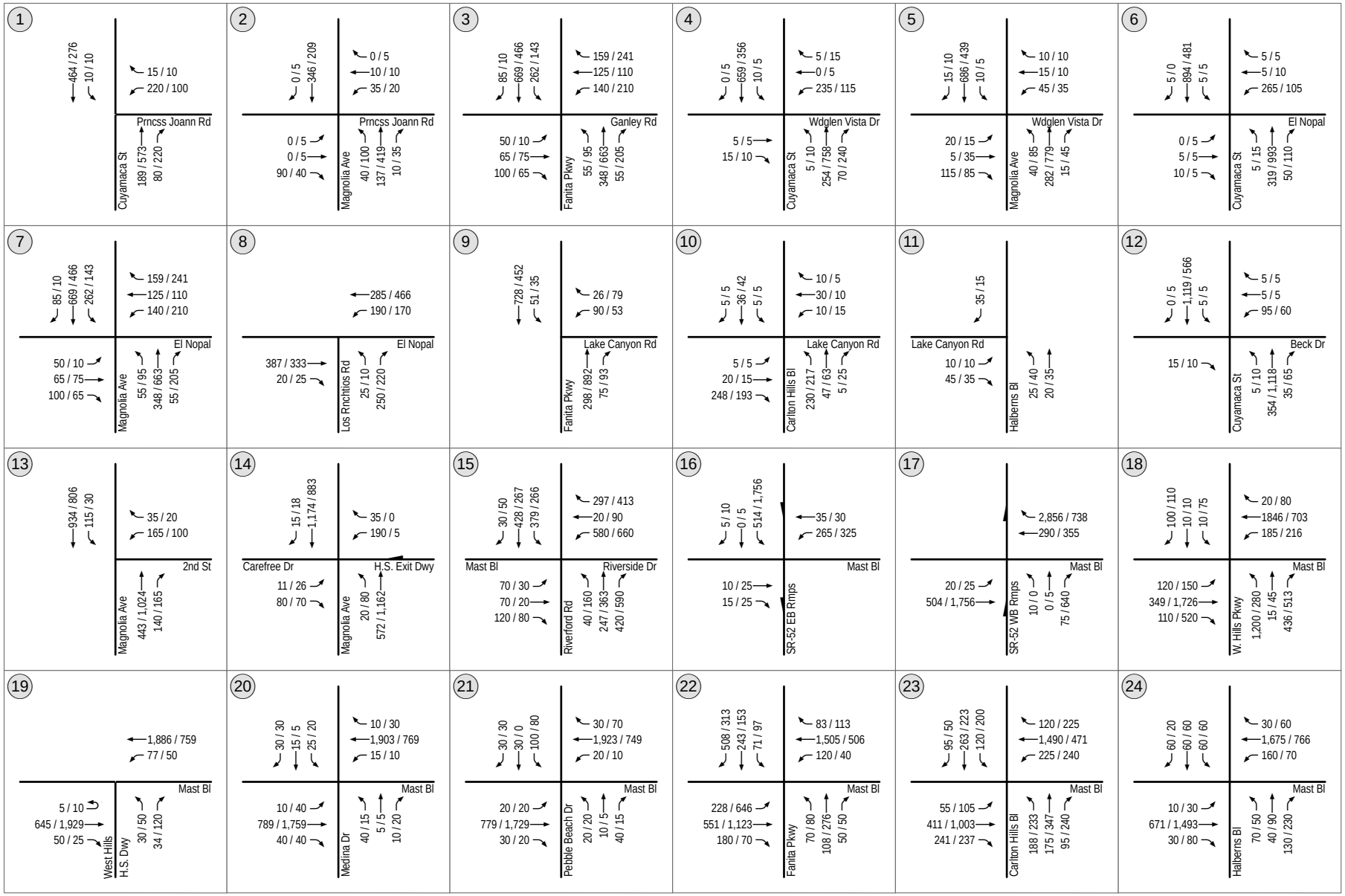
**Figure 13-5**

## Year 2035 + Project Traffic Volumes
**(No School Scenario)**

FANITA RANCH

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# Study Intersections

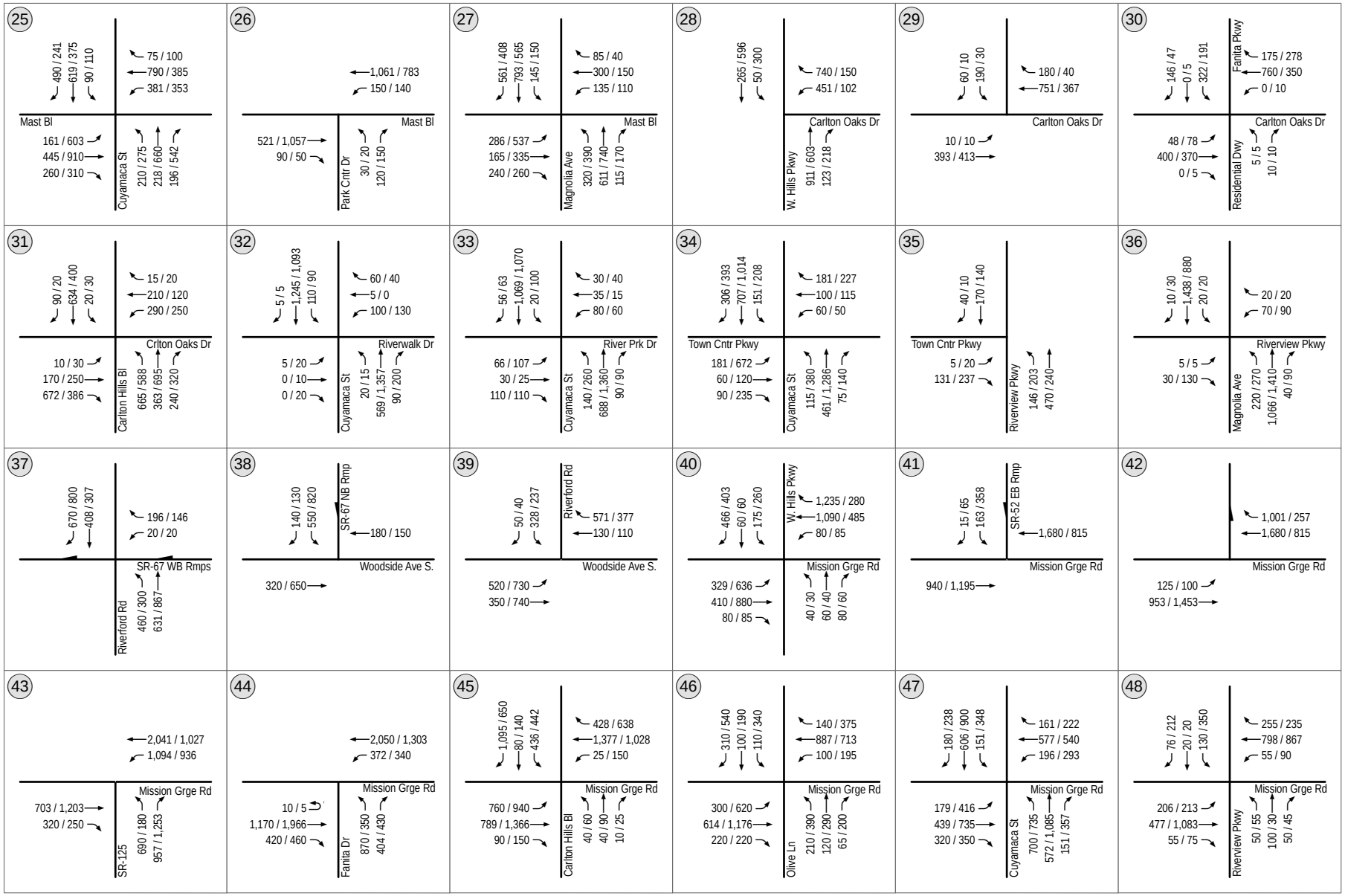
AM / PM — AM / PM Intersection Peak Hour Volumes

**Figure 13-5**
**(1 of 3)**

## Year 2035 With Project Traffic Volumes

**(No School Scenario)**

FANITA RANCH

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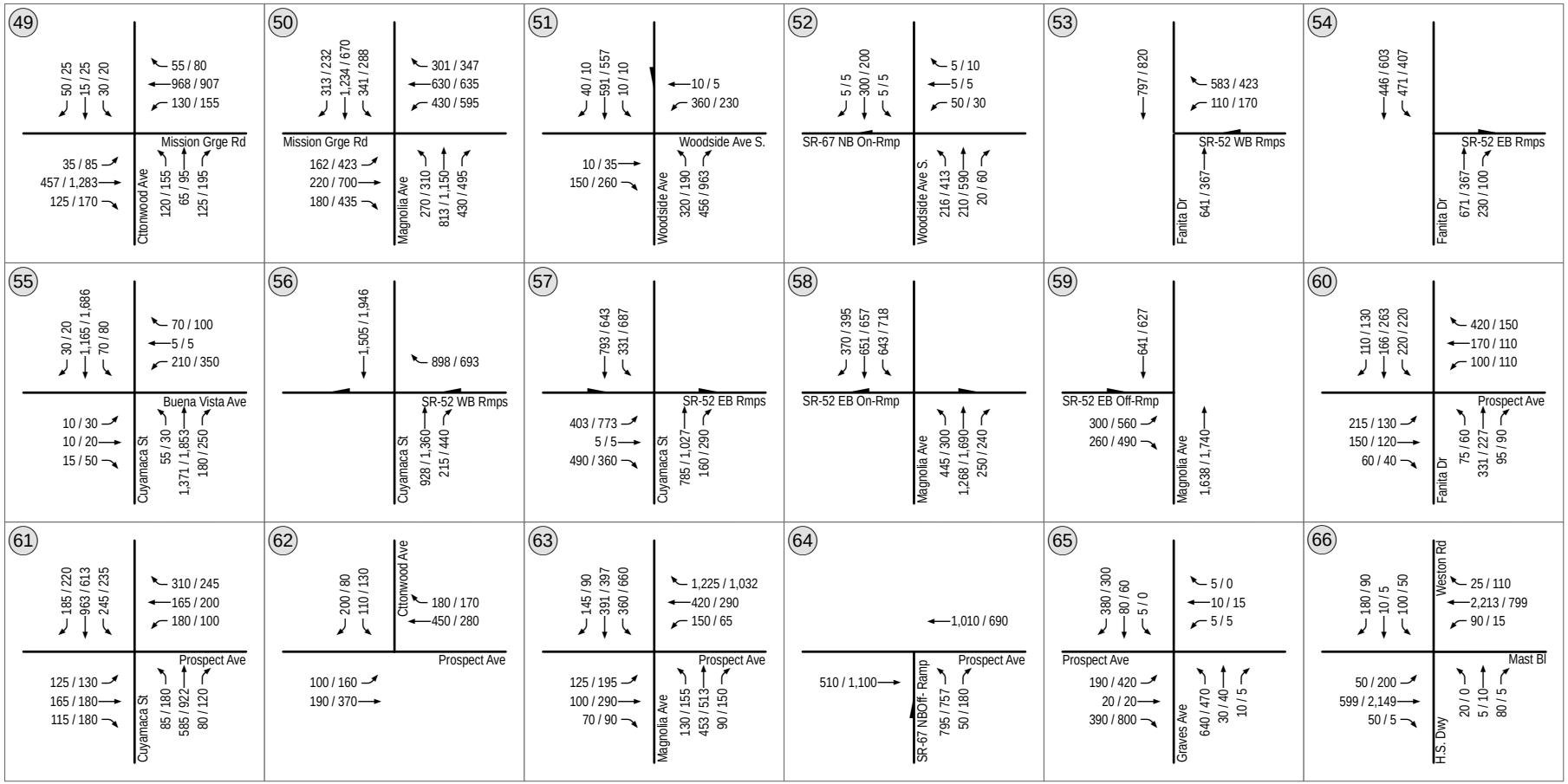
(#) Study Intersections

AM / PM → AM / PM Intersection Peak Hour Volumes

**Figure 13-5**
**(2 of 3)**

# Year 2035 + Project Traffic Volumes
**(No School Scenario)**

FANITA RANCH

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# Study Intersections

AM / PM — AM / PM Intersection Peak Hour Volumes

**Figure 13-5**
**(3 of 3)**

# Year 2035 + Project Traffic Volumes
**(No School Scenario)**

FANITA RANCH

## 13.1 Existing + Project (No School Scenario) Analysis

### 13.1.1 *Peak Hour Intersection Operations*

***Table 13–2*** summarizes the Existing + Project (No School Scenario) intersection operations. As seen in *Table 13–2*, the following study area intersections are calculated to operate at LOS E or F with the addition of Project (No School Scenario) traffic:

- **Intersection #3. Ganley Road / Fanita Parkway – LOS F (AM/PM peak hours)**
- **Intersection #4. Woodglen Vista Drive / Cuyamaca Street – LOS F (PM peak hour)**
- **Intersection #6. El Nopal / Cuyamaca Street – LOS F (AM/PM peak hours)**
- **Intersection #8. El Nopal / Los Ranchitos Road – LOS E (PM peak hour)**
- **Intersection #9. Lake Canyon Road / Fanita Parkway – LOS F (AM/PM peak hours)**
- **Intersection #12. Beck Drive / Cuyamaca Street – LOS F (AM/PM peak hours)**
- **Intersection #17. Mast Boulevard / SR-52 WB Ramps – LOS F (AM peak hour)**
- **Intersection #18. Mast Boulevard / West Hills Parkway – LOS F (AM peak hour)**
- **Intersection #22. Mast Boulevard / Fanita Parkway – LOS E/F (AM/PM peak hours)**
- **Intersection #25. Mast Boulevard / Cuyamaca Street – LOS E (AM/PM peak hours)**
- **Intersection #37. Riverford Road / SR-67 Ramps – LOS F (AM/PM peak hours)**
- **Intersection #39. Riverford Road / Woodside Avenue – LOS E (AM peak hour)**
- **Intersection #45. Mission Gorge Road / Carlton Hills Boulevard – LOS F (AM peak hour)**

Based on the established significance criteria, **thirteen (13) significant direct impacts** were calculated with the addition of Project traffic at the study area locations above since the Project-induced change in delay is greater than 2.0 seconds for LOS E or F operating intersections.

These impacts are calculated to occur under the Proposed Project condition with the school, with the exception of Intersection #8. However, Intersection #8 is calculated to be a significant direct impact under Existing + Cumulative Projects + Proposed Project conditions. Hence, no additional impacts result from this analysis.

***Appendix L*** contains the Existing + Project (No School Scenario) peak hour intersection calculation worksheets.

### 13.1.2 *Daily Street Segment Operations*

***Table 13–3*** summarizes the Existing + Project (No School Scenario) street segment operations. As seen in *Table 13–3*, the following study area street segments are calculated to operate at LOS E or F with the addition of Project (No School Scenario) traffic:

- **Segment #5. El Nopal from Los Ranchitos Road to Riverford Road – LOS E**

- **Segment #16. Carlton Oaks Drive from Fanita Parkway to Carlton Hills Boulevard – LOS E**
- **Segment #30. Fanita Parkway from Ganley Drive/Santee Lakes Boulevard to Lake Canyon Road – LOS F**
- **Segment #31. Fanita Parkway from Lake Canyon Road to Mast Boulevard – LOS F**
- Segment #41. Cuyamaca Street from Project Site to Magnolia Avenue – LOS E
- **Segment #46. Cuyamaca Street from El Nopal to Mast Boulevard – LOS F**
- **Segment #64. Riverford Road from Riverside Drive to SR-67 Ramps – LOS E**

Based on the established significance criteria, **six (6) significant direct impacts** were calculated with the addition of Project (No School Scenario) traffic at study area locations above since the Project-induced change in V/C is greater than 0.02 for LOS E or F operating street segments. Segment #41 is not deemed to be a significant impact as the intersection operations at both ends of this segment are calculated to operate at LOS C or better. See *Section 16.1.4* for a more detailed discussion and analyses of Cuyamaca Street.

These impacts are calculated to occur under the Proposed Project condition with the school. No additional impacts result from this analysis.

## 13.2 Existing + Cumulative Projects + Project (No School Scenario) Analysis

### 13.2.1 *Peak Hour Intersection Operations*

***Table 13–4*** summarizes the Existing + Cumulative Projects + Project (No School Scenario) intersection operations. As seen in *Table 13–4*, the following study area intersections are calculated to operate at LOS E or F with the addition of cumulative projects and Project (No School Scenario) traffic:

- **Intersection #3. Ganley Road / Fanita Parkway – LOS F (AM/PM peak hours)**
- **Intersection #4. Woodglen Vista Drive / Cuyamaca Street – LOS F (PM peak hour)**
- **Intersection #6. El Nopal / Cuyamaca Street – LOS F (AM/PM peak hours)**
- **Intersection #8. El Nopal / Los Ranchitos Road – LOS E (PM peak hour)**
- **Intersection #9. Lake Canyon Road / Fanita Parkway – LOS F (AM/PM peak hours)**
- **Intersection #12. Beck Drive / Cuyamaca Street – LOS F (AM/PM peak hours)**
- **Intersection #17. Mast Boulevard / SR-52 WB Ramps – LOS F (AM peak hour)**
- **Intersection #18. Mast Boulevard / West Hills Parkway – LOS F (AM/PM peak hours)**
- **Intersection #22. Mast Boulevard / Fanita Parkway – LOS E/F (AM/PM peak hours)**
- **Intersection #25. Mast Boulevard / Cuyamaca Street – LOS E (AM/PM peak hours)**
- **Intersection #37. Riverford Road / SR-67 Ramps – LOS F (AM/PM peak hours)**
- **Intersection #39. Riverford Road / Woodside Avenue – LOS E (AM peak hour)**
- **Intersection #45. Mission Gorge Road / Carlton Hills Boulevard – LOS F (AM peak hour)**

- **Intersection #47. Mission Gorge Road / Cuyamaca Street – LOS E (PM peak hour)**
- **Intersection #55. Buena Vista Avenue / Cuyamaca Street – LOS F (PM peak hour)**

Based on the established significance criteria, **fifteen (15) significant direct impacts** were calculated with the addition of Project traffic at the study area locations above since the Project-induced change in delay is greater than 2.0 seconds for LOS E or F operating intersections.

These impacts are calculated to occur under the Proposed Project condition with the school. No additional impacts result from this analysis.

***Appendix M*** contains the Existing + Cumulative Projects + Project (No School Scenario) peak hour intersection calculation worksheets.

### 13.2.2 *Daily Street Segment Operations*

***Table 13–5*** summarizes the Existing + Cumulative Projects + Project (No School Scenario) street segment operations. As seen in *Table 13–5*, the following study area street segments are calculated to operate at LOS E or F with the addition of cumulative projects and Project (No School Scenario) traffic:

- **Segment #5. El Nopal from Los Ranchitos Road to Riverford Road – LOS E**
- **Segment #6. Mast Boulevard from SR-52 to West Hills Parkway – LOS E**
- **Segment #16. Carlton Oaks Drive from Fanita Parkway to Carlton Hills Boulevard – LOS E**
- **Segment #30. Fanita Parkway from Ganley Drive/Santee Lakes Boulevard to Lake Canyon Road – LOS F**
- **Segment #31. Fanita Parkway from Lake Canyon Road to Mast Boulevard – LOS F**
- Segment #41. Cuyamaca Street from Project Site to Magnolia Avenue – LOS E
- **Segment #46. Cuyamaca Street from El Nopal to Mast Boulevard – LOS F**
- **Segment #50. Cuyamaca Street from Mission Gorge Road to SR-52 Ramps – LOS E**
- **Segment #64. Riverford Road from Riverside Drive to SR-67 Ramps – LOS E**

Based on the established significance criteria, **eight (8) significant direct impacts** were calculated with the addition of Project (No School Scenario) traffic at study area locations above since the Project-induced change in V/C is greater than 0.02 for LOS E or F operating street segments. Segment #41 is not deemed to be a significant impact as the intersection operations at both ends of this segment are calculated to operate at LOS C or better. See *Section 16.1.4* for a more detailed discussion and analyses of Cuyamaca Street.

These impacts are calculated to occur under the Proposed Project condition with the school. No additional impacts result from this analysis.

## 13.3 Year 2035 With Project (No School Scenario) Analysis

### 13.3.1 *Peak Hour Intersection Operations*

***Table 13–6*** summarizes the Year 2035 With Project (No School Scenario) intersection operations. As seen in *Table 13–6*, the following study area intersections are calculated to operate at LOS E or F under Year 2035 With Project (No School Scenario) conditions:

- **Intersection #3. Ganley Road / Fanita Parkway – LOS F (AM/PM peak hours)**
- **Intersection #4. Woodglen Vista Drive / Cuyamaca Street – LOS F (AM/PM peak hours)**
- **Intersection #6. El Nopal / Cuyamaca Street – LOS F (AM/PM peak hours)**
- **Intersection #8. El Nopal / Magnolia Avenue –LOS E (PM peak hour)**
- **Intersection #9. Lake Canyon Road / Fanita Parkway – LOS F (AM/PM peak hours)**
- **Intersection #12. Beck Drive / Cuyamaca Street – LOS F (AM/PM peak hours)**
- **Intersection #17. Mast Boulevard / SR-52 WB Ramps – LOS F (AM peak hour)**
- **Intersection #18. Mast Boulevard / West Hills Parkway – LOS F (AM/PM peak hours)**
- **Intersection #22. Mast Boulevard / Fanita Parkway – LOS F (AM/PM peak hours)**
- **Intersection #25. Mast Boulevard / Cuyamaca Street – LOS E/F (AM/PM peak hours)**
- **Intersection #37. Riverford Road / SR-67 SB Ramps – LOS F (AM/PM peak hours)**
- **Intersection #39. Riverford Road / Woodside Avenue – LOS F (AM peak hour)**
- **Intersection #40. Mission Gorge Road / West Hills Parkway – LOS F (AM peak hour)**
- **Intersection #45. Mission Gorge Road / Carlton Hills Boulevard – LOS F/E (AM/PM peak hours)**
- Intersection #46. Mission Gorge Road / Town Center Parkway – LOS E (PM peak hour)
- **Intersection #47. Mission Gorge Road / Cuyamaca Street – LOS F (PM peak hour)**
- Intersection #49. Mission Gorge Road / Cottonwood Avenue – LOS F (AM/PM peak hours)
- Intersection #50. Mission Gorge Road / Magnolia Avenue – LOS E (AM/PM peak hours)
- Intersection #51. Woodside Avenue N / SR-67 SB Off-Ramp – LOS E (AM peak hour)
- Intersection #53. Fanita Drive / SR-52 WB Off-Ramp – LOS F (AM peak hour)
- **Intersection #55. Buena Vista Avenue / Cuyamaca Street – LOS F (PM peak hour)**
- Intersection #60. Prospect Avenue / Fanita Drive – LOS E (AM peak hour)

Based on the established significance criteria, **sixteen (16) significant cumulative impacts** were calculated with the addition of Project traffic at the study area locations above since the Project-induced change in delay is greater than 2.0 seconds for LOS E or F operating intersections.

These impacts are calculated to occur under the Proposed Project condition with the school. No additional impacts result from this analysis.

***Appendix N*** contains the Year 2035 With Project (No School Scenario) peak hour intersection calculation worksheets.

### 13.3.2 *Daily Street Segment Operations*

***Table 13–7*** summarizes the Year 2035 With Project (No School Scenario) street segment operations. As seen in *Table 13–7*, the following study area street segments are calculated to operate at LOS E or F under Year 2035 With Project (No School Scenario) conditions:

- **Segment #4. El Nopal from Magnolia Avenue to Los Ranchitos Road – LOS E**
- **Segment #5. El Nopal from Los Ranchitos Road to Riverford Road – LOS E**
- **Segment #16. Carlton Oaks Drive from Fanita Parkway to Carlton Hills Boulevard – LOS E**
- **Segment #30. Fanita Parkway from Ganley Drive/Santee Lakes Boulevard to Lake Canyon Road – LOS F**
- **Segment #31. Fanita Parkway from Lake Canyon Road to Mast Boulevard – LOS F**
- Segment #41. Cuyamaca Street from Project Site to Magnolia Avenue – LOS E
- **Segment #45. Cuyamaca Street from Woodglen Vista Drive to El Nopal – LOS E**
- **Segment #46. Cuyamaca Street from El Nopal to Mast Boulevard – LOS F**
- **Segment #50. Cuyamaca Street from Mission Gorge Road to SR-52 Ramps – LOS F**
- Segment #62. Woodside Avenue east of Magnolia Avenue – LOS E
- Segment #63. N. Woodside Avenue from Riverford Road to Woodside Avenue – LOS F
- **Segment #64. Riverford Road from Riverside Drive to SR-67 Ramps – LOS F**

Based on the established significance criteria, **nine (9) significant cumulative impacts** were calculated with the addition of Project (No School Scenario) traffic at study area locations above since the Project-induced change in V/C is greater than 0.02 for LOS E or F operating street segments. Segment #41 is not deemed to be a significant impact as the intersection operations at both ends of this segment are calculated to operate at LOS C or better. See *Section 16.1.4* for a more detailed discussion and analyses of Cuyamaca Street.

These impacts are calculated to occur under the Proposed Project condition with the school. No additional impacts result from this analysis.

## 13.4 Conclusions

The analysis of the "No School" scenarios do not result in any new impacts over those calculated with the proposed Project. Therefore, no changes to the conclusions of significance would be expected under this scenario.

TABLE 13–2
EXISTING + PROJECT INTERSECTION OPERATIONS
(NO SCHOOL SCENARIO)

| Intersection | Jur. | Control Type | Peak Hour | Existing | | Existing + Project (No School) | | Δ [c] Delay | Sig? |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Delay [a] | LOS [b] | Delay | LOS | | |
| 1. Princess Joann Rd / Cuyamaca St | Santee | DNE/ MSSC [d] | AM | — | — | 13.2 | B | — | No |
| | | | PM | — | — | 15.6 | C | — | |
| 2. Princess Joann Rd / Magnolia Ave | Santee | AWSC [e] | AM | 7.6 | A | 11.1 | B | 3.5 | No |
| | | | PM | 7.9 | A | 12.6 | B | 4.7 | |
| 3. Ganley Rd / Fanita Pkwy | Santee | MSSC | AM | 9.3 | A | **54.9** | **F** | **45.6** | **Yes** |
| | | | PM | 9.1 | A | **78.1** | **F** | **69.0** | |
| 4. Woodglen Vista Dr / Cuyamaca St | Santee | AWSC | AM | 8.9 | A | 19.5 | C | 10.6 | **Yes** |
| | | | PM | 9.0 | A | **86.6** | **F** | **77.6** | |
| 5. Woodglen Vista Dr / Magnolia Ave | Santee | Signal | AM | 11.9 | B | 13.4 | B | 1.5 | No |
| | | | PM | 10.7 | B | 10.8 | B | 0.1 | |
| 6. El Nopal / Cuyamaca St | Santee | AWSC | AM | 12.0 | B | **99.4** | **F** | **87.4** | **Yes** |
| | | | PM | 11.8 | B | **>100.0** | **F** | **>2.0** | |
| 7. El Nopal / Magnolia Ave | Santee | Signal | AM | 23.9 | C | 28.8 | C | 4.9 | No |
| | | | PM | 18.3 | B | 24.8 | C | 6.5 | |
| 8. El Nopal / Los Ranchitos Rd | County | AWSC | AM | 13.9 | B | 20.0 | C | 6.1 | **Yes** |
| | | | PM | 14.9 | B | **35.9** | **E** | **21.0** | |
| 9. Lake Canyon Rd / Fanita Pkwy | Santee | AWSC | AM | 7.9 | A | **60.8** | **F** | **52.9** | **Yes** |
| | | | PM | 8.3 | A | **>100.0** | **F** | **>2.0** | |
| 10. Lake Canyon Rd / Carlton Hills Blvd | Santee | AWSC | AM | 10.3 | B | 11.3 | B | 1.0 | No |
| | | | PM | 9.2 | A | 10.4 | A | 1.2 | |
| 11. Lake Canyon Rd / Halberns Blvd | Santee | MSSC | AM | 8.7 | A | 8.7 | A | 0.0 | No |
| | | | PM | 8.7 | A | 8.7 | A | 0.0 | |
| 12. Beck Dr / Cuyamaca St | Santee | AWSC | AM | 22.4 | C | **>100.0** | **F** | **>2.0** | **Yes** |
| | | | PM | 13.3 | B | **>100.0** | **F** | **>2.0** | |
| 13. 2nd Street / Magnolia Ave | Santee | Signal | AM | 8.0 | A | 8.0 | A | 0.0 | No |
| | | | PM | 6.6 | A | 6.7 | A | 0.1 | |
| 14. Carefree Dr / Magnolia Ave | Santee | Signal | AM | 17.4 | B | 20.9 | C | 3.5 | No |
| | | | PM | 9.2 | A | 9.6 | A | 0.4 | |
| 15. Riverford Rd / Riverside Dr | County | Signal | AM | 25.7 | C | 30.9 | C | 5.2 | No |
| | | | PM | 24.3 | C | 30.7 | C | 6.4 | |
| 16. Mast Blvd / SR-52 EB Ramps | San Diego/ Caltrans | Signal | AM | 9.5 | A | 9.5 | A | 0.0 | No |
| | | | PM | 13.1 | B | 17.2 | B | 4.1 | |

*(Continued on Next Page)*

TABLE 13–2
EXISTING + PROJECT INTERSECTION OPERATIONS
(NO SCHOOL SCENARIO)

| Intersection | Jur. | Control Type | Peak Hour | Existing | | Existing + Project (No School) | | Δ [c] Delay | Sig? |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Delay [a] | LOS [b] | Delay | LOS | | |
| *(Continued from Previous Page)* | | | | | | | | | |
| 17. Mast Blvd / SR-52 WB Ramps [g] | San Diego/ Caltrans | Signal | AM | >100.0 | F | **>100.0** | **F** | **>2.0** | **Yes** |
| | | | PM | 10.9 | B | 13.0 | B | 2.1 | |
| 18. Mast Blvd / West Hills Pkwy [g] | San Diego | Signal | AM | >100.0 | F | **>100.0** | **F** | **>2.0** | **Yes** |
| | | | PM | 24.3 | C | 51.9 | D | 27.6 | |
| 19. Mast Blvd / West Hills H.S. | Santee | Signal | AM | 3.9 | A | 4.5 | A | 0.6 | No |
| | | | PM | 7.4 | A | 12.8 | B | 5.4 | |
| 20. Mast Blvd / Medina Dr | Santee | Signal | AM | 3.9 | A | 8.0 | A | 4.1 | No |
| | | | PM | 4.5 | A | 4.6 | A | 0.1 | |
| 21. Mast Blvd / Pebble Beach Dr | Santee | Signal | AM | 5.0 | A | 5.1 | A | 0.1 | No |
| | | | PM | 3.7 | A | 3.8 | A | 0.1 | |
| 22. Mast Blvd / Fanita Pkwy | Santee | Signal | AM | 10.8 | B | **58.9** | **E** | **48.1** | **Yes** |
| | | | PM | 12.0 | B | **87.9** | **F** | **75.9** | |
| 23. Mast Blvd / Carlton Hills Blvd | Santee | Signal | AM | 42.4 | D | 44.5 | D | 2.1 | No |
| | | | PM | 44.8 | D | 47.7 | D | 2.9 | |
| 24. Mast Blvd / Halberns Blvd | Santee | Signal | AM | 13.5 | B | 13.6 | B | 0.1 | No |
| | | | PM | 13.8 | B | 13.9 | B | 0.1 | |
| 25. Mast Blvd / Cuyamaca St | Santee | Signal | AM | 36.9 | D | **67.4** | **E** | **30.5** | **Yes** |
| | | | PM | 33.3 | C | **55.8** | **E** | **22.5** | |
| 26. Mast Blvd / Park Center Dr | Santee | Signal | AM | 7.1 | A | 7.1 | A | 0.0 | No |
| | | | PM | 8.7 | A | 8.7 | A | 0.0 | |
| 27. Mast Blvd / Magnolia Ave | Santee | Signal | AM | 32.9 | C | 33.1 | C | 0.2 | No |
| | | | PM | 26.8 | C | 28.3 | C | 1.5 | |
| 28. Carlton Oaks Dr / West Hills Pkwy | San Diego | Signal | AM | 15.0 | B | 15.6 | B | 0.6 | No |
| | | | PM | 9.8 | A | 10.6 | B | 0.8 | |
| 29. Carlton Oaks Dr / Pebble Beach Dr | Santee | Signal | AM | 8.9 | A | 9.2 | A | 0.3 | No |
| | | | PM | 5.0 | A | 5.0 | A | 0.0 | |
| 30. Carlton Oaks Dr / Fanita Pkwy | Santee | Signal | AM | 10.9 | B | 16.2 | B | 5.3 | No |
| | | | PM | 9.2 | A | 10.6 | B | 1.4 | |
| 31. Carlton Oaks Dr / Carlton Hills Blvd | Santee | Signal | AM | 33.0 | C | 41.0 | D | 8.0 | No |
| | | | PM | 23.3 | C | 28.3 | C | 5.0 | |
| *(Continued on Next Page)* | | | | | | | | | |

TABLE 13–2
EXISTING + PROJECT INTERSECTION OPERATIONS
(NO SCHOOL SCENARIO)

| Intersection | Jur. | Control Type | Peak Hour | Existing | | Existing + Project (No School) | | Δ [c] Delay | Sig? |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Delay [a] | LOS [b] | Delay | LOS | | |
| *(Continued from Previous Page)* | | | | | | | | | |
| 32. Riverwalk Dr / Cuyamaca St | Santee | Signal | AM | 14.6 | B | 22.7 | C | 8.1 | No |
| | | | PM | 14.6 | B | 20.9 | C | 6.3 | |
| 33. Riverpark Dr / Cuyamaca St | Santee | Signal | AM | 16.7 | B | 17.9 | B | 1.2 | No |
| | | | PM | 19.9 | B | 23.7 | C | 3.8 | |
| 34. Town Center Pkwy / Cuyamaca St | Santee | Signal | AM | 14.5 | B | 14.6 | B | 0.1 | No |
| | | | PM | 32.7 | C | 37.5 | D | 4.8 | |
| 35. Town Center Pkwy / Riverview Pkwy | Santee | Signal | AM | 11.6 | B | 12.1 | B | 0.5 | No |
| | | | PM | 14.5 | B | 14.6 | B | 0.1 | |
| 36. Riverview Pkwy / Magnolia Ave | Santee | Signal | AM | 10.1 | B | 11.0 | B | 0.9 | No |
| | | | PM | 11.2 | B | 12.5 | B | 1.3 | |
| 37. Riverford Rd / SR-67 SB Ramps | County/ Caltrans | MSSC | AM | 86.0 | F | **>100.0** | **F** | **22** | **Yes** |
| | | | PM | 51.0 | F | **64.0** | **F** | **69** | |
| 38. Woodside Ave / SR-67 NB Off-Ramp | County/ Caltrans | Signal | AM | 40.4 | D | 44.4 | D | 4.0 | No |
| | | | PM | 43.2 | D | 46.1 | D | 2.9 | |
| 39. Riverford Rd / Woodside Ave | County | Signal | AM | 54.9 | D | **63.8** | **E** | **8.9** | **Yes** |
| | | | PM | 31.1 | C | 34.5 | C | 3.4 | |
| 40. Mission Gorge Rd / West Hills Pkwy | Santee | Signal | AM | 16.1 | B | 20.1 | C | 4.0 | No |
| | | | PM | 14.3 | B | 14.7 | B | 0.4 | |
| 41. Mission Gorge Rd / SR-52 EB Ramps | Santee/ Caltrans | Signal | AM | 4.1 | A | 4.3 | A | 0.2 | No |
| | | | PM | 11.1 | B | 11.9 | B | 0.8 | |
| 42. Mission Gorge Rd / SR-52 WB Ramps | Santee/ Caltrans | Signal | AM | 1.8 | A | 1.8 | A | 0.0 | No |
| | | | PM | 0.6 | A | 0.6 | A | 0.0 | |
| 43. Mission Gorge Rd / SR-125 | Santee/ Caltrans | Signal | AM | 32.6 | C | 45.4 | D | 12.8 | No |
| | | | PM | 29.1 | C | 48.4 | D | 19.3 | |
| 44. Mission Gorge Rd / Fanita Dr | Santee | Signal | AM | 37.7 | D | 39.4 | D | 1.7 | No |
| | | | PM | 29.9 | C | 44.3 | D | 14.4 | |
| 45. Mission Gorge Rd / Carlton Hills Blvd | Santee | Signal | AM | 61.7 | E | **82.7** | **F** | **21.0** | **Yes** |
| | | | PM | 38.9 | D | 45.2 | D | 6.3 | |
| 46. Mission Gorge Rd / Town Center Pkwy | Santee | Signal | AM | 26.2 | C | 26.3 | C | 0.1 | No |
| | | | PM | 45.9 | D | 46.0 | D | 0.1 | |
| *(Continued on Next Page)* | | | | | | | | | |

TABLE 13–2
EXISTING + PROJECT INTERSECTION OPERATIONS
(NO SCHOOL SCENARIO)

| Intersection | Jur. | Control Type | Peak Hour | Existing | | Existing + Project (No School) | | Δ [c] Delay | Sig? |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Delay [a] | LOS [b] | Delay | LOS | | |
| *(Continued from Previous Page)* | | | | | | | | | |
| 47. Mission Gorge Rd / Cuyamaca St | Signal | Signal | AM | 43.3 | D | 46.0 | D | 2.7 | No |
| | | | PM | 47.4 | D | 54.1 | D | 6.7 | |
| 48. Mission Gorge Rd / Riverview Pkwy | Signal | Signal | AM | 19.0 | B | 19.8 | B | 0.8 | No |
| | | | PM | 17.0 | B | 17.2 | B | 0.2 | |
| 49. Mission Gorge Rd / Cottonwood Ave | Signal | Signal | AM | 26.7 | C | 26.8 | C | 0.1 | No |
| | | | PM | 20.6 | C | 20.7 | C | 0.1 | |
| 50. Mission Gorge Rd / Magnolia Ave | Signal | Signal | AM | 40.9 | D | 44.5 | D | 3.6 | No |
| | | | PM | 47.7 | D | 50.3 | D | 2.6 | |
| 51. Woodside Ave / SR-67 SB Off-Ramp | AWSC | AWSC | AM | 26.0 | D | 26.2 | D | 0.2 | No |
| | | | PM | 16.0 | C | 16.3 | C | 0.3 | |
| 52. Woodside Ave / SR-67 NB On-Ramp | Signal | Signal | AM | 10.0 | A | 10.1 | A | 0.1 | No |
| | | | PM | 9.3 | A | 9.4 | A | 0.1 | |
| 53. Fanita Dr / SR-52 WB Off-Ramp | MSSC | MSSC | AM | 26.8 | D | 28.5 | D | 1.7 | No |
| | | | PM | 16.7 | C | 17.2 | C | 0.5 | |
| 54. Fanita Dr / SR-52 EB On-Ramp | Signal | Uncontrolled [f] | AM | 15.2 | C | 16.2 | C | 1.0 | No |
| | | | PM | 9.9 | A | 10.1 | B | 0.2 | |
| 55. Buena Vista Ave / Cuyamaca St | Santee | Signal | AM | 11.2 | B | 11.4 | B | 0.2 | No |
| | | | PM | 28.9 | C | 40.1 | D | 11.2 | |
| 56. Cuyamaca St / SR-52 WB Ramps | Santee/ Caltrans | Signal | AM | 2.6 | A | 2.6 | A | 0.0 | No |
| | | | PM | 3.6 | A | 3.8 | A | 0.2 | |
| 57. Cuyamaca St / SR-52 EB Ramps | Santee/ Caltrans | Signal | AM | 31.7 | C | 32.2 | C | 0.5 | No |
| | | | PM | 36.2 | D | 38.3 | D | 2.1 | |
| 58. Magnolia Ave / SR-52 WB Ramps /SR-67 SB | Santee/ Caltrans | Signal | AM | 6.8 | A | 9.3 | A | 2.5 | No |
| | | | PM | 5.9 | A | 5.9 | A | 0.0 | |
| 59. Magnolia Ave / SR-52 EB Ramps | Santee/ Caltrans | Signal | AM | 8.8 | A | 8.8 | A | 0.0 | No |
| | | | PM | 20.1 | C | 21.8 | C | 1.7 | |
| 60. Prospect Ave / Fanita Dr | Santee | Signal | AM | 27.2 | C | 27.3 | C | 0.1 | No |
| | | | PM | 19.1 | B | 19.3 | B | 0.2 | |
| 61. Prospect Ave / Cuyamaca St | Santee | Signal | AM | 29.1 | C | 29.2 | C | 0.1 | No |
| | | | PM | 34.4 | C | 34.5 | C | 0.1 | |
| *(Continued on Next Page)* | | | | | | | | | |

## TABLE 13–2
## EXISTING + PROJECT INTERSECTION OPERATIONS
## (NO SCHOOL SCENARIO)

| Intersection | Jur. | Control Type | Peak Hour | Existing | | Existing + Project (No School) | | Δ [c] Delay | Sig? |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Delay [a] | LOS [b] | Delay | LOS | | |
| *(Continued from Previous Page)* | | | | | | | | | |
| 62. Prospect Ave / Cottonwood Ave | Santee | Signal | AM | 8.3 | A | 8.3 | A | 0.0 | No |
| | | | PM | 6.5 | A | 6.5 | A | 0.0 | |
| 63. Prospect Ave / Magnolia Ave | Santee | Signal | AM | 20.4 | C | 20.9 | C | 0.5 | No |
| | | | PM | 28.1 | C | 30.1 | C | 2.0 | |
| 64. Prospect Ave / SR-67 NB Off-Ramp | Santee/ Caltrans | Signal | AM | 9.5 | A | 9.6 | A | 0.1 | No |
| | | | PM | 8.6 | A | 9.2 | A | 0.6 | |
| 65. Prospect Ave / Graves Ave | Santee | Signal | AM | 20.1 | C | 20.1 | C | 0.0 | No |
| | | | PM | 33.7 | C | 33.7 | C | 0.0 | |
| 66. Mast Boulevard / Weston Road | Santee | Signal | AM | 5.3 | A | 5.4 | A | 0.1 | No |
| | | | PM | 1.5 | A | 1.9 | A | 0.4 | |

***Footnotes:***

a. Average delay expressed in seconds per vehicle.
b. Level of Service
c. Δ denotes the increase in delay due to Project.
d. Minor Street Stop Controlled intersection. Minor street left turn delay reported.
e. All-Way Stop Controlled intersection. Average intersection delay reported.
f. No traffic control devices are installed at this location. Therefore, the southbound left-turn movement is reported.
g. The HCM methodology does not accurately reflect operations at this intersection during the AM peak hour. Latent demand east of the intersection, as well as upstream congestion from SR-52 WB exceed the limits of the analysis software/methodology. The LOS F result is based on the bottleneck effect of the lane-drop on the WB on-ramp observed in the field.

| SIGNALIZED | | UNSIGNALIZED | |
|---|---|---|---|
| DELAY/LOS THRESHOLDS | | DELAY/LOS THRESHOLDS | |
| Delay | LOS | Delay | LOS |
| 0.0 ≤ 10.0 | A | 0.0 ≤ 10.0 | A |
| 10.1 to 20.0 | B | 10.1 to 15.0 | B |
| 20.1 to 35.0 | C | 15.1 to 25.0 | C |
| 35.1 to 55.0 | D | 25.1 to 35.0 | D |
| 55.1 to 80.0 | E | 35.1 to 50.0 | E |
| ≥ 80.1 | F | ≥ 50.1 | F |

***General Notes:***

1. Sig = Significant impact, yes or no.
2. Jur. = Jurisdiction
3. DNE, "—" = Does not exist

TABLE 13–3
EXISTING + PROJECT STREET SEGMENT OPERATIONS
(NO SCHOOL SCENARIO)

| Street Segment | Jur. | Existing Capacity (LOS E) [a] | Existing | | | Existing + Project (No School) | | | Project Volumes | Δ [e] V/C | Sig? |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ADT [b] | LOS [c] | V/C [d] | ADT | LOS | V/C | | | |
| **Princess Joann Road** | | | | | | | | | | | |
| 1. Cuyamaca St to Magnolia Ave | Santee | 8,000 | 530 | A | 0.066 | 530 | A | 0.066 | 0 | 0.000 | No |
| **Woodglen Vista Drive** | | | | | | | | | | | |
| 2. Cuyamaca St to Magnolia Ave | Santee | 8,000 | 1,700 | A | 0.213 | 1,700 | A | 0.213 | 0 | 0.000 | No |
| **El Nopal** | | | | | | | | | | | |
| 3. Cuyamaca St to Magnolia Ave | Santee | 8,000 | 3,780 | C | 0.473 | 3,780 | C | 0.473 | 0 | 0.000 | No |
| 4. Magnolia Ave to Los Ranchitos Rd | Santee | 15,000 | 8,870 | C | 0.591 | 11,510 | D | 0.767 | 2,640 | 0.176 | No |
| 5. Los Ranchitos Rd to Riverford Rd | County | 16,200 | 9,810 | D | — | **12,450** | **E** | — | **2,640** | — | **Yes** |
| **Mast Boulevard** | | | | | | | | | | | |
| 6. SR-52 to West Hills Pkwy | San Diego | 40,000 | 26,440 | C | 0.661 | 33,050 | D | 0.826 | 6,610 | 0.165 | No |
| 7. West Hills Pkwy to Medina Dr | Santee | 40,000 | 19,540 | B | 0.489 | 29,060 | C | 0.727 | 9,520 | 0.238 | No |
| 8. Pebble Beach Dr to Fanita Pkwy | Santee | 40,000 | 19,590 | B | 0.490 | 29,110 | C | 0.728 | 9,520 | 0.238 | No |
| 9. Fanita Pkwy to Carlton Hills Blvd | Santee | 40,000 | 16,800 | B | 0.420 | 19,440 | B | 0.486 | 2,640 | 0.066 | No |
| 10. Carlton Hills Blvd to Halberns Blvd | Santee | 40,000 | 19,220 | B | 0.481 | 21,340 | C | 0.534 | 2,120 | 0.053 | No |
| 11. Halberns Blvd to Cuyamaca St | Santee | 40,000 | 20,200 | B | 0.505 | 22,320 | C | 0.558 | 2,120 | 0.053 | No |
| 12. Cuyamaca St to Magnolia Ave | Santee | 40,000 | 18,490 | B | 0.462 | 18,750 | B | 0.469 | 260 | 0.007 | No |
| 13. Magnolia Ave to Los Ranchitos Rd | Santee | 15,000 | 7,710 | C | 0.514 | 7,710 | C | 0.514 | 0 | 0.000 | No |
| 14. West of Riverford Rd | County | 19,000 | 1,810 | A | — | 1,810 | A | — | 0 | — | No |
| **Carlton Oaks Drive** | | | | | | | | | | | |
| 15. West Hills Pkwy to Pebble Beach Dr | Santee | 15,000 | 7,360 | C | 0.491 | 7,890 | C | 0.526 | 530 | 0.035 | No |
| 16. Fanita Pkwy to Carlton Hills Blvd | Santee | 15,000 | 10,560 | D | 0.704 | **13,470** | **E** | **0.898** | **2,910** | **0.194** | **Yes** |

*(Continued on Next Page)*

TABLE 13–3
EXISTING + PROJECT STREET SEGMENT OPERATIONS
(NO SCHOOL SCENARIO)

| Street Segment | Jur. | Existing Capacity (LOS E) [a] | Existing | | | Existing + Project (No School) | | | Project Volumes | Δ [e] V/C | Sig? |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ADT [b] | LOS [c] | V/C [d] | ADT | LOS | V/C | | | |
| *(Continued from Previous Page)* | | | | | | | | | | | |
| **Mission Gorge Road** | | | | | | | | | | | |
| 17. Western City Limits to West Hills Pkwy | Santee | 40,000 | 16,510 | B | 0.413 | 19,150 | B | 0.479 | 2,640 | 0.066 | No |
| 18. West Hills Pkwy to SR-125 | Santee | 40,000 | 17,000 | B | 0.425 | 17,000 | B | 0.425 | 0 | 0.000 | No |
| 19. SR-125 to Fanita Dr | Santee | 60,000 | 45,440 | C | 0.757 | 51,260 | D | 0.854 | 5,820 | 0.097 | No |
| 20. Fanita Dr to Carlton Hills Blvd | Santee | 60,000 | 41,100 | C | 0.685 | 47,710 | C | 0.795 | 6,610 | 0.110 | No |
| 21. Carlton Hills Blvd to Town Center Pkwy | Santee | 60,000 | 37,960 | C | 0.633 | 41,130 | C | 0.686 | 3,170 | 0.053 | No |
| 22. Town Center Pkwy to Cuyamaca St | Santee | 60,000 | 28,630 | B | 0.477 | 31,270 | B | 0.521 | 2,640 | 0.044 | No |
| 23. Cuyamaca St to Riverview Pkwy | Santee | 60,000 | 23,140 | A | 0.386 | 24,460 | A | 0.408 | 1,320 | 0.022 | No |
| 24. Riverview Pkwy to Cottonwood Ave | Santee | 60,000 | 25,550 | B | 0.426 | 26,870 | B | 0.448 | 1,320 | 0.022 | No |
| 25. Cottonwood Ave to Magnolia Ave | Santee | 60,000 | 24,960 | A | 0.416 | 26,280 | B | 0.438 | 1,320 | 0.022 | No |
| **Prospect Avenue** | | | | | | | | | | | |
| 26. Fanita Dr to Cuyamaca St | Santee | 15,000 | 8,900 | C | 0.593 | 8,900 | C | 0.593 | 0 | 0.000 | No |
| 27. Cuyamaca St to Cottonwood Ave | Santee | 15,000 | 9,880 | C | 0.659 | 9,880 | C | 0.659 | 0 | 0.000 | No |
| **West Hills Parkway** | | | | | | | | | | | |
| 28. Mast Blvd to Mission Gorge Rd | Santee | 40,000 | 11,610 | A | 0.290 | 13,730 | A | 0.343 | 2,120 | 0.053 | No |
| **Fanita Parkway** | | | | | | | | | | | |
| 29. Project Site to Ganley Dr [f] | Santee | DNE/ 15,000 | — | — | — | 12,430 | D | 0.829 | 12,430 | 0.829 | No |
| 30. Ganley Dr to Lake Canyon Rd | Santee | 10,000 | 2,610 | A | 0.261 | **15,040** | **F** | **1.504** | **12,430** | **1.243** | **Yes** |
| 31. Lake Canyon Rd to Mast Blvd | Santee | 10,000 | 3,860 | A | 0.386 | **15,230** | **F** | **1.523** | **11,370** | **1.137** | **Yes** |
| 32. Mast Blvd to Carlton Oaks Dr | Santee | 10,000 | 3,330 | A | 0.333 | 6,770 | C | 0.677 | 3,440 | 0.344 | No |
| *(Continued on Next Page)* | | | | | | | | | | | |

TABLE 13–3
EXISTING + PROJECT STREET SEGMENT OPERATIONS
(NO SCHOOL SCENARIO)

| Street Segment | Jur. | Existing Capacity (LOS E) [a] | Existing | | | Existing + Project (No School) | | | Project Volumes | Δ [e] V/C | Sig? |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ADT [b] | LOS [c] | V/C [d] | ADT | LOS | V/C | | | |
| *(Continued from Previous Page)* | | | | | | | | | | | |
| **Fanita Drive** | | | | | | | | | | | |
| 33. Mission Gorge to SR-52 Ramps | Santee | 40,000 | 18,990 | B | 0.475 | 19,250 | B | 0.481 | 260 | 0.006 | No |
| 34. SR-52 Ramps to Prospect Ave | Santee | 40,000 | 11,650 | A | 0.291 | 11,910 | A | 0.298 | 260 | 0.007 | No |
| **Carlton Hills Boulevard** | | | | | | | | | | | |
| 35. Lake Canyon Rd to Mast Blvd | Santee | 40,000 | 5,880 | A | 0.147 | 6,940 | A | 0.174 | 1,060 | 0.027 | No |
| 36. Mast Blvd to Carlton Oaks Dr | Santee | 40,000 | 10,030 | A | 0.251 | 11,620 | A | 0.291 | 1,590 | 0.040 | No |
| 37. Carlton Oaks Dr to Mission Gorge Rd | Santee | 40,000 | 24,960 | C | 0.624 | 29,460 | C | 0.737 | 4,500 | 0.113 | No |
| **Halberns Boulevard** | | | | | | | | | | | |
| 38. Lake Canyon Rd to Mast Blvd | Santee | 15,000 | 2,210 | A | 0.147 | 2,210 | A | 0.147 | 0 | 0.000 | No |
| **Town Center Parkway** | | | | | | | | | | | |
| 39. Mission Gorge Rd to Cuyamaca St | Santee | 40,000 | 19,280 | B | 0.482 | 19,540 | B | 0.489 | 260 | 0.007 | No |
| 40. Cuyamaca St to Riverview Pkwy | Santee | 10,000 | 5,660 | C | 0.377 | 5,920 | C | 0.592 | 260 | 0.026 | No |
| **Cuyamaca Street** | | | | | | | | | | | |
| 41. Project Site to Magnolia Ave [g] | Santee | DNE/ 15,000 | — | — | — | 14,020 | E | 0.935 | 14,020 | 0.935 | No |
| 42. Magnolia Ave to Princess Joann Rd [g] | Santee | DNE/ 15,000 | — | — | — | 7,670 | C | 0.511 | 7,670 | 0.511 | No |
| 43. Princess Joann Rd to Chaparral Dr [g] | Santee | DNE/ 15,000 | — | — | — | 7,670 | C | 0.511 | 7,670 | 0.511 | No |
| 44. Chaparral Dr to Woodglen Vista Dr [g] | Santee | 15,000 | 670 | A | 0.045 | 8,340 | C | 0.556 | 7,670 | 0.511 | No |
| 45. Woodglen Vista Dr to El Nopal | Santee | 15,000 | 4,360 | A | 0.291 | 12,030 | D | 0.802 | 7,670 | 0.511 | No |
| 46. El Nopal to Mast Blvd | Santee | 15,000 | 8,860 | C | 0.591 | **16,530** | **F** | **1.102** | **7,670** | **0.511** | **Yes** |
| 47. Mast Blvd to River Park Dr | Santee | 40,000 | 19,600 | B | 0.490 | 25,420 | C | 0.636 | 5,820 | 0.146 | No |
| 48. River Park Dr to Town Center Pkwy | Santee | 40,000 | 26,690 | C | 0.667 | 32,240 | D | 0.806 | 5,550 | 0.139 | No |
| 49. Town Center Pkwy to Mission Gorge Rd | Santee | 50,000 | 21,850 | B | 0.437 | 26,870 | B | 0.537 | 5,020 | 0.100 | No |
| *(Continued on Next Page)* | | | | | | | | | | | |

TABLE 13–3
EXISTING + PROJECT STREET SEGMENT OPERATIONS
(NO SCHOOL SCENARIO)

| Street Segment | Jur. | Existing Capacity (LOS E) [a] | Existing | | | Existing + Project (No School) | | | Project Volumes | Δ [e] V/C | Sig? |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ADT [b] | LOS [c] | V/C [d] | ADT | LOS | V/C | | | |
| *(Continued from Previous Page)* | | | | | | | | | | | |
| **Cuyamaca Street (cont.)** | | | | | | | | | | | |
| 50. Mission Gorge Rd to SR-52 Ramps | Santee | 50,000 | 39,020 | C | 0.780 | 41,660 | D | 0.833 | 2,640 | 0.053 | No |
| 51. SR-52 Ramps to south of Prospect Ave | Santee | 50,000 | 26,060 | B | 0.521 | 27,120 | B | 0.542 | 1,060 | 0.021 | No |
| **Riverview Parkway** | | | | | | | | | | | |
| 52. Mission Gorge Rd to Town Center Pkwy | Santee | 40,000 | 7,640 | A | 0.191 | 7,900 | A | 0.198 | 260 | 0.007 | No |
| 53. Town Center Pkwy to Magnolia Ave | Santee | DNE | — | — | — | — | — | — | — | — | No |
| **Magnolia Avenue** | | | | | | | | | | | |
| 54. Cuyamaca St to Princess Joann Rd [h] | Santee | DNE/ 10,000 | — | — | — | 6,350 | C | 0.635 | 6,350 | 0.635 | No |
| 55. Princess Joann Rd to Woodglen Vista Dr | Santee | 40,000 | 2,020 | A | 0.051 | 8,370 | A | 0.209 | 6,350 | 0.158 | No |
| 56. Woodglen Vista Dr to El Nopal | Santee | 40,000 | 9,030 | A | 0.226 | 15,380 | B | 0.385 | 6,350 | 0.159 | No |
| 57. El Nopal to Mast Blvd | Santee | 40,000 | 13,690 | A | 0.342 | 17,390 | B | 0.435 | 3,700 | 0.093 | No |
| 58. Mast Blvd to Riverview Pkwy | Santee | 40,000 | 22,440 | C | 0.561 | 25,610 | C | 0.640 | 3,170 | 0.079 | No |
| 59. Riverview Pkwy to Mission Gorge Rd | Santee | 40,000 | 25,830 | C | 0.646 | 29,000 | C | 0.725 | 3,170 | 0.079 | No |
| 60. Mission Gorge Rd to SR-52 Ramps | Santee | 60,000 | 33,870 | B | 0.565 | 35,460 | C | 0.591 | 1,590 | 0.026 | No |
| 61. SR-52 Ramps to south of Prospect Ave | Santee | 40,000 | 12,600 | A | 0.315 | 13,130 | A | 0.328 | 530 | 0.013 | No |
| **Woodside Avenue** | | | | | | | | | | | |
| 62. East of Magnolia Ave | Santee | 40,000 | 27,210 | C | 0.680 | 27,470 | C | 0.687 | 260 | 0.007 | No |
| **N. Woodside Avenue** | | | | | | | | | | | |
| 63. Riverford Rd to Woodside Ave | Santee | 10,000 | 3,390 | A | 0.339 | 3,390 | A | 0.339 | 0 | 0.000 | No |
| **Riverford Road** | | | | | | | | | | | |
| 64. Riverside Dr to SR-67 Ramps | County | 23,500 [i] | 18,390 | E | — | **19,710** | **E** | — | **1,320** | — | **Yes** |
| *(Continued on Next Page)* | | | | | | | | | | | |

## TABLE 13–3
## EXISTING + PROJECT STREET SEGMENT OPERATIONS
## (NO SCHOOL SCENARIO)

| Street Segment | Jur. | Existing Capacity (LOS E) [a] | Existing | | | Existing + Project (No School) | | | Project Volumes | Δ [e] V/C | Sig? |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ADT [b] | LOS [c] | V/C [d] | ADT | LOS | V/C | | | |
| *(Continued from Previous Page)* | | | | | | | | | | | |

***Footnotes:***

a. Capacities based on City of Santee, County of San Diego, and City of San Diego Roadway Classification & LOS tables (See *Appendix A*).
b. Average Daily Traffic
c. Level of Service
d. Volume to Capacity ratio
e. Δ denotes a Project-induced increase in the Volume to Capacity ratio. For County of San Diego, an increase in Project trips is used to measure impacts.
f. This future section of Fanita Parkway is proposed to be constructed by the Project as a two-lane Parkway with an LOS E capacity of 15,000 ADT.
g. This future section of Cuyamaca Street is proposed to be constructed by the Project as a two-lane Parkway with an LOS E capacity of 15,000 ADT. The intersection operations at both ends of the Cuyamaca Street road segment between the Project Site and Magnolia Avenue report LOS C or better operations. Therefore, adequate operations are expected along this roadway. The section of Cuyamaca Street between Chaparral Drive and Woodglen Vista Drive will be improved to a Four-Lane Major Arterial under Year 2035 conditions as a Project Design Feature to adequately transition to the four-lane section south of Woodglen Vista Drive.
h. This future section of Magnolia Avenue is proposed to be constructed by the Project as a two-lane Collector with an LOS E capacity of 10,000 ADT.
i. Capacity for "3-Ln Light Collector" interpolated between 2-Ln Light Collector with Continuous Left-Turn Lane (2.2B) and 4-Lane Boulevard with Intermittent Turn Lanes (4.2B).

***General Notes:***

1. Jur = Jurisdiction
2. DNE, "—" = Does not exist
3. Sig = Significant impact, yes or no.
4. County of San Diego does not use V/C ratios as a measure of effectiveness.

TABLE 13–4
EXISTING + CUMULATIVE PROJECTS + PROJECT INTERSECTION OPERATIONS
(NO SCHOOL SCENARIO)

| Intersection | Jur. | Control Type | Peak Hour | Existing + Cumulative Projects | | Existing + Cumulative Projects + Project (No School) | | Δ [c] Delay | Sig? |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Delay [a] | LOS [b] | Delay | LOS | | |
| 1. Princess Joann Rd / Cuyamaca St | Santee | DNE/ MSSC [d] | AM | — | — | 13.2 | B | — | No |
| | | | PM | — | — | 15.6 | C | — | |
| 2. Princess Joann Rd / Magnolia Ave | Santee | AWSC [e] | AM | 7.7 | A | 11.2 | B | 3.5 | No |
| | | | PM | 7.9 | A | 12.8 | B | 4.9 | |
| 3. Ganley Rd / Fanita Pkwy | Santee | MSSC | AM | 9.4 | A | **63.0** | **F** | **53.6** | **Yes** |
| | | | PM | 9.2 | A | **85.0** | **F** | **75.8** | |
| 4. Woodglen Vista Dr / Cuyamaca St | Santee | AWSC | AM | 8.9 | A | 19.8 | C | 10.9 | **Yes** |
| | | | PM | 9.1 | A | **90.0** | **F** | **80.9** | |
| 5. Woodglen Vista Dr / Magnolia Ave | Santee | Signal | AM | 12.0 | B | 13.6 | B | 1.6 | No |
| | | | PM | 10.7 | B | 10.8 | B | 0.1 | |
| 6. El Nopal / Cuyamaca St | Santee | AWSC | AM | 12.3 | B | **>100.0** | **F** | **>2.0** | **Yes** |
| | | | PM | 12.1 | B | **>100.0** | **F** | **>2.0** | |
| 7. El Nopal / Magnolia Ave | Santee | Signal | AM | 24.3 | C | 29.5 | C | 5.2 | No |
| | | | PM | 18.6 | B | 25.8 | C | 7.2 | |
| 8. El Nopal / Los Ranchitos Rd | County | AWSC | AM | 14.4 | B | 21.1 | C | 6.7 | **Yes** |
| | | | PM | 15.5 | C | **39.5** | **E** | **24.0** | |
| 9. Lake Canyon Rd / Fanita Pkwy | Santee | AWSC | AM | 8.1 | A | **70.5** | **F** | **62.4** | **Yes** |
| | | | PM | 8.6 | A | **>100.0** | **F** | **>2.0** | |
| 10. Lake Canyon Rd / Carlton Hills Blvd | Santee | AWSC | AM | 10.4 | B | 11.4 | B | 1.0 | No |
| | | | PM | 9.3 | A | 10.5 | A | 1.2 | |
| 11. Lake Canyon Rd / Halberns Blvd | Santee | MSSC | AM | 8.7 | A | 8.7 | A | 0.0 | No |
| | | | PM | 8.7 | A | 8.7 | A | 0.0 | |
| 12. Beck Dr / Cuyamaca St | Santee | AWSC | AM | 24.1 | C | **>100.0** | **F** | **>2.0** | **Yes** |
| | | | PM | 13.7 | B | **>100.0** | **F** | **>2.0** | |
| 13. 2nd Street / Magnolia Ave | Santee | Signal | AM | 8.2 | A | 8.3 | A | 0.1 | No |
| | | | PM | 6.7 | A | 7.0 | A | 0.3 | |
| 14. Carefree Dr / Magnolia Ave | Santee | Signal | AM | 17.8 | B | 21.7 | C | 3.9 | No |
| | | | PM | 9.3 | A | 9.8 | A | 0.5 | |
| 15. Riverford Rd / Riverside Dr | County | Signal | AM | 26.5 | C | 32.0 | C | 5.5 | No |
| | | | PM | 25.1 | C | 32.2 | C | 7.1 | |
| 16. Mast Blvd / SR-52 EB Ramps | San Diego/ Caltrans | Signal | AM | 10.5 | B | 10.7 | B | 0.2 | No |
| | | | PM | 15.3 | B | 24.3 | C | 9.0 | |

*(Continued on Next Page)*

TABLE 13–4
EXISTING + CUMULATIVE PROJECTS + PROJECT INTERSECTION OPERATIONS
(NO SCHOOL SCENARIO)

| Intersection | Jur. | Control Type | Peak Hour | Existing + Cumulative Projects | | Existing + Cumulative Projects + Project (No School) | | Δ [c] Delay | Sig? |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Delay [a] | LOS [b] | Delay | LOS | | |
| *(Continued from Previous Page)* | | | | | | | | | |
| 17. Mast Blvd / SR-52 WB Ramps [g] | San Diego/ Caltrans | Signal | AM | >100.0 | F | **>100.0** | **F** | **>2.0** | **Yes** |
| | | | PM | 13.1 | B | 16.9 | B | 3.8 | |
| 18. Mast Blvd / West Hills Pkwy [g] | San Diego | Signal | AM | >100.0 | F | **>100.0** | **F** | **>2.0** | **Yes** |
| | | | PM | 37.5 | D | **91.4** | **F** | **53.9** | |
| 19. Mast Blvd / West Hills H.S. | Santee | Signal | AM | 3.8 | A | 4.1 | A | 0.3 | No |
| | | | PM | 7.4 | A | 16.3 | B | 8.9 | |
| 20. Mast Blvd / Medina Dr | Santee | Signal | AM | 3.7 | A | 8.7 | A | 5.0 | No |
| | | | PM | 4.1 | A | 4.2 | A | 0.1 | |
| 21. Mast Blvd / Pebble Beach Dr | Santee | Signal | AM | 4.9 | A | 5.0 | A | 0.1 | No |
| | | | PM | 3.9 | A | 4.0 | A | 0.1 | |
| 22. Mast Blvd / Fanita Pkwy | Santee | Signal | AM | 12.5 | B | **66.9** | **E** | **54.4** | **Yes** |
| | | | PM | 13.5 | B | **95.8** | **F** | **82.3** | |
| 23. Mast Blvd / Carlton Hills Blvd | Santee | Signal | AM | 43.2 | D | 46.4 | D | 3.2 | No |
| | | | PM | 45.9 | D | 49.8 | D | 3.9 | |
| 24. Mast Blvd / Halberns Blvd | Santee | Signal | AM | 13.6 | B | 13.7 | B | 0.1 | No |
| | | | PM | 13.9 | B | 14.0 | B | 0.1 | |
| 25. Mast Blvd / Cuyamaca St | Santee | Signal | AM | 38.0 | D | **65.2** | **E** | **27.2** | **Yes** |
| | | | PM | 33.7 | C | **58.2** | **E** | **24.5** | |
| 26. Mast Blvd / Park Center Dr | Santee | Signal | AM | 7.1 | A | 7.1 | A | 0.0 | No |
| | | | PM | 8.9 | A | 8.9 | A | 0.0 | |
| 27. Mast Blvd / Magnolia Ave | Santee | Signal | AM | 36.6 | D | 36.7 | D | 0.1 | No |
| | | | PM | 28.1 | C | 30.3 | C | 2.2 | |
| 28. Carlton Oaks Dr / West Hills Pkwy | San Diego | Signal | AM | 16.9 | B | 18.1 | B | 1.2 | No |
| | | | PM | 11.4 | B | 13.2 | B | 1.8 | |
| 29. Carlton Oaks Dr / Pebble Beach Dr | Santee | Signal | AM | 9.0 | A | 9.4 | A | 0.4 | No |
| | | | PM | 5.0 | A | 5.0 | A | 0.0 | |
| 30. Carlton Oaks Dr / Fanita Pkwy | Santee | Signal | AM | 11.6 | B | 17.8 | B | 6.2 | No |
| | | | PM | 9.5 | A | 11.1 | B | 1.6 | |
| 31. Carlton Oaks Dr / Carlton Hills Blvd | Santee | Signal | AM | 34.9 | C | 47.9 | D | 13.0 | No |
| | | | PM | 24.3 | C | 30.7 | C | 6.4 | |
| *(Continued on Next Page)* | | | | | | | | | |

TABLE 13–4
EXISTING + CUMULATIVE PROJECTS + PROJECT INTERSECTION OPERATIONS
(NO SCHOOL SCENARIO)

| Intersection | Jur. | Control Type | Peak Hour | Existing + Cumulative Projects | | Existing + Cumulative Projects + Project (No School) | | Δ [c] Delay | Sig? |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Delay [a] | LOS [b] | Delay | LOS | | |
| *(Continued from Previous Page)* | | | | | | | | | |
| 32. Riverwalk Dr / Cuyamaca St | Santee | Signal | AM | 15.0 | B | 24.5 | C | 9.5 | No |
| | | | PM | 15.0 | B | 22.3 | C | 7.3 | |
| 33. Riverpark Dr / Cuyamaca St | Santee | Signal | AM | 17.1 | B | 18.5 | B | 1.4 | No |
| | | | PM | 20.6 | C | 25.2 | C | 4.6 | |
| 34. Town Center Pkwy / Cuyamaca St | Santee | Signal | AM | 14.9 | B | 15.1 | B | 0.2 | No |
| | | | PM | 36.1 | D | 42.7 | D | 6.6 | |
| 35. Town Center Pkwy / Riverview Pkwy | Santee | Signal | AM | 10.9 | B | 11.4 | B | 0.5 | No |
| | | | PM | 13.2 | B | 13.3 | B | 0.1 | |
| 36. Riverview Pkwy / Magnolia Ave | Santee | Signal | AM | 10.6 | B | 11.8 | B | 1.2 | No |
| | | | PM | 11.8 | B | 13.5 | B | 1.7 | |
| 37. Riverford Rd / SR-67 SB Ramps | County/ Caltrans | MSSC | AM | >100.0 | F | **>100.0** | **F** | **22** | **Yes** |
| | | | PM | 59.1 | F | **79.4** | **F** | **69** | |
| 38. Woodside Ave / SR-67 NB Off-Ramp | County/ Caltrans | Signal | AM | 41.3 | D | 46.1 | D | 4.8 | No |
| | | | PM | 44.3 | D | 47.4 | D | 3.1 | |
| 39. Riverford Rd / Woodside Ave | County | Signal | AM | 60.3 | E | **69.4** | **E** | **9.1** | **Yes** |
| | | | PM | 33.0 | C | 36.8 | D | 3.8 | |
| 40. Mission Gorge Rd / West Hills Pkwy | Santee | Signal | AM | 22.0 | C | 27.6 | C | 5.6 | No |
| | | | PM | 16.5 | B | 16.9 | B | 0.4 | |
| 41. Mission Gorge Rd / SR-52 EB Ramps | Santee/ Caltrans | Signal | AM | 4.1 | A | 4.3 | A | 0.2 | No |
| | | | PM | 11.1 | B | 11.9 | B | 0.8 | |
| 42. Mission Gorge Rd / SR-52 WB Ramps | Santee/ Caltrans | Signal | AM | 1.8 | A | 1.8 | A | 0.0 | No |
| | | | PM | 0.6 | A | 0.6 | A | 0.0 | |
| 43. Mission Gorge Rd / SR-125 | Santee/ Caltrans | Signal | AM | 33.8 | C | 37.5 | D | 3.7 | No |
| | | | PM | 29.9 | C | 50.7 | D | 20.8 | |
| 44. Mission Gorge Rd / Fanita Dr | Santee | Signal | AM | 38.7 | D | 40.4 | D | 1.7 | No |
| | | | PM | 31.9 | C | 51.2 | D | 19.3 | |
| 45. Mission Gorge Rd / Carlton Hills Blvd | Santee | Signal | AM | 65.3 | E | **84.4** | **F** | **19.1** | **Yes** |
| | | | PM | 39.2 | D | 46.0 | D | 6.8 | |
| 46. Mission Gorge Rd / Town Center Pkwy | Santee | Signal | AM | 26.7 | C | 26.8 | C | 0.1 | No |
| | | | PM | 48.6 | D | 48.7 | D | 0.1 | |
| *(Continued on Next Page)* | | | | | | | | | |

TABLE 13–4
EXISTING + CUMULATIVE PROJECTS + PROJECT INTERSECTION OPERATIONS
(NO SCHOOL SCENARIO)

| Intersection | Jur. | Control Type | Peak Hour | Existing + Cumulative Projects | | Existing + Cumulative Projects + Project (No School) | | Δ [c] Delay | Sig? |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Delay [a] | LOS [b] | Delay | LOS | | |
| *(Continued from Previous Page)* | | | | | | | | | |
| 47. Mission Gorge Rd / Cuyamaca St | Santee | Signal | AM | 44.4 | D | 47.3 | D | 2.9 | **Yes** |
| | | | PM | 49.7 | D | **61.2** | **E** | **11.5** | |
| 48. Mission Gorge Rd / Riverview Pkwy | Santee | Signal | AM | 37.3 | D | 41.2 | D | 3.9 | No |
| | | | PM | 21.0 | C | 21.6 | C | 0.6 | |
| 49. Mission Gorge Rd / Cottonwood Ave | Santee | Signal | AM | 26.6 | C | 26.7 | C | 0.1 | No |
| | | | PM | 20.5 | C | 20.6 | C | 0.1 | |
| 50. Mission Gorge Rd / Magnolia Ave | Santee | Signal | AM | 47.6 | D | 51.3 | D | 3.7 | No |
| | | | PM | 50.4 | D | 51.6 | D | 1.2 | |
| 51. Woodside Ave / SR-67 SB Off-Ramp | Santee/ Caltrans | AWSC | AM | 29.3 | D | 29.5 | D | 0.2 | No |
| | | | PM | 17.1 | C | 17.4 | C | 0.3 | |
| 52. Woodside Ave / SR-67 NB On-Ramp | Santee/ Caltrans | Signal | AM | 10.1 | B | 10.2 | B | 0.1 | No |
| | | | PM | 9.5 | A | 9.5 | A | 0.0 | |
| 53. Fanita Dr / SR-52 WB Off-Ramp | Santee/ Caltrans | MSSC | AM | 30.1 | D | 32.3 | D | 2.2 | No |
| | | | PM | 17.6 | C | 18.2 | C | 0.6 | |
| 54. Fanita Dr / SR-52 EB On-Ramp | Santee/ Caltrans | Uncontrolled [f] | AM | 16.4 | C | 17.7 | C | 1.3 | No |
| | | | PM | 10.1 | B | 10.4 | B | 0.3 | |
| 55. Buena Vista Ave / Cuyamaca St | Santee | Signal | AM | 18.5 | B | 19.5 | B | 1.0 | **Yes** |
| | | | PM | >100.0 | F | **>100.0** | **F** | **>2.0** | |
| 56. Cuyamaca St / SR-52 WB Ramps | Santee/ Caltrans | Signal | AM | 2.9 | A | 2.9 | A | 0.0 | No |
| | | | PM | 3.8 | A | 4.0 | A | 0.2 | |
| 57. Cuyamaca St / SR-52 EB Ramps | Santee/ Caltrans | Signal | AM | 33.8 | C | 34.6 | C | 0.8 | No |
| | | | PM | 44.2 | D | 48.0 | D | 3.8 | |
| 58. Magnolia Ave / SR-52 WB Ramps /SR-67 SB | Santee/ Caltrans | Signal | AM | 7.3 | A | 10.5 | B | 3.2 | No |
| | | | PM | 5.8 | A | 5.8 | A | 0.0 | |
| 59. Magnolia Ave / SR-52 EB Ramps | Santee/ Caltrans | Signal | AM | 9.5 | A | 9.6 | A | 0.1 | No |
| | | | PM | 26.1 | C | 30.3 | C | 4.2 | |
| 60. Prospect Ave / Fanita Dr | Santee | Signal | AM | 29.3 | C | 29.5 | C | 0.2 | No |
| | | | PM | 19.5 | B | 19.7 | B | 0.2 | |
| 61. Prospect Ave / Cuyamaca St | Santee | Signal | AM | 29.9 | C | 30.0 | C | 0.1 | No |
| | | | PM | 35.1 | D | 35.2 | D | 0.1 | |
| *(Continued on Next Page)* | | | | | | | | | |

## TABLE 13–4
## EXISTING + CUMULATIVE PROJECTS + PROJECT INTERSECTION OPERATIONS
## (NO SCHOOL SCENARIO)

| Intersection | Jur. | Control Type | Peak Hour | Existing + Cumulative Projects | | Existing + Cumulative Projects + Project (No School) | | Δ [c] Delay | Sig? |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Delay [a] | LOS [b] | Delay | LOS | | |
| *(Continued from Previous Page)* | | | | | | | | | |
| 62. Prospect Ave / Cottonwood Ave | Santee | Signal | AM | 8.4 | A | 8.4 | A | 0.0 | No |
| | | | PM | 6.6 | A | 6.6 | A | 0.0 | |
| 63. Prospect Ave / Magnolia Ave | Santee | Signal | AM | 21.6 | C | 22.2 | C | 0.6 | No |
| | | | PM | 30.8 | C | 32.8 | C | 2.0 | |
| 64. Prospect Ave / SR-67 NB Off-Ramp | Santee/ Caltrans | Signal | AM | 9.9 | A | 10.1 | B | 0.2 | No |
| | | | PM | 9.1 | A | 9.7 | A | 0.6 | |
| 65. Prospect Ave / Graves Ave | Santee | Signal | AM | 22.6 | C | 22.6 | C | 0.0 | No |
| | | | PM | 40.3 | D | 40.3 | D | 0.0 | |
| 66. Mast Boulevard / Weston Road | Santee | Signal | AM | 21.9 | C | 33.0 | C | 11.1 | |
| | | | PM | 20.0 | B | 20.1 | C | 0.1 | |

***Footnotes:***

a. Average delay expressed in seconds per vehicle.
b. Level of Service
c. Δ denotes the increase in delay due to Project.
d. Minor Street Stop Controlled intersection. Minor street left turn delay reported.
e. All-Way Stop Controlled intersection. Average intersection delay reported.
f. No traffic control devices are installed at this location. Therefore, the southbound left-turn movement is reported.
g. The HCM methodology does not accurately reflect operations at this intersection during the AM peak hour. Latent demand east of the intersection, as well as upstream congestion from SR-52 WB exceed the limits of the analysis software/methodology. The LOS F result is based on the bottleneck effect of the lane-drop on the WB on-ramp observed in the field.

| SIGNALIZED | | UNSIGNALIZED | |
|---|---|---|---|
| DELAY/LOS THRESHOLDS | | DELAY/LOS THRESHOLDS | |
| Delay | LOS | Delay | LOS |
| 0.0 ≤ 10.0 | A | 0.0 ≤ 10.0 | A |
| 10.1 to 20.0 | B | 10.1 to 15.0 | B |
| 20.1 to 35.0 | C | 15.1 to 25.0 | C |
| 35.1 to 55.0 | D | 25.1 to 35.0 | D |
| 55.1 to 80.0 | E | 35.1 to 50.0 | E |
| ≥ 80.1 | F | ≥ 50.1 | F |

***General Notes:***

1. Sig = Significant impact, yes or no.
2. Jur. = Jurisdiction
3. DNE, "—" = Does not exist

TABLE 13–5
EXISTING + CUMULATIVE PROJECTS + PROJECT STREET SEGMENT OPERATIONS
(NO SCHOOL SCENARIO)

| Street Segment | Jur. | Existing Capacity (LOS E) [a] | Existing + Cumulative Projects | | | Existing + Cumulative Projects + Project (No School) | | | Project Volumes | Δ [e] V/C | Sig? |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ADT [b] | LOS [c] | V/C [d] | ADT | LOS | V/C | | | |
| **Princess Joann Road** | | | | | | | | | | | |
| 1. Cuyamaca St to Magnolia Ave | Santee | 8,000 | 685 | A | 0.086 | 685 | A | 0.086 | 0 | 0.000 | No |
| **Woodglen Vista Drive** | | | | | | | | | | | |
| 2. Cuyamaca St to Magnolia Ave | Santee | 8,000 | 1,759 | A | 0.220 | 1,759 | A | 0.220 | 0 | 0.000 | No |
| **El Nopal** | | | | | | | | | | | |
| 3. Cuyamaca St to Magnolia Ave | Santee | 8,000 | 3,886 | C | 0.486 | 3,886 | C | 0.486 | 0 | 0.000 | No |
| 4. Magnolia Ave to Los Ranchitos Rd | Santee | 15,000 | 9,146 | C | 0.610 | 11,786 | D | 0.786 | 2,640 | 0.176 | No |
| 5. Los Ranchitos Rd to Riverford Rd | County | 16,200 | 10,130 | D | — | **12,770** | **E** | — | **2,640** | — | **Yes** |
| **Mast Boulevard** | | | | | | | | | | | |
| 6. SR-52 to West Hills Pkwy | San Diego | 40,000 | 30,730 | D | 0.768 | **37,340** | **E** | **0.934** | **6,610** | **0.166** | **Yes** |
| 7. West Hills Pkwy to Medina Dr | Santee | 40,000 | 22,962 | C | 0.574 | 32,482 | D | 0.812 | 9,520 | 0.238 | No |
| 8. Pebble Beach Dr to Fanita Pkwy | Santee | 40,000 | 21,361 | C | 0.534 | 30,881 | D | 0.772 | 9,520 | 0.238 | No |
| 9. Fanita Pkwy to Carlton Hills Blvd | Santee | 40,000 | 18,022 | B | 0.451 | 20,662 | B | 0.517 | 2,640 | 0.066 | No |
| 10. Carlton Hills Blvd to Halberns Blvd | Santee | 40,000 | 20,299 | B | 0.507 | 22,419 | C | 0.560 | 2,120 | 0.053 | No |
| 11. Halberns Blvd to Cuyamaca St | Santee | 40,000 | 21,669 | C | 0.542 | 23,789 | C | 0.595 | 2,120 | 0.053 | No |
| 12. Cuyamaca St to Magnolia Ave | Santee | 40,000 | 19,616 | B | 0.490 | 19,876 | B | 0.497 | 260 | 0.007 | No |
| 13. Magnolia Ave to Los Ranchitos Rd | Santee | 15,000 | 9,056 | C | 0.604 | 9,056 | C | 0.604 | 0 | 0.000 | No |
| 14. West of Riverford Rd | County | 19,000 | 2,986 | A | — | 2,986 | A | — | 0 | — | No |
| **Carlton Oaks Drive** | | | | | | | | | | | |
| 15. West Hills Pkwy to Pebble Beach Dr | Santee | 15,000 | 7,831 | C | 0.522 | 8,361 | C | 0.557 | 530 | 0.035 | No |
| 16. Fanita Pkwy to Carlton Hills Blvd | Santee | 15,000 | 11,194 | D | 0.746 | **14,104** | **E** | **0.940** | **2,910** | **0.194** | **Yes** |

*(Continued on Next Page)*

TABLE 13–5
EXISTING + CUMULATIVE PROJECTS + PROJECT STREET SEGMENT OPERATIONS
(NO SCHOOL SCENARIO)

| Street Segment | Jur. | Existing Capacity (LOS E) [a] | Existing + Cumulative Projects | | | Existing + Cumulative Projects + Project (No School) | | | Project Volumes | Δ [e] V/C | Sig? |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ADT [b] | LOS [c] | V/C [d] | ADT | LOS | V/C | | | |
| *(Continued from Previous Page)* | | | | | | | | | | | |
| **Mission Gorge Road** | | | | | | | | | | | |
| 17. Western City Limits to West Hills Pkwy | Santee | 40,000 | 18,268 | B | 0.457 | 20,908 | B | 0.523 | 2,640 | 0.066 | No |
| 18. West Hills Pkwy to SR-125 | Santee | 40,000 | 18,965 | B | 0.474 | 18,965 | B | 0.474 | 0 | 0.000 | No |
| 19. SR-125 to Fanita Dr | Santee | 60,000 | 48,026 | C | 0.800 | 53,846 | D | 0.897 | 5,820 | 0.097 | No |
| 20. Fanita Dr to Carlton Hills Blvd | Santee | 60,000 | 43,029 | C | 0.717 | 49,639 | C | 0.827 | 6,610 | 0.110 | No |
| 21. Carlton Hills Blvd to Town Center Pkwy | Santee | 60,000 | 40,160 | C | 0.669 | 43,330 | C | 0.722 | 3,170 | 0.053 | No |
| 22. Town Center Pkwy to Cuyamaca St | Santee | 60,000 | 31,416 | B | 0.524 | 34,056 | B | 0.568 | 2,640 | 0.044 | No |
| 23. Cuyamaca St to Riverview Pkwy | Santee | 60,000 | 26,846 | B | 0.447 | 28,166 | B | 0.469 | 1,320 | 0.022 | No |
| 24. Riverview Pkwy to Cottonwood Ave | Santee | 60,000 | 27,772 | B | 0.463 | 29,092 | B | 0.485 | 1,320 | 0.022 | No |
| 25. Cottonwood Ave to Magnolia Ave | Santee | 60,000 | 26,946 | B | 0.449 | 28,266 | B | 0.471 | 1,320 | 0.022 | No |
| **Prospect Avenue** | | | | | | | | | | | |
| 26. Fanita Dr to Cuyamaca St | Santee | 15,000 | 9,302 | C | 0.620 | 9,302 | C | 0.620 | 0 | 0.000 | No |
| 27. Cuyamaca St to Cottonwood Ave | Santee | 15,000 | 10,243 | D | 0.683 | 10,243 | D | 0.683 | 0 | 0.000 | No |
| **West Hills Parkway** | | | | | | | | | | | |
| 28. Mast Blvd to Mission Gorge Rd | Santee | 40,000 | 13,456 | A | 0.336 | 15,576 | B | 0.389 | 2,120 | 0.053 | No |
| **Fanita Parkway** | | | | | | | | | | | |
| 29. Project Site to Ganley Dr [f] | Santee | DNE/ 15,000 | — | — | — | 12,430 | D | 0.829 | 12,430 | 0.829 | No |
| 30. Ganley Dr to Lake Canyon Rd | Santee | 10,000 | 2,782 | A | 0.278 | **15,212** | **F** | **1.521** | **12,430** | **1.243** | **Yes** |
| 31. Lake Canyon Rd to Mast Blvd | Santee | 10,000 | 4,158 | B | 0.416 | **15,528** | **F** | **1.553** | **11,370** | **1.137** | **Yes** |
| 32. Mast Blvd to Carlton Oaks Dr | Santee | 10,000 | 3,713 | C | 0.371 | 7,153 | C | 0.715 | 3,440 | 0.344 | No |
| *(Continued on Next Page)* | | | | | | | | | | | |

TABLE 13–5
EXISTING + CUMULATIVE PROJECTS + PROJECT STREET SEGMENT OPERATIONS
(NO SCHOOL SCENARIO)

| Street Segment | Jur. | Existing Capacity (LOS E) [a] | Existing + Cumulative Projects | | | Existing + Cumulative Projects + Project (No School) | | | Project Volumes | Δ [e] V/C | Sig? |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ADT [b] | LOS [c] | V/C [d] | ADT | LOS | V/C | | | |
| *(Continued from Previous Page)* | | | | | | | | | | | |
| **Fanita Drive** | | | | | | | | | | | |
| 33. Mission Gorge to SR-52 Ramps | Santee | 40,000 | 19,836 | B | 0.496 | 20,096 | B | 0.502 | 260 | 0.006 | No |
| 34. SR-52 Ramps to Prospect Ave | Santee | 40,000 | 12,261 | A | 0.307 | 12,521 | A | 0.313 | 260 | 0.006 | No |
| **Carlton Hills Boulevard** | | | | | | | | | | | |
| 35. Lake Canyon Rd to Mast Blvd | Santee | 40,000 | 6,135 | A | 0.153 | 7,195 | A | 0.180 | 1,060 | 0.027 | No |
| 36. Mast Blvd to Carlton Oaks Dr | Santee | 40,000 | 10,492 | A | 0.262 | 12,082 | A | 0.302 | 1,590 | 0.040 | No |
| 37. Carlton Oaks Dr to Mission Gorge Rd | Santee | 40,000 | 25,993 | C | 0.650 | 30,493 | D | 0.762 | ,4500 | 0.112 | No |
| **Halberns Boulevard** | | | | | | | | | | | |
| 38. Lake Canyon Rd to Mast Blvd | Santee | 10,000 | 2,254 | A | 0.225 | 2,254 | A | 0.225 | 0 | 0.000 | No |
| **Town Center Parkway** | | | | | | | | | | | |
| 39. Mission Gorge Rd to Cuyamaca St | Santee | 40,000 | 21,231 | C | 0.531 | 21,491 | C | 0.537 | 260 | 0.006 | No |
| 40. Cuyamaca St to Riverview Pkwy | Santee | 10,000 | 6,782 | C | 0.678 | 7,042 | C | 0.704 | 260 | 0.026 | No |
| **Cuyamaca Street** | | | | | | | | | | | |
| 41. Project Site to Magnolia Ave [g] | Santee | DNE/ 15,000 | — | — | — | 14,020 | E | 0.935 | 14,020 | 0.935 | No |
| 42. Magnolia Ave to Princess Joann Rd [g] | Santee | DNE/ 15,000 | — | — | — | 7,670 | C | 0.511 | 7,670 | 0.511 | No |
| 43. Princess Joann Rd to Chaparral Dr [g] | Santee | DNE/ 15,000 | — | — | — | 7,670 | C | 0.511 | 7,670 | 0.511 | No |
| 44. Chaparral Dr to Woodglen Vista Dr [g] | Santee | 15,000 | 683 | A | 0.046 | 8,353 | C | 0.557 | 7,670 | 0.511 | No |
| 45. Woodglen Vista Dr to El Nopal | Santee | 15,000 | 4,472 | A | 0.298 | 12,142 | D | 0.809 | 7,670 | 0.511 | No |
| 46. El Nopal to Mast Blvd | Santee | 15,000 | 9,173 | C | 0.612 | **16,843** | **F** | **1.123** | **7,670** | **0.511** | **Yes** |
| 47. Mast Blvd to River Park Dr | Santee | 40,000 | 20,527 | B | 0.513 | 26,347 | C | 0.659 | 5,820 | 0.146 | No |
| 48. River Park Dr to Town Center Pkwy | Santee | 40,000 | 28,084 | C | 0.702 | 33,634 | D | 0.841 | 5,550 | 0.139 | No |
| 49. Town Center Pkwy to Mission Gorge Rd | Santee | 50,000 | 24,245 | B | 0.485 | 29,265 | C | 0.585 | 5,020 | 0.100 | No |
| *(Continued on Next Page)* | | | | | | | | | | | |

TABLE 13–5
EXISTING + CUMULATIVE PROJECTS + PROJECT STREET SEGMENT OPERATIONS
(NO SCHOOL SCENARIO)

| Street Segment | Jur. | Existing Capacity (LOS E) [a] | Existing + Cumulative Projects | | | Existing + Cumulative Projects + Project (No School) | | | Project Volumes | Δ [e] V/C | Sig? |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ADT [b] | LOS [c] | V/C [d] | ADT | LOS | V/C | | | |
| *(Continued from Previous Page)* | | | | | | | | | | | |
| **Cuyamaca Street (cont.)** | | | | | | | | | | | |
| 50. Mission Gorge Rd to SR-52 Ramps | Santee | 50,000 | 42,639 | D | 0.853 | **45,279** | **E** | **0.906** | **2,640** | **0.053** | **Yes** |
| 51. SR-52 Ramps to south of Prospect Ave | Santee | 50,000 | 28,971 | C | 0.579 | 30,031 | C | 0.601 | 1,060 | 0.022 | No |
| **Riverview Parkway** | | | | | | | | | | | |
| 52. Mission Gorge Rd to Town Center Pkwy | Santee | 40,000 | 8,470 | A | 0.212 | 8,700 | A | 0.218 | 260 | 0.006 | No |
| 53. Town Center Pkwy to Magnolia Ave | Santee | DNE | — | — | — | — | — | — | 0 | — | No |
| **Magnolia Avenue** | | | | | | | | | | | |
| 54. Cuyamaca St to Princess Joann Rd [h] | Santee | DNE/ 10,000 | — | — | — | 6,350 | C | 0.635 | 6,350 | 0.635 | No |
| 55. Princess Joann Rd to Woodglen Vista Dr | Santee | 40,000 | 2,204 | A | 0.055 | 8,554 | A | 0.214 | 6,350 | 0.159 | No |
| 56. Woodglen Vista Dr to El Nopal | Santee | 40,000 | 9,415 | A | 0.235 | 15,765 | B | 0.394 | 6,350 | 0.159 | No |
| 57. El Nopal to Mast Blvd | Santee | 40,000 | 14,291 | A | 0.357 | 17,991 | B | 0.450 | 3,700 | 0.093 | No |
| 58. Mast Blvd to Riverview Pkwy | Santee | 40,000 | 23,594 | C | 0.590 | 26,764 | C | 0.669 | 3,170 | 0.079 | No |
| 59. Riverview Pkwy to Mission Gorge Rd | Santee | 40,000 | 27,797 | C | 0.695 | 30,967 | D | 0.774 | 3,170 | 0.079 | No |
| 60. Mission Gorge Rd to SR-52 Ramps | Santee | 60,000 | 36,725 | C | 0.612 | 38,315 | C | 0.639 | 1,590 | 0.027 | No |
| 61. SR-52 Ramps to south of Prospect Ave | Santee | 40,000 | 13,098 | A | 0.327 | 13,628 | A | 0.341 | 530 | 0.014 | No |
| **Woodside Avenue** | | | | | | | | | | | |
| 62. East of Magnolia Ave | Santee | 40,000 | 28,163 | C | 0.704 | 28,423 | C | 0.711 | 260 | 0.007 | No |
| **N. Woodside Avenue** | | | | | | | | | | | |
| 63. Riverford Rd to Woodside Ave | Santee | 10,000 | 3,524 | A | 0.352 | 3,524 | A | 0.352 | 0 | 0.000 | No |
| **Riverford Road** | | | | | | | | | | | |
| 64. Riverside Dr to SR-67 Ramps | County | 23,500 [i] | 18,916 | E | — | **20,236** | **E** | — | **1,320** | — | **Yes** |
| *(Continued on Next Page)* | | | | | | | | | | | |

TABLE 13–5
EXISTING + CUMULATIVE PROJECTS + PROJECT STREET SEGMENT OPERATIONS
(NO SCHOOL SCENARIO)

| Street Segment | Jur. | Existing Capacity (LOS E) [a] | Existing + Cumulative Projects | | | Existing + Cumulative Projects + Project (No School) | | | Project Volumes | Δ [e] V/C | Sig? |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ADT [b] | LOS [c] | V/C [d] | ADT | LOS | V/C | | | |
| *(Continued from Previous Page)* | | | | | | | | | | | |

***Footnotes:***

a. Capacities based on City of Santee, County of San Diego, and City of San Diego Roadway Classification & LOS tables (See *Appendix A*).
b. Average Daily Traffic
c. Level of Service
d. Volume to Capacity ratio
e. Δ denotes a Project-induced increase in the Volume to Capacity ratio. For County of San Diego, an increase in Project trips is used to measure impacts.
f. This future section of Fanita Parkway is proposed to be constructed by the Project as a two-lane Parkway with an LOS E capacity of 15,000 ADT.
g. This future section of Cuyamaca Street is proposed to be constructed by the Project as a two-lane Parkway with an LOS E capacity of 15,000 ADT. The intersection operations at both ends of the Cuyamaca Street road segment between the Project Site and Magnolia Avenue report LOS C or better operations. Therefore, adequate operations are expected along this roadway. The section of Cuyamaca Street between Chaparral Drive and Woodglen Vista Drive will be improved to a Four-Lane Major Arterial under Year 2035 conditions as a Project Design Feature to adequately transition to the four-lane section south of Woodglen Vista Drive.
h. This future section of Magnolia Avenue is proposed to be constructed by the Project as a two-lane Collector with an LOS E capacity of 10,000 ADT.
i. Capacity for "3-Ln Light Collector" interpolated between 2-Ln Light Collector with Continuous Left-Turn Lane (2.2B) and 4-Lane Boulevard with Intermittent Turn Lanes (4.2B).

***General Notes:***

1. Jur = Jurisdiction
2. DNE, "—" = Does not exist
3. Sig = Significant impact, yes or no.
4. County of San Diego does not use V/C ratios as a measure of effectiveness.

TABLE 13–6
YEAR 2035 INTERSECTION OPERATIONS
(NO SCHOOL SCENARIO)

| Intersection | Jur. | Control Type | Peak Hour | Year 2035 Baseline | | Year 2035 + Project (No School) | | Δ [c] Delay | Sig? |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Delay [a] | LOS [b] | Delay | LOS | | |
| 1. Princess Joann Rd / Cuyamaca St | Santee | MSSC [d] | AM | 17.8 | C | 28.7 | D | 10.9 | No |
| | | | PM | 15.8 | C | 24.9 | C | 9.1 | |
| 2. Princess Joann Rd / Magnolia Ave | Santee | AWSC [e] | AM | 9.4 | A | 11.7 | B | 2.3 | No |
| | | | PM | 9.6 | A | 13.0 | B | 3.4 | |
| 3. Ganley Rd / Fanita Pkwy | Santee | MSSC | AM | 17.9 | C | **75.3** | **F** | **57.4** | **Yes** |
| | | | PM | 18.7 | C | **99.4** | **F** | **80.7** | |
| 4. Woodglen Vista Dr / Cuyamaca St | Santee | AWSC | AM | 26.6 | D | **78.7** | **F** | **52.1** | **Yes** |
| | | | PM | 98.7 | F | **>100.0** | **F** | **>2.0** | |
| 5. Woodglen Vista Dr / Magnolia Ave | Santee | Signal | AM | 13.2 | B | 13.9 | B | 0.7 | No |
| | | | PM | 10.1 | B | 10.2 | B | 0.1 | |
| 6. El Nopal / Cuyamaca St | Santee | AWSC | AM | >100.0 | F | **>100.0** | **F** | **>2.0** | **Yes** |
| | | | PM | >100.0 | F | **>100.0** | **F** | **>2.0** | |
| 7. El Nopal / Magnolia Ave | Santee | Signal | AM | 27.0 | C | 28.9 | C | 1.9 | No |
| | | | PM | 22.6 | C | 27.1 | C | 4.5 | |
| 8. El Nopal / Los Ranchitos Rd | County | AWSC | AM | 19.9 | C | 24.3 | C | 4.4 | **Yes** |
| | | | PM | 29.3 | D | **46.8** | **E** | **17.5** | |
| 9. Lake Canyon Rd / Fanita Pkwy | Santee | AWSC | AM | 15.8 | C | **66.3** | **F** | **50.5** | **Yes** |
| | | | PM | 35.0 | D | **>100.0** | **F** | **>2.0** | |
| 10. Lake Canyon Rd / Carlton Hills Blvd | Santee | AWSC | AM | 11.1 | B | 11.5 | B | 0.4 | No |
| | | | PM | 10.0 | A | 10.5 | B | 0.5 | |
| 11. Lake Canyon Rd / Halberns Blvd | Santee | MSSC | AM | 8.8 | A | 8.8 | A | 0.0 | No |
| | | | PM | 8.8 | A | 8.8 | A | 0.0 | |
| 12. Beck Dr / Cuyamaca St | Santee | AWSC | AM | >100.0 | F | **>100.0** | **F** | **>2.0** | **Yes** |
| | | | PM | >100.0 | F | **>100.0** | **F** | **>2.0** | |
| 13. 2nd Street / Magnolia Ave | Santee | Signal | AM | 8.3 | A | 8.3 | A | 0.0 | No |
| | | | PM | 6.9 | A | 7.2 | A | 0.3 | |
| 14. Carefree Dr / Magnolia Ave | Santee | Signal | AM | 19.9 | B | 21.4 | C | 1.5 | No |
| | | | PM | 10.4 | B | 10.7 | B | 0.3 | |
| 15. Riverford Rd / Riverside Dr | County | Signal | AM | 44.3 | D | 51.7 | D | 7.4 | No |
| | | | PM | 42.7 | D | 49.5 | D | 6.8 | |
| 16. Mast Blvd / SR-52 EB Ramps | San Diego/ Caltrans | Signal | AM | 12.4 | B | 12.5 | B | 0.1 | No |
| | | | PM | 33.6 | C | 54.2 | D | 20.6 | |

*(Continued on Next Page)*

TABLE 13–6
YEAR 2035 INTERSECTION OPERATIONS
(NO SCHOOL SCENARIO)

| Intersection | Jur. | Control Type | Peak Hour | Year 2035 Baseline | | Year 2035 + Project (No School) | | Δ [c] Delay | Sig? |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Delay [a] | LOS [b] | Delay | LOS | | |
| *(Continued from Previous Page)* | | | | | | | | | |
| 17. Mast Blvd / SR-52 WB Ramps [g] | San Diego/ Caltrans | Signal | AM | >100.0 | F | **>100.0** | **F** | **>2.0** | **Yes** |
| | | | PM | 18.1 | B | 20.8 | C | 2.7 | |
| 18. Mast Blvd / West Hills Pkwy [g] | San Diego | Signal | AM | >100.0 | F | **>100.0** | **F** | **>2.0** | **Yes** |
| | | | PM | 68.3 | E | **96.4** | **F** | **28.1** | |
| 19. Mast Blvd / West Hills H.S. | Santee | Signal | AM | 4.7 | A | 4.8 | A | 0.1 | No |
| | | | PM | 10.3 | B | 12.6 | B | 2.3 | |
| 20. Mast Blvd / Medina Dr | Santee | Signal | AM | 3.8 | A | 8.6 | A | 4.8 | No |
| | | | PM | 3.9 | A | 4.0 | A | 0.1 | |
| 21. Mast Blvd / Pebble Beach Dr | Santee | Signal | AM | 11.1 | B | 12.2 | B | 1.1 | No |
| | | | PM | 4.5 | A | 4.6 | A | 0.1 | |
| 22. Mast Blvd / Fanita Pkwy | Santee | Signal | AM | 73.7 | E | **>100.0** | **F** | **>2.0** | **Yes** |
| | | | PM | 56.9 | E | **>100.0** | **F** | **>2.0** | |
| 23. Mast Blvd / Carlton Hills Blvd | Santee | Signal | AM | 48.3 | D | 51.9 | D | 3.6 | No |
| | | | PM | 49.6 | D | 49.7 | D | 0.1 | |
| 24. Mast Blvd / Halberns Blvd | Santee | Signal | AM | 19.1 | B | 19.2 | B | 0.1 | No |
| | | | PM | 32.1 | C | 32.7 | C | 0.6 | |
| 25. Mast Blvd / Cuyamaca St | Santee | Signal | AM | 55.2 | E | **69.0** | **E** | **13.8** | **Yes** |
| | | | PM | >100.0 | F | **>100.0** | **F** | **>2.0** | |
| 26. Mast Blvd / Park Center Dr | Santee | Signal | AM | 7.8 | A | 7.8 | A | 0.0 | No |
| | | | PM | 10.2 | B | 10.5 | B | 0.3 | |
| 27. Mast Blvd / Magnolia Ave | Santee | Signal | AM | 53.3 | D | 54.0 | D | 0.7 | No |
| | | | PM | 41.3 | D | 42.7 | D | 1.4 | |
| 28. Carlton Oaks Dr / West Hills Pkwy | San Diego | Signal | AM | 20.1 | C | 20.2 | C | 0.1 | No |
| | | | PM | 13.1 | B | 14.1 | B | 1.0 | |
| 29. Carlton Oaks Dr / Pebble Beach Dr | Santee | Signal | AM | 10.8 | B | 11.1 | B | 0.3 | No |
| | | | PM | 5.2 | A | 5.2 | A | 0.0 | |
| 30. Carlton Oaks Dr / Fanita Pkwy | Santee | Signal | AM | 16.6 | B | 20.2 | C | 3.6 | No |
| | | | PM | 10.4 | B | 11.3 | B | 0.9 | |
| 31. Carlton Oaks Dr / Carlton Hills Blvd | Santee | Signal | AM | 45.1 | D | 51.6 | D | 6.5 | No |
| | | | PM | 35.3 | D | 39.8 | D | 4.5 | |
| *(Continued on Next Page)* | | | | | | | | | |

TABLE 13–6
YEAR 2035 INTERSECTION OPERATIONS
(NO SCHOOL SCENARIO)

| Intersection | Jur. | Control Type | Peak Hour | Year 2035 Baseline | | Year 2035 + Project (No School) | | Δ [c] Delay | Sig? |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Delay [a] | LOS [b] | Delay | LOS | | |
| *(Continued from Previous Page)* | | | | | | | | | |
| 32. Riverwalk Dr / Cuyamaca St | Santee | Signal | AM | 20.1 | C | 27.4 | C | 7.3 | No |
| | | | PM | 21.0 | C | 27.1 | C | 6.1 | |
| 33. Riverpark Dr / Cuyamaca St | Santee | Signal | AM | 18.4 | B | 19.4 | B | 1.0 | No |
| | | | PM | 23.7 | C | 26.3 | C | 2.6 | |
| 34. Town Center Pkwy / Cuyamaca St | Santee | Signal | AM | 18.9 | B | 19.2 | B | 0.3 | No |
| | | | PM | 50.0 | D | 53.4 | D | 3.4 | |
| 35. Town Center Pkwy / Riverview Pkwy | Santee | Signal | AM | 8.4 | A | 8.5 | A | 0.1 | No |
| | | | PM | 11.9 | B | 12.2 | B | 0.3 | |
| 36. Riverview Pkwy / Magnolia Ave | Santee | Signal | AM | 25.7 | C | 29.3 | C | 3.6 | No |
| | | | PM | 27.6 | C | 30.8 | C | 3.2 | |
| 37. Riverford Rd / SR-67 SB Ramps | County/ Caltrans | MSSC | AM | >100.0 | F | **>100.0** | **F** | **6** | **Yes** |
| | | | PM | >100.0 | F | **>100.0** | **F** | **26** | |
| 38. Woodside Ave / SR-67 NB Off-Ramp | County/ Caltrans | Signal | AM | 46.9 | D | 49.8 | D | 2.9 | No |
| | | | PM | 51.8 | D | 54.6 | D | 2.8 | |
| 39. Riverford Rd / Woodside Ave | County | Signal | AM | 96.9 | F | **>100.0** | **F** | **>2.0** | **Yes** |
| | | | PM | 47.7 | D | 50.8 | D | 3.1 | |
| 40. Mission Gorge Rd / West Hills Pkwy | Santee | Signal | AM | >100.0 | F | **>100.0** | **F** | **>2.0** | **Yes** |
| | | | PM | 19.8 | B | 20.4 | C | 0.6 | |
| 41. Mission Gorge Rd / SR-52 EB Ramps | Santee/ Caltrans | Signal | AM | 4.4 | A | 4.5 | A | 0.1 | No |
| | | | PM | 11.7 | B | 11.9 | B | 0.2 | |
| 42. Mission Gorge Rd / SR-52 WB Ramps | Santee/ Caltrans | Signal | AM | 3.0 | A | 3.0 | A | 0.0 | No |
| | | | PM | 1.8 | A | 1.8 | A | 0.0 | |
| 43. Mission Gorge Rd / SR-125 | Santee/ Caltrans | Signal | AM | 32.1 | C | 40.8 | D | 8.7 | No |
| | | | PM | 40.1 | D | 50.5 | D | 10.4 | |
| 44. Mission Gorge Rd / Fanita Dr | Santee | Signal | AM | 43.7 | D | 44.2 | D | 0.5 | No |
| | | | PM | 41.7 | D | 52.6 | D | 10.9 | |
| 45. Mission Gorge Rd / Carlton Hills Blvd | Santee | Signal | AM | 83.1 | F | **94.1** | **F** | **11.0** | **Yes** |
| | | | PM | 56.3 | E | **67.6** | **E** | **11.3** | |
| 46. Mission Gorge Rd / Town Center Pkwy | Santee | Signal | AM | 30.0 | C | 30.1 | C | 0.1 | No |
| | | | PM | 65.1 | E | 65.2 | E | 0.1 | |
| *(Continued on Next Page)* | | | | | | | | | |

TABLE 13–6
YEAR 2035 INTERSECTION OPERATIONS
(NO SCHOOL SCENARIO)

| Intersection | Jur. | Control Type | Peak Hour | Year 2035 Baseline | | Year 2035 + Project (No School) | | Δ [c] Delay | Sig? |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Delay [a] | LOS [b] | Delay | LOS | | |
| *(Continued from Previous Page)* | | | | | | | | | |
| 47. Mission Gorge Rd / Cuyamaca St | Santee | Signal | AM | 45.6 | D | 46.9 | D | 1.3 | **Yes** |
| | | | PM | 79.0 | E | **89.1** | **F** | **10.1** | |
| 48. Mission Gorge Rd / Riverview Pkwy | Santee | Signal | AM | 41.9 | D | 43.7 | D | 1.8 | No |
| | | | PM | 43.3 | D | 44.1 | D | 0.8 | |
| 49. Mission Gorge Rd / Cottonwood Ave | Santee | Signal | AM | 90.2 | F | 90.3 | F | 0.1 | No |
| | | | PM | 186.5 | F | 187.1 | F | 0.6 | |
| 50. Mission Gorge Rd / Magnolia Ave | Santee | Signal | AM | 58.5 | E | 59.7 | E | 1.2 | No |
| | | | PM | 66.3 | E | 68.2 | E | 1.9 | |
| 51. Woodside Ave / SR-67 SB Off-Ramp | Santee/ Caltrans | AWSC | AM | 39.6 | E | 39.7 | E | 0.1 | No |
| | | | PM | 19.4 | C | 19.6 | C | 0.2 | |
| 52. Woodside Ave / SR-67 NB On-Ramp | Santee/ Caltrans | Signal | AM | 10.6 | B | 10.7 | B | 0.1 | No |
| | | | PM | 10.1 | B | 10.1 | B | 0.0 | |
| 53. Fanita Dr / SR-52 WB Off-Ramp | Santee/ Caltrans | MSSC | AM | 55.3 | F | 55.4 | F | 0.1 | No |
| | | | PM | 19.7 | C | 19.8 | C | 0.1 | |
| 54. Fanita Dr / SR-52 EB On-Ramp | Santee/ Caltrans | Uncontrolled [f] | AM | 21.9 | C | 22.9 | C | 1.0 | No |
| | | | PM | 10.7 | B | 10.9 | B | 0.2 | |
| 55. Buena Vista Ave / Cuyamaca St | Santee | Signal | AM | 38.0 | D | 39.1 | D | 1.1 | **Yes** |
| | | | PM | >100.0 | F | **>100.0** | **F** | **>2.0** | |
| 56. Cuyamaca St / SR-52 WB Ramps | Santee/ Caltrans | Signal | AM | 3.0 | A | 3.1 | A | 0.1 | No |
| | | | PM | 4.3 | A | 4.4 | A | 0.1 | |
| 57. Cuyamaca St / SR-52 EB Ramps | Santee/ Caltrans | Signal | AM | 36.0 | D | 36.2 | D | 0.2 | No |
| | | | PM | 50.2 | D | 53.2 | D | 3.0 | |
| 58. Magnolia Ave / SR-52 WB Ramps /SR-67 SB | Santee/ Caltrans | Signal | AM | 7.4 | A | 11.0 | B | 3.6 | No |
| | | | PM | 5.8 | A | 6.1 | A | 0.3 | |
| 59. Magnolia Ave / SR-52 EB Ramps | Santee/ Caltrans | Signal | AM | 12.2 | B | 12.3 | B | 0.1 | No |
| | | | PM | 46.2 | D | 50.9 | D | 4.7 | |
| 60. Prospect Ave / Fanita Dr | Santee | Signal | AM | 64.5 | E | 64.5 | E | 0.0 | No |
| | | | PM | 23.0 | C | 23.3 | C | 0.3 | |
| 61. Prospect Ave / Cuyamaca St | Santee | Signal | AM | 35.5 | D | 35.6 | D | 0.1 | No |
| | | | PM | 38.8 | D | 38.9 | D | 0.1 | |
| *(Continued on Next Page)* | | | | | | | | | |

## TABLE 13–6
## YEAR 2035 INTERSECTION OPERATIONS
## (NO SCHOOL SCENARIO)

| Intersection | Jur. | Control Type | Peak Hour | Year 2035 Baseline | | Year 2035 + Project (No School) | | Δ [c] Delay | Sig? |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Delay [a] | LOS [b] | Delay | LOS | | |
| *(Continued from Previous Page)* | | | | | | | | | |
| 62. Prospect Ave / Cottonwood Ave | Santee | Signal | AM | 10.6 | B | 10.6 | B | 0.0 | No |
| | | | PM | 7.9 | A | 7.9 | A | 0.0 | |
| 63. Prospect Ave / Magnolia Ave | Santee | Signal | AM | 33.6 | C | 33.8 | C | 0.2 | No |
| | | | PM | 39.9 | D | 40.5 | D | 0.6 | |
| 64. Prospect Ave / SR-67 NB Off-Ramp | Santee/ Caltrans | Signal | AM | 10.1 | A | 10.2 | B | 0.1 | No |
| | | | PM | 9.8 | A | 9.9 | A | 0.1 | |
| 65. Prospect Ave / Graves Ave | Santee | Signal | AM | 25.2 | C | 25.2 | C | 0.0 | No |
| | | | PM | 53.5 | D | 53.5 | D | 0.0 | |
| 66. Mast Boulevard / Weston Road | Santee | Signal | AM | 29.1 | C | 46.1 | D | 17.0 | No |
| | | | PM | 10.5 | B | 10.6 | B | 0.1 | |

***Footnotes:***

a. Average delay expressed in seconds per vehicle.
b. Level of Service
c. Δ denotes the increase in delay due to Project.
d. Minor Street Stop Controlled intersection. Minor street left turn delay reported.
e. All-Way Stop Controlled intersection. Average intersection delay reported.
f. No traffic control devices are installed at this location. Therefore, the southbound left-turn movement is reported.
g. The HCM methodology does not accurately reflect operations at this intersection during the AM peak hour. Latent demand east of the intersection, as well as upstream congestion from SR-52 WB exceed the limits of the analysis software/methodology. The LOS F result is based on the bottleneck effect of the lane-drop on the WB on-ramp observed in the field.

| SIGNALIZED | | UNSIGNALIZED | |
|---|---|---|---|
| DELAY/LOS THRESHOLDS | | DELAY/LOS THRESHOLDS | |
| Delay | LOS | Delay | LOS |
| 0.0 ≤ 10.0 | A | 0.0 ≤ 10.0 | A |
| 10.1 to 20.0 | B | 10.1 to 15.0 | B |
| 20.1 to 35.0 | C | 15.1 to 25.0 | C |
| 35.1 to 55.0 | D | 25.1 to 35.0 | D |
| 55.1 to 80.0 | E | 35.1 to 50.0 | E |
| ≥ 80.1 | F | ≥ 50.1 | F |

***General Notes:***

1. Jur = Jurisdiction
2. Sig = Significant impact, yes or no.

TABLE 13–7
YEAR 2035 STREET SEGMENT OPERATIONS
(NO SCHOOL SCENARIO)

| Street Segment | Jur. | Existing Capacity (LOS E) [a] | ME Capacity (LOS E) [a] | Year 2035 Baseline | | | Year 2035 + Project (No School) | | | Project Volumes | Δ [e] V/C | Sig? |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | ADT [b] | LOS [c] | V/C [d] | ADT | LOS | V/C | | | |
| **Princess Joann Road** | | | | | | | | | | | | |
| 1. Cuyamaca St to Magnolia Ave | Santee | 8,000 | 8,000 | 4,200 | C | 0.525 | 4,200 | C | 0.525 | 0 | 0.000 | No |
| **Woodglen Vista Drive** | | | | | | | | | | | | |
| 2. Cuyamaca St to Magnolia Ave | Santee | 8,000 | 8,000 | 4,000 | C | 0.500 | 4,000 | C | 0.500 | 0 | 0.000 | No |
| **El Nopal** | | | | | | | | | | | | |
| 3. Cuyamaca St to Magnolia Ave | Santee | 8,000 | 8,000 | 4,300 | C | 0.538 | 4,300 | C | 0.538 | 0 | 0.000 | No |
| 4. Magnolia Ave to Los Ranchitos Rd | Santee | 15,000 | 15,000 | 12,800 | D | 0.853 | **14,970** | **E** | **0.998** | **2,170** | **0.145** | **Yes** |
| 5. Los Ranchitos Rd to Riverford Rd | County | 16,200 | 16,200 | 13,700 | E | — | **15,870** | **E** | — | **2,170** | — | **Yes** |
| **Mast Boulevard** | | | | | | | | | | | | |
| 6. SR-52 to West Hills Pkwy | San Diego | 40,000 | 40,000 | 30,500 | D | 0.763 | 33,970 | D | 0.849 | 3,470 | 0.086 | No |
| 7. West Hills Pkwy to Medina Dr | Santee | 40,000 | 40,000 | 29,000 | C | 0.725 | 34,600 | D | 0.865 | 5,600 | 0.140 | No |
| 8. Pebble Beach Dr to Fanita Pkwy | Santee | 40,000 | 40,000 | 29,000 | C | 0.725 | 34,440 | D | 0.861 | 5,440 | 0.136 | No |
| 9. Fanita Pkwy to Carlton Hills Blvd | Santee | 40,000 | 40,000 | 21,500 | C | 0.538 | 22,880 | C | 0.572 | 1,380 | 0.034 | No |
| 10. Carlton Hills Blvd to Halberns Blvd | Santee | 40,000 | 40,000 | 28,700 | C | 0.718 | 30,350 | D | 0.759 | 1,650 | 0.041 | No |
| 11. Halberns Blvd to Cuyamaca St | Santee | 40,000 | 40,000 | 28,700 | C | 0.718 | 30,350 | D | 0.759 | 1,650 | 0.041 | No |
| 12. Cuyamaca St to Magnolia Ave | Santee | 40,000 | 40,000 | 22,300 | C | 0.558 | 22,400 | C | 0.560 | 100 | 0.002 | No |
| 13. Magnolia Ave to Los Ranchitos Rd | Santee | 15,000 | 15,000 | 6,300 | B | 0.420 | 6,300 | B | 0.420 | 0 | 0.000 | No |
| 14. Los Ranchitos Rd to Riverford Rd | County | 19,000 | 37,000 | 7,000 | B | — | 7,000 | B | — | 0 | — | No |
| **Carlton Oaks Drive** | | | | | | | | | | | | |
| 15. West Hills Pkwy to Pebble Beach Dr | Santee | 15,000 | 15,000 | 8,800 | C | 0.587 | 9,330 | C | 0.622 | 530 | 0.035 | No |
| 16. Fanita Pkwy to Carlton Hills Blvd | Santee | 15,000 | 15,000 | 13,200 | E | 0.880 | **14,070** | **E** | **0.938** | **870** | **0.058** | **Yes** |

*(Continued on Next Page)*

TABLE 13–7
YEAR 2035 STREET SEGMENT OPERATIONS
(NO SCHOOL SCENARIO)

| Street Segment | Jur. | Existing Capacity (LOS E) [a] | ME Capacity (LOS E) [a] | Year 2035 Baseline | | | Year 2035 + Project (No School) | | | Project Volumes | Δ [e] V/C | Sig? |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | ADT [b] | LOS [c] | V/C [d] | ADT | LOS | V/C | | | |
| *(Continued from Previous Page)* | | | | | | | | | | | | |
| **Mission Gorge Road** | | | | | | | | | | | | |
| 17. Western City Limits to West Hills Pkwy | Santee | 40,000 | 40,000 | 21,200 | C | 0.530 | 23,060 | C | 0.577 | 1,860 | 0.047 | No |
| 18. West Hills Pkwy to SR-125 | Santee | 40,000 | 40,000 | 19,700 | B | 0.493 | 19,700 | B | 0.493 | 0 | 0.000 | No |
| 19. SR-125 to Fanita Dr | Santee | 60,000 | 60,000 | 49,200 | C | 0.820 | 52,670 | D | 0.878 | 3,470 | 0.058 | No |
| 20. Fanita Dr to Carlton Hills Blvd | Santee | 60,000 | 60,000 | 48,700 | C | 0.812 | 52,670 | D | 0.878 | 3,780 | 0.063 | No |
| 21. Carlton Hills Blvd to Town Center Pkwy | Santee | 60,000 | 60,000 | 44,400 | C | 0.740 | 46,940 | C | 0.782 | 2,540 | 0.042 | No |
| 22. Town Center Pkwy to Cuyamaca St | Santee | 60,000 | 60,000 | 37,700 | C | 0.628 | 39,710 | C | 0.662 | 2,010 | 0.034 | No |
| 23. Cuyamaca St to Riverview Pkwy | Santee | 60,000 | 60,000 | 28,200 | B | 0.470 | 29,520 | B | 0.492 | 1,320 | 0.022 | No |
| 24. Riverview Pkwy to Cottonwood Ave | Santee | 60,000 | 40,000 | 28,400 | B | 0.473 | 29,720 | B | 0.495 | 1,320 | 0.022 | No |
| 25. Cottonwood Ave to Magnolia Ave | Santee | 60,000 | 40,000 | 26,400 | B | 0.440 | 27,720 | B | 0.462 | 1,320 | 0.022 | No |
| **Prospect Avenue** | | | | | | | | | | | | |
| 26. Fanita Dr to Cuyamaca St | Santee | 15,000 | 15,000 | 7,600 | C | 0.507 | 7,600 | C | 0.507 | 0 | 0.000 | No |
| 27. Cuyamaca St to Cottonwood Ave | Santee | 15,000 | 15,000 | 8,700 | C | 0.580 | 8,700 | C | 0.580 | 0 | 0.000 | No |
| **West Hills Parkway** | | | | | | | | | | | | |
| 28. Mast Blvd to Mission Gorge Rd | Santee | 40,000 | 40,000 | 16,100 | B | 0.403 | 17,440 | B | 0.436 | 1,340 | 0.033 | No |
| **Fanita Parkway** | | | | | | | | | | | | |
| 29. Project Site to Ganley Dr [f] | Santee | DNE | 10,000/ 15,000 | 7,160 | C | 0.716 | 12,430 | D | 0.829 | 5,370 | 0.091 | No |
| 30. Ganley Dr to Lake Canyon Rd | Santee | 10,000 | 10,000 | 9,920 | E | 0.992 | **15,210** | **F** | **1.521** | **5,370** | **0.505** | **Yes** |
| 31. Lake Canyon Rd to Mast Blvd | Santee | 10,000 | 15,000 | 10,910 | F | 1.091 | **15,530** | **F** | **1.553** | **4,930** | **0.462** | **Yes** |
| 32. Mast Blvd to Carlton Oaks Dr | Santee | 10,000 | 10,000 | 6,000 | C | 0.600 | 7,400 | C | 0.740 | 1,400 | 0.140 | No |
| *(Continued on Next Page)* | | | | | | | | | | | | |

TABLE 13–7
YEAR 2035 STREET SEGMENT OPERATIONS
(NO SCHOOL SCENARIO)

| Street Segment | Jur. | Existing Capacity (LOS E) [a] | ME Capacity (LOS E) [a] | Year 2035 Baseline | | | Year 2035 + Project (No School) | | | Project Volumes | Δ [e] V/C | Sig? |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | ADT [b] | LOS [c] | V/C [d] | ADT | LOS | V/C | | | |
| *(Continued from Previous Page)* | | | | | | | | | | | | |
| **Fanita Drive** | | | | | | | | | | | | |
| 33. Mission Gorge to SR-52 Ramps | Santee | 40,000 | 40,000 | 16,300 | B | 0.408 | 16,400 | B | 0.410 | 100 | 0.002 | No |
| 34. SR-52 Ramps to Prospect Ave | Santee | 40,000 | 40,000 | 16,300 | B | 0.408 | 16,400 | B | 0.410 | 100 | 0.002 | No |
| **Carlton Hills Boulevard** | | | | | | | | | | | | |
| 35. Lake Canyon Rd to Mast Blvd | Santee | 40,000 | 40,000 | 7,400 | A | 0.185 | 7,830 | A | 0.196 | 430 | 0.011 | No |
| 36. Mast Blvd to Carlton Oaks Dr | Santee | 40,000 | 40,000 | 13,100 | A | 0.328 | 13,750 | A | 0.344 | 650 | 0.016 | No |
| 37. Carlton Oaks Dr to Mission Gorge Rd | Santee | 40,000 | 40,000 | 32,800 | D | 0.820 | 33,850 | D | 0.846 | 1,050 | 0.026 | No |
| **Halberns Boulevard** | | | | | | | | | | | | |
| 38. Lake Canyon Rd to Mast Blvd | Santee | 15,000 | 15,000 | 3,500 | A | 0.233 | 3,500 | A | 0.233 | 0 | 0.000 | No |
| **Town Center Parkway** | | | | | | | | | | | | |
| 39. Mission Gorge Rd to Cuyamaca St | Santee | 40,000 | 40,000 | 16,500 | B | 0.413 | 16,600 | B | 0.415 | 100 | 0.002 | No |
| 40. Cuyamaca St to Riverview Pkwy | Santee | 10,000 | 10,000 | 7,200 | C | 0.720 | 7,300 | C | 0.730 | 100 | 0.010 | No |
| **Cuyamaca Street** | | | | | | | | | | | | |
| 41. Project Site to Magnolia Ave [g] | Santee | DNE/ 15,000 | 15,000 | 8,630 | C | 0.575 | 14,020 | E | 0.935 | 5,390 | 0.360 | No [g] |
| 42. Magnolia Ave to Princess Joann Rd [g] | Santee | DNE/ 15,000 | 40,000 | 6,800 | B | 0.453 | 8,980 | C | 0.599 | 2,180 | 0.146 | No |
| 43. Princess Joann Rd to Chaparral Dr [g] | Santee | DNE/ 15,000 | 40,000 | 9,400 | C | 0.627 | 11,580 | D | 0.772 | 2,180 | 0.145 | No |
| 44. Chaparral Dr to Woodglen Vista Dr [g] | Santee | 15,000 | 40,000 | 9,400 | C | 0.627 | 11,580 | D | 0.772 | 2,180 | 0.145 | No |
| 45. Woodglen Vista Dr to El Nopal | Santee | 15,000 | 40,000 | 12,600 | D | 0.840 | **14,780** | **E** | **0.985** | **2,180** | **0.145** | **Yes** |
| 46. El Nopal to Mast Blvd | Santee | 15,000 | 40,000 | 16,500 | F | 1.100 | **18,680** | **F** | **1.245** | **2,180** | **0.145** | **Yes** |
| 47. Mast Blvd to River Park Dr | Santee | 40,000 | 40,000 | 26,600 | C | 0.665 | 27,550 | C | 0.689 | 950 | 0.024 | No |
| 48. River Park Dr to Town Center Pkwy | Santee | 40,000 | 40,000 | 31,700 | D | 0.793 | 32,700 | D | 0.818 | 1,000 | 0.025 | No |
| 49. Town Center Pkwy to Mission Gorge Rd | Santee | 50,000 | 60,000 | 30,100 | C | 0.602 | 31,670 | C | 0.633 | 1,570 | 0.031 | No |
| *(Continued on Next Page)* | | | | | | | | | | | | |

TABLE 13–7
YEAR 2035 STREET SEGMENT OPERATIONS
(NO SCHOOL SCENARIO)

| Street Segment | Jur. | Existing Capacity (LOS E) [a] | ME Capacity (LOS E) [a] | Year 2035 Baseline | | | Year 2035 + Project (No School) | | | Project Volumes | Δ [e] V/C | Sig? |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | ADT [b] | LOS [c] | V/C [d] | ADT | LOS | V/C | | | |
| *(Continued from Previous Page)* | | | | | | | | | | | | |
| **Cuyamaca Street (cont.)** | | | | | | | | | | | | |
| 50. Mission Gorge Rd to SR-52 Ramps | Santee | 50,000 | 60,000 | 49,600 | E | 0.992 | **50,670** | **F** | **1.013** | **1,070** | **0.021** | **Yes** |
| 51. SR-52 Ramps to south of Prospect Ave | Santee | 50,000 | 60,000 | 30,600 | C | 0.612 | 31,030 | C | 0.621 | 430 | 0.009 | No |
| **Riverview Parkway** | | | | | | | | | | | | |
| 52. Mission Gorge Rd to Town Center Pkwy | Santee | 40,000 | 40,000 | 11,600 | A | 0.290 | 11,860 | A | 0.297 | 260 | 0.007 | No |
| 53. Town Center Pkwy to Magnolia Ave | Santee | DNE | 15,000 | 10,700 | D | 0.713 | 10,700 | D | 0.713 | 0 | 0.000 | No |
| **Magnolia Avenue** | | | | | | | | | | | | |
| 54. Cuyamaca St to Princess Joann Rd [h] | Santee | DNE/ 10,000 | 40,000 | 4,300 | B | 0.430 | 7,510 | D | 0.751 | 3,210 | 0.321 | No |
| 55. Princess Joann Rd to Woodglen Vista Dr | Santee | 40,000 | 40,000 | 9,500 | A | 0.238 | 12,710 | A | 0.318 | 3,210 | 0.080 | No |
| 56. Woodglen Vista Dr to El Nopal | Santee | 40,000 | 40,000 | 13,600 | A | 0.340 | 16,810 | B | 0.420 | 3,210 | 0.080 | No |
| 57. El Nopal to Mast Blvd | Santee | 40,000 | 40,000 | 27,300 | C | 0.683 | 28,330 | C | 0.708 | 1,030 | 0.025 | No |
| 58. Mast Blvd to Riverview Pkwy | Santee | 40,000 | 40,000 | 26,200 | C | 0.655 | 27,960 | C | 0.699 | 1,760 | 0.044 | No |
| 59. Riverview Pkwy to Mission Gorge Rd | Santee | 40,000 | 40,000 | 30,400 | D | 0.760 | 32,470 | D | 0.812 | 2,070 | 0.052 | No |
| 60. Mission Gorge Rd to SR-52 Ramps | Santee | 60,000 | 60,000 | 36,300 | C | 0.605 | 36,950 | C | 0.616 | 650 | 0.011 | No |
| 61. SR-52 Ramps to south of Prospect Ave | Santee | 40,000 | 40,000 | 33,900 | D | 0.848 | 34,120 | D | 0.853 | 220 | 0.005 | No |
| **Woodside Avenue** | | | | | | | | | | | | |
| 62. East of Magnolia Ave | Santee | 40,000 | 40,000 | 36,500 | E | 0.913 | 36,600 | E | 0.915 | 100 | 0.002 | No |
| **N. Woodside Avenue** | | | | | | | | | | | | |
| 63. Riverford Rd to Woodside Ave | Santee | 10,000 | 15,000 | 13,000 | F | 1.300 | 13,000 | F | 1.300 | 0 | 0.000 | No |
| **Riverford Road** | | | | | | | | | | | | |
| 64. Riverside Dr to SR-67 Ramps | County | 23,500 [i] | 57,000 | 24,900 | F | — | **25,440** | **F** | — | **540** | — | **Yes** |
| *(Continued on Next Page)* | | | | | | | | | | | | |

TABLE 13–7
YEAR 2035 STREET SEGMENT OPERATIONS
(NO SCHOOL SCENARIO)

| Street Segment | Jur. | Existing Capacity (LOS E) [a] | ME Capacity (LOS E) [a] | Year 2035 Baseline | | | Year 2035 + Project (No School) | | | Project Volumes | Δ [e] V/C | Sig? |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | ADT [b] | LOS [c] | V/C [d] | ADT | LOS | V/C | | | |
| *(Continued from Previous Page)* | | | | | | | | | | | | |

***Footnotes:***

a. Capacities based on City of Santee, County of San Diego, and City of San Diego Roadway Classification & LOS tables (See *Appendix A*). Existing capacities used in the Year 2035 analysis.
b. Average Daily Traffic
c. Level of Service
d. Volume to Capacity ratio
e. Δ denotes a Project-induced increase in the Volume to Capacity ratio. For County of San Diego, an increase in Project trips is used to measure impacts.
f. The Mobility Element classifies this section of Fanita Parkway as a 10,000 ADT Two-Lane Undivided Parkway. The Project proposes to construct this roadway as a Two-Lane Divided Parkway enhancing the capacity to 15,000 ADT.
g. This future section of Cuyamaca Street is proposed to be constructed by the Project as a two-lane Parkway with an LOS E capacity of 15,000 ADT. The intersection operations at both ends of the Cuyamaca Street road segment between the Project Site and Magnolia Avenue report LOS C or better operations. Therefore, adequate operations are expected along this roadway. In addition, the section of Cuyamaca Street between Chaparral Drive and Woodglen Vista Drive will be improved to a Four-Lane Major Arterial under Year 2035 conditions as a Project Design Feature to adequately transition to the four-lane section south of Woodglen Vista Drive required as Year 2035 Project mitigation.
h. This future section of Magnolia Avenue is proposed to be constructed by the Project as a two-lane Collector with an LOS E capacity of 10,000 ADT.
i. Capacity for "3-Ln Light Collector" interpolated between 2-Ln Light Collector with Continuous Left-Turn Lane (2.2B) and 4-Lane Boulevard with Intermittent Turn Lanes (4.2B).

***General Notes:***

1. Jur = Jurisdiction
2. DNE, "—" = Does not exist
3. Sig = Significant impact, yes or no.
4. County of San Diego does not use V/C ratios as a measure of effectiveness.

# 14.0 SR-52 WESTBOUND RAMP EVALUATION

The SR-52 Westbound Ramp at Mast Boulevard was evaluated in the AM peak hour using a queue and travel time assessment. As shown earlier in this report in *Table 6–1*, the existing intersection delay for Intersection #17. Mast Boulevard/ SR-52 Westbound Ramps reports acceptable LOS B operations, on average for all movements at this intersection. The reason LOS B is reported is due to the software's shortcomings in assessing the on-ramp queue accounting for the upstream flow on SR-52. Based on field observations, the westbound delay and resulting queue to enter westbound SR-52 in the AM peak hour exceeds the allowable storage on the ramp and spills onto Mast Boulevard given the congestion experienced on the upstream SR-52 mainline lanes.

A State Route 52 Traffic Engineering Performance Assessment (TEPA) is currently being prepared by Caltrans to evaluate this occurrence which will use the TransModeler software to evaluate speeds and travel times along Mast Boulevard to SR-52 westbound. However, for purposes of discussing the ramp queueing at this on-ramp within this report, a qualitative evaluation of the on-ramp queuing operations and travel time delays at this location was conducted using travel time information from GPS-sourced data (i.e. Google Maps).

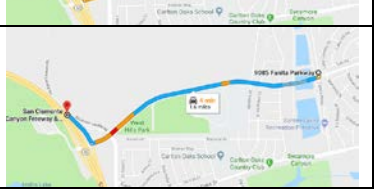
***GPS-Based Data (Google Maps)***

A review of travel time data was taken from Google Maps to provide documented estimated drive times for vehicles destined to westbound SR-52. The starting point was identified by the "back of queue", in this case the intersection of Fanita Parkway at Mast Boulevard was used. The ending point was identified as the point of merge between the on-ramp vehicles and the SR-52 mainline (otherwise known as the "gore"). The total distance traveled is approximately 1.5 miles. A "typical" weekday was selected when schools were in session during the course of the 7:00AM to 9:00AM period. The date of Wednesday May 9, 2018 was used in the assessment. The two-hour timeframe was broken down into 30-minute intervals. ***Table 14–1*** shows the typical travel times experienced along Mast Boulevard under existing conditions.

As shown in the table below, the peak period for congestion along this route appears to be around the 7:30AM timeframe with travel times up to 18 minutes. The queue during this period is most excessive at **6,820** feet with the most congested queue length shown at **4,640** feet, just east of West Hills High School.

The least congested travel time along this route is at the end of the morning peak period, 9:00AM. This shows that typically, it should take approximately four (4) minutes to drive from Fanita Parkway to the SR-52 westbound gore.

TABLE 14–1
MAST BOULEVARD TO SR-52 EXISTING TRAVEL TIME

| Time | Average Travel Time (min) | Queue Length (feet) | Illustration |
|---|---|---|---|
| 7:00AM | 7 to 16 minutes | 6,820'<br>5,640'<br>4,325' | |
| 7:30AM | 8 to 18 minutes | 6,820'<br>5,640'<br>4,640' | |
| 8:00AM | 5 to 14 minutes | 6,820'<br>5,640'<br>3,500' | |
| 8:30AM | 3 to 8 minutes | 3,500'<br>2,800' | |
| 9:00AM | 4 minutes | 2,800'<br>2,050' |  |

***General Notes:***
1. Data sourced to Google Maps, May 9, 2018.

With the addition of Project traffic to the Mast Boulevard corridor, it would be expected that drivers from Fanita Ranch would experience substantial delays in reaching SR-52 westbound. The San Diego region currently does not provide significance criteria for evaluating impacts to travel times and queue lengths pre- and post-project. However, the peak hour intersection analysis and freeway analysis in this report indicate significant LOS impacts with the addition of Project traffic in the AM peak hour along this route. Mitigation measures are recommended later on in *Section 19.2* of this report that would improve operations within this area.

As mentioned above, a separate study is being prepared to evaluate and recommend improvements for the Mast Boulevard to SR-52 westbound travel route based on additional increases in traffic with the development of the Proposed Project.

# 15.0 BICYCLE/PEDESTRIAN/TRANSIT DISCUSSION

## 15.1 Bicycles and Pedestrians

The following information is provided in the Fanita Ranch Specific Plan. Off-site, the Project design of Fanita Parkway, Cuyamaca Street and Magnolia Avenue would facilitate the movement of other transportation modes to/from off-site locales in the south. Sidewalks would be constructed parallel to each roadway to facilitate linkages between the Project site and existing bicycle and pedestrian facilities. For Fanita Parkway, improvements to the parkway would be carried all the way to Mast Boulevard. Fanita Parkway ROW will include on-street bike lanes, a multi-purpose trail on the west side, and a sidewalk on the east side of the street. Both the sidewalk and multi-purpose trail are separated from the roadway by a landscape parkway.

The Cuyamaca Street ROW connecting between the Project site and Chaparral Drive will also include on-street bike lanes, a multi-purpose trail on the west side, and a nature trail on the east side of the street. The multi-purpose trail will be separated from the roadway by a landscape parkway.

The Magnolia Avenue ROW will also include a sidewalk on the east side of the street with bike lanes/emergency parking on both sides. A contiguous sidewalk is also proposed on the west side of the street.

On-site, bicycle circulation is provided through a combination of on-street lanes, multi-purpose trails, and hiking/biking trails through open space areas. On-street bike lanes and multi-use trails are limited to the collector and arterial roadways in the lower elevations of the site. Hiking/biking trails are provided in the open space areas. Bicycle parking will be provided in all multi-family neighborhoods and for all commercial uses. A Transportation Demand Management (TDM) plan would also include community wide provision for bicycle facilities and services, including shared bicycle parking facilities in the Village Center.

Pedestrian circulation throughout the Project site is provided through a combination of sidewalks, multi-purpose trails, and hiking trails through open space areas. Architectural strategies provide for building placement that defines streets and public spaces, building design that creates pedestrian scale, and landscaping and street furniture that provide pedestrian comfort.

## 15.2 Transit

The site is currently undeveloped, and there is no existing roadway infrastructure; therefore, there is currently no transit service in the vicinity. Upon development of all the Project improvements, the local circulation system will be interconnected between the site and the City of Santee land uses to the south. Given the scale of the proposed Specific Plan area, transit routes could be rerouted to utilize Fanita Parkway to the north and/or extend into the site via existing routes on Cuyamaca Street and Magnolia Avenue. .

# 16.0 ACCESS ASSESSMENT & ON-SITE CIRCULATION

This section provides a detailed discussion of the Project access roads.

## 16.1 Access Assessment

### 16.1.1 *Network Conditions*

As discussed earlier in this report, the Project proposes to construct the northern extensions of Fanita Parkway, Cuyamaca Street, and Magnolia Avenue to provide access to the site as Project Design Features. The extensions of Fanita Parkway and Cuyamaca Street are needed to provide access to the site. The construction of Magnolia Avenue would provide an additional north/south route to Cuyamaca Street. Detailed discussions on these roadways are provided below. ***Appendix O*** provides the roadway cross-sections and street design criteria for each roadway type.

***Fanita Parkway***

Fanita Parkway is forecasted to serve 47% of Project trips to/from the City streets in the south. Fanita Parkway currently terminates at Ganley Road. The Project proposes improvements to the existing section starting at Mast Boulevard, traveling to the existing terminus at Ganley Road to mitigate potential Project impacts. From there, the roadway will be fully constructed by the Project as a Project Design Feature.

For the section of Fanita Parkway between Mast Boulevard and Lake Canyon Road, the roadway is proposed to be widened to a Four-Lane Parkway with an LOS E capacity of 40,000 ADT to accommodate future traffic volumes. Two 12-foot travel lanes will be provided in both the northbound and southbound directions. Five-foot Class II bike lanes will be striped on both sides of the roadway, separated by a two-foot bike lane buffer. A raised median will be constructed with a width varying between six (6) and 14 feet. A 10-foot multi-purpose trail/Class I bike way will be constructed on the west side of the roadway adjacent to a six-foot landscaped parkway. A five-foot landscaped parkway is proposed on the east side of the roadway.

From Lake Canyon Road to Ganley Road, Fanita Parkway is proposed to be constructed as a modified Three-Lane Parkway which will accommodate future traffic volumes. Two 12-foot travel lanes will be provided in the southbound direction with one (1) 12-foot lane in the northbound direction. Five-foot Class II bike lanes will be striped on both sides of the roadway, separated by a two-foot bike lane buffer on the west side and a three-foot bike lane buffer on the east side. A raised median will be constructed with a width varying between six (6) and 14 feet. A 10-foot multi-purpose trail/Class I bike way will be constructed on the west side of the roadway adjacent to a six-foot landscaped parkway. A five-foot landscaped parkway is proposed on the east side of the roadway. The intersection of Fanita Parkway and Ganley Road will be signalized to accommodate future traffic volumes. In addition, the gated vehicular entrance south of Ganley Road currently used by Santee Lakes as an entry/exit to their campground and RV storage areas will be abandoned and realigned to complete the west leg (fourth leg) of the Fanita Parkway/ Ganley Road intersection. This new four-way intersection will accommodate trips into and out of both the Santee Lakes and the PDMWD facilities currently accessed via Sycamore Canyon Road. In addition, SDG&E easements

and the northernmost access to the Ray Stoyer Plant on the PDMWD property are currently accessed via Sycamore Canyon Road. The Project proposes to provide a right-in/right-out only access on Fanita Parkway for the eastern easement access and a full access intersection with a northbound dedicated left-turn lane to the PDMWD property on the west side of Fanita Parkway. The intersection of Lake Canyon Road at Fanita Parkway will widen to provide two northbound and two southbound through lanes prior to narrowing to the three-lane configuration approaching Ganley Road. LOS A is calculated at the Fanita Parkway/ Ganley Road intersection with this three-lane configuration. The three-lane Fanita Parkway capacity would be expected to adequately serve Project traffic and ambient street traffic into the long-term. However, the roadway may be widened to include an additional northbound through lane completing the Four-Lane Parkway design should traffic volumes on this section exceed specified thresholds. Further discussion on these threshold indicators is provided in *Section 16.1.3*.

From Ganley Road to the first on-site roundabout at "Street E", Fanita Parkway will narrow to two lanes as a Two-Lane Parkway with an LOS E capacity of 15,000 ADT to accommodate future traffic volumes. The two-lane section of the roadway will be divided by a six to 14-foot raised median, provide one 12-foot travel lane in both directions, include five-foot bike lanes on both sides of the roadway with a three-foot buffer on the east side and two-foot buffer on the west side, and provide a five-foot landscaped parkway on the east side of the roadway with a 10-foot multi-purpose trail on the west side separated from the roadway by a six-foot landscape parkway.

***Cuyamaca Street***

Cuyamaca Street is forecasted to serve 53% of Project trips prior to splitting off to Magnolia Avenue, where it would then carry 29% of Project trips to/from the City streets in the south. Cuyamaca Street currently terminates at Chaparral Drive. From Chaparral Drive to the first on-site roundabout with "Street Y", the roadway is proposed to be constructed as a Two-Lane Parkway with an LOS E capacity of 15,000 ADT to accommodate future traffic volumes. One 12-foot travel lane will be provided in both the northbound and southbound directions. A 10-foot bike lane/emergency parking lane will be provided on the west side of the roadway with an eight-foot bike lane/emergency parking lane on the east side. A raised median will be constructed with a width of 10 feet. An eight-foot multi-purpose trail/Class I bike way will be constructed on the west side of the roadway adjacent to a five-foot landscaped parkway. A five-foot landscaped parkway is proposed on the east side of the roadway.

***Magnolia Avenue***

Magnolia Avenue is forecasted to serve 24% of Project trips south of its future intersection at Cuyamaca Street. Magnolia Avenue currently terminates just north of Princess Joann Road. Magnolia Avenue is classified as a Four-Lane Parkway per the Adopted Mobility Element. The traffic volumes forecasted on this future connection do not require the full construction of the roadway to four-lane standards. The Year 2035 traffic volumes both without and with the Project are less than 8,000 ADT. Therefore, from its current terminus to Cuyamaca Street, the roadway is proposed to be constructed as a Two-Lane Collector with an LOS E capacity of 10,000 ADT which would adequately accommodate future traffic volumes. One 13-foot travel lane will be provided in

both the northbound and southbound directions separated by a 12-foot painted median. A seven-foot bike lane/emergency parking lane will be provided on both sides of the roadway. A five-foot sidewalk is proposed on both sides of the roadway with an additional five-foot parkway on the west side.

The "special uses" on the site for the RV parking and solar panel operations will take access solely from the current terminus of Carlton Hills Boulevard north of Lake Canyon Road. Very few Project trips (approximately 50 ADT) are expected to use this access as the special uses associated with the site are a low trip generator. Therefore, no improvements to Carlton Hills Boulevard are needed to accommodate future traffic volumes.

### 16.1.2 *Traffic Volumes*

Given these roadways will be constructed by the Project and will serve as access roads to/from the Fanita Ranch site, the newly constructed sections will carry the amount of Project trips assigned to the street system from the Project trip generation and trip distribution. By the Year 2035, traffic volumes are forecasted at 12,350 ADT on Fanita Parkway between Ganley Road and Street "E" and on Cuyamaca Road from Street "W" to the future connection of Magnolia Avenue, Year 2035 With Project volumes are forecasted at 13,920 ADT. South of the future extension of Magnolia Avenue, they are forecasted at 8,930 ADT. It is anticipated that Magnolia Avenue will carry 7,470 ADT between Cuyamaca Street and its current terminus just north of Princess Joann Road. *Figure 11–2*, provided earlier in this report, depicts the future traffic volumes on these roadways. *Table 12–2* provides the Year 2035 With Project roadway capacity analysis. Additional analysis of Fanita Parkway is provided in the following section.

A thorough review of the Year 2035 Mobility Element traffic model (a calibrated version of the SANDAG Series 12 traffic model) indicated that volumes on Fanita Parkway were unbalanced between Ganley Road and Mast Boulevard. Future volumes approaching Lake Canyon Road were shown to be approximately double the 2,610 ADT shown in existing traffic counts. The model shows these trips being generated by the Santee Lakes recreation park and a portion of the existing residential land uses east of Fanita Parkway. There are no further plans to densify Santee Lakes per the publicly available Santee Lakes Master Plan (November 2016) that would result in increases in traffic volumes of this intensity. Nor are there any future development plans within the existing residential uses to the east. The base year of the Series 12 model upon which the Mobility Element model is based also shows similarly high volumes on Fanita Parkway between Ganley Road and Lake Canyon Road, which indicates an underlying issue with how the model depicts volumes on this segment. The model lacks the granularity needed to accurately assign traffic on a segment-by-segment basis in this area. Therefore, the Year 2035 ADT volumes along Fanita Parkway were calibrated to existing traffic patterns to more accurately represent anticipated future conditions along this corridor.

### 16.1.3 *Fanita Parkway Analysis*

As shown earlier in *Table 12–2* of this report, LOS F operations are forecasted along the two-lane section of Fanita Parkway assuming the Mobility Element 2-Lane Parkway LOS E capacity of

10,000 ADT. It is therefore recommended that the section of Fanita Parkway between the Project site and Ganley Road be constructed to provide a raised median increasing the LOS E capacity to 15,000 ADT for a 2-Lane Parkway with Raised Median. The Project proposes this as a Project Design Feature. The intersection of Ganley Road at Fanita Parkway will widen to provide one southbound left-turn lane and a shared through/right-turn lane, a northbound left-turn lane, northbound through lane, and a dedicated northbound right-turn lane. The east and west approaches will be improved to provide an eastbound shared left/through/right-turn lane and a westbound left-turn lane and shared through/right-turn lane. From Ganley Road to Lake Canyon Road, the roadway should be constructed to provide two lanes in the southbound direction and one-lane in the northbound direction, separated by a raised median to mitigate potential impacts along this existing segment. Approaching the Lake Canyon Road intersection, Fanita Parkway would widen to four lanes. The exact details of this configuration are described above in *Section 16.1.1*.

Fanita Parkway between the Ganley Road and Lake Canyon Road is projected to operate at LOS F with the addition of Project traffic using a two-lane 15,000 LOS E capacity (equivalent to a two-lane Parkway) using the ADT V/C method. The design of this section of Fanita Parkway proposes two southbound lanes with one northbound lane, as well as intersection enhancements at Ganley Road and Lake Canyon Road (see *Section 2.3*). With the addition of a third lane on Fanita Parkway, an increase in capacity would be expected. However, it is difficult to measure the improvement to the capacity with the addition of an extra lane in one direction. Santee currently does not have a roadway capacity for a three-lane roadway. A two-lane divided Parkway allows for a 15,000 LOS E ADT capacity on a daily basis, using the volume-to-capacity methodology, thus resulting in LOS F operations in Year 2035 with the Project (15,130 ADT). Volume-to-capacity street segment analysis lacks the precision of peak hour intersection analysis, which takes into account more detailed traffic flow patterns, intersection controls, and roadway features. Peak hour analysis also represents the highest accumulation of traffic volumes throughout a 24-hour period. The intersection calculations are based on complex computerized traffic models utilizing methodology from the HCM that has been refined over decades. By contrast, the V/C segment analysis is comprised of two variables; volume obtained from a 24-hour count, and capacity based on the City's published guidelines, which necessarily present a homogenized, "one-size fits all" summary of theoretical capacities for roads based generally on the roadway width, number of lanes and presence of parking maneuvers. Between these two methods, the peak hour analysis is the superior and more accurate method to determine actual roadway calculations.

The Fanita Parkway/Lake Canyon Road intersection would be improved to install a traffic signal and the lane geometry would include two through lanes in the northbound and southbound directions. Based on the computed intersection analysis, the intersection will operate at LOS A, the roadway would be expected to operate very efficiently since LOS A is calculated at the intersections on either end of the segment with the proposed mitigation. In addition, LOS B or better operations are calculated using the peak hour arterial analysis method, and a third lane providing additional capacity (two southbound thru lanes and one northbound thru lane) are proposed along this segment.

Supplemental analyses under the Year 2035 With Project conditions were conducted for the modified three-lane design of Fanita Parkway: a peak hour intersection analysis (traffic signals installed as mitigation measures at Ganley Road and Lake Canyon Road), peak hour arterial analysis and a queueing analysis. The results of these analyses are discussed below.

### *Peak Hour Intersection Analysis*

***Table 16–1*** shows the results of a peak hour intersection analysis assuming a three-lane Fanita Parkway between Lake Canyon and Ganley Drive. This table shows LOS A operations at the intersection in both the AM and PM peak hours for both the Fanita Parkway intersections with Ganley Road and Lake Canyon Road. ***Appendix P*** contains the analysis worksheets.

TABLE 16–1
INTERSECTION OPERATIONS
3-LANE FANITA PARKWAY

| Intersection | Year 2035 + Project | | | |
|---|---|---|---|---|
| | **Control Type** | **Peak Hour** | **Delay** [a] | **LOS** [b] |
| 3. Fanita Pkwy/ Ganley Rd [c] | Signal | AM<br>PM | 8.4<br>7.7 | A<br>A |
| 9. Fanita Pkwy/ Lake Canyon Rd [d] | Signal | AM<br>PM | 6.4<br>7.2 | A<br>A |

***Footnotes:***

a. Average delay expressed in seconds per vehicle.
b. Level of Service
c. Three-Lane improvements to intersection include: Traffic signal; 1 NB thru lane, 1 NB right-turn lane; 1 SB left-turn lane; 2 SB thru lanes; 1 WB left-turn lane; 1 WB right-turn lane
d. Improvements to this intersection include: Traffic signal; 1 NB thru lane,, 1 NB shared thru/right-turn lane; 1 SB left-turn lane; 2 SB thru lanes; 1 WB left-turn lane; 1 WB shared left/right-turn lane

SIGNALIZED

DELAY/LOS THRESHOLDS

| Delay | LOS |
|---|---|
| 0.0 ≤ 10.0 | A |
| 10.1 to 20.0 | B |
| 20.1 to 35.0 | C |
| 35.1 to 55.0 | D |
| 55.1 to 80.0 | E |
| ≥ 80.1 | F |

### *Peak Hour Arterial Analysis*

***Table 16–2*** shows the results of a peak hour analysis for the section of Fanita Parkway between Mast Boulevard and Ganley Drive using the *Synchro Version 10* software and assuming a three-lane Fanita Parkway north of Lake Canyon Road to Ganley Road. This section of Fanita Parkway serves as an access route to a major roadway ultimately connecting to daily commuter routes, which classifies as a Class II Arterial, per the *HCM*. This table shows travel speeds (mph) in both directions

with the three-lane section between Lake Canyon Road and Ganley Road operating at LOS A and B. *Appendix P* contains the analysis worksheets.

TABLE 16–2
PEAK HOUR ARTERIAL ANALYSIS
3-LANE FANITA PARKWAY

| Dir. | Dir. | Roadway Classification | Year 2035 + Project | | | |
|---|---|---|---|---|---|---|
| | | | AM | | PM | |
| | | | Speed | LOS | Speed | LOS |
| **Three-Lane Fanita Parkway** | | | | | | |
| NB | Lake Canyon Rd to Ganley Rd | 3-ln Parkway w/ Raised Median | 28.3 | B | 28.4 | B |
| SB | Ganley Rd to Lake Canyon Rd | 3-ln Parkway w/ Raised Median | 37.7 | A | 38.4 | A |

***Footnotes:***

a. Speed measured in miles per hour.
b. LOS = Level of Service

***General Notes***

1. Dir. = Direction
2. NB = Northbound
3. SB = Southbound

SPEED (MPH) / LOS THRESHOLDS

| LOS | Class I | Class II | Class III | Class IV |
|---|---|---|---|---|
| A | >42 | >35 | >30 | >25 |
| B | >34-42 | >28-35 | >24-30 | >19-25 |
| C | >27-34 | >22-28 | >18-24 | >13-19 |
| D | >21-27 | >17-22 | >14-18 | >9-13 |
| E | >16-21 | >13-17 | >10-14 | >7-9 |
| F | ≤ 16 | ≤ 13 | ≤ 10 | ≤ 7 |

### *Queuing Analysis*

***Table 16–3*** shows the results of a peak hour intersection analysis and queue lengths by approach for the intersection of Fanita Parkway at Ganley Road. Intersection LOS was calculated using the *Synchro Version 10* software and queues were calculated using the *SimTraffic Version 10.0* simulation software. The analyses were conducted assuming a three-lane Fanita Parkway between Lake Canyon and Ganley Drive. This table shows LOS C or better operations at the intersection for all movements, with an average LOS A reported (as previously reported above in *Table 16–2*). Queue lengths show that during peak hours, the 95$^{th}$ percentile queue calculates to approximately nine (9) vehicles in the northbound direction (one lane on Fanita Parkway). The 95$^{th}$ percentile queue is defined as only having a 5% probability of being exceeded. For those 9 queued vehicles, the average delay reported for the northbound approach is 7.7 seconds.

*Appendix P* contains the queuing analysis worksheets.

TABLE 16–3
INTERSECTION & QUEUING OPERATIONS
3-LANE FANITA PARKWAY

| Intersection | Control | Approach/ Movement [c] | Peak Hour | Year 2035 With Project Three-Lane Fanita Parkway | | | |
|---|---|---|---|---|---|---|---|
| | | | | Intersection Delay/LOS Operations | | 95th Percentile Queuing Operations [c] | |
| | | | | Delay [a] | LOS [b] | Queue (ft.) | Queue (# of Veh) |
| Fanita Parkway/ Ganley Road | Signal | Average | AM | 8.4 | A | — | — |
| | | | PM | 7.7 | A | — | — |
| | | NB | AM | 7.7 | A | 97’ | 5 |
| | | | PM | **7.7** | **A** | **190’** | **9** |
| | | SB | AM | 7.9 | A | 140’ | 7 |
| | | | PM | 5.0 | A | 71’ | 4 |
| | | WB | AM | 12.9 | B | 88’ | 4 |
| | | | PM | 18.0 | B | 70’ | 4 |
| | | EB | AM | 11.7 | B | 35’ | 2 |
| | | | PM | 17.6 | B | 26’ | 2 |

***Footnotes:***

a. Average delay expressed in seconds per vehicle.
b. Level of Service. See table at right for delay thresholds.
c. 95th percentile queue is defined as the queue length that has only a 5% probability of being exceeded. Queue length shown in both feet and number of vehicles. Queue calculated using SimTraffic (Version 10) simulation software.

***General Notes:***

1. Calculated queue lengths in feet per lane.
2. One vehicle length = approximately 22 feet.
3. EB = eastbound, WB = westbound, SB = southbound, NB = northbound.
4. Veh = Vehicles
5. Ft = Feet

Based on the analysis presented above, adequate operations along the proposed three-lane section of Fanita Parkway between Ganley Road to Lake Canyon Road would occur with the addition of Project traffic. Therefore, it is recommended that the Project construct this section to the three-lane configuration described in this report.

### 16.1.4 *Cuyamaca Street Analysis*

Using the volume-to-capacity methodology, the section of Cuyamaca Street between the first Project roundabout at Street “A”/Street “Y” and Magnolia Avenue is forecasted to operate at LOS E in the Year 2035. The LOS E threshold for a Two-Lane Parkway lies between 13,000 and 15,000 ADT, and this segment of Cuyamaca Street has a forecast volume of 13,920 ADT. However, peak hour analyses, detailed below, yield very good results.

### *Peak Hour Intersection Analysis*

Using the peak hour methodology applied for Fanita Parkway, the Cuyamaca Street/Street "A"/Street "Y" roundabout and Cuyamaca Street/ Magnolia Avenue signalized intersection at both ends of this segment operate at LOS C or better conditions. South of Magnolia Avenue to Princess Joann Road, a traffic signal is proposed as mitigation for the Cuyamaca Street/Princess Joann Road intersection, which would operate at LOS A in Year 2035.

***Table 16–4*** shows the results of a peak hour intersection analysis along Cuyamaca Street between the on-site roundabout at Street A/Street Y and Woodglen Vista Drive. This table shows LOS C or better operations at all intersections along this corridor in both the AM and PM peak hours. ***Appendix Q*** contains the analysis worksheets.

TABLE 16–4
INTERSECTION OPERATIONS
CUYAMACA STREET

| Intersection | Year 2035 + Project | | | |
|---|---|---|---|---|
| | **Control Type** | **Peak Hour** | **Delay** [a] | **LOS** [b] |
| A. Cuyamaca Street/ Street A/ Street Y | Round-about | AM<br>PM | 11.7<br>24.8 | B<br>C |
| G. Cuyamaca Street/ Magnolia Avenue | Signal | AM<br>PM | 10.7<br>18.3 | B<br>B |
| 1. Princess Joann Road/ Cuyamaca Street | Signal | AM<br>PM | 7.2<br>2.5 | A<br>A |
| 4. Woodglen Vista Drive/ Cuyamaca Street | Signal | AM<br>PM | 15.8<br>9.4 | B<br>A |

***Footnotes:***

a. Average delay expressed in seconds per vehicle.
b. Level of Service
c. Mitigation measures to signalize the Intersection #1. Princess Joann Road/ Magnolia Avenue intersection and Intersection #4. Woodglen Vista Road/ Cuyamaca Road Intersection included in the analysis above.

SIGNALIZED

DELAY/LOS THRESHOLDS

| Delay | LOS |
|---|---|
| 0.0 ≤ 10.0 | A |
| 10.1 to 20.0 | B |
| 20.1 to 35.0 | C |
| 35.1 to 55.0 | D |
| 55.1 to 80.0 | E |
| ≥ 80.1 | F |

***Peak Hour Arterial Analysis***

***Table 16–5*** shows the results of a peak hour analysis for the section of Cuyamaca Street between Street "A"/Street "Y" on-site and Woodglen Vista Drive to the south using the *Synchro Version 10* software applying the *HCM* methodology and assuming a Two-Lane Parkway designation of Cuyamaca Street. This section of Cuyamaca Street, which is classified as a Class *III* Arterial per *HCM* criteria, serves as an access route to a major roadway ultimately connecting to daily commuter routes. This table shows travel speeds (mph) in both directions along Cuyamaca Street between the Project site and Woodglen Vista Drive operating at LOS C or better as a two-lane roadway.

However, it should be noted that as part of the Project Design Features, and to ensure an adequate transition from two (2) to four (4) lanes, the section of Cuyamaca Street from Chaparral Drive to Woodglen Vista Drive will be improved to Four-Lane Major Arterial standards.

*ppendix Q* contains the analysis worksheets.

## TABLE 16–5
## PEAK HOUR ARTERIAL ANALYSIS
## CUYAMACA STREET

| Dir. | Dir. | Roadway Classification | Year 2035 + Project | | | |
|---|---|---|---|---|---|---|
| | | | AM | | PM | |
| | | | Speed [a] | LOS [b] | Speed | LOS |
| **Two-Lane Cuyamaca Street** | | | | | | |
| NB | Woodglen Vista Drive to Chaparral Drive [c] | 2-Ln Parkway w/ Raised Median | 29.6 | B | 29.3 | B |
| | Chaparral Drive to Princess Joann Road | 2-Ln Parkway w/ Raised Median | 29.6 | B | 29.3 | B |
| | Princess Joann Road to Magnolia Avenue | 2-Ln Parkway w/ Raised Median | 19.6 | C | 20.3 | C |
| | Magnolia Avenue to Street A/ Street Y | 2-Ln Parkway w/ Raised Median | 30.7 | A | 21.3 | C |
| SB | Woodglen Vista Drive to Chaparral Drive [c] | 2-Ln Parkway w/ Raised Median | 26.7 | B | 31.2 | A |
| | Chaparral Drive to Princess Joann Road | 2-Ln Parkway w/ Raised Median | 26.7 | B | 31.2 | A |
| | Princess Joann Road to Magnolia Avenue | 2-Ln Parkway w/ Raised Median | 24.3 | B | 26.9 | B |
| | Magnolia Avenue to Street A/ Street Y | 2-Ln Parkway w/ Raised Median | 32.3 | A | 33.0 | A |

***Footnotes:***

a. Speed measured in miles per hour.
b. LOS = Level of Service
c. The section of Cuyamaca Street between Chaparral Drive and Woodglen Vista Drive will be improved to a Four-Lane Major Arterial as a Project Design Feature to adequately transition to the four-lane section south of Woodglen Vista Drive. For the purposes of the arterial analysis, it is shown to function adequately as a two-lane roadway.

SPEED (MPH) / LOS THRESHOLDS

| LOS | Class I | Class II | Class III | Class IV |
|---|---|---|---|---|
| A | >42 | >35 | >30 | >25 |
| B | >34-42 | >28-35 | >24-30 | >19-25 |
| C | >27-34 | >22-28 | >18-24 | >13-19 |
| D | >21-27 | >17-22 | >14-18 | >9-13 |
| E | >16-21 | >13-17 | >10-14 | >7-9 |
| F | ≤ 16 | ≤ 13 | ≤ 10 | ≤ 7 |

***General Notes***

1. Dir. = Direction
2. NB = Northbound
3. SB = Southbound
4. Mitigation measures to signalize the Intersection #1. Princess Joann Road/ Magnolia Avenue intersection and Intersection #4. Woodglen Vista Road/ Cuyamaca Road Intersection included in the analysis above.

Based on the acceptable operations along this segment on a peak hour basis, adequate operations along the proposed two-lane section of Cuyamaca Street would occur with the addition of Project traffic. Therefore, it is recommended that the Project construct this section to the two-lane configuration described in this report.

## 16.2 On-Site Circulation

This section evaluates the internal streets and intersections within the overall Project site. The proposed school has not been designed at this time, and therefore a pick-up/drop-off circulation plan for the school cannot be prepared at this time but will be developed once the site plan is designed.

### 16.2.1 *Network Conditions*

The on-site network of streets and intersections consists of different design types based on expected traffic volumes. As mentioned in *Section 16.1.1*, *Appendix O* provides the roadway cross-sections and street design criteria for each roadway type within the Project site. Roadways will vary within the parameters of the City's standard design for Local roads and Residential Collectors. Local roads would be designed to carry up to 2,200 ADT and Residential Collectors would be designed to carry up to 8,000 ADT. It is not anticipated that any on-site roadway would exceed the ADT thresholds set forth above by these design standards.

The sections of Fanita Parkway and Cuyamaca Street that feed into on-site roadways would be designed to the Parkway capacities identified in the previous *Section 16.1.1* of this report.

The intersections of key roadways were assessed in this report. Eleven (11) locations for internal street crossings were selected for evaluation. They are listed below:

- Roundabout A: Cuyamaca Street/ Street "A"/Street "W"
- Roundabout B: Fanita Parkway/ Street "E"
- Roundabout C: Fanita Parkway/ Street "A"
- Roundabout D: Fanita Parkway/ Street "N"
- Roundabout E: Fanita Parkway/ Street "M"
- Roundabout F: Cuyamaca Street/ Street "V"
- Signalized Intersection G: Cuyamaca Street/ Magnolia Avenue
- Unsignalized Intersection H: Cuyamaca Street/ Street "T"
- Unsignalized Intersection I: Street "W"/ Street "WW"
- Unsignalized Intersection J: Street "W"/ Street "X"
- Unsignalized Intersection K: FStreet "X"/ Street "V"

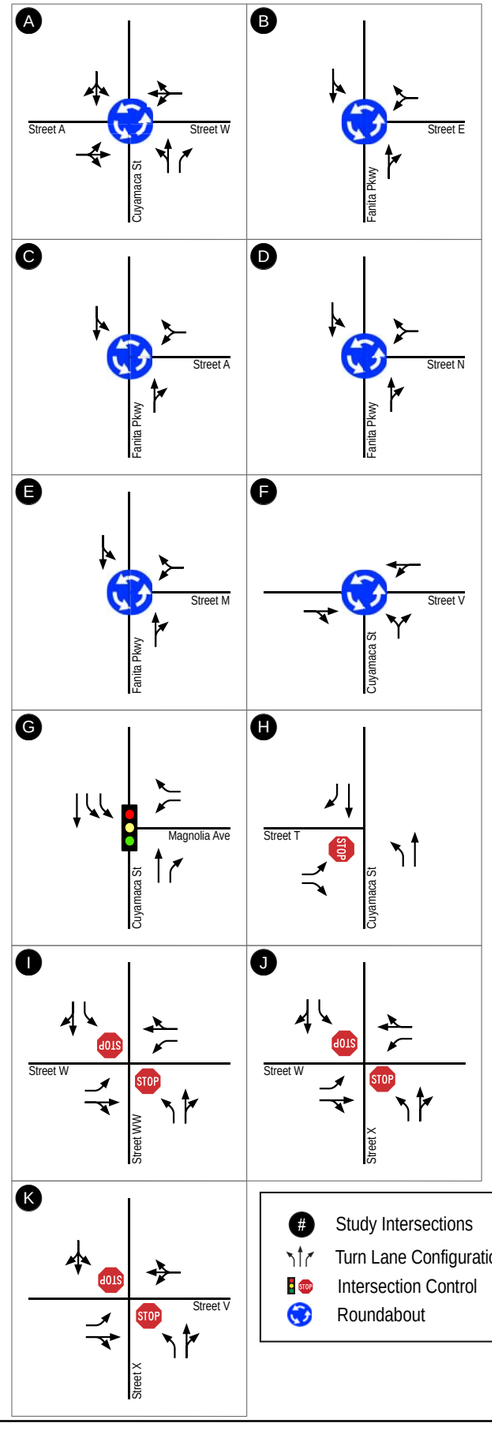
***Figure 16–1*** provides the proposed conditions diagram for on-site intersections. ***Appendix R*** provides detailed drawings of the roundabout configurations.

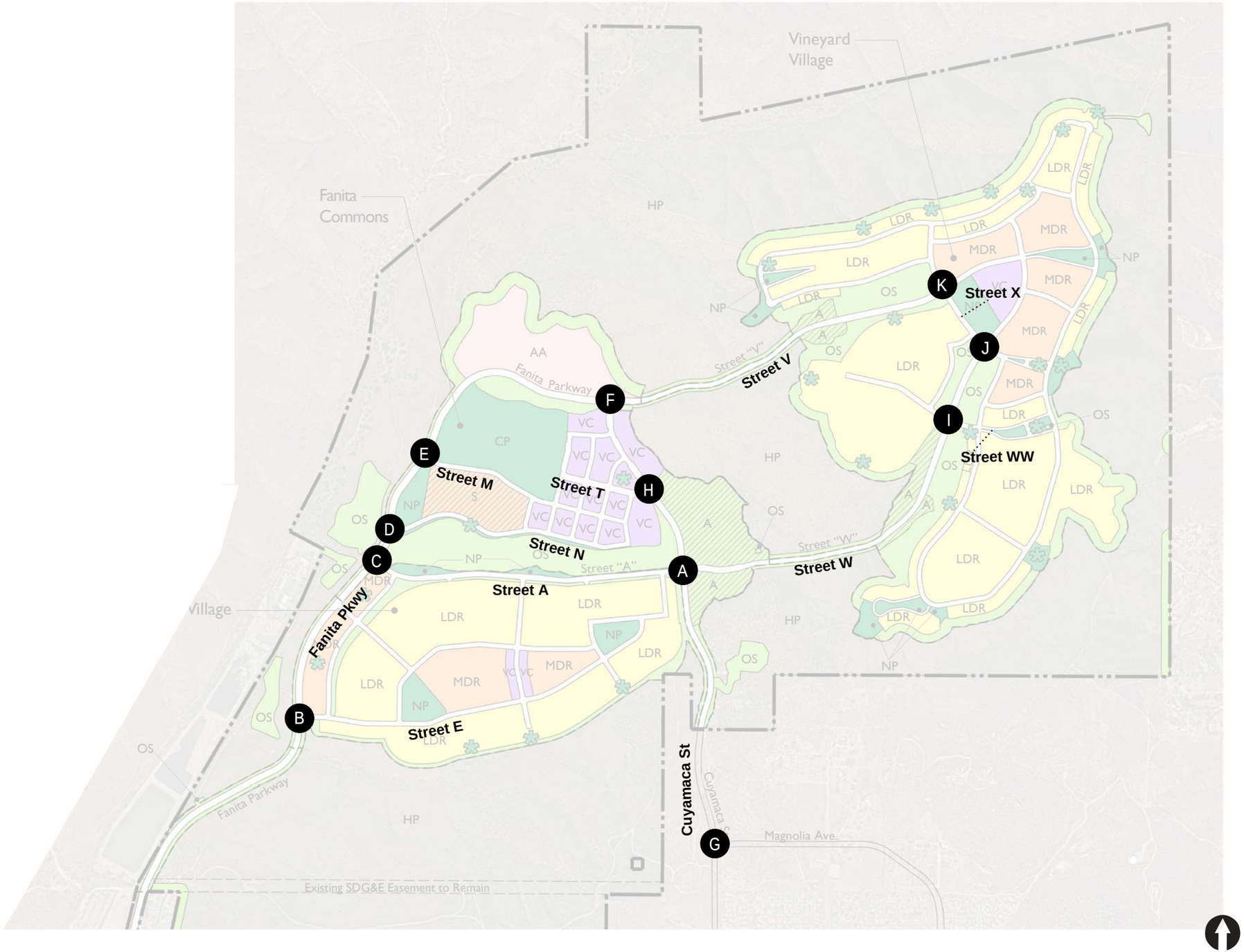
### 16.2.2 *Traffic Volumes*

On-site traffic volumes were distributed and assigned to the Project site using the total internal site trip generation noted as the "Primary Trip Generation" from *Table 7–1* provided earlier in this report. Internal pass-by and diverted trips were also included in the on-site traffic volumes. On-site trip distribution was developed by assessing the land use plan and assigning trips generated by the different land uses within the site.

As discussed earlier in *Section 7.1.2*, primary trips are all the "new" trips to the street system resulting from the development of each land use. The pass-by/diverted trips are not necessarily new trips at all on-site locations but are trips that would be making a stop at an on-site land use on their way to their ultimate destination. For example, a residential trip leaving home for work could pass-by or divert to the school entrance to drop off their child prior to reaching their ultimate destination at their place of work. These trip types were accounted for in the internal assignment. Lastly, the "Net External Trips" from the trip generation were assigned to the cordon intersections of the Project site (those intersection providing direct access to/from Fanita Ranch to the public street system in the south.

***Figure 16–2*** illustrates the on-site Project traffic volumes.

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LINSCOTT LAW & GREENSPAN engineers

**Figure 16-1**

## Proposed On-Site Conditions Diagram

FANITA RANCH

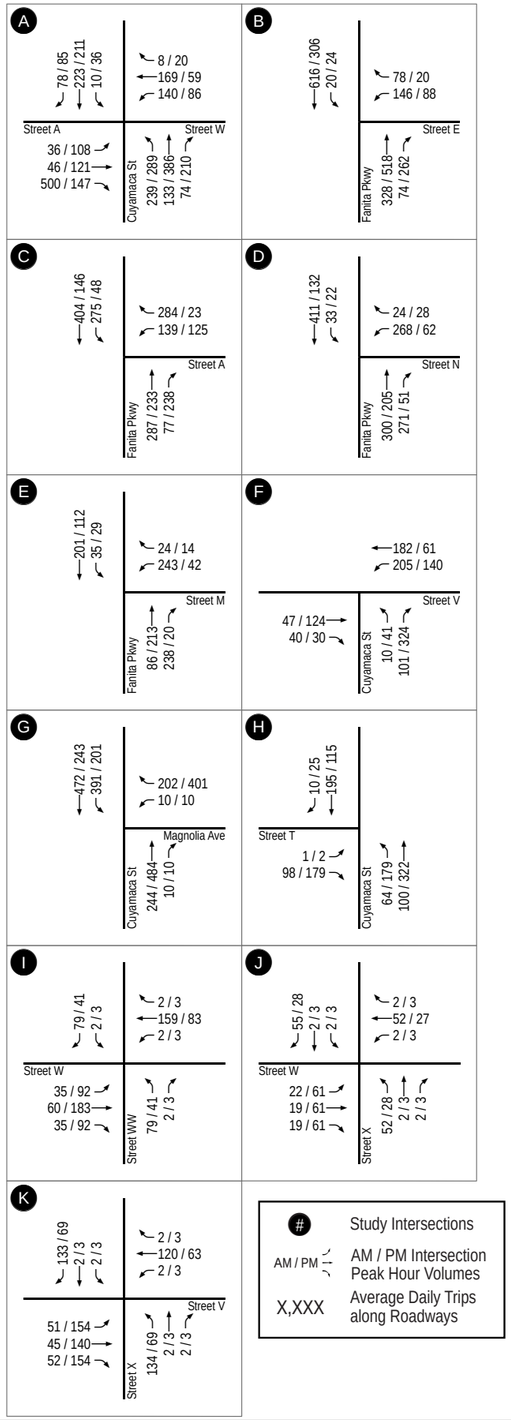


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**Figure 16-2**

## Proposed On-Site Project Traffic Volumes

FANITA RANCH

### 16.2.3 *Peak Hour Analysis*

The total internal Project traffic volumes were used to evaluate the operations of the proposed on-site intersections using the *Synchro (Version 10)* software. The results of the roundabout analysis provide delay (in seconds), LOS and queue outputs based upon the procedures found in Chapter 22 of the *HCM 6*.

***Table 16–6*** summarizes the peak hour analysis for the on-site intersections and roundabouts. As seen in *Table 16–6*, all locations are forecasted to operate at LOS C or better conditions with the proposed intersection configurations.

It should be noted that for the Intersection G: Cuyamaca Street/ Magnolia Street, a traffic signal will be installed and the following lane geometry is proposed:

Southbound: 2 left-turn lanes, 1 through lane
Northbound: 1 through lane, 1 right-turn lane
Westbound: 1 left-turn lane, 1 right-turn lane

The southbound left-turn volume is forecasted at 391 AM peak hour turns. With one (1) dedicated left-turn lane providing a 150-foot storage bay, very good LOS B operations are reported with a delay of 16.1 seconds for this movement and an overall average intersection delay of 12.7 seconds/LOS B is reported during the AM peak hour. However, to accommodate potential queues in the left-turn lane, two (2) 175' southbound left-turn lanes will be provided.

***Appendix S*** contains the intersection analysis sheets for Project on-site intersections.

## TABLE 16–6
## ON-SITE INTERSECTION OPERATIONS

| Intersection | Control Type | Peak Hour | Project Conditions | |
|---|---|---|---|---|
| | | | Delay [a] | LOS [b] |
| A. Cuyamaca Street/ Street A/Street W | Roundabout | AM | 11.7 | B |
| | | PM | 24.8 | C |
| B. Fanita Parkway/ Street E | Roundabout | AM | 8.4 | A |
| | | PM | 9.0 | A |
| C. Fanita Parkway/ Street A | Roundabout | AM | 10.1 | B |
| | | PM | 5.9 | A |
| D. Fanita Parkway/ Street N | Roundabout | AM | 8.1 | A |
| | | PM | 4.3 | A |
| E. Fanita Parkway/ Street M | Roundabout | AM | 5.3 | A |
| | | PM | 4.1 | A |
| F. Cuyamaca Street/ Street V | Roundabout | AM | 4.9 | A |
| | | PM | 5.3 | A |
| G. Cuyamaca Street/ Magnolia Avenue | Signal | AM | 10.7 | B |
| | | PM | 18.3 | B |
| H. Cuyamaca Street/ Street T | MSSC [c] | AM | 11.8 | B |
| | | PM | 18.0 | C |
| I. Street W/ Street WW | MSSC | AM | 13.5 | B |
| | | PM | 15.4 | C |
| J. Street W/ Street X | MSSC | AM | 10.3 | B |
| | | PM | 11.1 | B |
| K. Street X/ Street V | MSSC | AM | 16.4 | C |
| | | PM | 20.7 | C |

***Footnotes:***

a. Average delay expressed in seconds per vehicle.
b. Level of Service
c. Minor Street Stop Controlled intersection. Minor street critical movements delay reported.

| SIGNALIZED | | UNSIGNALIZED | |
|---|---|---|---|
| DELAY/LOS THRESHOLDS | | DELAY/LOS THRESHOLDS | |
| Delay | LOS | Delay | LOS |
| 0.0 ≤ 10.0 | A | 0.0 ≤ 10.0 | A |
| 10.1 to 20.0 | B | 10.1 to 15.0 | B |
| 20.1 to 35.0 | C | 15.1 to 25.0 | C |
| 35.1 to 55.0 | D | 25.1 to 35.0 | D |
| 55.1 to 80.0 | E | 35.1 to 50.0 | E |
| ≥ 80.1 | F | ≥ 50.1 | F |

# 17.0 VEHICLE MILES TRAVELED (VMT) APPROACH

## 17.1 Statewide VMT Guidelines

This section provides an introduction to evaluating potential transportation impacts of a project as proposed by the California Governor's Office of Planning and Research (OPR) to implement California State Law Senate Bill (SB) 743. OPR proposes that metrics based on Vehicle Miles Traveled (VMT) be used to evaluate a project's transportation effects, and that projects in proximity to transit are presumed to result in less-than-significant impacts. OPR also suggests thresholds of significance and technical methodologies to calculate VMT.

### 17.1.1 *VMT Background and Induced Travel*

VMT is defined as a measurement of miles traveled by vehicles within a specified region and for a specified time period. VMT is a measure of the use and efficiency of the transportation network. VMT's are calculated based on individual vehicle trips generated and their associated trip lengths. VMT accounts for two-way (round trip) travel and is often estimated for a typical weekday for the purposes of measuring transportation impacts.

Induced travel occurs where roadway capacity is expanded in an area of present or projected future congestion. The effect typically manifests over several years. Lower travel times make the modified facility more attractive to travelers, resulting in potential trip-making changes. Each of these effects has implications for the total amount of vehicle travel.

- **Longer Trips.** The ability to travel a long distance in a shorter time increases the attractiveness of destinations that are farther away, increasing trip length and vehicle travel.
- **Changes in Mode Choice.** When transportation investments are devoted to reducing automobile travel time, travelers tend to shift toward automobile use from other modes, which increases vehicle travel.
- **Route Changes.** Faster travel times on a route attract more drivers to that route from other routes, which can increase or decrease vehicle travel depending on whether it shortens or lengthens trips.
- **Newly Generated Trips.** Increasing travel speeds can induce additional trips, which increases vehicle travel. For example, an individual who previously telecommuted or purchased goods on the internet might choose to accomplish those tasks via automobile trips as a result of increased speeds.
- **Land Use Changes.** Faster travel times along a corridor lead to land development farther along that corridor; that new development generates and attracts longer trips, which increases vehicle travel. Over several years, this growth component of induced vehicle travel can be substantial.

### 17.1.2 *Senate Bill 743*

In September 2013, the Governor's Office signed SB 743 into law, starting a process that fundamentally changes the way transportation impact analysis is conducted under CEQA. Within the

State's CEQA Guidelines, these changes include the elimination of Auto Delay, level of service (LOS), and similar measurements of vehicular roadway capacity and traffic congestion as the basis for determining significant impacts. The guidance identifies VMT as the most appropriate CEQA transportation metric, along with the elimination of Auto Delay/LOS for CEQA purposes statewide. The justification for this paradigm shift is that Auto Delay/LOS impacts lead to improvements that increase roadway capacity and therefore induce more traffic and greenhouse gas emissions.

In January 2016, the OPR issued Draft Guidance, which provided recommendations for updating the State's CEQA Guidelines in response to SB 743 and recommended practice for VMT analysis in an accompanying *Technical Advisory on Evaluating Transportation Impacts in CEQA*. OPR released an update to the CEQA Guidelines and Technical Advisory in December 2018. The technical advisory is publicly available on the state's website[1].

Per OPR's proposed revisions to the CEQA guidelines, a lead agency may elect to be governed by the VMT guidelines immediately. However, beginning July 1, 2020, the VMT guidelines shall apply statewide.

### 17.1.3 *Revised CEQA Guidelines*

The following is an excerpt from the *New Section 15064.3 Determining the Significance of Transportation Impacts*, Update 2018. This represents regulatory CEQA guidelines on evaluating transportation impacts using VMT.

#### Subdivision (a): Purpose

This section describes specific considerations for evaluating a project's transportation impacts. Generally, vehicle miles traveled is the most appropriate measure of transportation impacts. For the purposes of this section, "vehicle miles traveled" refers to the amount and distance of automobile travel attributable to a project. Other relevant considerations may include the effects of the project on transit and non-motorized travel. Except as provided in subdivision (b)(2) below (regarding roadway capacity), a project's effect on automobile delay does not constitute a significant environmental impact.

#### Subdivision (b): Criteria for Analyzing Transportation Impacts

While subdivision (a) sets forth general principles related to transportation analysis, subdivision (b) focuses on specific criteria for determining the significance of transportation impacts. It is further divided into four subdivisions: (1) land use projects, (2) transportation projects, (3) qualitative analysis, and (4) methodology.

#### Subdivision (b)(1): Land Use Projects

Vehicle miles traveled exceeding an applicable threshold of significance may indicate a significant impact. Generally, projects within one-half mile of either an existing major transit stop or a stop along an existing high-quality transit corridor should be presumed to cause a

[1]*Technical Advisory on Evaluating Transportation Impacts in CEQA, December 2018.* http://opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf

less than significant transportation impact. Projects that decrease vehicle miles traveled in the project area compared to existing conditions should be presumed to have a less than significant transportation impact

#### Subdivision (b)(2): Transportation Projects

Transportation projects that reduce, or have no impact on, vehicle miles traveled should be presumed to cause a less than significant transportation impact. For roadway capacity projects, agencies have discretion to determine the appropriate measure of transportation impact consistent with CEQA and other applicable requirements. To the extent that such impacts have already been adequately addressed at a programmatic level, such as in a regional transportation plan EIR, a lead agency may tier from that analysis as provided in Section 15152.

#### Subdivision (b)(3): Qualitative Analysis

If existing models or methods are not available to estimate the vehicle miles traveled for the particular project being considered, a lead agency may analyze the project's vehicle miles traveled qualitatively. Such a qualitative analysis would evaluate factors such as the availability of transit, proximity to other destinations, etc. For many projects, a qualitative analysis of construction traffic may be appropriate.

#### Subdivision (b)(4): Methodology

A lead agency has discretion to choose the most appropriate methodology to evaluate a project's vehicle miles traveled, including whether to express the change in absolute terms, per capita, per household or in any other measure. A lead agency may use models to estimate a project's vehicle miles traveled, and may revise those estimates to reflect professional judgment based on substantial evidence. Any assumptions used to estimate vehicle miles traveled and any revisions to model outputs should be documented and explained in the environmental document prepared for the project. The standard of adequacy in Section 15151 shall apply to the analysis described in this section.

#### Subdivision (c): Applicability

The provisions of this section shall apply prospectively as described in Section 15007. A lead agency may elect to be governed by the provisions of this section immediately. Beginning on July 1, 2020, the provisions of this section shall apply statewide.

### 17.1.4 *Technical Guidance: Recommended Methodology, Significance Thresholds, Mitigation, and Alternatives*

The following information is sourced from the *Technical Advisory on Evaluating Transportation Impacts in CEQA*. This represents a non-regulatory technical advisory on evaluating transportation impacts using VMT, with emphasis on larger-scale land development projects.

## RECOMMENDATIONS REGARDING METHODOLOGY

The following section provides methodology recommendations to evaluate VMT for various technical areas and project types.

### Using Models to Estimate VMT

Travel demand models, sketch models, spreadsheet models, research, and data can all be used to calculate and estimate VMT. To the extent possible, lead agencies should choose models that have sensitivity to features of the project that affect VMT. Those tools and resources can also assist in establishing thresholds of significance and estimating VMT reduction attributable to mitigation measures and project alternatives.

### Trip and Tour Based VMT

*Trip-based* assessment of a project's effect on travel behavior counts VMT from individual trips to and from the project. It is the most basic, and traditionally the most common, method of counting VMT. For residential projects, the sum of home-based trips is called *home-based* VMT.

A *Tour-based* assessment counts the entire home-back-to-home tour that includes the project and any trips within the tour. Examples include Tour 1: Home → Coffee Shop → Work → Home; Tour 2: Home → Store → Home. Together, all tours comprise *household* VMT. A tour-based assessment of VMT is a more complete characterization of a project's effect on VMT. In many cases, a project affects travel behavior beyond the first destination. The location and characteristics of the home and workplace will often be the main drivers of VMT. For example, a residential or office development located near high quality transit will likely lead to some commute trips utilizing transit, affecting mode choice on the rest of the tour.

### Vehicle Types

Vehicle Miles Traveled refers to on-road passenger vehicles, specifically cars and light trucks. Heavy-duty truck VMT could be included for modeling convenience and ease of calculation.

### Residential and Office Projects

Tour- and trip-based approaches offer the best methods for assessing VMT from residential/office projects and for comparing those assessments to VMT thresholds. When available, tour-based assessment is ideal because it captures travel behavior more comprehensively. But where tour-based tools or data are not available for all components of an analysis, a trip-based assessment of VMT serves as a reasonable proxy.

When a trip-based method is used to analyze a residential project, the focus can be on home-based trips. Similarly, when a trip-based method is used to analyze an office project, the focus can be on home-based work trips.

When tour-based models are used to analyze an office project, either employee work tour VMT or VMT from all employee tours may be attributed to the project. This is because workplace location influences overall travel.

For office projects that feature a customer component, such as a government office that serves the public, a lead agency can analyze the customer VMT component of the project using the methodology for retail development (see below).

### Retail Projects

Generally, lead agencies should analyze the effects of a retail project by assessing the change in total VMT because retail projects typically re-route travel from other retail destinations. A retail project might lead to increases or decreases in VMT, depending on previously existing retail travel patterns.

### Considerations for All Projects

Lead agencies should not truncate any VMT analysis because of jurisdictional or other boundaries. Thus, where methodologies exist that can estimate the full extent of vehicle travel from a project, the lead agency should apply them to do so. Analyses should also consider a project's both short- and long-term effects on VMT.

## RECOMMENDATIONS REGARDING SIGNIFICANCE THRESHOLDS

Lead agencies have the discretion to set or apply their own thresholds of significance. However, the criteria for determining the significance of transportation impacts should promote:

- Reduction of greenhouse gas emissions;
- Development of multimodal transportation networks; and
- A diversity of land uses.

The OPR Advisory describes the analysis for the following circumstances which may or may not be applicable to the Project.

### Presumption of Less Than Significant Impact Near Transit Stops

**CEQA Guideline Section 15064.3, subdivision (b)(1), states that lead agencies generally should presume that certain projects (including residential, retail, and office projects, as well as projects that are a mix of these uses) proposed within ½ mile of an existing major transit stop or an existing stop along a high-quality transit corridor will have a less-than-significant impact on VMT.**

*Major Transit Stop refers to an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods.*

*A High-Quality Transit Corridor refers to a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours.*

This presumption would not apply, however, if project-specific or location-specific information indicates that the project will still generate significant levels of VMT. One key indicator may be

inconsistency with the applicable Sustainable Communities Strategy (as determined by the lead agency, with input from the Metropolitan Planning Organization). If any of these exceptions to the presumption might apply, the lead agency should conduct a detailed VMT analysis to determine whether the project would exceed VMT thresholds.

Recommended Numeric Thresholds for Residential, Office, and Retail Projects

**Residential Projects: Per the OPR guidelines, a proposed project exceeding a level of 15 percent below existing VMT per capita may indicate a significant transportation impact. Existing VMT per capita may be measured as Regional VMT per capita or as City VMT per capita. Proposed development referencing City VMT per capita must not cumulatively exceed the number of units specified in the SCS for that City and must be consistent with the SCS.**

For residential projects in unincorporated County areas, the local agency can compare a residential project's VMT to (1) the region's VMT per capita, or (2) the aggregate population-weighted VMT per capita of all cities in the region. In MPO areas, development in unincorporated areas measured against aggregate City VMT per capita (rather than Regional VMT per capita) must not cumulatively exceed the population or number of units specified in the SCS for that City because greater-than-planned amounts of development in areas above the regional threshold would undermine achievement of regional targets under SB 375.

These thresholds can be applied to either household (i.e., tour-based) VMT or home-based (i.e., trip-based) VMT assessments.

**Office Projects: Per the OPR guidelines, a proposed project exceeding a level of 15 percent below existing regional VMT per employee may indicate a significant transportation impact.**

In cases where the region is substantially larger than the geography over which most workers would be expected to live, it might be appropriate to refer to a smaller geography, such as the county, that includes the area over which nearly all workers would be expected to live.

Tour-based analysis of office project VMT could consider either total employee VMT or employee work tour VMT. Where tour-based information is unavailable, home-based work trip VMT should be used.

**Retail Projects: Per the OPR guidelines, a net increase in total VMT may indicate a significant transportation impact.**

Because new retail development typically redistributes shopping trips rather than creating new trips, estimating the total change in VMT (i.e., the difference in total VMT in the area affected with and without the project) is the best way to analyze a retail project's transportation impacts.

By adding retail opportunities into the urban fabric and thereby improving retail destination proximity, local-serving retail development tends to shorten trips and reduce VMT. Thus, lead agencies generally may presume local-serving retail creates a less-than-significant transportation

impact. Regional-serving retail development, on the other hand, which can lead to substitution of longer trips for shorter ones, may tend to have a significant impact. Where such development decreases VMT, lead agencies should consider the impact to be less-than-significant.

Because lead agencies will best understand their own communities and the likely travel behaviors of future project users, they are likely in the best position to decide when a project will likely be local-serving.

### Consideration of Thresholds for Other Project Types

Of land use projects, residential, office, and retail projects tend to have the greatest influence on VMT. For that reason, OPR recommends the quantified thresholds described above for purposes of analysis and mitigation. Lead agencies, using more location-specific information, may develop their own more specific thresholds, which may include other land use types.

### Mixed-Use Projects

Lead agencies can evaluate each component of a mixed-use project independently and apply the significance threshold for each project type included (e.g., residential and retail) if data is available. Alternatively, a lead agency may consider only the project's dominant use. In the analysis of each use, a project should take credit for internal capture. Combining different land uses and applying one threshold to those land uses may result in an inaccurate impact assessment.

### Redevelopment Projects

Where a project replaces existing VMT-generating land uses, if the replacement leads to a net overall decrease in VMT, the project would lead to a less-than-significant transportation impact. If the project leads to a net overall increase in VMT, then the thresholds described above should apply.

### Land Use Plans

As with projects, agencies should analyze VMT outcomes of land use plans over the full area over which the plan may substantively affect travel patterns, including beyond the boundary of the plan or jurisdiction's geography. Analysis of specific plans may employ the same thresholds described above for projects. A general plan, area plan, or community plan may have a significant impact on transportation if it is not consistent with the relevant RTP-SCS.

### Rural Projects

In rural areas (i.e., areas not near established or incorporated cities or towns), fewer options may be available for reducing VMT, and significance thresholds may be best determined on a case-by-case basis. Note, however, that clustered small towns and small-town main streets may have substantial VMT benefits compared to isolated rural development, similar to the transit-oriented development described above.

### RTP-SCS Consistency (All Land Use Projects)

Section 15125, subdivision (d), of the CEQA Guidelines provides that lead agencies should analyze impacts resulting from inconsistencies with regional plans, including regional transportation plans general plan and land use designation and density. For this reason, if a project is inconsistent with

the Regional Transportation Plan and Sustainable Communities Strategy (RTP/SCS), the lead agency should evaluate whether that inconsistency indicates a significant impact on transportation.

### Multimodal Transportation Network

Because criteria for determining the significance of transportation impacts must promote "the development of multimodal transportation networks," lead agencies should consider project impacts to transit systems and bicycle and pedestrian networks. For example, a project that blocks access to a transit stop or blocks a transit route itself may interfere with transit functions.

When evaluating impacts to multimodal transportation networks, lead agencies generally should not treat the addition of new transit users as an adverse impact. An infill development may add riders to transit systems and the additional boarding and alighting may slow transit vehicles, but it also adds destinations, improving proximity and accessibility. Such development also improves regional vehicle flow by adding less vehicle travel onto the regional network.

Increased demand throughout a region may, however, cause a cumulative impact by requiring new or additional transit infrastructure. Such impacts may be adequately addressed through a fee program that fairly allocates the cost of improvements not just to projects that happen to locate near transit, but rather across a region to all projects that impose burdens on the entire transportation system, since transit can broadly improve the function of the transportation system.

### Transportation Project Considerations (Induced Demand)

Transportation projects may change travel patterns. If a project would likely lead to a measurable and substantial increase in vehicle travel, the lead agency should conduct an analysis assessing the amount of vehicle travel the project will induce.

Project types that would likely lead to a measurable and substantial increase in vehicle travel generally include the addition of through lanes on existing or new highways, including:

- General purpose lanes, HOV lanes, peak period lanes, auxiliary lanes, or lanes through grade-separated interchanges.

Projects that would <u>not</u> likely lead to a substantial or measurable increase in vehicle travel, and therefore generally should not require an induced travel analysis, include:

- Installation, removal, or reconfiguration of traffic lanes that are not for through traffic, such as left, right, and U-turn pockets, or emergency breakdown lanes that are not utilized as through lanes.
- Addition of roadway capacity on local or collector streets provided the project also substantially improves conditions for pedestrians, cyclists, and, if applicable, transit as well.
- Installation, removal, or reconfiguration of traffic control devices, including Transit Signal Priority (TSP) features.
- Traffic metering systems

- Timing of signals to optimize vehicle, bicycle, or pedestrian flow

### Analyzing Safety Impacts

Because safety concerns result from many different factors, they are best addressed at a programmatic level (i.e., in a general plan or regional transportation plan) in cooperation with local governments, metropolitan planning organizations, and, where the state highway system is involved, the California Department of Transportation. In most cases, such an analysis would not be appropriate on a project by-project basis.

Increases in traffic volumes at a particular location resulting from a project typically cannot be estimated with sufficient accuracy or precision to provide useful information for an analysis of safety concerns. Moreover, an array of factors affect travel demand (e.g., strength of the local economy, price of gasoline), causing substantial additional uncertainty. Lead agencies should note that automobile congestion or delay does not constitute a significant environmental impact starting on July 1st, 2020.

## VMT MITIGATION AND ALTERNATIVES

When a lead agency identifies a significant impact, it must identify feasible mitigation measures and project alternatives that could avoid or substantially reduce that impact. VMT is largely a regional impact. Therefore, regional VMT reduction programs may be an appropriate form of mitigation. In-lieu fees have been found to be valid mitigation where there is both a commitment to pay the fees and evidence that the mitigation will occur.

Potential mitigation to reduce vehicle miles traveled include, but are not limited to:

- Improve or increase access to transit.
- Increase access to common goods and services, such as groceries, schools, and daycare.
- Incorporate housing into the project.
- Incorporate neighborhood electric vehicle network.
- Orient the project toward transit, bicycle and pedestrian facilities.
- Improve pedestrian or bicycle networks, or transit service.
- Provide traffic calming.
- Provide bicycle parking.
- Limit or eliminate parking supply.
- Unbundle parking costs.
- Provide parking or roadway pricing or cash-out programs.
- Implement or provide access to a commute reduction program.
- Provide car-sharing, bike sharing, and ride-sharing programs.
- Provide transit passes.
- Shifting single occupancy vehicle trips to carpooling or vanpooling, for example providing ride- matching services.
- Providing telework options.

- Providing incentives or subsidies that increase the use of modes other than single-occupancy vehicle.
- Providing on-site amenities at places of work, such as priority parking for carpools and vanpools, secure bike parking, and showers and locker rooms.
- Providing employee transportation coordinators at employment sites.
- Providing a guaranteed ride home service to users of non-auto modes.

Examples of project alternatives that may reduce vehicle miles traveled include, but are not limited to:

- Locate the project in an area of the region that already exhibits low VMT.
- Locate the project near transit.
- Increase project density.
- Increase the mix of uses within the project or within the project's surroundings.
- Increase connectivity and/or intersection density on the project site.
- Deploy management strategies (e.g., pricing, vehicle occupancy requirements) on roadways or roadway lanes.

## 17.2 Local/Regional VMT Guidelines

### 17.2.1 *Transition to SB 743 Guidelines*

Local and regional agencies, as well as transportation professionals, have already begun transitioning to SB 743. To date, like most cities, the City of Santee has not yet adopted significance criteria or technical methodologies for VMT analysis. However, the City of Santee, along with SANDAG, San Diego County, and other local agencies, are actively participating in San Diego's local Institute of Transportation Engineers (ITE) SB 743 Subcommittee. Through the collaboration of the subcommittee, an update to the *Guidelines for Transportation Impact Studies in the San Diego Region, May 2019*, has been completed consistent with CEQA VMT requirements. Though, this document has yet to be officially adopted by local agencies as it has just recently been published.

The guidelines are generally consistent with the OPR thresholds for VMT significance, including that lead agencies have the discretion to choose a VMT metric and threshold. Key differences between the OPR and San Diego ITE Subcommittee guidelines are:

1. Minimum Project Size Based on Previous TIS Guidelines – Under this alternative, projects would be subjected to different levels of VMT analysis, depending on the size of the project and whether the project is consistent with the local jurisdiction's General Plan or Community Plan. Projects that are consistent with the General Plan or Community Plan are also considered to be consistent with the RTP/SCS. The determination of minimum project size for VMT analysis differs from the Statewide guidance. Below shows the Subcommittee guidelines.

| Projects Inconsistent with General Plan or Community Plan | |
|---|---|
| ADT | Level of Analysis |
| 0 – 500 | VMT Analysis Not Needed/VMT Impacts Presumed Less than Significant |
| 500 and Greater | VMT Analysis Recommended |
| **Projects Consistent with General Plan or Community Plan** | |
| ADT | Level of Analysis |
| 0 – 1,000 | VMT Analysis Not Needed/VMT Impacts Presumed Less than Significant |
| 1,000 and Greater | VMT Analysis Recommended |
| *Statewide guidance can still be applied per lead agency. | |

2. Projects proposed within ½-mile of an existing major transit stop or an existing stop along a high-quality transit corridor will have a less-than-significant impact on VMT. This presumption would not apply, however, if project-specific or location-specific information indicates that the project would still generate significant levels of VMT. In addition, the distance between the project site and the transit station is typically based on direct walking distance without missing sidewalks or physical barriers.

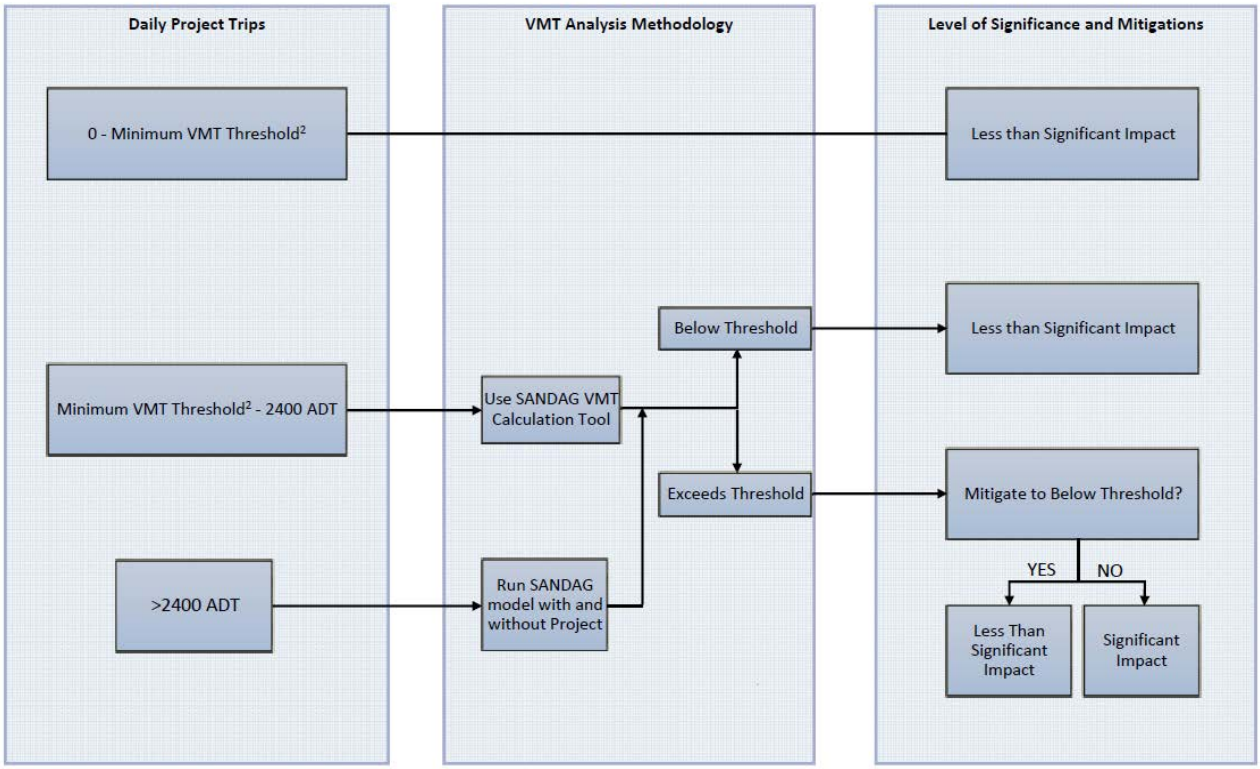
3. The lead agency may choose that VMT comparisons be made at a community level rather than a citywide level, providing flexibility as compared to the Statewide guidelines.

4. These guidelines recommend that VMT/employee comparisons be made at both the regional and citywide level (or community level), where the Statewide guidelines suggestion regionwide only.

### 17.2.2 *Significance Criteria*

Based on OPR guidance and San Diego ITE Subcommittee guidelines, described in the preceding sections, significance thresholds were developed for the Project. Using *Figure 4-1 VMT Analysis for Individual Land Development Projects* from the Subcommittee guidelines, as shown below, the Fanita Ranch Project was screened for VMT impacts.

*Guidelines for Transportation Impact Studies in the San Diego Region – Figure 4-1*
*VMT Analysis for Individual Land Development Projects[1]*




***Footnotes:***
1. VMT impacts presumed to be less than significant for certain local-serving retail projects, affordable housing projects, and projects within transit priority areas. See text.
2. Minimum VMT threshold to be determined by lead agency.

**Based on the anticipated trip generation of greater than 2,400 ADT and the Project's inconsistency with the General Plan, a Project-specific SANDAG model run is required.**

Per the San Diego ITE SB 743 Subcommittee guidelines, "The target is to achieve a project VMT per capita or VMT per employee that is 85% or less of the appropriate average based on suggestions in [the] guidelines. Note that the lead agencies have discretion for choosing a VMT metric and threshold." Based on discussions with City staff, the Project would be presumed to have a less-than-significant impact if the Project VMT per capita is less than 85 percent of the City VMT per capita. **Thus, the threshold for significance for projects located within the City of Santee would be exceeded if a project's VMT per capita is higher than 85 percent of the Citywide average VMT per capita.**

It should be noted that mitigation measures for VMT impacts are proposed through implementation of a Transportation Demand Management (TDM) Plan. The TDM Plan measures allow for a global maximum reduction in VMT of 15 percent. Thus, by default, any project exceeding the Citywide

average VMT per capita would be significant and unmitigable as a reduction greater than 15 percent would be unattainable.

### 17.2.3 *Technical Methodology*

As discussed in the previous sections, both the OPR Statewide and the recently published San Diego ITE SB 743 Subcommittee guidelines were reviewed. This section discusses key technical methodologies and approaches for some of these criteria, as appropriate. The over-arching technical approach for the Project can be broken down into several components:

- Adherence to OPR's Technical Advisory
- Adherence to the San Diego ITE SB 743 Subcommittee's Guidelines
- Utilize local, independent resources and data science (i.e. GPS/Navigation data analytics)
- Account for the Total Site Population
- Review the VMT analysis on the near-term conditions, which represents the worst-case scenario as average trip lengths and mode splits will reduce auto-dependency and associated VMT over time.

#### Adherence to OPR Guidelines

The existing baseline VMT analysis was based on the OPR's Technical Advisory that have been detailed in the preceding sections. The reason for utilizing OPR's Statewide guidance for existing baseline impacts was due to the reliance on data science for existing travel behavior, population, and other statistical information.

#### Adherence to San Diego ITE SB 743 Subcommittee Guidelines

The long-term Project VMT analysis was based on the Subcommittee guidelines that have been detailed in the preceding sections. The reason for utilizing the Subcommittee guidance for long-term impacts was due to the Project exceeding the ADT threshold requiring the use of a Project-specific forecast travel demand SANDAG model to generate VMT per capita.

#### Utilize Local Independent Resources and Data

GPS data analytics was a key tool in determining average trip length for trip based VMT calculations VMT calculations in the existing baseline. This data source is commonly referred to as "data science" analytics. The existing baseline VMT analysis was conducted for the Project considering all population types (i.e. residents and employees.)

#### Account for All Project Population Types

As recommend in both guiding documents, the VMT calculations were conducted for all site users – Residents, Students, Retail Patrons, and Employees Population comprising of the total population.

# 18.0 FANITA RANCH VMT ANALYSIS

The proposed Project is inconsistent with the City of Santee General Plan and generates greater than 500 ADT. Therefore, a full VMT analysis is required. The Project also generates greater than 2,400 ADT, thus a SANDAG Project-specific traffic model was run for the long-term VMT analysis.

## 18.1 VMT Project Context Screening

Prior to any detailed VMT analysis, OPR and the San Diego ITE SB 743 Subcommittee guidelines recommend "screening thresholds" to help identify if a project is expected to result in a less-than-significant impact. To that end, the Fanita Ranch Project was reviewed. Specifically, the surrounding land uses, population density, transportation infrastructure and Project-specific design was considered. These elements, collectively, shape mobility behavior and provide a strong indication of expected Project VMT.

In general, higher density and mix of land uses with access to mobility options are expected to generate lower VMT. ***Table 18–1*** summarizes the key elements relative to the Fanita Ranch Project.

TABLE 18–1
VMT PROJECT CONTEXT SCREENING

| **Project Context Elements** | **Notes** |
|---|---|
| Surrounding Area Land Use Mix | Adjacent retail and employment centers provide good land use mix and may promote a lower VMT than the regional average. |
| Surrounding Area Population Density | San Diego County has an average density of 793 people per square mile. City of Santee has a density of 3,441 people per square mile. A lower density in the City of Santee may promote a higher VMT than the region. ***Appendix T*** contains population density calculations. |
| Mobility Options | Transit service is not provided within ½ mile from the Project boundary. The Project will provide pedestrian and bicycle facilities. Overall, the Project may provide enhanced mobility options. |
| Project-Specific Design Elements | The proposed Project introduces local serving retail, K-8 school, Farm, Parks and a Recreation Center which increases the land use mix and density. Project Transportation Demand Management (TDM) measures consider enhanced bicycle facilities that connect the Fanita Ranch community. These Project-specific design elements promote lower VMT. See *Section 19.0* of this report for more detail on the Project TDM Plan. |

## 18.2 Proximity to Transit

Public transportation improves mobility and reduces congestion in the community and the region. Per the significance criteria, if a project is within ½ mile of a major transit stop or a stop along a high-quality transit corridor, it should be presumed to have a less-than-significant impact on VMT. This presumption would not apply, however, if project-specific or location-specific information indicates that the project will still generate significant levels of VMT. A transit stop can include a planned and funded stop that is included in an adopted regional transportation improvement program.

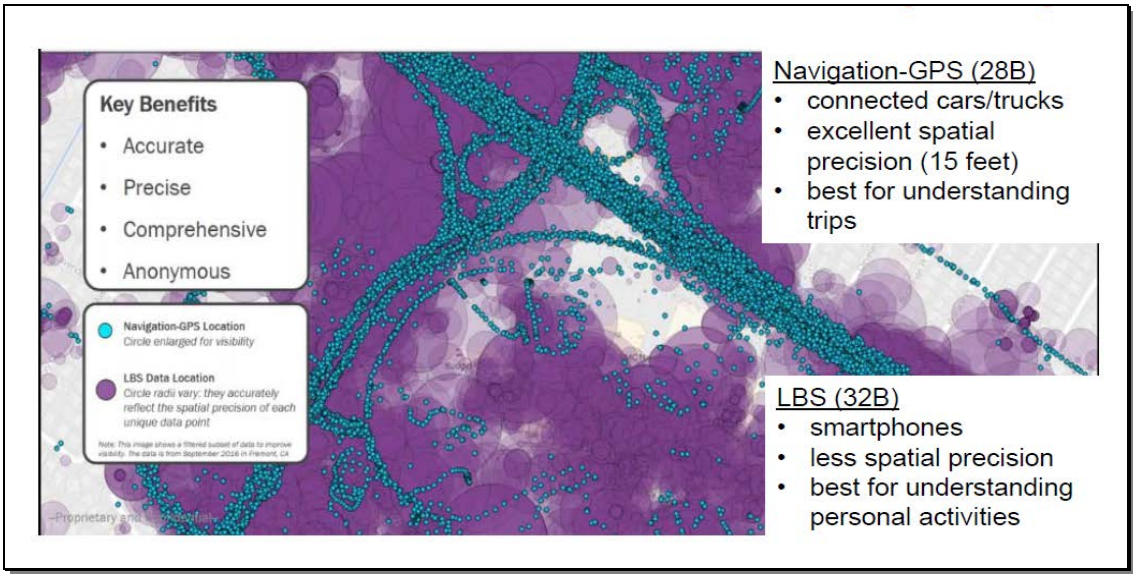
> *Major transit stop refers to a location containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods.*
>
> *A High-Quality transit corridor means a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours.*

For the Fanita Ranch Project, bus service is provided by the Metropolitan Transit System (MTS), though not within ½ mile of the Project boundary. Route 832 provides Northern Santee direct access to the Santee Town Center, extending to Woodglen Vista Drive. Route 832 provides 45- to 60-minute headways during the peak commuter hours.

## 18.3 VMT per Capita

A detailed VMT analysis was conducted based on a combination of both OPR's guidelines and the San Diego ITE SB 743 Subcommittee guidelines. In order to calculate the existing baseline VMT per capita, the VMT average trip lengths were determined using navigation / GPS data analytics. This data source is commonly referred to as "Data Science" analytics.

The data was obtained from Navigation-GPS devices, and Location-Based Services (LBS) such as cellphones and connected vehicles. Other location-based data was obtained from cellphone applications actively tracking location, public census, traffic counts, and other third-party suppliers. A software program is used to measure origin-destination travel patterns and Trip Length attributes. This data represents trip-based VMT which represent individual trips between an origin and destination. This differs from tour-based VMT where trips are characterized by trip type and traveler (i.e. home-based work or home-based other).




### 18.3.1 *City of Santee VMT*

The City of Santee baseline VMT was developed first through population data obtained from US Census Bureau – American Community Survey (2017). This information is provided via the SANDAG Data Surfer publicly available website. The average trip lengths were GPS based and represent a data size of approximately 42,000 people over the course of one year between September 1, 2017 and August 31, 2018.

***Table 18–2*** summarizes the data utilized and the resultant existing baseline City of Santee VMT per capita. As shown in *Table 18–2*, the "trip based" City of Santee baseline VMT per capita was calculated as 22.4 miles.

For the purpose of determining the significance of VMT impacts, the Project VMT per capita would need to be 15% below the Citywide average, which equates to 19.04 VMT per capita. *Appendix T* contains the VMT calculations.

TABLE 18–2
CITY OF SANTEE – EXISTING BASELINE VMT/CAPITA

| Area | City Population | Regional Person Trip Rate per Capita (Daily) | Auto Mode Split Total | Daily Auto Trips (roundtrip) | Average Auto Trip Length (one-way, miles) | Total Daily VMT | City VMT per Capita | Significance Threshold (85% of Existing) |
|---|---|---|---|---|---|---|---|---|
| City of Santee | 57,376 | 3.50 | 93.0% | 177,120 | 14.5 | 1,284,118 | 22.4 | 19.04 |

***General Notes:***

1. Populations and auto mode splits obtained from US Census Bureau data - American Community Survey (ACS) 2017
2. A person trip rate per capita of 3.5 was assumed based on a review of available information. The lower the trip rate directly translates to a lower City threshold and therefore represents a conservative approach. The SANDAG Series 12 Model Year 2030 calculated a person trip rate of 3.95 for the City of Santee. NCHRP Research Report 868 - Cell Phone Location Data for Travel Behavior Analysis, 2018 reports Call Detail Records (CDR) are estimated to generate 3.5 daily person trips per Capita and the FHWA Travel Model Validation and Reasonableness Checking Manual, 2010 estimates 4.0 daily person trips per Capita.
3. Mode splits (SOV: drive alone & HOV: carpool) obtained from US Census Bureau data - American Community Survey (ACS) 2017. Auto mode share calculated at 85% SOV and 8% HOV for a total of 93%. Vehicle Occupancy Ratio (VOR) was assumed to be 1.0 persons per vehicle for SOV and 2.5 persons per vehicle for HOV. The 2.5 HOV VOR was assumed given a minimum of 2 persons per vehicle is the required number of passengers to use the HOV lane, and the expectancy that greater than 2 persons per vehicle would be traveling in the HOV lane as well.
4. Average Trip Lengths based on GPS data obtained from daily, weekday trip data for a 1-year time period between September 1, 2017 and August 31, 2018. The total data sample size is approximately 42,000. This represents trip-based travel patterns (and not tour-based travel patterns).
5. Total VMT = Daily Auto Trips (roundtrip) x Average Auto Trip Length (one-way)
6. VMT per Capita = Total VMT / Total Population
7. Significance threshold is 85% of the City VMT per capita (22.4 x 85% = 19.04)

### 18.3.2 *Project VMT*

Using the same methodology that was done for the Citywide average VMT, the Fanita Ranch Project VMT per capita was determined. The first method uses data science to calculate the Project VMT under existing baseline conditions. The Project was categorized into land use types which include Residential, Active Adult age-restricted living, Retail, K-8 Charter School, Recreation Center, Farm, Park and Trails, and RV Parking and Solar Farms. Given there is no existing development on the Project site, proxy sites in the immediate vicinity with similar characteristics were used to determine average trip lengths using Navigation GPS Analytics. Average trip lengths were based on GPS data obtained from daily, weekday trip data for a one-year time period between November 1, 2017 and October 31, 2018. The total data sample size for the proxy sites is approximately 35,000 devices.

*Appendix T* contains the existing Project VMT calculations.

The Fanita Ranch Project population estimates were used along with the trip generation estimates for auto mode splits and daily auto trips. As shown in ***Table 18–3***, the existing baseline Fanita Ranch Project VMT per capita is calculated at 25.6.

For the forecast Year 2035, VMT calculations for the Fanita Ranch Project were taken from the SANDAG Series 12 City of Santee Mobility Element model, customized for use in the trip

distribution for the proposed Project. As previously mentioned, the model is a valuable tool for the region, however some parameters or strategies are not fully captured and require post-processing such as carshare, vanpool programs, carpool programs, and TDM programs which are not fully captured in the model. To remain conservative, no further adjustments for these strategies were taken beyond the Project land use and trip generation inputs. The model generates a Project-specific average trip length as well as an average daily volume, which ultimately calculates the total Project VMT (combined for all Project land uses). The population for the site is the same the existing baseline population discussed above.

***Table 18–4*** summarizes the data utilized and the resultant Fanita Ranch Project VMT per capita. As shown in *Table 18–4*, the "trip based" Fanita Ranch Project VMT per capita was calculated as 23.45 miles.

TABLE 18–3
FANITA RANCH PROJECT – EXISTING BASELINE VMT/CAPITA

| Land Use Type | Site Population Estimate | Daily Auto Trips (roundtrips) | Average Trip Length (roundtrip, miles) | Total VMT | VMT per capita |
|---|---|---|---|---|---|
| Residential | 7,262 | 20,670 | 20.4 | 210,911 | 29.0 |
| Active Adult (55+) | 712 | 1,739 | 12.8 | 11,091 | 15.6 |
| Retail | 724 | 1,318 | 9.6 | 6,318 | 8.7 |
| K-8 Charter School | 800 | 1,016 | 11.3 | 5,759 | 7.2 |
| Recreation Center | 132 | 264 | 12.6 | 1,660 | 12.6 |
| Farm | 33 | 66 | 11.9 | 391 | 11.9 |
| Park / Trails | 578 | 1,156 | 11.9 | 6,865 | 11.9 |
| RV Parking / Solar Farms | 23 | 46 | 11.9 | 272 | 11.8 |
| **Total** | **–** | **26,272** | **–** | **243,266** | **25.6** |

***General Notes:***

1. Residential population was obtained from recent US Census Data that states average occupancy of medium-density multi-family home is 2.9 person per unit. Active Adult population was obtained using a density of 1.6 persons per unit. The 1.6 persons per unit is sourced to an active adult development in San Diego County proposing 536 units to house 900 residents = 1.7 persons per unit. Also, a 5,371-unit development in North Carolina, St. James Plantation, that has a projected population of 8,000 residents = 1.5 persons per unit. The average of 1.6 persons per unit was used in this analysis.
2. The Project site population used to calculate the VMT per capita assumes only primary trip generating land uses such as residential, active adult, retail, and school. This is a conservative approach given a lower service population increases VMT per capita and is consistent with the approach to determining service population from US Census Data. Total employees under the preferred land use plan with school is 450.
3. Retail proxy site trip length was calibrated with a 20% increase to adjust for the distance from the Project site.
4. Retail population was obtained from SANDAG population estimates: Code 5004 for Neighborhood Shopping Center (30,000 SF or more). See *Appendix T* on population estimate calculations.
5. K-8 Charter School population was obtained using TIA Trip Generation. 1,000 students with 250 staff (assuming a ratio of 1 staff member per 4 students). Of the 1,000 students, per the trip generation breakdown, 45% are primary trips with an 8% mixed use reduction. This amounts to 55% of the students being external to the site. 1,000 x 0.55 = 550 students + 250 staff = 800 service population.
6. Average vehicle occupancy rate (VOR) for this area is calculated to be 1.3 persons per vehicle. LLG used a conservative VOR of 1.25 for land uses described as Recreation Center and Park / Trails. A VOR of 1.0 was used for land uses described as Farms, and RV Parking / Solar Farms.
7. Population estimates that were derived from Trip Generation assumes one full trip includes and inbound and an outbound trip.
8. Daily Auto Trips assumes an 8.5% internal / mixed use reduction
9. Pass by / diverted trips were not included in daily auto trips. Pass-by trips are not adding additional VMT to the project.
10. Land Uses for Recreation Center, Farms, Park / Trails, RV Parking / Solar Farms were not analyzed using data science due to lack of proxy sites within the immediate vicinity of the Project – a conservative assumption of 11.9 miles for an average full trip length was assumed with the exception of Recreation Center that assumes a 12.6-mile average trip length
11. Average Trip Lengths based on GPS data obtained from daily, weekday trip data for a 1-year time period between November 1, 2017 and October 31, 2018. The total data sample size is approximately 35,000 devices. Residential and retail proxy sites in close proximity to the Project site were also obtained.
12. Total SB743 VMT = Daily Auto Trips (roundtrip) x Average Auto Trip Length (one-way)
13. VMT per capita = Total VMT / Total Population

As shown in *Table 18–3*, the Fanita Ranch existing baseline VMT per capita of 25.60 is greater than the Citywide average VMT per capita threshold of 19.04. **Therefore, based on the applied significance criteria, the Fanita Ranch Project VMT is calculated to result in a significant transportation impact.**

TABLE 18–4
FANITA RANCH PROJECT – YEAR 2035 VMT/CAPITA

| Area | Site Population | Average Daily Volume | Average Daily VMT Per Trip (one-trip end, miles) | Total Daily VMT | Project VMT per Capita |
|---|---|---|---|---|---|
| Fanita Ranch | 9,498 | 26,272 | 8.48 | 222,740 | 23.45 |

***General Notes:***

1. Residential population was obtained from recent US Census Data that states average occupancy of medium-density multi-family home is 2.9 person per unit. Active Adult population was obtained using a a density of 1.6 persons per unit. The 1.6 persons per unit is sourced to an active adult development in San Diego County proposing 536 units to house 900 residents = 1.7 persons per unit. Also, a 5,371-unit development in North Carolina, St. James Plantation, that has a projected population of 8,000 residents = 1.5 persons per unit. The average of 1.6 persons per unit was used in this analysis.
2. Retail population was obtained from SANDAG population estimates: Code 5004 for Neighborhood Shopping Center (30,000 SF or more). See *Appendix T* on population estimate calculations.
3. K-8 Charter School population was obtained using TIA Trip Generation. 1,000 students with 250 staff (assuming a ratio of 1 staff member per 4 students). Of the 1,000 students, per the trip generation breakdown, 45% are primary trips with an 8% mixed use reduction. This amounts to 55% of the students being external to the site. 1,000 x 0.55 = 550 students + 250 staff = 800 service population.
4. Population estimates that were derived from Trip Generation assumes one full trip includes and inbound and an outbound trip.
5. The Project site population used to calculate the VMT per capita assumes only primary trip generating land uses such as residential, active adult, retail, and school. This is a conservative approach given a lower service population increases VMT per capita and is consistent with the approach to determining service population from US Census Data. Total employees under the preferred land use plan with school is 450.
6. All trip data sourced to SANDAG Series 12 Year 2035 Custom Fanita Ranch Traffic Model Run.
7. Total VMT = Daily Auto Trips (roundtrip) x Average Auto Trip Length (one-way)
8. VMT per Capita = Total VMT / Total Population

As shown in *Table 18–4*, the Fanita Ranch Year 2035 VMT per capita of 23.45 is greater than the Citywide average VMT per capita threshold of 19.04. **Therefore, based on the applied significance criteria, the Fanita Ranch Project VMT is calculated to result in a significant transportation impact.**

### 18.3.3 *Project (No School Scenario) VMT per Capita*

As discussed throughout this report, a secondary scenario has been analyzed to assess traffic conditions without the inclusion of a school as part of the Project. Without the school, an additional 59 single-family units, or approximately 2% of the total residential DU of the Proposed Project, were assumed. This 2% increase is based on the overall land use plan and maximum density requirements. (See the Fanita Ranch Specific Plan for additional details.) The total residential units, therefore, changed from 2,949 DU with the school to 3,008 DU without the school. These changes in land use result in changes in population and trip generation. Thus, a separate VMT per capita assessment was conducted without the inclusion of the school.

Both an existing baseline and Year 2035 VMT per capita were calculated using the methodologies described in earlier sections. Below in ***Tables 18–5*** and ***18–6*** are the results of the VMT per capita calculations for each scenario, respectively.

As shown in the tables below, the Fanita Ranch "No School" baseline VMT per capita of 28.0 is greater than the Citywide average baseline VMT per capita threshold of 19.04. The Fanita Ranch

"No School" Year 2035 VMT per capita of 25.7 is greater than the Citywide average Year 2035 VMT per capita threshold of 19.04.

**Therefore, based on the applied significance criteria, the Project (No School Scenario) VMT is calculated to result in a significant transportation impact.**

TABLE 18–5
FANITA RANCH "NO SCHOOL" – EXISTING BASELINE VMT/CAPITA

| Land Use Type | Site Population Estimate | Daily Auto Trips (roundtrips) | Average Trip Length (roundtrip, miles) | Total VMT | VMT per capita |
|---|---|---|---|---|---|
| Residential | 7,433 | 21,743 | 20.4 | 221,859 | 29.8 |
| Active Adult (55+) | 712 | 1,782 | 12.8 | 11,370 | 16.0 |
| Retail | 741 | 1,351 | 9.6 | 6,477 | 8.7 |
| Recreation Center | 135 | 270 | 12.6 | 1,702 | 12.6 |
| Farm | 34 | 68 | 11.9 | 401 | 11.8 |
| Park / Trails | 592 | 1,185 | 11.9 | 7,037 | 11.9 |
| RV Parking / Solar Farms | 23 | 47 | 11.9 | 279 | 12.1 |
| **Total** | **–** | **26,445** | **–** | **249,124** | **28.0** |

***General Notes:***

1. Residential population was obtained from recent US Census Data that states average occupancy of medium-density multi-family home is 2.9 person per unit. Active Adult population was obtained using a staff-approved density of 1.6 persons per unit.
2. The Project site population used to calculate the VMT per capita assumes only primary trip generating land uses such as residential, active adult, and retail. This is a conservative approach given a lower service population increases VMT per capita and is consistent with the approach to determining service population from US Census Data. Total employees under the land use plan without the school is 200.
3. Retail proxy site trip length was calibrated with a 20% increase to adjust for the distance from the Project site.
4. Retail population was obtained from SANDAG population estimates: Code 5004 for Neighborhood Shopping Center (30,000 SF or more). See *Appendix T* on population estimate calculations.
5. Average vehicle occupancy rate (VOR) for this area is calculated to be 1.3 persons per vehicle. LLG used a conservative VOR of 1.25 for land uses described as Recreation Center and Park / Trails. A VOR of 1.0 was used for land uses described as Farms, and RV Parking / Solar Farms.
6. Population estimates that were derived from Trip Generation assumes one full trip includes and inbound and an outbound trip.
7. Daily Auto Trips assumes an 6.2% internal / mixed use reduction
8. Pass by / diverted trips were not included in daily auto trips. Pass-by trips are not adding additional VMT to the project.
9. Land Uses for Recreation Center, Farms, Park / Trails, RV Parking / Solar Farms were not analyzed using data science due to lack of proxy sites within the immediate vicinity of the Project – a conservative assumption of 11.9 miles for an average full trip length was assumed with the exception of Recreation Center land use that assumes a 12.6-mile average trip length
10. Average Trip Lengths based on GPS data obtained from daily, weekday trip data for a 1-year time period between November 1, 2017 and October 31, 2018. The total data sample size is approximately 35,000 devices. Residential and retail proxy sites in close proximity to the Project site were also obtained.
11. Total SB743 VMT = Daily Auto Trips (roundtrip) x Average Auto Trip Length (one-way)
12. VMT per capita = Total VMT / Total Population

TABLE 18–6
FANITA RANCH "NO SCHOOL" – VMT/CAPITA

| Area | Site Population | Average Daily Volume | Average Daily VMT Per Trip (one-trip end, miles) | Total Daily VMT | Project VMT per Capita |
|---|---|---|---|---|---|
| Fanita Ranch | 8,886 | 26,445 | 8.64 | 228,375 | 25.70 |

***General Notes:***

1. Residential population was obtained from recent US Census Data that states average occupancy of medium-density multi-family home is 2.9 person per unit. Active Adult population was obtained using a staff-approved density of 1.6 persons per unit. The 1.6 persons per unit is sourced to an active adult development in San Diego County proposing 536 units to house 900 residents = 1.7 persons per unit. Also, a massive 5,371-unit development in North Carolina, St. James Plantation, that has a projected population of 8,000 residents = 1.5 persons per unit. The average of 1.6 persons per unit was used in this analysis.
2. Retail population was obtained from SANDAG population estimates: Code 5004 for Neighborhood Shopping Center (30,000 SF or more). See *Appendix T* on population estimate calculations.
3. Population estimates that were derived from Trip Generation assumes one full trip includes and inbound and an outbound trip.
4. The Project site population used to calculate the VMT per capita assumes only primary trip generating land uses such as residential, active adult, and retail. This is a conservative approach given a lower service population increases VMT per capita and is consistent with the approach to determining service population from US Census Data. Total employees under the land use plan without the school is 200.
5. All trip data sourced to SANDAG Series 12 Year 2035 Custom Fanita Ranch Traffic Model Run.
6. Total VMT = Daily Auto Trips (roundtrip) x Average Auto Trip Length (one-way)
7. VMT per Capita = Total VMT / Total Population

## 18.4 VMT Impacts Summary

This section presents an overall summary of potential transportation impacts of the Fanita Ranch Project based on the VMT analysis. VMT is defined as a measurement of miles traveled by vehicles within a specified region and for a specified time period. VMT is a measure of the use and efficiency of the transportation network.

OPR guidance identifies VMT as the most appropriate CEQA transportation metric, along with the elimination of Auto Delay/LOS for CEQA purposes statewide. The justification for this paradigm shift is that Auto Delay/LOS impacts lead to improvements that increase roadway capacity and therefore induce more traffic and greenhouse gas emissions. Per OPR's proposed revisions to the CEQA guidelines, a lead agency may elect to be governed by the VMT guidelines immediately. However, beginning July 1st, 2020, the VMT guidelines shall apply statewide.

Criteria from both OPR's guidelines and the San Diego ITE SB 743 Subcommittee guidelines were applied to accurately account for vehicle travel characteristics of the Fanita Ranch Project and comprehensively review potential transportation impacts. The significance criteria were developed based on discussions with City staff to ensure adequacy, completeness, and a good-faith effort at full disclosure of potential impacts. Significant VMT impacts in the City of Santee applied in this analysis utilized a threshold of Project VMT per capita exceeding 85% of the Citywide average VMT per capita. Mitigation for VMT impacts would require the Project to reduce VMT per capita below the City's threshold.

***Table 18–7*** summarizes the impact findings based on the VMT analysis.

Based on the applied significance criteria, transportation impacts are calculated to be significant requiring mitigation measures. *Section 19.0* provides a comprehensive TDM Plan intended to reduce impacts to below significant levels.

TABLE 18–7
VMT IMPACT SUMMARY

| City VMT per Capita | City VMT per Capita Threshold (85%) | Project VMT | Sig? | Project (No School Scenario) VMT | Sig? |
|---|---|---|---|---|---|
| 22.4 | 19.04 | Existing 25.60 | **Yes** | Existing 28.00 | **Yes** |
| | | Year 2035 23.45 | **Yes** | Year 2035 25.70 | **Yes** |

***General Notes:***

1. Sig = Significant impact, yes or no. Significant VMT impact calculated when Project VMT per capita is higher than 85% of the Citywide average VMT per capita.

# 19.0 TRANSPORTATION DEMAND MANAGEMENT

## 19.1 Introduction

Transportation Demand Management (TDM) is a set of strategies, programs, services, and physical elements that influence travel behavior by mode, frequency, time, route, or trip length in order to help achieve highly efficient and sustainable transportation facilities. TDM is aimed at decreasing Single Occupant Vehicles (SOV) by providing users with options to alternative forms of transportation and effectively providing information to users on how to access and use them as well as their benefits.

## 19.2 Benefits and Importance

TDM can be beneficial to all users, including residents, property owners and managers, and the community as a whole. More importantly, it can be cost-effective and is environmentally sustainable and responsible. Additionally, the implementation of TDM measures and strategies can help offset and reduce the VMT impact of the Project.

***TDM Benefits for Residents*** – TDM services and measures provide residents with options for alternative forms of transportation and gives them the proper tools and information to choose what is best for them and how to utilize them efficiently. By utilizing TDM measures and strategies, residents are provided with mobility that may otherwise be unavailable or not feasible via SOV travel. For example, for those who do not or cannot drive, non-SOV travel options provide the mobility to maintain employment, go to school, go shopping, etc. For those who do drive, different travel options that are available can provide them with convenience and save them time and money by choosing the most efficient mode for their specific travel use and purpose. Having alternative forms of transportation and being informed of them and their benefits can also benefit residents through financial savings in fuel, vehicle maintenance, or not owning a vehicle at all.

Additionally, active forms of transportation such as walking and biking can provide residents with substantial health benefits. According to the American Heart Association, the recommended activity

time to improve cardiovascular health is 30 minutes a day and incorporating walking and bicycling as a form of transportation provides an outlet for individuals to attain this recommendation.

***TDM Benefits for Property Owners / Managers –*** Implementing TDM measures and strategies can also be beneficial to the Property Owners and Managers. The benefits that they offer can be a selling point for many potential buyers and residents. For example, alternative forms of transportation such as cycling and utilizing transit are increasingly becoming more popular, and benefits such as secure bike parking and easy/convenient connection to transit can be a huge draw for some. The property has benefits that TDM measures and strategies will have an advantage over other properties for some potential buyers.

In addition, implementation of a TDM plan leads to a decrease in SOV travel demand, therefore decrease the demand for parking. Thus, reducing the cost and burden of having to provide more parking spaces. Additionally, parking is one of the key issues that potential buyers and residents consider. If a property has parking issues or lack of parking, this may be a deterrent for some. By implementing a TDM plan, property owners and managers can have a way of managing to park and the potential issues it can bring.

***TDM Benefits for the Community –*** TDM measures and strategies are all aimed at reducing congestion and increasing mobility and access, and by doing so the general quality of life of the community as a whole will be enhanced. Less vehicular traffic equates to less air pollution. Having this goal of reducing SOVs and providing alternative forms of transportation is environmentally sustainable and responsible and is for the general betterment of the community.

***Vehicle Miles Traveled (VMT) Management –*** The Project's traffic impact can be measured by its addition of VMT to the regional roadway network. Due to the TDM's goal of reducing SOV and promoting and supporting alternative modes of travel, the implementation of TDM measures and strategies can decrease the Project's VMT and can be an effective method of managing its impacts. Utilizing the *Quantifying Greenhouse Gas Mitigation Measures* resource manual developed by the California Air Pollution Control Officers Association (CAPCOA) and other resources used in the industry, this TDM Plan will outline the measures and strategies that can be implemented by the Project and the VMT reduction associated with them. These is discussed further in *Section 19.4*, and the potential VMT reductions are outlined in *Section 19.5*.

## 19.3 Site Conditions that Affect Commute Travel Demand

### 19.3.1 *Freeway and Street Access*

State Routes (SR) 125, 67 and 52 are all in close proximity and provide regional access to the Project. The nearest freeway access points to the project site are the SR 52/ Mast Boulevard interchange, SR 125/ Mission Gorge Road Interchange, and the SR 52/ Cuyamaca Street interchange. SR 67 can be accessed via SR 52 East of the SR 67/ Woodside Avenue interchange. Access to the Project site will be provided by the northerly extension of Fanita Parkway and Cuyamaca Street and the extension of Magnolia Avenue to Cuyamaca Street. The following is a description of the existing freeway and street network.

**SR 52** is generally a 4-lane freeway that runs East/West with an eastern terminus in Santee where it connects to SR 67 and a western terminus in La Jolla, CA where it connects to Interstate 5. SR 52 is an important corridor that connects residential communities of Eastern San Diego County like Santee and Lakeside to major employment hubs like Kearny Mesa and Mission Valley and major Interstates. SR 52 provides access to Interstate 5, 805, and 15 as well as State Route 163. In addition, SR 52 has a two-way bicycle path that runs on the northern side of the freeway from Mast Boulevard to Santo Road.

**SR 67** is generally a 4-lane highway that runs North/South with a southern terminus in El Cajon, CA where it meets Interstate 8 and a northern terminus in Ramona, CA where it meets SR 78. SR 67 provides access between communities of El Cajon, Santee, Lakeside, Poway and Ramona and connects these communities to Interstate 8 and SR 78.

**SR 125** is generally a 6-lane highway that runs North/South with a northern terminus in Santee, CA where it ends at Mission Gorge Rd and a southern terminus in Otay Mesa, CA near the US/Mexico border at SR 905. SR 125 provides access to Interstate 8, SR 94, 54, and 905.

**Fanita Parkway** is a north-south roadway and is currently constructed as a 2-lane undivided roadway with bike lanes provided in both directions. According to the City of Santee General Plan Mobility Element, Fanita Parkway between Mast Boulevard and Carlton Oaks Drive is classified as a Collector Residential.

**Cuyamaca Street** is a north-south roadway and is currently constructed as a 2-lane divided roadway from its northern terminus to Beck Drive. It transitions into and becomes a four-lane divided roadway from Beck Drive to Town Center Parkway. In the vicinity of the Santee Town Center between Town Center Parkway and SR-52, Cuyamaca Street is constructed as a 6-lane divided roadway. Bike lanes are provided north of Mast Boulevard.

**Magnolia Avenue** is a north-south roadway and is currently constructed as a 4-lane divided roadway from its northern terminus at Princess Joann Road. Class II bike lanes are provided and on-street parking is permitted intermittently. North of its existing terminus, Magnolia Avenue is planned to be extended as a Parkway per the Adopted Mobility Element as a Four-Lane Parkway. From Mission Gorge Road to the southern Santee city limits it is classified and currently built as a 6-Lane divided roadway and bike lanes are provided noth of Mast Boulevard.

***Figure 19–1*** shows transportation facilities and services in the vicinity of the Project.

### 19.3.2 *Transit Service*

The Metropolitan Transit System is the transit agency that operates in the Project area. The nearest available transit service to the Project is Bus Route 834 which has a stop near the intersection of Mast Boulevard and West Hills High School. Bus Route 834 operates along Mast Boulevard, Mission Gorge Road and Town Center Parkway. It provides a connection between the following points of interest: Santee Plaza Shopping Center, West Hills High School, & Carlton Oaks Country Club. Route 834 has an eastern terminus at Santee Town Center Transit Center which provides connections to the Green Line trolley and other bus routes.

The Santee Town Center Station is located approximately one (1) mile south of the Project site. This transit station is one of the stops of the MTS "Green Line," a trolley line that operates in the South Eastern region of San Diego and has a south western terminus at the Santa Fe Depot in Downtown, San Diego. Some major stops along the green line include El Cajon Transit Center, Grossmont Transit Center, San Diego State University, Fashion Valley Transit Center, and Old Town Transit Center. The terminus at Santa Fe Depot provides a connection to other transit options that service the entire San Diego region and beyond such as Amtrak, Metrolink, Greyhound, and Sprinter.

Bus Route 832 also services the Santee Town Center Transit Station and continues throughout the City of Santee including Cuyamaca Street, Woodglen Vista Drive and Magnolia Avenue. Headways

on this route are generally 45 minutes to one (1) hour. Bus Route 833 is another transit route that operates between Santee Town Center Transit Station and the El Cajon Transit Center. The headways on this bus route are 45 minutes.

*Figure 19–1* also shows transit services in the vicinity of the Project.

### 19.3.3 *On-Street Bicycle Facilities*

There are six (6) bicycle facilities in the City's bicycle network that are located within approximately one mile of the Project site. The bicycle facilities are listed below, and *Figure 20–1* shows the bicycle facilities in the vicinity of the Project. The City of Santee also has planned bicycle network additions that are included below.

*North-South Routes*

- Magnolia Avenue – North of Chubb Lane: Class II Bike Lanes
- Carlton Hills Boulevard – South of Lake Canyon Road: Class II Bike Lanes
- Cuyamaca Street – North of River Park Drive: Class II Bike Lanes
- Fanita Parkway – North of Carlton Oaks Drive: Class II

*East-West Routes*

- Mast Boulevard: Class II Bike Lanes
- Carlton Oaks Drive – West of Carlton Hills Boulevard: Class II Bike Lanes

*Planned Bicycle Network Additions*

- Prospect Avenue – Mesa Road to Fanita Drive: Class II Bike Lane

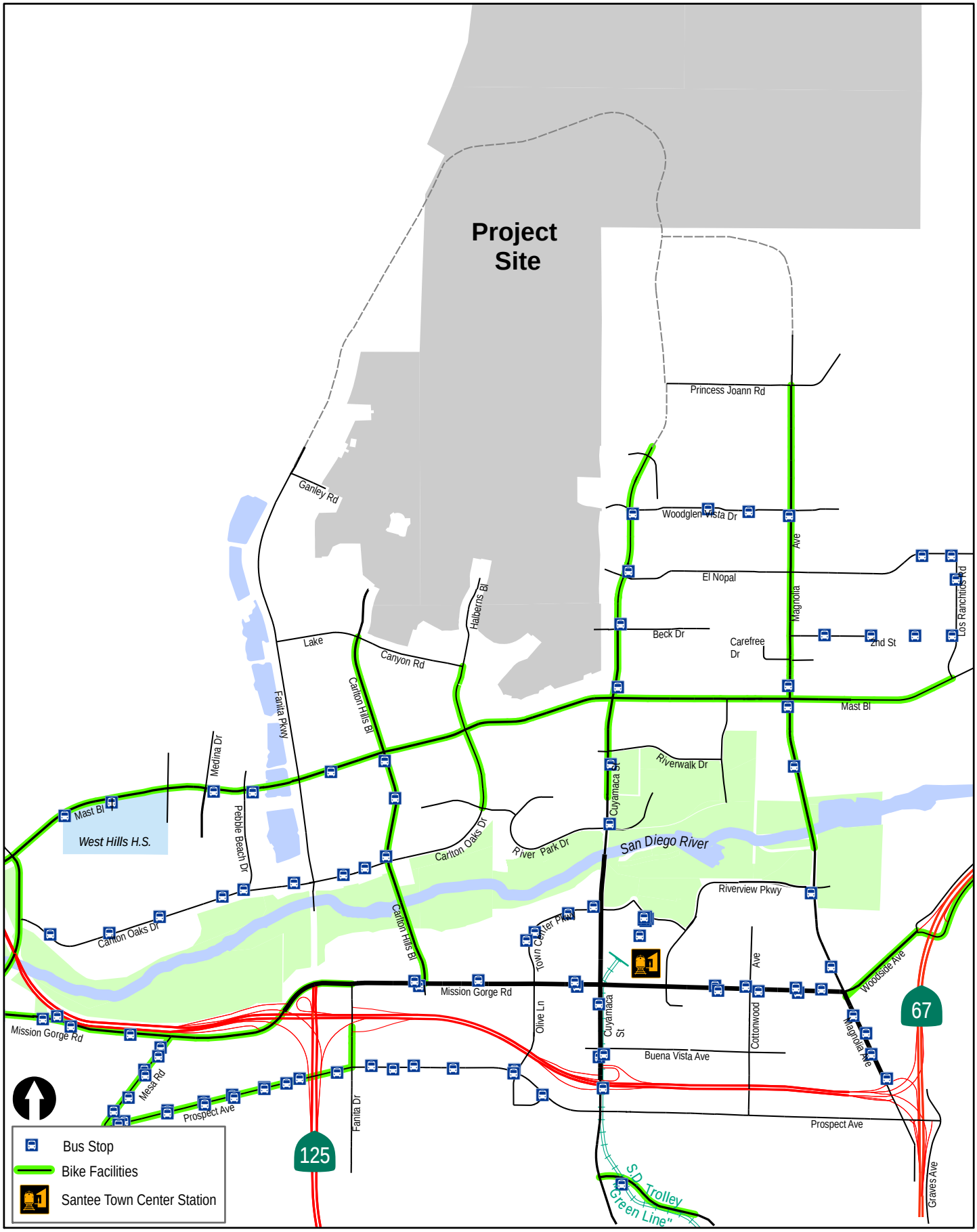



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**Figure 19-1**

## Transportation Facilities & Services

FANITA RANCH

## 19.4 TDM Program

This section provides a list of strategies and measures that can be implemented that are aimed to reduce the transportation impacts of the Project and encourage the use of alternative forms of transportation taken from strategies included in the *Quantifying Greenhouse Gas Mitigation Measures* report by the CAPCOA. The CAPCOA report provides measures and strategies sectioned into the following categories: Land Use/Location, Neighborhood/Site Enhancements, Parking Policy/Pricing, Commute Trip Reduction Programs, Transit Systems Improvements, Road Pricing/Management, and Vehicles. Measures and strategies are identified by an abbreviation of the category and a numerical value. For example, the measure "Improve Design of Development" is identified as LUT-9, which means it falls under the Land Use/Location category. The category abbreviations are as shown below:

- Land Use/Location (LUT)
- Neighborhood/Site Enhancements (SDT)
- Parking Policy/Pricing (PDT)
- Commute Trip Reduction Programs (TRT)
- Transit Systems Improvements (TST)
- Road Pricing/Management (RPT)
- Vehicles (VT)

The TDM-related Project features and additional measures and strategies are discussed further in the sections below. This TDM Plan facilitates a balanced approach to promote overall mobility with the ultimate goal of reducing to the extent possible the number of single-rider vehicles trips generated by the Project and consequently the VMT. Implementation of the TDM measures and strategies will result in a reduction in Project VMT and trips.

### 19.4.1 *Land Use / Location*

Land Use / Location (LUT) TDM strategies and measures are designed to maximize the accessibility and efficiency of the Project site.

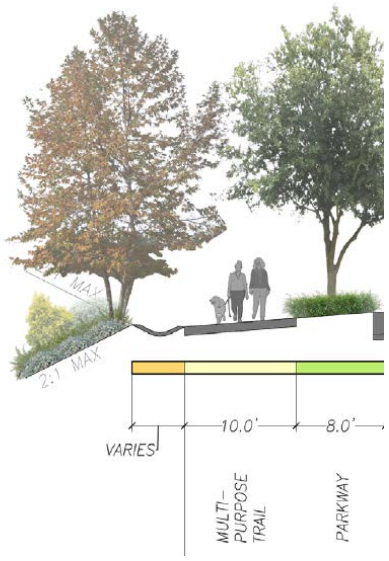
***LUT 9: Development Design (Project Feature)*** – the Project provides design elements that enhance walkability, bikeability, and general mobility and encourages a pedestrian-oriented environment as opposed to an auto-oriented environment. Sufficient walkway width and adequate pedestrian crossings where pedestrians may have a conflict with vehicles are provided. By incorporating this measure in the development part of the

site plan, optimal accommodations for pedestrian and bicycles can be achieved. The Project also provides design improvements that further promote and encourage non-SOV travel such as but not limited to the addition of bike lanes and paths, high-visibility crosswalks, and walkway landscaping, etc.

### 19.4.2 *Neighborhood / Site Enhancements*

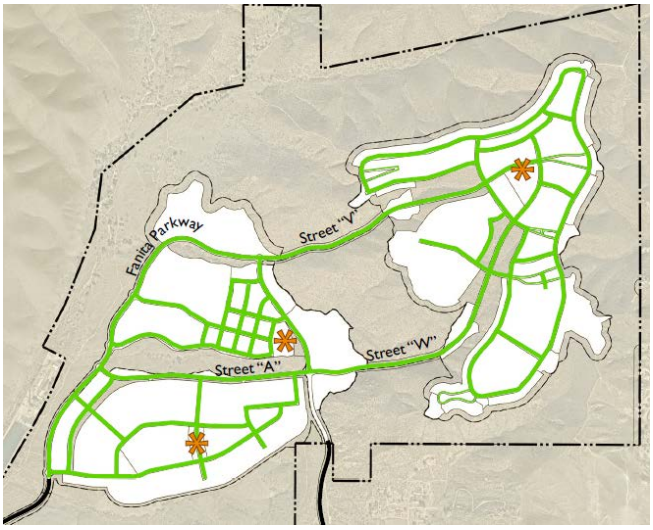
Neighborhood / Site Enhancements (SDT) TDM strategies and measures are physical improvements and programs that are implemented within the Project site aimed to promote and encourage alternative modes of travel. These measures and strategies encourage an environment that supports bikeability, walkability, and mobility for all. The specific strategies are described in more detail below.

***SDT-1: Provide Pedestrian Network Improvements (Project Feature)*** – the Project would ensure Project design encourages walking within the Project site and connects different land uses and types to encourage walking. More specifically, provide sufficient pedestrian facilities and connection to and from the Village Center. The street along the frontage of the Village Center, Village Parkway, will have 10' wide sidewalks on each side and all streets connecting the Village Center and residential areas all have at least a 5' sidewalk on each side or a 6' trail. Additionally, the Project would also provide proper connection to existing pedestrian network outside of the Project site to encourage walking further and improve access and interconnectivity. Sufficient pedestrian facilities and connections are provided on Fanita Parkway and Cuyamaca Street via Multi-Use trails and sidewalks.




***SDT-2: Provide Traffic Calming Measures (Project Feature)*** – the Project provides traffic calming measures to aid in creating a pedestrian and bicycle friendly and safe environment that encourages users to utilize alternative forms of transportation. Traffic calming measures can aid in increasing the mode split of non-SOV modes of travel, thus decreasing the Project's VMT. Traffic calming measures are improvements that are designed to reduce vehicular traffic speeds to create a street catering to all modes of travel. Traffic calming measures include but are not limited to narrowed vehicular travel lanes, vertical deflections, chicanes, curb extensions / bulbouts, textured pavements, horizontal deflections (speed humps / bumps), roundabouts, etc.

***SDT-3: Implement a Neighborhood Electric Vehicle Network (Project Feature)*** – Neighborhood Electric Vehicles (NEVs), also referred to as Low Speed Vehicles (LSVs), are small, four-wheeled vehicles typically designed to travel at speeds of up to 25 mph. LSVs are built to specific federal vehicle standards by licensed manufacturers and carry a Federal Certification Safety label. According to the California Vehicle Code, LSVs may be operated on public streets where the speed limit is 35 mph or less. In Fanita Ranch, this includes all roadways within the Village boundaries and between Villages as illustrated below. Tractors and all terrain vehicles associated with the operation and maintenance of all agriculture areas are also permitted on these low-speed roadways.




**LEGEND**

Alternative Vehicle Access Route

Electric Vehicle Charging Station*

* *Final locations and number of EV charging stations to be determined.*

Car-sharing and electric vehicle (EV) use will be supported and encouraged through the provision of passenger loading areas, charging stations and dedicated preferred parking locations in each Village Center. Furthermore, every private garage within Fanita Ranch is required to be designed to readily accept an EV charger. EV charging will be provided in all multi-family neighborhoods and for all commercial uses in accordance with CALGreen. As technologies evolve, additional community-wide features may be incorporated into the Specific Plan Area in support of the Sustainable Santee Plan. The provision of an NEV network will make non-auto trips a more common form of transportation among the Villages.

***SDT-5: Incorporate Bike Lane Street Design (On-site) (Project Feature)*** – the Project provides bicycle improvements and improves bicycle network on-site by incorporating bike lanes, bike routes, and bike paths into Project street systems. The Project provides an on-site bicycle network that is continuous and facilitated with proper and adequate signage and markings. It provides a connection to existing and planned bicycle network in the vicinity of the Project area.

Bike lanes with buffers are proposed along Fanita Parkway, Cuyamaca Street, Magnolia Avenue, and all on-site roadways with the following classification: "Residential Parkway" and "Residential Collector." All these facilities are proposed to include at least five-foot bike lanes with at least a two-foot-wide buffer between the bike lane and vehicular travel lane.

In addition, the proposed bike lanes along Fanita Parkway and Cuyamaca Street provide a valuable connection to the existing bike facilities on these streets and connect the Project site to the existing City of Santee bicycle network. By providing bicycle improvements and ensuring a strong bicycle network on-site connecting to existing facilities, it makes biking easier and more convenient for more people thus potentially reducing SOV trips and demand and decreasing Project VMT.

***SDT-6: Provide Bike Parking in Non-Residential Projects (Project Feature)*** – the Project provides secure bicycle parking throughout the Project site to encourage residents to utilize bicycling as a means of travel. Without a safe and reliable means to store their bicycles while they shop or travel around the Project site, residents may opt to utilize SOV travel instead. By providing bike parking, residents will be more likely to utilize bicycling as a form of transportation and decrease SOV trips and consequently VMT.

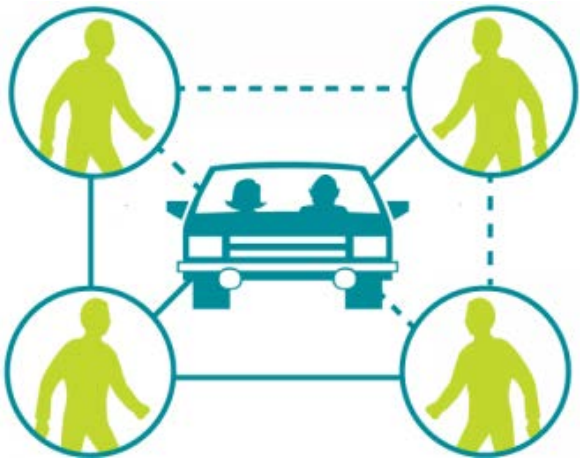
### 19.4.3 *Commute Trip Reduction Plan*

Commute Trip Reduction Plan (TRT) TDM strategies and measures are those aimed at reducing trips, and consequently VMT, by consolidating commute (both to work and school) travel. This is done via establishing programs that make transit an easier and more convenient option, establishing car-sharing systems, and establishing SchoolPool programs. These strategies are described in greater detail in the following section.

***TRT-3: Provide Ride-Sharing Programs (Recommendation)*** – the Project should establish and facilitate ride-sharing programs for residents and Project users. This measure is a multi-faceted approach aimed at providing support to encourage and promote ride-sharing. This should include providing a platform such as a website, message board, or community information center for coordinating rides, ensuring adequate loading and unloading zones and waiting areas for ride-sharing vehicles, and providing preferential parking for ride-sharing vehicles. An example of a platform that the Project can use to facilitate ridesharing is The Free Ride (https://thefreeride.com/), which allows for a private ridesharing network for residential communities, office campus, colleges, and universities, etc. (Visit https://thefreeride.com/ for more info).

***TRT-7: Implement Commute Trip Reduction Marketing (Recommendation)*** – the Project should implement a Commute Trip Reduction (CTR) marketing campaign specifically aimed at reducing commute trips. Marketing strategies may include a social media campaign, publications, and posters, integrating commute trip reduction and alternative mode options into information given to new residents. Effective and successful marketing will ensure that residents are aware of TDM measures and benefits in place and have all the information and knowledge necessary to take advantage of and utilize them. Proper education will also ensure that these strategies and measures are utilized to their full potential and maximize VMT reduction. Additionally, participate and promote events such as Bike to Work Day (in May) and Rideshare week (in October) to support further and encourage alternative modes of transportation. Provide free on-site bike tune-up events annually to promote and encourage biking as an alternative form of transportation.

***TRT-9: Implement Car-Sharing Program (Recommendation)*** **–** the Project should implement a car-sharing program that will allow users to have on-demand access to a shared fleet of vehicles on as needed basis. The program can be completely provided and managed by Fanita Ranch. Alternatively, the Project can coordinate with existing car-sharing companies such as Zipcar to establish a car-sharing station on-site. In some instances, vehicle ownership is for intermittent use and is not necessarily an everyday necessity. Providing users with a car-sharing option allows residents to utilize other forms of transportation on an everyday basis and have an option to utilize car-sharing when having a car is a necessity for their purposes.



***TRT-10: Implement a School Pool Program (Recommendation)*** – the Project should provide a platform for parents to coordinate transport for students to and from schools. SchoolPools come in many forms including carpooling, walk pools, bike pools, and public transit coordination. Parents can share the responsibility of taking and picking up multiple children to and from school to help reduce school commute trips and VMT. In addition, walk pools and bike pools can also be coordinated for children

to walk and/or bike to school under parent supervision. The coordination between parents can be facilitated through the Project's Intranet/Message boards.

## 19.5 VMT Reduction

As previously discussed, transportation impact reduction strategies that would result with implementation of TDM measures were taken from the CAPCOA Report, as listed in *Section 19.4* of this report.

It is important to note that the report designates some measures as "Grouped Strategy". These measures are grouped with other measures and although they do not have a direct VMT reduction associated with them, they support and promote other measures and strategies and augments their effectiveness. For example, measure SDT-5, "Incorporate Bike Lane Street Design", is grouped with measure LUT-9, "Improve Design of Development". SDT-5 does have a direct VMT reduction but it is grouped with LUT-9 as it strengthens street network characteristics and enhances multi-modal environments.

Each calculated VMT reduction cannot be simply added to obtain the total VMT reduction because the benefit of each additional successive measure is slightly less effective than predicted when implemented on its own and the combination of different measures and how they interact with one another will affect the total VMT reduction. In addition, certain measures are applicable only to certain types of VMT. For example, "Implement a SchoolPool Program" (TRT-10) provides reduction to the Project's School VMT. It does provide VMT reduction to the total VMT but it must first be converted to a total VMT reduction based on the guidance set forth in the CAPCOA report.

The CAPCOA report provides guidance on the maximum reduction that can be taken for each individual measure, the sub-category and category that they fall under, and global maximum reduction. These maximums are based on the Project characteristics such as if the Project is in an urban or suburban context. For example, the global maximum reduction for a project in an Urban setting is 75% whereas the global maximum for an equivalent project in a suburban setting is 15%. ***Figure 19–2*** illustrates a chart that outlines the maximum reduction at all levels and the global reduction given the Project setting as provided in the CAPCOA report as Chart 6-2. The Project is located in a "Suburban" setting as identified based on the characteristics listed in the CAPCOA report and the reductions and maximums are calculated as such.

The TDM measures and strategies set forth in *Section 19.4* and the calculated VMT reductions based on methodology set forth by the CAPCOA report are tabulated in ***Table 19–1*****.**

***Appendix U*** contains information and calculation sheets regarding the VMT reductions.

TABLE 19–1
TDM MEASURES AND STRATEGIES

| Recommended TDM Measure and Strategy | CAPCOA [a] | |
|---|---|---|
| | Title | VMT [b] Reduction |
| **Land Use / Location** | | |
| Improve Design of Development | LUT-9 | 5.0% |
| **Neighborhood / Site Enhancements** | | |
| Provide Pedestrian Network Improvements | SDT-1 | 2.0% |
| Provide Traffic Calming Measures | SDT-2 | 0.25% |
| Provide a Neighborhood Electric Vehicle Network | SDT-3 | 1.0% |
| Provide Bike Lane Street Design | SDT-5 | [c] |
| Provide Bike Parking for Multi-Family Residential | SDT-6 | 0.625% |
| Implement Car-Sharing Program | TRT-9 | 0.37% |
| **Commute Trip Reduction Program** | | |
| Provide Ride-Sharing Programs | TRT-3 | 2.43% |
| Implement Commute Trip Reduction (CTR) Marketing | TRT-7 | 0.97% |
| Implement Car-Sharing Program | TRT-9 | 0% [d] |
| Implement a School Pool Program | TRT-10 | 1.98% |
| **Multiplicative Total Reduction [e]** | | **13.7%** |

***Footnotes:***

a. Quantifying Greenhouse Gas Mitigation Measures report by the California Air Pollution Control Officers Association (CAPCOA).
b. VMT = Vehicle Miles Traveled.
c. Reduction grouped with LUT-9.
d. Conservative 0% reduction taken.
e. The Project's total VMT Reduction is 13.7%. Each mitigation measure's percent reduction is combined multiplicatively in order to get the Project's total VMT Reduction. As discussed in Chapter 6 of the CAPCOA report, the equation is as follows:
Combined Total Reduction = 1- [(1-A) x (1-B) x (1-C) x …] ;
A,B,C, = each measure's percent reduction

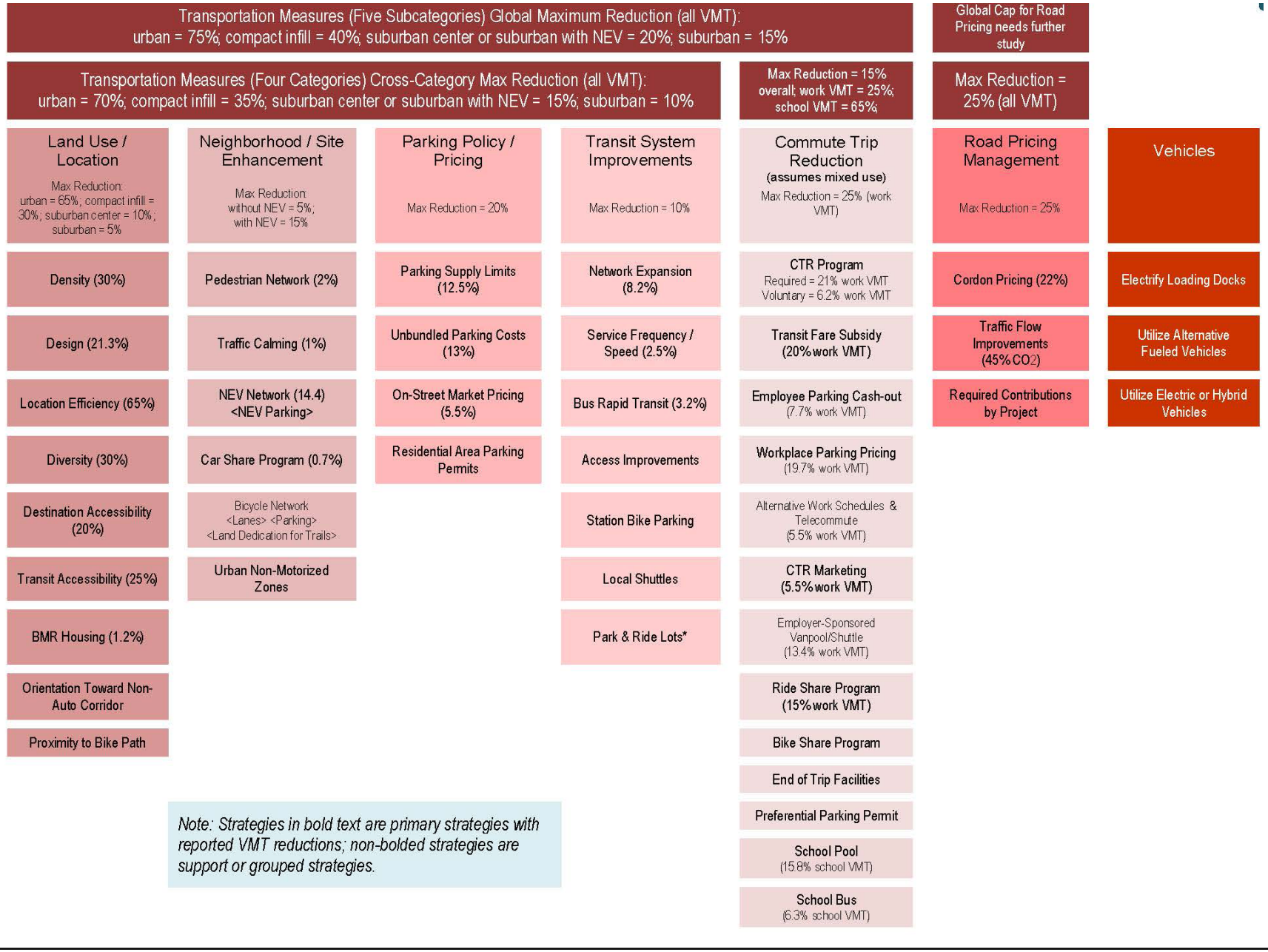



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**Figure 19-2**

# Transportation Strategies Organization

FANITA RANCH

## 19.6 Conclusions

This TDM Plan facilitates a balanced approach to promote overall mobility with the ultimate goal of reducing to the extent possible the number of single-rider vehicles trips generated by the Project and consequently the VMT. Implementation of the TDM measures and strategies would potentially result in a reduction in Project VMT.

With the assistance and guidance of the CAPCOA report, the VMT reduction that results from the strategies and measures set forth in this TDM plan, considering the maximum allowable sub-category, category, and global reductions, has been calculated as **13.7%**.

It should also be noted that under the "No School Scenario", TDM Measure TRT-10 would be eliminated. Measure TRT-10 recommends implementation of a "SchoolPool" that encourages carpooling, walk pools, bike pools, and public transit coordination. While school carpooling can still be encouraged to schools located off-site, the TDM measure was eliminated from the TDM reduction calculations in its entirety. This would result in a calculated VMT reduction of **12.0%**.

The TDM measures and strategies presented in this report are aimed to promote other forms of transportation. After the Project occupancy, the implemented measures and strategies should be monitored for their usage and effectiveness. They can be adjusted, and additional measures may be added and/or removed depending on the results.

A quantitative measurement of the effect the TDM measures have on the Project VMT calculations is presented in the mitigation section of this report, *Section 21.0*.

# 20.0 CONSTRUCTION TRAFFIC ASSESSMENT

## 20.1 Construction Activities

Fanita Ranch is anticipated to be constructed over a 10- to 15-year timeframe. Staging for all equipment and construction personnel will occur on the Fanita Ranch site in contained and well managed areas. To minimize the impact of haul trucks on the off-site road network and to avoid the need to import or export dirt, grading for the Project has been designed to achieve an overall earthwork balance (i.e., the volume of cut within the Project area, including offsite improvements, equals the volume of fill). Cut from the first phase of development will be placed as fill where required on the construction access road(s). The grading operation will all occur on-site. No outside dirt hauling is necessary because the site, as designed, balances. Once mobilization is complete, heavy machinery traveling off the site will be extremely limited until the completion of the operation.

## 20.2 Construction Trip Generation

***Table 20–1*** summarizes the expected number of workers/vendors/haul trucks and the corresponding maximum average daily construction trips. While all the activities will not occur simultaneously, some of them will.

Haul trucks utilized for site preparation and grading activities will operate on-site only and not result in new trips to the City roadway network and hence are not included in the trip generation calculations. There will be days when worker trips and vendor trips will access the site each day.

Based on the anticipated construction schedule, a maximum of 1,411 daily trips (1,099 daily worker trips and 312 daily vendor trips) is estimated to occur.

TABLE 20–1
SUMMARY OF DAILY CONSTRUCTION TRIPS

| Construction | Trips | |
|---|---|---|
| | **Number (per day)** | **Daily Trips** |
| Workers | 549 | 1,099 |
| Vendors | 156 | 312 |
| Haul Trucks [a] | 0 | 0 |
| **Total** | — | **1,411** |

***Footnotes:***

a. The truck trips associated with these activities are internal (on-site) and will not utilize the roadway network. Hence, they ae not included in the Construction trips.

## 20.3 Project-Specific Traffic Control Measures

It would be anticipated that construction operations would result in potential significant construction traffic impacts. Therefore, prior to beginning construction, work zone Traffic Control Plans (TCP) and construction Transportation Management Plans (TMP) shall be prepared to avoid temporary construction impacts where possible.

The Plans shall be prepared in accordance with all applicable requirements of the City and County encroachment permits and applicable City and County plans, ordinances, and policies. The Plans shall include provisions for the following:

- The applicant shall comply at all times with the following work hour requirements:
  - No site work, building construction, or related activities, including equipment mobilization will be permitted to start on the Project prior to 7:00 am and all work for the day shall be completed by 7:00 pm, subject to the satisfaction of the City Engineer;
  - No work is permitted on Sundays or City Holidays;
  - No deliveries, including equipment drop off and pick-up, shall be made to the project except between the hours of 8:00 am and 6:00 pm, Monday through Saturday, excluding Sundays and City Holidays, subject to the satisfaction of the City Engineer. Deliveries of emergency supplies or equipment necessary to secure the site or protect the public are permitted;
  - If the applicant fails or is unable to enforce compliance with their contractors, subcontractors and material suppliers regarding the specified work hours, additional reduction of work hours may be imposed by the Department of Development Services;
  - In addition to the above the applicant shall erect one or more signs stating the work hour restrictions. Signs shall be installed as may be required, in the vicinity of the project construction trailer if a job site trailer is used, or at such other locations as may be deemed appropriate by the Department of Development Services. The sign shall be a minimum of 24" x 36" and shall be weather proofed. The sign content shall be provided by the Department of Development Services;
- Coordinate with public transit providers (where necessary);
- Provide off-site construction worker parking areas and shuttles for workers to/from the job site, if necessary;
- Implement standard safety practices, including installing appropriate barriers between work zones and transportation facilities, placement of appropriate signage, and use of traffic control devices;
- Coordinate with the jurisdictions prior to construction to determine specific traffic handling layouts;
- Protect traffic by using flaggers, warning signs, lights, and barricades to guide vehicles through or around construction zones;
- Restore roadway capacity to the extent feasible during hours when construction activities are not occurring, which could include the use of road plates or temporary paving;

- Clean and restore roadways upon completion of work;
- Limit the length of open trenches to the length allowed by County and City encroachment permits;
- Implement construction schedules and techniques that minimize roadway closures, including the number of cross streets and side streets that may be blocked or otherwise impacted by construction activities;
- Detours for cyclists and pedestrians when bike lanes or sidewalks must be closed;
- Install steel plates over open trenches in inactive construction areas to maintain existing bicycle and pedestrian access after construction hours;
- Coordinate with local schools prior to construction within close proximity of school property to ensure entryways are not blocked during peak drop off and pick up times;
- Enforce speed limits of construction vehicles on all roads;
- Notify emergency response providers of road closures at least one week prior to closures and include the location, date, time and duration of the closure; and
- Abide by encroachment permit conditions, which shall supersede conflicting provisions in the Plans.
- In addition, vendor trip limitations shall be imposed which would prohibit vendor truck trips on Cuyamaca Street and Magnolia Avenue and requires all truck traffic to use Fanita Parkway for site access. Worker vehicle trips would be allowed on all roadways.

Preparation and implementation of the Plans would provide mitigation for the short-term, significant construction impacts.

The level of construction impacts is minimized by the fact that since the earthwork balances on-site, the number of trips that needs to be mitigated is limited to construction workers and vendor trips. Further, these construction trips are inbound to Santee during the morning and outbound from Santee in the afternoon, counter flow to existing patterns. ***Table 20–2*** shows the percent of traffic on Mast Boulevard, Fanita Parkway, and Cuyamaca which are counter flow to existing patterns. These percentages are much less than 50%. A maximum 35.8% of traffic occurs in the non-peak direction; the direction construction trips will be utilizing. In other words, the construction traffic will be added to the direction of traffic where excess capacity exists.

It is recognized that there will be an interim scenario when construction of later phases is occurring simultaneously with occupancy and operation of earlier phases. However, implementation of the recommended Traffic Control Plan would reduce temporary construction impacts to below significant levels.

TABLE 20–2
EXISTING TRAVEL PATTERNS

| **Mast Boulevard** | | **Cuyamaca Street** | | **Fanita Parkway** | |
|---|---|---|---|---|---|
| AM Peak Eastbound | PM Peak Westbound | AM Peak Northbound | PM Peak Southbound | AM Peak Northbound | PM Peak Southbound |
| 22.6% | 22.8% | 22.2% | 32.9% | 31.8% | 35.8% |

# 21.0 PROJECT DESIGN FEATURES, SIGNIFICANCE OF IMPACTS AND MITIGATION MEASURES

Project Design Features are new public facilities constructed as part of the Project to provide direct access to the Project site. Significant impacts are calculated at existing locations where the addition of Project traffic would result in unacceptable operations and/or exceed the thresholds set forth by the respective jurisdiction. Significant impacts require the implementation of mitigation measures to reduce impacts to below significant levels, where possible.

## 21.1 Project Design Features

As part of the Project, the extensions of Fanita Parkway, Cuyamaca Street, and Magnolia Avenue will be constructed to provide access to the Project site. ***Table 21–1*** below provides a summary of the Project Design Features:

TABLE 21–1
PROJECT DESIGN FEATURES

| Location | Proposed Improvements |
|---|---|
| Fanita Parkway | Construct Fanita Parkway from its current terminus at Ganley Road to connect to the Project site as a Project Design Feature. The Mobility Element classifies this future roadway as a Two-Lane Parkway (undivided). To accommodate future traffic volumes, this section of Fanita Parkway will be reclassified and constructed as a Two-Lane Parkway (divided) to enhance the roadway capacity. The two-lane section of the roadway will be divided by a six to 14-foot raised median, provide one 12-foot travel lane in both directions, include five-foot bike lanes on both sides of the roadway with a three-foot buffer on the east side and two-foot buffer on the west side, and provide a five-foot landscaped parkway on the east side of the roadway with a 10-foot multi-purpose trail on the west side separated from the roadway by a six-foot landscape parkway. In addition, the gated vehicular entrance south of Ganley Road currently used by Santee Lakes as an entry/exit to their campground and RV storage areas will be abandoned and realigned to complete the west leg (fourth leg) of the Fanita Parkway/ Ganley Road intersection. This new four-way intersection will accommodate trips into and out of both the Santee Lakes and PDMWD facilities currently accessed via Sycamore Canyon Road. In addition, SDG&E easements and the northernmost access to the Ray Stoyer Plant on the PDMWD property are currently accessed via Sycamore Canyon Road. The Project proposes to provide a right-in/right-out only access on Fanita Parkway for the eastern easement access and a full access intersection with a northbound dedicated left-turn lane to the PDMWD property on the west side of Fanita Parkway. |
| *(Continued on Next Page)* | |

TABLE 21–1
PROJECT DESIGN FEATURES

| Location | Proposed Improvements |
|---|---|
| *(Continued from Previous Page)* | |
| Cuyamaca Street | The Project proposes to construct Cuyamaca Street from its current terminus at Chaparral Drive to connect to the Project site as a Project Design Feature. From the Project site to Princess Joann Road, the Mobility Element classifies this future roadway as a Collector with TWLTL. South of Princess Joann Road to Woodglen Vista Drive, this future roadway is classified as a Four-Lane Major Arterial. Based on the analysis presented in this report, and as a Project Design Feature, Cuyamaca Street from the Project Site to Chaparral Drive is proposed to be reclassified and constructed as a two-lane divided roadway (Two-Lane Parkway). From the Project site to Chaparral Drive, Cuyamaca Street will include a 10-foot raised median, one 12-foot travel lane in both directions, a three-foot bike lane buffer on the east side of the roadway with a five-foot bike lane and a five-foot landscaped parkway. The bike lane and buffer will also serve as an eight-foot emergency parking lane. The west side of the roadway will provide a five-foot bike lane buffer with a five-foot bike lane (10-foot emergency parking), with a five-foot landscaped parkway and eight-foot multi-purpose trail. The east side of the roadway will provide a four-foot nature trail occurring in a portion of the east parkway. A primary objective of the Specific Plan is to maintain Cuyamaca Street as a two-lane road as it enters the Specific Plan area, preserving the rural character of this road. This section will remain the same until it reaches the south edge of Main Village.<br>In the long-term Year 2035 scenario, improvements to Cuyamaca Street to increase the capacity to its four-lane classification are also proposed. As a Project Design Feature, and to aid in the transition from two to four lanes, Cuyamaca Street will be designed as a Four-Lane Major Arterial from Chaparral Drive to Woodglen Vista Drive.<br>As part of the extension of Cuyamaca Street, the intersection of Cuyamaca Street and Princess Joann Road will be constructed as a Project Design Feature to provide a stop-sign on Princess Joann Road. In the southbound direction, one left-turn lane and one thru lane will be constructed, northbound will provide one right-turn lane and one thru lane, and the westbound direction will provide a shared left/right-turn lane.<br>Additional improvements by Year 2035 are necessary to mitigate cumulative impacts at this intersection due to ambient growth from buildout of the General Plan Land Uses and the addition of Project traffic. These additional improvements are recommended as mitigation measures beyond the Project Design Features. |
| Magnolia Avenue | The Project proposes to construct Magnolia Avenue from its current terminus at Princess Joann Road to connect to the Project site as a Project Design Feature. The Mobility Element classifies this future roadway as a Four-Lane Parkway. Based on the analysis provided in this report, the traffic volumes forecasted on this future connection do not require the full construction of the roadway to four-lane standards. Therefore, Magnolia Avenue is proposed to be reclassified as a Two-Lane Collector and will be constructed from its future intersection with Cuyamaca Street to Princess Joann Road to provide a 12-foot painted median, one 13-foot travel lane in each direction, five-foot bike lanes on both sides of the roadway separated from the travel way by two-foot buffers, and continue the five-foot landscaped parkways on both sides of the roadway with a five-foot sidewalk on the west side of the roadway. Potential traffic calming measures, such as raised intersections, intersection neckdowns, and flashing speed limit signs are proposed along Magnolia Avenue.<br>As part of the extension of Magnolia Avenue, the intersection of Cuyamaca Street and Magnolia Avenue will be constructed as a Project Design Feature and will provide a traffic signal. In the southbound direction, two left-turn lanes and one thru lane will be constructed with protected left-turn phasing and minimum turn pocket lengths of 175 feet, the northbound direction will provide one thru lane and one right-turn lane, and the westbound direction will provide one left-turn lane and one right-turn lane. |

***General Notes***:

1. *Sections 2.3 and 16.1.1* provided earlier in this report discuss the improvements to these three roadways.

## 21.2 Significance of Impacts

Per the applied significance thresholds and the analysis methodology presented in this report, Project and cumulative traffic are calculated to result in several significant transportation impacts. *Direct* impacts were calculated under Existing + Project and Existing + Cumulative Projects + Project conditions where Project-added traffic results in a degradation in LOS from acceptable LOS D or better operations to below LOS D conditions or in an increase greater than the allowable thresholds for locations currently operating at LOS E or F (see *Table 5–1*). *Cumulative* impacts were calculated where Project-added traffic resulted in significant increase in intersection delay or street segment volume-to-capacity ratios over the allowable thresholds mentioned above under Year 2035 With Project conditions. A significant VMT impact was calculated, given the Project VMT per Capita exceeds the City threshold VMT per capita.

Impacts and mitigation are identified for the Proposed Project scenarios. The impacts calculated under the "No School" scenario analysis are the same as the Proposed Project with the exception that Intersection #1. Princess Joann Road/ Cuyamaca Street and Segment #51. Cuyamaca Street between Mission Gorge Road SR-52 Ramps are not impacted under this scenario in the Year 2035.The construction of the Magnolia Avenue extension is recommended as a Project Design Feature prior to occupancy of the 1,500$^{th}$ equivalent dwelling unit.

As discussed throughout this report, since the completion of this transportation analysis, the Project Description has slightly changed, resulting in a shift between residential densities, changes to park acreage, and a reduction in school students from 1,000 to 700 students. With these changes, the resulting trip generation decreases as compared to the numbers analyzed in this report. Therefore, the analysis presented herein provides a conservative assessment of the local transportation system.

***Table 21–2*** summarizes the impacted locations for each scenario analyzed in this report.

TABLE 21–2
IMPACT SUMMARY TABLE

| MM# | Location | Jurisdiction | Near-Term: Existing | | Near-Term: Existing + Cumulative Projects | | Year 2035 | |
|---|---|---|---|---|---|---|---|---|
| | | | Existing + Project | Existing + Project (No School) | Existing + Cumulative Projects + Project | Existing + Cumulative Projects + Project (No School) | Year 2035 With Project | Year 2035 With Project (No School) |
| **INTERSECTIONS** | | | | | | | | |
| TRA-2 | 1. Princess Joann Road / Cuyamaca Street | Santee | — | — | — | — | Cumulative | — |
| | 2. Princess Joann Road / Magnolia Avenue | Santee | — | — | — | — | — | — |
| TRA-3 | 3. Ganley Road / Fanita Parkway | Santee | Direct | Direct | Direct | Direct | Cumulative | Cumulative |
| TRA-4 | 4. Woodglen Vista Drive / Cuyamaca Street | Santee | Direct | Direct | Direct | Direct | Cumulative | Cumulative |
| | 5. Woodglen Vista Drive / Magnolia Avenue | Santee | — | — | — | — | — | — |
| TRA-5 | 6. El Nopal / Cuyamaca Street | Santee | Direct | Direct | Direct | Direct | Cumulative | Cumulative |
| | 7. El Nopal / Magnolia Avenue | Santee | — | — | — | — | — | — |
| TRA-6 | 8. El Nopal / Los Ranchitos Road | County | — | Direct | Direct | Direct | Cumulative | Cumulative |
| TRA-7 | 9. Lake Canyon Road / Fanita Parkway | Santee | Direct | Direct | Direct | Direct | Cumulative | Cumulative |
| | 10. Lake Canyon Road / Carlton Hills Boulevard | Santee | — | — | — | — | — | — |
| | 11. Lake Canyon Road / Halberns Boulevard | Santee | — | — | — | — | — | — |
| TRA-8 | 12. Beck Drive / Cuyamaca Street | Santee | Direct | Direct | Direct | Direct | Cumulative | Cumulative |
| | 13. 2nd Street / Magnolia Avenue | Santee | — | — | — | — | — | — |
| | 14. Carefree Drive / Magnolia Avenue | Santee | — | — | — | — | — | — |
| | 15. Riverford Road / Riverside Drive | County | — | — | — | — | — | — |
| | 16. Mast Boulevard / SR-52 EB Ramps | San Diego/ Caltrans | — | — | — | — | — | — |
| TRA-9 | 17. Mast Boulevard / SR-52 WB Ramps | San Diego/ Caltrans | Direct | Direct | Direct | Direct | Cumulative | Cumulative |
| TRA-10 | 18. Mast Boulevard / West Hills Parkway | San Diego | Direct | Direct | Direct | Direct | Cumulative | Cumulative |
| | 19. Mast Boulevard / West Hills High School | Santee | — | — | — | — | — | — |
| | 20. Mast Boulevard / Medina Drive | Santee | — | — | — | — | — | — |
| | 21. Mast Boulevard / Pebble Beach Drive | Santee | — | — | — | — | — | — |
| TRA-11 | 22. Mast Boulevard / Fanita Parkway | Santee | Direct | Direct | Direct | Direct | Cumulative | Cumulative |
| | 23. Mast Boulevard / Carlton Hills Boulevard | Santee | — | — | — | — | — | — |
| | 24. Mast Boulevard / Halberns Boulevard | Santee | — | — | — | — | — | — |
| TRA-12 | 25. Mast Boulevard / Cuyamaca Street | Santee | Direct | Direct | Direct | Direct | Cumulative | Cumulative |
| | 26. Mast Boulevard / Park Center Drive | Santee | — | — | — | — | — | — |
| | 27. Mast Boulevard / Magnolia Avenue | Santee | — | — | — | — | — | — |
| | 28. Carlton Oaks Drive / West Hills Parkway | San Diego | — | — | — | — | — | — |
| | 29. Carlton Oaks Drive / Pebble Beach Drive | Santee | — | — | — | — | — | — |
| | 30. Carlton Oaks Drive / Fanita Parkway | Santee | — | — | — | — | — | — |
| | 31. Carlton Oaks Drive / Carlton Hills Boulevard | Santee | — | — | — | — | — | — |
| | 32. Riverwalk Drive / Cuyamaca Street | Santee | — | — | — | — | — | — |
| | 33. Riverpark Drive / Cuyamaca Street | Santee | — | — | — | — | — | — |
| | 34. Town Center Parkway / Cuyamaca Street | Santee | — | — | — | — | — | — |
| | 35. Town Center Parkway / Riverview Parkway | Santee | — | — | — | — | — | — |

*(Continued on Next Page)*

TABLE 21–2
IMPACT SUMMARY TABLE

| MM# | Location | Jurisdiction | Near-Term: Existing | | Near-Term: Existing + Cumulative Projects | | Year 2035 | |
|---|---|---|---|---|---|---|---|---|
| | | | Existing + Project | Existing + Project (No School) | Existing + Cumulative Projects + Project | Existing + Cumulative Projects + Project (No School) | Year 2035 With Project | Year 2035 With Project (No School) |
| *(Continued from Previous Page)* | | | | | | | | |
| | 36. Riverview Parkway / Magnolia Avenue | Santee | — | — | — | — | — | — |
| TRA-13 | 37. Riverford Road / SR-67 SB Ramps | County/ Caltrans | Direct | Direct | Direct | Direct | Cumulative | Cumulative |
| | 38. Woodside Avenue / SR-67 NB Off-Ramp | County/ Caltrans | — | — | — | — | — | — |
| TRA-14 | 39. Riverford Road / Woodside Avenue | County | Direct | Direct | Direct | Direct | Cumulative | Cumulative |
| TRA-15 | 40. Mission Gorge Road / West Hills Parkway | Santee | — | — | — | — | Cumulative | Cumulative |
| | 41. Mission Gorge Road / SR-52 EB Ramps | Santee/ Caltrans | — | — | — | — | — | — |
| | 42. Mission Gorge Road / SR-52 WB Ramps | Santee/ Caltrans | — | — | — | — | — | — |
| | 43. Mission Gorge Road / SR-125 | Santee/ Caltrans | — | — | — | — | — | — |
| | 44. Mission Gorge Road / Fanita Drive | Santee | — | — | — | — | — | — |
| TRA-16 | 45. Mission Gorge Road / Carlton Hills Boulevard | Santee | Direct | Direct | Direct | Direct | Cumulative | Cumulative |
| | 46. Mission Gorge Road / Town Center Parkway | Santee | — | — | — | — | — | — |
| TRA-17 | 47. Mission Gorge Road / Cuyamaca Street | Santee | — | — | Direct | Direct | Cumulative | Cumulative |
| | 48. Mission Gorge Road / Riverview Parkway | Santee | — | — | — | — | — | — |
| | 49. Mission Gorge Road / Cottonwood Avenue | Santee | — | — | — | — | — | — |
| | 50. Mission Gorge Road / Magnolia Avenue | Santee | — | — | — | — | — | — |
| | 51. Woodside Avenue N. / SR-67 SB Off-Ramp | Santee/ Caltrans | — | — | — | — | — | — |
| | 52. Woodside Avenue / SR-67 NB On-Ramp | Santee/ Caltrans | — | — | — | — | — | — |
| | 53. Fanita Drive / SR-52 WB Off-Ramp | Santee/ Caltrans | — | — | — | — | — | — |
| | 54. Fanita Drive / SR-52 EB On-Ramp | Santee/ Caltrans | — | — | — | — | — | — |
| TRA-18 | 55. Buena Vista Avenue / Cuyamaca Street | Santee | — | — | Direct | Direct | Cumulative | Cumulative |
| | 56. Cuyamaca Street / SR-52 WB Ramps | Santee/ Caltrans | — | — | — | — | — | — |
| | 57. Cuyamaca Street / SR-52 EB Ramps | Santee/ Caltrans | — | — | — | — | — | — |
| | 58. Magnolia Avenue / SR-52 WB Ramps / SR-67 SB Ramps | Santee/ Caltrans | — | — | — | — | — | — |
| | 59. Magnolia Avenue / SR-52 EB Ramps | Santee/ Caltrans | — | — | — | — | — | — |
| | 60. Prospect Avenue / Fanita Drive | Santee | — | — | — | — | — | — |
| | 61. Prospect Avenue / Cuyamaca Street | Santee | — | — | — | — | — | — |
| | 62. Prospect Avenue / Cottonwood Avenue | Santee | — | — | — | — | — | — |
| | 63. Prospect Avenue / Magnolia Avenue | Santee | — | — | — | — | — | — |
| | 64. Prospect Avenue / SR-67 NB Off-Ramp | Santee/ Caltrans | — | — | — | — | — | — |
| | 65. Prospect Avenue / Graves Avenue | Santee | — | — | — | — | — | — |
| *(Continued on Next Page)* | | | | | | | | |

TABLE 21–2
IMPACT SUMMARY TABLE

| MM# | Location | Jurisdiction | Near-Term: Existing | | Near-Term: Existing + Cumulative Projects | | Year 2035 | |
|---|---|---|---|---|---|---|---|---|
| | | | Existing + Project | Existing + Project (No School) | Existing + Cumulative Projects + Project | Existing + Cumulative Projects + Project (No School) | Year 2035 With Project | Year 2035 With Project (No School) |
| *(Continued from Previous Page)* | | | | | | | | |
| **STREET SEGMENTS** | | | | | | | | |
| | **Princess Joann Road** | | | | | | | |
| | 1. Cuyamaca Street to Magnolia Avenue | Santee | — | — | — | — | — | — |
| | **Woodglen Vista Drive** | | | | | | | |
| | 2. Cuyamaca Street to Magnolia Avenue | Santee | — | — | — | — | — | — |
| | **El Nopal** | | | | | | | |
| | 3. Cuyamaca Street to Magnolia Avenue | Santee | — | — | — | — | — | — |
| TRA-19 | 4. Magnolia Avenue to Los Ranchitos Road | Santee | — | — | — | — | Cumulative | Cumulative |
| TRA-20 | 5. Los Ranchitos Road to Riverford Road | County | Direct | Direct | Direct | Direct | Cumulative | Cumulative |
| | **Mast Boulevard** | | | | | | | |
| TRA-21 | 6. SR-52 to West Hills Parkway | San Diego | — | — | Direct | Direct | — | — |
| | 7. West Hills Parkway to Medina Drive | Santee | — | — | — | — | — | — |
| | 8. Pebble Beach Drive to Fanita Parkway | Santee | — | — | — | — | — | — |
| | 9. Fanita Parkway to Carlton Hills Boulevard | Santee | — | — | — | — | — | — |
| | 10. Carlton Hills Boulevard to Halberns Boulevard | Santee | — | — | — | — | — | — |
| | 11. Halberns Boulevard to Cuyamaca Street | Santee | — | — | — | — | — | — |
| | 12. Cuyamaca Street to Magnolia Avenue | Santee | — | — | — | — | — | — |
| | 13. Magnolia Avenue to Los Ranchitos Road | Santee | — | — | — | — | — | — |
| | 14. Los Ranchitos Road to Riverford Road | County | — | — | — | — | — | — |
| | **Carlton Oaks Drive** | | | | | | | |
| | 15. West Hills Parkway to Pebble Beach Drive | Santee | — | — | — | — | — | — |
| TRA-22 | 16. Fanita Parkway to Carlton Hills Boulevard | Santee | Direct | Direct | Direct | Direct | Cumulative | Cumulative |
| | **Mission Gorge Road** | | | | | | | |
| | 17. Western City Limits to West Hills Parkway | Santee | — | — | — | — | — | — |
| | 18. West Hills Parkway to SR-125 | Santee | — | — | — | — | — | — |
| | 19. SR-125 to Fanita Drive | Santee | — | — | — | — | — | — |
| | 20. Fanita Drive to Carlton Hills Boulevard | Santee | — | — | — | — | — | — |
| | 21. Carlton Hills Boulevard to Town Center Parkway | Santee | — | — | — | — | — | — |
| | 22. Town Center Parkway to Cuyamaca Street | Santee | — | — | — | — | — | — |
| | 23. Cuyamaca Street to Riverview Parkway | Santee | — | — | — | — | — | — |
| | 24. Riverview Parkway to Cottonwood Avenue | Santee | — | — | — | — | — | — |
| | 25. Cottonwood Avenue to Magnolia Avenue | Santee | — | — | — | — | — | — |
| | **Prospect Avenue** | | | | | | | |
| | 26. Fanita Drive to Cuyamaca Street | Santee | — | — | — | — | — | — |
| | 27. Cuyamaca Street to Cottonwood Avenue | Santee | — | — | — | — | — | — |
| *(Continued on Next Page)* | | | | | | | | |

TABLE 21–2
IMPACT SUMMARY TABLE

| MM# | Location | Jurisdiction | Near-Term: Existing | | Near-Term: Existing + Cumulative Projects | | Year 2035 | |
|---|---|---|---|---|---|---|---|---|
| | | | Existing + Project | Existing + Project (No School) | Existing + Cumulative Projects + Project | Existing + Cumulative Projects + Project (No School) | Year 2035 With Project | Year 2035 With Project (No School) |
| *(Continued from Previous Page)* | | | | | | | | |
| | **West Hills Parkway** | | | | | | | |
| | 28. Mast Boulevard to Mission Gorge Road | Santee | — | — | — | — | — | — |
| | **Fanita Parkway** | | | | | | | |
| | 29. Project Site to Ganley Drive | Santee | — | — | — | — | — | — |
| TRA-23 | 30. Ganley Drive to Lake Canyon Road | Santee | Direct | Direct | Direct | Direct | Cumulative | Cumulative |
| TRA-24 | 31. Lake Canyon Road to Mast Boulevard | Santee | Direct | Direct | Direct | Direct | Cumulative | Cumulative |
| | 32. Mast Boulevard to Carlton Oaks Drive | Santee | — | — | — | — | — | — |
| | **Fanita Drive** | | | | | | | |
| | 33. Mission Gorge Road to SR-52 Ramps | Santee | — | — | — | — | — | — |
| | 34. SR-52 Ramps to Prospect Avenue | Santee | — | — | — | — | — | — |
| | **Carlton Hills Boulevard** | | | | | | | |
| | 35. Lake Canyon Road to Mast Boulevard | Santee | — | — | — | — | — | — |
| | 36. Mast Boulevard to Carlton Oaks Drive | Santee | — | — | — | — | — | — |
| | 37. Carlton Oaks Drive to Mission Gorge Road | Santee | — | — | — | — | — | — |
| | **Halberns Boulevard** | | | | | | | |
| | 38. Lake Canyon Road to Mast Boulevard | Santee | — | — | — | — | — | — |
| | **Town Center Parkway** | | | | | | | |
| | 39. Mission Gorge Road to Cuyamaca Street | Santee | — | — | — | — | — | — |
| | 40. Cuyamaca Street to Riverview Parkway | Santee | — | — | — | — | — | — |
| | **Cuyamaca Street** | | | | | | | |
| | 41. Project Site to Magnolia Avenue | Santee | — | — | — | — | — | — |
| | 42. Magnolia Avenue to Princess Joann Rd | Santee | — | — | — | — | — | — |
| | 43. Princess Joann Rd to Chaparral Drive | Santee | — | — | — | — | — | — |
| | 44. Chaparral Drive to Woodglen Vista Drive | Santee | — | — | — | — | — | — |
| TRA-25 | 45. Woodglen Vista Drive to El Nopal | Santee | — | — | — | — | Cumulative | Cumulative |
| TRA-26 | 46. El Nopal to Mast Boulevard | Santee | Direct | Direct | Direct | Direct | Cumulative | Cumulative |
| | 47. Mast Boulevard to River Park Drive | Santee | — | — | — | — | — | — |
| | 48. River Park Drive to Town Center Parkway | Santee | — | — | — | — | — | — |
| | 49. Town Center Parkway to Mission Gorge Road | Santee | — | — | — | — | — | — |
| TRA-27 | 50. Mission Gorge Road to SR-52 Ramps | Santee | — | — | Direct | Direct | Cumulative | Cumulative |
| | 51. SR-52 Ramps to south of Prospect Avenue | Santee | — | — | — | — | — | — |
| | **Riverview Parkway** | | | | | | | |
| | 52. Mission Gorge Road to Town Center Parkway | Santee | — | — | — | — | — | — |
| | 53. Town Center Parkway to Magnolia Avenue | Santee | — | — | — | — | — | — |

*(Continued on Next Page)*

TABLE 21–2
IMPACT SUMMARY TABLE

| MM# | Location | Jurisdiction | Near-Term: Existing | | Near-Term: Existing + Cumulative Projects | | Year 2035 | |
|---|---|---|---|---|---|---|---|---|
| | | | Existing + Project | Existing + Project (No School) | Existing + Cumulative Projects + Project | Existing + Cumulative Projects + Project (No School) | Year 2035 With Project | Year 2035 With Project (No School) |
| | *(Continued from Previous Page)* | | | | | | | |
| | **Magnolia Avenue** | | | | | | | |
| | 54. Cuyamaca Street to Princess Joann Road | Santee | — | — | — | — | — | — |
| | 55. Princess Joann Road to Woodglen Vista Drive | Santee | — | — | — | — | — | — |
| | 56. Woodglen Vista Drive to El Nopal | Santee | — | — | — | — | — | — |
| | 57. El Nopal to Mast Boulevard | Santee | — | — | — | — | — | — |
| | 58. Mast Boulevard to Riverview Parkway | Santee | — | — | — | — | — | — |
| | 59. Riverview Parkway to Mission Gorge Road | Santee | — | — | — | — | — | — |
| | 60. Mission Gorge Road to SR-52 Ramps | Santee | — | — | — | — | — | — |
| | 61. SR-52 Ramps to south of Prospect Avenue | Santee | — | — | — | — | — | — |
| | **Woodside Avenue** | | | | | | | |
| | 62. East of Magnolia Avenue | Santee | — | — | — | — | — | — |
| | **N. Woodside Avenue** | | | | | | | |
| | 63. Riverford Road to Woodside Avenue | Santee | — | — | — | — | — | — |
| | **Riverford Road** | | | | | | | |
| TRA-28 | 64. Riverside Drive to SR-67 Ramps | County | Direct | Direct | Direct | Direct | Cumulative | Cumulative |
| | **FREEWAY MAINLINE SEGMENTS** [a] | | | | | | | |
| TRA-29 | 1. SR-52: Santo Road to Mast Boulevard: Eastbound | Caltrans | Direct | — | Direct | — | Cumulative | — |
| TRA-30 | 1. SR-52: Santo Road to Mast Boulevard: Westbound | Caltrans | Direct | — | Direct | — | Cumulative | — |
| | 2. SR-52: Mast Boulevard to SR-125: Eastbound | Caltrans | — | — | — | — | — | — |
| | 2. SR-52: Mast Boulevard to SR-125: Westbound | Caltrans | — | — | — | — | — | — |
| | 3. SR-52: SR-125 to Cuyamaca Street: Eastbound | Caltrans | — | — | — | — | — | — |
| | 3. SR-52: SR-125 to Cuyamaca Street: Westbound | Caltrans | — | — | — | — | — | — |
| | 4. SR-67: Riverford Road to SR-52: Eastbound | Caltrans | — | — | — | — | — | — |
| | 4. SR-67: Riverford Road to SR-52: Westbound | Caltrans | — | — | — | — | — | — |
| | 5. SR-67: SR-52 to Bradley Avenue: Eastbound | Caltrans | — | — | — | — | — | — |
| | 5. SR-67: SR-52 to Bradley Avenue: Westbound | Caltrans | — | — | — | — | — | — |
| | 6. SR-125: Grossmont College Drive to SR-52: Eastbound | Caltrans | — | — | — | — | — | — |
| | 6. SR-125: Grossmont College Drive to SR-52: Westbound | Caltrans | — | — | — | — | — | — |
| | **VEHICLE MILES TRAVELED** | | | | | | | |
| TRA-31 | VMT per Capita | Santee | Impact | Impact | — | — | Impact | Impact |

***Footnotes:***

a. Freeway mainline segments only analyzed under Proposed Project conditions.

## 21.3 Mitigation Measures

The mitigation proposed in this section was developed to mitigate direct Project impacts, and also any impacts occurring under Year 2035 cumulative conditions. Mitigation for the proposed Project also mitigates any impacts identified in the "No School" scenario.

Mitigation measures for VMT impacts are proposed through implementation of a TDM Plan. In order to meet the City's threshold of 15% below the Citywide average VMT per capita, the Project VMT per capita would need to be reduced by greater than 15% under exsting and Year 2035 scenarios, both with the school and without the school. The TDM measures allow for a global maximum reduction in VMT of 15%. Thus, by default, any project exceeding the Citywide average VMT per capita would be significant and unmitigable as a reduction greater than 15% would be needed to fully mitigate the impact. It is therefore concluded that with the TDM Plan implemented for the Fanita Ranch Project, VMT impacts would remain significant and unmitigated.

***Table 21–3*** identifies the recommended mitigation measures.

***Figure 21–1*** at the end of this section depicts the locations of Project Design Features, Impacts and Mitigation Measures.

### 21.3.1 *Caltrans Review and Analysis of Potential State Route 52 Improvements*

State Route 52 (SR-52) is a major east-west freeway providing East County San Diego communities with access to and from the City of San Diego and locations north and south. Current levels of congestion in the AM and PM peak periods affect the reliability of service on this freeway and delay travel times. Heavy congestion on SR-52 has a ripple effect on surrounding roadways, degrading conditions and increasing overall congestion in the region. Future traffic projections indicate that these conditions will worsen unless improvements are implemented on SR-52.

The Fanita Ranch Project applicant has privately funded a Caltrans Project Study Report – Project Development Support (PSR-PDS), dated January 2020, for the evaluation of potential improvements to the SR-52 corridor by Caltrans intended to relieve congestion (attached as ***Appendix Z*** hereto).

The PSR-PDS project limits are from the Mission Gorge Road Undercrossing at SR-52 to SR-52 at the I-15 connector and includes the SR-52/Mast Boulevard interchange. The two build alternatives generally include converting the existing westbound freeway shoulder into a truck-climbing lane/auxiliary lane, and converting the existing concrete barrier separated two-way bike path to the westbound freeway shoulder. Both alternatives are capacity increasing and will improve freeway operations along SR-52.

A Class IV Bikeway (Separated Bikeway) facility would be constructed on the eastbound side of the freeway to replace the existing two-way bike path. Over the existing Oak Canyon and Spring Canyon Bridges, the separated bikeway would be cantilevered from the bridge deck.

At the SR-52/Mast Boulevard interchange, ramp improvements and freeway restriping are proposed to improve freeway operations in the westbound and eastbound directions. Freeway restriping would include the eastbound San Diego River Bridge where the number of lanes would be increased from two to three lanes. The build alternatives also include the addition of an auxiliary lane along eastbound SR-52 between I-15 and Santo Road. The proposed auxiliary lane begins at the connector from southbound I-15 onto eastbound SR-52 and ends at the off-ramp from eastbound SR-52 to Santo Road. An additional segment of new lane will also be constructed on westbound SR-52 between the off- and on-ramps of Santo Road to allow for through movements. Constructing this lane segment will require a retaining wall beneath the Santo Road Overcrossing.

The second build alternative will include restriping the westbound San Diego River Bridge to three lanes. In this configuration, the lane drop west of the SR-52/Mission Gorge Road interchange will be removed, and the three existing mainline lanes at the SR-52/Mission Gorge Road interchange will be extended to connect to the SR-52/Mast Boulevard interchange, where the proposed truck-climbing lane will begin.

The Fanita Ranch Project applicant is working in close coordination with the California Department of Transportation, District 11 (Caltrans). It is anticipated that funding for the Project Approval/Environmental Document (PA&ED), final design, and construction phases will be a combination of developer contributions and grants from federal, state and/or local agencies and programs. If the project is included in a future Federal Transportation Improvement Program (FTIP), a Supplemental PSR or Project Report could serve as the programming document for the remaining support and capital components of the project. A Project Report will serve as approval of the "selected" alternative.

Local agency involvement includes the City of Santee who sponsored the SR-52 Corridor Study in 2016 to explore potential solutions to address congestion issues on SR-52. The Technical Working Group for that Study included the cities of El Cajon, La Mesa, San Diego, and Santee. Regional agency involvement included Caltrans, San Diego Association of Governments (SANDAG), and San Diego Metropolitan Transit System (MTS).

TABLE 21–3
MITIGATION MEASURES

| MM# | Jur. | ID | Location | Impact Type | Mitigated to Below Significant Levels? (Yes/No) |
|---|---|---|---|---|---|
| **CONSTRUCTION** | | | | | |
| TRA-1. | Santee | N/A | Construction Traffic Control Plans. Prior to beginning construction, work zone Traffic Control Plans (TCP) and construction Transportation Management Plans (TMP) shall be prepared in accordance with all applicable requirements of the City and County encroachment permits and applicable City and County plans, ordinances, and policies. The plans shall include provisions for the following:<br>▪ The applicant shall comply at all times with the following work hour requirements:<br>▪ No site work, building construction, or related activities, including equipment mobilization will be permitted to start on the project prior to 7:00 am and all work for the day shall be completed by 7:00 pm, no exceptions;<br>▪ No work is permitted on Sundays or City Holidays;<br>▪ No deliveries, including equipment drop off and pick-up, shall be made to the project except between the hours of 8:00 am and 6:00 pm, Monday through Saturday, excluding Sundays and City Holidays. Deliveries of emergency supplies or equipment necessary to secure the site or protect the public are permitted;<br>▪ If the applicant fails or is unable to enforce compliance with their contractors, subcontractors and material suppliers regarding the specified work hours, additional reduction of work hours may be imposed by the Department of Development Services;<br>▪ In addition to the above the applicant shall erect one or more signs stating the work hour restrictions. Signs shall be installed as may be required, in the vicinity of the project construction trailer if a job site trailer is used, or at such other locations as may be deemed appropriate by the Department of Development Services. The sign shall be a minimum of 24" x 36" and shall be weather proofed. The sign content shall be provided by the Department of Development Services;<br>▪ Coordinate with public transit providers (where necessary);<br>▪ Provide off-site construction worker parking areas and shuttles for workers to/from the job site, if necessary;<br>▪ Implement standard safety practices, including installing appropriate barriers between work zones and transportation facilities, placement of appropriate signage, and use of traffic control devices;<br>▪ Coordinate with the jurisdictions prior to construction to determine specific traffic handling layouts;<br>▪ Protect traffic by using flaggers, warning signs, lights, and barricades to guide vehicles | Direct | No |

TABLE 21–3
MITIGATION MEASURES

| MM# | Jur. | ID | Location | Impact Type | Mitigated to Below Significant Levels? (Yes/No) |
|---|---|---|---|---|---|
| | | | through or around construction zones;<br>▪ Restore roadway capacity to the extent feasible during hours when construction activities are not occurring, which could include the use of road plates or temporary paving;<br>▪ Clean and restore roadways upon completion of work;<br>▪ Limit the length of open trenches to the length allowed by County and City encroachment permits;<br>▪ Implement construction schedules and techniques that minimize roadway closures, including the number of cross streets and side streets that may be blocked or otherwise impacted by construction activities;<br>▪ Detours for cyclists and pedestrians when bike lanes or sidewalks must be closed;<br>▪ Install steel plates over open trenches in inactive construction areas to maintain existing bicycle and pedestrian access after construction hours;<br>▪ Coordinate with local schools prior to construction within close proximity of school property to ensure entryways are not blocked during peak drop off and pick up times;<br>▪ Enforce speed limits of construction vehicles on all roads;<br>▪ Notify emergency response providers of road closures at least one week prior to closures and include the location, date, time and duration of the closure; and<br>▪ Abide by encroachment permit conditions, which shall supersede conflicting provisions in the Plans.<br>▪ In addition, vendor trip limitations shall be imposed which would prohibit vendor truck trips on Cuyamaca Street and Magnolia Avenue and requires all truck traffic to use Fanita Parkway for site access. Worker vehicle trips would be allowed on all roadways. | | |
| **INTERSECTIONS** | | | | | |
| TRA-2. | Santee | #1. | *Princess Joann Road/ Cuyamaca Street*<br>As part of the proposed project, this intersection would be constructed as a project design feature. By year 2035 with ambient growth assumed from buildout of the General Plan Land Uses, a cumulative impact would occur. Therefore, to mitigate the cumulative impact, prior to occupancy of the 890$^{th}$ equivalent dwelling unit, the proposed project shall install a traffic signal, provide protected southbound left-turn phasing and provide the following lane geometry: southbound – 1 left lane, 1 thru lane; westbound – 1 shared left lane/right lane; northbound – 1 thru lane, 1 right lane. Implementation of these improvements would mitigate to below a level of significance. | Year 2035 Cumulative | Yes |

TABLE 21–3
MITIGATION MEASURES

| MM# | Jur. | ID | Location | Impact Type | Mitigated to Below Significant Levels? (Yes/No) |
|---|---|---|---|---|---|
| **INTERSECTIONS *(CONTINUED)*** | | | | | |
| TRA-3. | Santee | #3. | *Ganley Road/ Fanita Parkway*<br>Prior to occupancy of the 1,917th equivalent dwelling unit, the proposed project shall install a traffic signal at this intersection and provide SB/NB left-turn protected phasing. Provide the following lane geometry: southbound – 1 left lane, 1 thru/right-turn lane; northbound – 1 left lane, 1 thru lane, 1 right lane; westbound – 1 left lane, 1 shared thru lane/right lane; eastbound – 1 shared left lane/thru lane/right lane. Implementation of these improvements would mitigate the impact to below a level of significance. | Direct & Year 2035 Cumulative | Yes |
| TRA-4. | Santee | #4. | *Woodglen Vista Drive/ Cuyamaca Street*<br>Prior to occupancy of the 2,212th equivalent dwelling unit, the proposed project shall install a traffic signal at this intersection and provide north/south protected phasing and east/west permissive phasing. The following lane geometry shall be provided: southbound – 1 left lane, 1 thru lane; northbound – 1 left lane, 1 thru lane, 1 right lane; westbound – 1 shared left lane/thru lane/right lane; eastbound – 1 shared left lane/thru lane/right lane. Implementation of these improvements would mitigate the impact to below a level of significance. | Direct & Year 2035 Cumulative | Yes |
| TRA-5. | Santee | #6. | *El Nopal/ Cuyamaca Street*<br>Prior to occupancy of the 1,327th equivalent dwelling unit, the proposed project shall install a traffic signal at this intersection and provide north/south protected phasing and east/west permissive phasing. The following lane geometry shall be provided: southbound – 1 left lane, 1 thru lane, 1 shared thru lane/right lane; northbound – 1 left lane, 1 thru lane, 1 shared thru lane/right lane; eastbound – 1 shared left lane/thru lane/right lane; westbound – 1 shared left lane/thru lane/right lane. Implementation of these improvements would mitigate the impact to below a level of significance. | Direct & Year 2035 Cumulative | Yes |
| TRA-6. | County | #8. | *El Nopal/ Los Ranchitos Road*<br>Prior to occupancy of the 2,654th equivalent dwelling unit, the project shall restripe the westbound approach at this intersection to provide the following lane geometry: 1 left lane, 1 thru lane. However, since this intersection is located within the County of San Diego's jurisdiction, the City is without jurisdiction to ensure the construction of the recommended improvements. Therefore, the impact is considered significant and unavoidable. | Direct & Year 2035 Cumulative | No |

TABLE 21–3
MITIGATION MEASURES

| MM# | Jur. | ID | Location | Impact Type | Mitigated to Below Significant Levels? (Yes/No) |
|---|---|---|---|---|---|
| **INTERSECTIONS *(CONTINUED)*** | | | | | |
| TRA-7. | Santee | #9. | *Lake Canyon Road/ Fanita Parkway*<br>Prior to occupancy of the 1,828th equivalent dwelling unit, the project shall install a traffic signal at this intersection and provide northbound/southbound protected phasing. The following lane geometry shall be provided: southbound – 1 left lane, 2 thru lanes; northbound –1 thru lane, 1 shared thru lane/right lane; westbound – 1 left lane, 1 shared left lane/right lane. Implementation of these improvements would mitigate the impact to below a level of significance. | Direct & Year 2035 Cumulative | Yes |
| TRA-8. | Santee | #12. | *Beck Drive/ Cuyamaca Street*<br>Prior to occupancy of the 265th equivalent dwelling unit, the project shall install a traffic signal and provide NB/SB protected phasing. The following lane geometry shall be provided: southbound – 1 left lane, 1 thru lane, 1 shared thru lane/right lane; northbound – 1 left lane, 1 thru lane, 1 shared thru lane/right lane; eastbound – 1 shared left lane/thru lane/right lane; westbound – 1 shared left lane/thru lane/right lane. Implementation of these improvements would mitigate the impact to below a level of significance. | Direct & Year 2035 Cumulative | Yes |
| TRA-9. | San Diego/ Caltrans | #17. | *Mast Boulevard/ SR-52 WB Ramps*<br>Prior to occupancy of the 442nd dwelling unit, the project shall widen the westbound approach at the intersection to provide the following lane geometry: westbound – 1 shared thru-right lane; 2 right lanes, consistent with the improvements proposed in the General Plan Mobility Element. However, since this intersection is located within the City of San Diego's and Caltrans' jurisdictions, the City of Santee is without jurisdiction to ensure the construction of the recommended improvements. Therefore, the impact is considered significant and unavoidable. | Direct & Year 2035 Cumulative | No |
| TRA-10. | San Diego | #18. | *Mast Boulevard/ West Hills Parkway*<br>Prior to occupancy of the 88th equivalent dwelling unit, the proposed project shall widen the intersection to provide the following lane geometry: eastbound – 1 left lane, 3 thru lanes, 1 right lane; westbound – 2 left lanes, 2 thru lanes, 1 shared thru lane/right lane; northbound – 2 left lanes, 1 shared thru lane/right lane; southbound – 1 shared thru lane /left lane, 1 right lane. However, since this intersection is located within the City of San Diego's and Caltrans' jurisdictions, the City of Santee is without jurisdiction to ensure the construction of the recommended improvements. Therefore, the impact is considered significant and unavoidable. | Direct & Year 2035 Cumulative | No |

TABLE 21–3
MITIGATION MEASURES

| MM# | Jur. | ID | Location | Impact Type | Mitigated to Below Significant Levels? (Yes/No) |
|---|---|---|---|---|---|
| **INTERSECTIONS *(CONTINUED)*** | | | | | |
| TRA-11. | Santee | #22. | *Mast Boulevard/ Fanita Parkway*<br>Prior to occupancy of the 2,064th equivalent dwelling unit, the proposed project shall widen the intersection to provide dual southbound right-turn lanes and restripe the eastbound approach to provide dual eastbound left-turn lanes. Implementation of these improvements would mitigate the impact to below a level of significance. | Direct & Year 2035 Cumulative | Yes |
| TRA-12. | Santee | #25. | *Mast Boulevard/ Cuyamaca Street*<br>Prior to occupancy of the 2,212th equivalent dwelling unit, the proposed project shall widen the intersection to provide the following lane geometry: southbound – 1 left lane, 2 thru lanes, 1 right lane; eastbound –2 left turns, 2 thru lanes, 1 right lane. Implementation of these improvements would mitigate the impact to below a level of significance. | Direct & Year 2035 Cumulative | Yes |
| TRA-13. | County/ Caltrans | #37. | *Riverford Road/ SR-67 SB Ramps*<br>Prior to the occupancy of the 442nd equivalent dwelling unit, the proposed project shall install a traffic signal at this intersection. However, since this intersection is located within the County of San Diego's and Caltrans' jurisdictions, the City is without jurisdiction to ensure the construction of the recommended improvements. Therefore, the impact is considered significant and unavoidable. | Direct & Year 2035 Cumulative | No |
| TRA-14. | County | #39. | *Riverford Road/ Woodside Avenue*<br>Prior to occupancy of the 442nd equivalent dwelling unit, the project shall restripe the westbound approach to provide the following lane geometry: 1 thru lane, 1 right lane. However, since this intersection is located within the County of San Diego's jurisdiction, the City is without jurisdiction to ensure the construction of the recommended improvements. Therefore, the impact is considered significant and unavoidable. | Direct & Year 2035 Cumulative | No |

TABLE 21–3
MITIGATION MEASURES

| MM# | Jur. | ID | Location | Impact Type | Mitigated to Below Significant Levels? (Yes/No) |
|---|---|---|---|---|---|
| **INTERSECTIONS *(CONTINUED)*** | | | | | |
| TRA-15. | Santee | #40. | *West Hills Parkway/ Mission Gorge Road*<br>Prior to occupancy of the 237$^{h}$ equivalent dwelling unit, the proposed project shall contribute an 18.5 percent fair share toward restriping the intersection to provide the following lane geometry: westbound – 1 left lane, 1 thru lane, 1 shared thru lane/right lane, 1 right lane, consistent with the improvements proposed in the General Plan Mobility Element. This improvement is not currently identified in the City of Santee Proposed Capital Improvement Program (CIP) Five-Year Budget, FY 2017-2018 through FY 2021-2022. Therefore, the applicant will coordinate with the City to initiate a CIP Project for the proposed project and future development to pay into. This impact would be considered significant and unavoidable until a funding mechanism is established for the proposed improvement. | Year 2035 Cumulative | No |
| TRA-16. | Santee | #45. | *Mission Gorge Road/ Carlton Hills Boulevard*<br>The intersection of Mission Gorge Road/ Carlton Hills Boulevard is currently built to its ultimate Mobility Element configuration and extends to the limits of the existing right-of-way. To widen this intersection, sidewalks would need to be removed or reduced in width, which would result in impacts to non-vehicular modes of travel (pedestrians). Planning and environmental laws recognize the importance of planning for all modes of transportation, including pedestrians, bicyclists, transit riders, and motorists. As such, widening the roadway by removing sidewalks is considered infeasible due to policy considerations. Another option for intersection widening would involve the expansion of current right-of-way through additional property acquisition. Property acquisitions, however, are considered environmentally, financially, and socially infeasible. In many cases, property acquisitions would require demolition of existing buildings which would generate additional environmental impacts associated with construction such as air quality, noise, GHG emissions, solid waste, and traffic. Commercial buildings abutting the sidewalks would be displaced for additional right-of-way causing a direct impact to existing land owners and tenants. For these reasons, mitigation measures that do not require widening were evaluated.<br>Prior to occupancy of the 560$^{th}$ equivalent dwelling unit, the proposed project shall install an Adaptive Traffic Signal Control (ATSC) system along Mission Gorge Road between Fanita Drive and Town Center Parkway. ATSC is a traffic management strategy in which traffic signal timing changes, or adapts, based on actual traffic demand. It employs hardware and software to provide real time adjustments to the signal timing plan based on actual traffic demand. Adaptive traffic | Direct & Year 2035 Cumulative | No |

TABLE 21–3
MITIGATION MEASURES

| MM# | Jur. | ID | Location | Impact Type | Mitigated to Below Significant Levels? (Yes/No) |
|---|---|---|---|---|---|
| | | | signals or "Smart" traffic signals communicate with each other and dynamically adjust signal timings, memorize traffic patterns, improve traffic flow and reduce vehicle stops. The improved conditions resulting from implementation of an ATSC system are evidenced by a decrease in overall travel time through the subject corridor. Therefore, implementation of an ATSC system can result in a decrease in overall travel time, similar to the benefit that physical widening of the road would provide from increased physical capacity. However, implementation of ATSC along Mission Gorge Road does not reduce impacts at the intersection to below significant levels. Therefore, this impact would be considered significant and unavoidable.<br>Additional ASTC documentation is provided in ***Appendix V***. | | |
| TRA-17. | Santee | #47. | *Mission Gorge Road/ Cuyamaca Street*<br>Prior to occupancy of the 2,123rd equivalent dwelling unit, the proposed project shall widen the intersection to provide a dedicated northbound right-turn lane consistent with the improvements proposed in the General Plan Mobility Element. This improvement is identified in the City of Santee Proposed Capital Improvement Program Five-Year Budget, FY 2017-2018 through FY 2021-2022, ensuring that it has a funding mechanism. Implementation of these improvements would mitigate the impact to below a level of significance. | Direct & Year 2035 Cumulative | Yes |
| TRA-18. | Santee | #55. | *Buena Vista Avenue/ Cuyamaca Street*<br>Prior to occupancy of the 206th equivalent dwelling unit, the proposed project shall restripe the westbound approach to provide the following lane geometry: westbound – 1 left lane, 1 shared left lane/thru lane/right lane. The signal shall be modified to provide split phasing in the east/west direction. Implementation of these improvements would mitigate the impact to below a level of significance. | Direct & Year 2035 Cumulative | Yes |

TABLE 21–3
MITIGATION MEASURES

| MM# | Jur. | ID | Location | Impact Type | Mitigated to Below Significant Levels? (Yes/No) |
|---|---|---|---|---|---|
| **STREET SEGMENTS** | | | | | |
| TRA-19. | Santee | #4. | *El Nopal: Magnolia Avenue to Los Ranchitos Road*<br>This segment of El Nopal is currently built to its ultimate Mobility Element classification. Widening along this roadway would be infeasible given the lack of available right-of-way and residential driveways that front this segment. However, "spot" improvements shall be implemented prior to occupancy of the 224th equivalent dwelling unit. A westbound left-turn lane at the Los Ranchitos Road intersection shall be provided to improve the through flow of vehicles along this segment. Dedicated turn pockets on El Nopal shall be provided to allow for turning vehicles to decelerate and queue outside of the through lanes. The removal of turning vehicles from through-traffic lanes have been identified in literature published by the Transportation Research Board (TRB) as one of several principals that improve "the safety and operations of an arterial roadway" (TRB Report S2-C05-RW, 2014). However, even with the identified "spot" improvements, this impact would be significant and unavoidable. | Year 2035 Cumulative | No |
| TRA-20. | County | #5. | *El Nopal: Los Ranchitos to Riverford Road*<br>This segment of El Nopal is located within the County of San Diego and is currently built to its ultimate Mobility Element classification. Widening along this roadway would be infeasible given the lack of available right-of-way and residential driveways that front this segment. However, "spot" improvements shall be implemented prior to occupancy of the 864th equivalent dwelling unit. A westbound left-turn lane at the Los Ranchitos Road intersection shall be provided to improve the through flow of vehicles along this segment. Dedicated turn pockets shall be provided on El Nopal to allow for turning vehicles to decelerate and queue outside of the through lanes. The removal of turning vehicles from through-traffic lanes have been identified in literature published by the Transportation Research Board (TRB) as one of several principals that improve "the safety and operations of an arterial roadway" (TRB Report S2-C05-RW, 2014). In addition, there is a cumulative development (Parkside, formerly Hillside Meadows) in the County that proposes to construct a parallel route to Riverford Road, "Hillside Meadows Drive", that would intersect El Nopal and connect to Mast Boulevard in the south. Completion of this roadway could relieve traffic congestion on this segment of El Nopal approaching Riverford Road by rerouting trips to Mast Boulevard. However, the timing of completion of this roadway network improvement is unknown, is proposed by a private development project, and cannot be assured. In addition, since this segment is located within the County of San Diego's jurisdiction, the City of Santee is without jurisdiction to ensure the construction of the recommended | Direct & Year 2035 Cumulative | No |

## TABLE 21–3
## MITIGATION MEASURES

| MM# | Jur. | ID | Location | Impact Type | Mitigated to Below Significant Levels? (Yes/No) |
|---|---|---|---|---|---|
| | | | improvements. Therefore, the impact is considered significant and unavoidable. | | |
| **STREET SEGMENTS (*CONTINUED*)** | | | | | |
| TRA-21. | San Diego | #6. | *Mast Boulevard: SR-52 to West Hills Parkway*<br>Implementation of Mitigation Measure TRA-9 prior to occupancy of the 1,917th equivalent dwelling unit to improve the access to SR-52 westbound by providing 1 shared thru lane/right lane and dual rights would mitigate the impact along this segment by facilitating the flow of vehicles from Mast Boulevard onto SR-52 westbound. However, since this segment is located within the City of San Diego's jurisdiction, the City of Santee is without jurisdiction to ensure the construction of the recommended improvements. Therefore, the impact is considered significant and unavoidable. | Direct | No |
| TRA-22. | Santee | #16. | *Carlton Oaks Drive: Fanita Parkway to Carlton Hills Boulevard*<br>This segment of Carlton Oaks Drive is currently built to its ultimate Mobility Element classification and extends to the limits of the existing right-of-way. To widen the roadway prior to occupancy of the 1,843rd equivalent dwelling unit, sidewalks or bicycle facilities would need to be removed or reduced in width, which would result in impacts to non-vehicular modes of travel (pedestrians and bicyclists). Planning and environmental laws recognize the importance of planning for all modes of transportation, including pedestrians, bicyclists, transit riders, and motorists. As such, widening the roadway by removing sidewalks and bicycle facilities is considered infeasible due to policy considerations. Another option for roadway widening would involve the expansion of current right-of-way through additional property acquisition. Property acquisitions, however, are considered environmentally, financially, and socially infeasible. In many cases, property acquisitions would require demolition of existing buildings which would generate additional environmental impacts associated with construction such as air quality, noise, GHG emissions, solid waste, and traffic. Residential homes would be displaced for additional right-of-way causing a direct impact to existing residents. For these reasons, mitigation measures for the impacted roadway segments along Carlton Oaks are considered infeasible. Therefore, no additional improvements are recommended and the impact to the roadway would remain significant and unavoidable. | Direct & Year 2035 Cumulative | No |

TABLE 21–3
MITIGATION MEASURES

| MM# | Jur. | ID | Location | Impact Type | Mitigated to Below Significant Levels? (Yes/No) |
|---|---|---|---|---|---|
| **STREET SEGMENTS (*CONTINUED*)** | | | | | |
| TRA-23. | Santee | #30. | *Fanita Parkway: Ganley Road to Lake Canyon Road*<br>Prior to occupancy of the 1,485th equivalent dwelling unit, the proposed project shall widen this segment of Fanita Parkway to a three-lane parkway with a raised median with one northbound lane and two southbound lanes. See *Section 16.1.3* of this report for the three-lane Fanita Parkway analysis.<br>A monitoring program should be established to identify the need for a fourth travel lane along this segment should certain traffic thresholds be met. A detailed discussion of the Fanita Parkway mitigation plan is provided in *Section 21.3.2*.<br>Implementation of these improvements would mitigate the impact to below a level of significance. | Direct & Year 2035 Cumulative | Yes |
| TRA-24. | Santee | #31. | *Fanita Parkway: Lake Canyon Road to Mast Boulevard*<br>Prior to occupancy of the 1,264th equivalent dwelling unit, the proposed project shall widen this section of Fanita Parkway as a four-lane parkway with a raised median with two northbound lanes and two southbound lanes. Implementation of these improvements would mitigate the impact to below a level of significance. | Direct & Year 2035 Cumulative | Yes |
| TRA-25. | Santee | #45. | *Cuyamaca Street: Woodglen Vista Drive to El Nopal*<br>Prior to occupancy of the 155h equivalent dwelling unit, the proposed project shall improve this street segment to its ultimate General Plan Mobility Element classification of a four-lane major road. Implementation of these improvements would mitigate the impact to below a level of significance. | Year 2035 Cumulative | Yes |
| TRA-26. | Santee | #46. | *Cuyamaca Street: El Nopal to Mast Boulevard*<br>Prior to occupancy of the 1,481st equivalent dwelling unit, the proposed project shall reconstruct the median and restripe Cuyamaca Street from El Nopal to Mast Boulevard to four-lane major road standards consistent with the General Plan Mobility Element. Implementation of these improvements would mitigate the impact to below a level of significance. | Direct & Year 2035 Cumulative | Yes |

TABLE 21–3
MITIGATION MEASURES

| MM# | Jur. | ID | Location | Impact Type | Mitigated to Below Significant Levels? (Yes/No) |
|---|---|---|---|---|---|
| **STREET SEGMENTS (*CONTINUED*)** | | | | | |
| TRA-27. | Santee | #50. | *Cuyamaca Street: Mission Gorge Road to SR-52 Ramps*<br>Implementation of Mitigation Measure TRA-17 at the intersection of Mission Gorge Road/Cuyamaca Street and Mitigation Measure TRA-18 at the intersection of Cuyamaca Street/Buena Vista Avenue prior to occupancy of the 2,650th dwelling unit would mitigate this segment impact by improving traffic flow at the key signalized intersections along the segment. A peak hour arterial analysis is provided in *Section 21.5.1*. Implementation of these improvements would mitigate the impact to below a level of significance. | Direct & Year 2035 Cumulative | Yes |
| TRA-28. | County | #64. | *Riverford Road: Riverside Drive to SR-67 Ramps*<br>The existing section of Riverford Road between Riverside Drive and the San Diego River bridge is primarily a three-lane roadway (2 northbound lanes and 1 southbound lane) with a two-way left turn lane. South of the bridge at North Woodside Avenue, it is a two-lane roadway. To mitigate the proposed project's impact, prior to occupancy of the 673rd equivalent dwelling unit the proposed project shall restripe Riverford Road to provide a second SB lane between Riverside Drive and the San Diego River. Currently, there are two southbound lanes on Riverford Road south of the Riverside Drive intersection for approximately 480 feet after which it merges into one lane. The two southbound lanes are proposed to be extended by an additional 320 feet to create additional segment capacity. The current on-street parking and the Class II bike lane in the southbound direction are proposed to be maintained. The proposed 320 feet of widening on the 1,780-foot segment amounts to approximately 18 percent of the roadway. The Year 2035 Project volume of 530 ADT compared to the total Year 2035 volume of 25,430 is about 2 percent of the future traffic on this segment. Thus, the proposed project's contribution to widen 18 percent of the roadway more than exceeds the proposed project's contribution to the future traffic volumes of 2 percent. However, since this segment is located within the County of San Diego's jurisdiction, the City of Santee is without jurisdiction to ensure the construction of the recommended improvements. Therefore, the impact is considered significant and unavoidable. | Direct & Year 2035 Cumulative | No |

TABLE 21–3
MITIGATION MEASURES

| MM# | Jur. | ID | Location | Impact Type | Mitigated to Below Significant Levels? (Yes/No) |
|---|---|---|---|---|---|
| **FREEWAY MAINLINE SEGMENTS** | | | | | |
| TRA-29. | Caltrans | #1. | *SR-52: Santo Road to Mast Boulevard: Eastbound PM Peak Hour*<br>The Fanita Ranch Project applicant has privately funded a Caltrans Project Study Report – Project Development Support (PSR-PDS) for the evaluation of potential improvements to the SR-52 corridor by Caltrans intended to relieve congestion. (See *Appendix Z* for a copy of the PSR-PDS.) Caltrans can and should complete its evaluation and implement of all feasible improvements along the impacted corridor. Insofar as SR-52 is within the exclusive jurisdiction of Caltrans, the City of Santee is without jurisdiction to implement any such improvements. Therefore, the impact is considered significant and unavoidable. | Direct & Year 2035 Cumulative | No |
| TRA-30. | Caltrans | #1. | *SR-52: Santo Road to Mast Boulevard: Westbound AM Peak Hour*<br>The Fanita Ranch Project applicant has privately funded a Caltrans Project Study Report – Project Development Support (PSR-PDS) for the evaluation of potential improvements to the SR-52 corridor by Caltrans intended to relieve congestion. (See *Appendix Z* for a copy of the PSR-PDS.) Caltrans can and should complete its evaluation and implement of all feasible improvements along the impacted corridor. Insofar as SR-52 is within the exclusive jurisdiction of Caltrans, the City of Santee is without jurisdiction to implement any such improvements. Therefore, the impact is considered significant and unavoidable. | Direct & Year 2035 Cumulative | No |
| **VEHICLE MILES TRAVELED** | | | | | |
| TRA-31. | Santee | – | *Fanita Ranch VMT per Capita*<br>The Project should implement the TDM Plan outlined in *Section 19.4* of this report. | — | No |
| | | | *Fanita Ranch VMT per Capita (No School Scenario)*<br>The Project should implement the TDM Plan outlined in *Section 19.4* of this report. | — | No |

***General Notes:***

1. MM# = Mitigation measure number.
2. Jur. = Jurisdiction

### 21.3.2 *Fanita Parkway Monitoring Program*

Fanita Parkway between Ganley Road and Lake Canyon Road is classified as a Two-Lane Parkway on the Mobility Element. With the addition of Project traffic to this roadway, a significant Project impact is calculated. It is therefore recommended that a third southbound lane be constructed to accommodate the additional traffic volumes on this segment and mitigate the Project impact. The information presented in the traffic analysis indicates that the proposed mitigation to construct Fanita Parkway to three lanes results in acceptable LOS conditions based on peak hour intersection, arterial, and queueing analyses between the signalized intersections of Ganley Road and Lake Canyon Road. The results of the peak hour analyses are of particular importance given they show that during the peak periods for traffic flows along Fanita Parkway, when the majority of home-to-work and work-to-home trips are generated by the predominately residential land uses, very efficient operations are calculated (LOS A/B). Peak hour operations (including intersection control delay and average travel speeds) are the primary measures of effectiveness for "Urban Streets" per the Highway Capacity Manual (HCM).

Based on the very good LOS B peak hour operations calculated at the signalized intersections of Fanita Parkway at Ganley Road and Lake Canyon Road, along with good LOS for arterial analyses, construction of the third lane mitigates the Project impact on Fanita Parkway.

Although the impact to Fanita Parkway is less than significant with implementation of the recommended mitigation, implementation of a monitoring program for Fanita Parkway is recommended to potentially require the construction of a second northbound lane, completing the four-lane cross-section.

Three (3) capacity thresholds are presented for use in determining when the fourth lane (second northbound lane) on Fanita Parkway may be required: 1) ADT Volume-to-Capacity; 2) Peak Hour Intersection Analysis; and 3) Travel Speed.

#### *1. ADT Volume-to-Capacity Basis*

The analysis presented in this report assumes the future volume on Fanita Parkway between Ganley Road and Lake Canyon Road is 15,130 ADT. The City of Santee does not currently have a LOS E design capacity for a three-lane roadway, as proposed by the Project. Using the conservative Two-Lane Parkway capacity of 15,000 ADT for a three-lane roadway, the roadway would be forecasted to operate at LOS F on an ADT V/C basis. Applying the same metrics for a Four-Lane Parkway with a LOS E capacity of 40,000 ADT, the roadway would operate at LOS B with a reserve capacity of 24,870 ADT (40,000 ADT – 15,130 ADT). Essentially, this methodology suggests that having a second lane in each direction would provide an additional 25,000 ADT of capacity (12,500 ADT per lane). The trigger for a significant V/C impact along this roadway assuming the 15,000 ADT capacity is 13,000 ADT. Once future volumes on Fanita Parkway regularly exceed 13,000 ADT (as defined below), resulting in LOS E operations for a 15,000 ADT capacity roadway, a fourth lane would be needed in case the roadway fails to meet certain performace thresholds.

### *2. Peak Hour Intersection Basis*

The only intersection between the Project site and Lake Canyon Road where northbound vehicles will potentially need to stop is at the Fanita Parkway/ Ganley Road signalized intersection. Therefore, this intersection "controls" the traffic flow along Fanita Parkway between the Project site and Lake Canyon Road. The results of the peak hour intersection analysis assuming Fanita Parkway as a three-lane roadway at the Fanita Parkway/Ganley Road intersection show LOS A operations. This assumes 47% of Project trips use this route, per the custom SANDAG SZA prepared for the Project. The PM peak hour delay in the northbound direction is calculated at 7.7 seconds/LOS A. Per the HCM, LOS E operations are calculated once delays exceed 55.0 seconds. However, for purposes of being conservative, the LOS C threshold of 20.0 seconds was applied as a measure of deficient operations at the intersection of Fanita Parkway/ Ganley Road. Thus, the trigger for a significant peak hour impact along this roadway would be delays exceeding 20.0 seconds at the intersection of Fanita Parkway/ Ganley Road. Once future peak hour delays in the PM northbound direction regularly exceed this 20.0 second threshold (as defined below), resulting in LOS C operations, a fourth lane would be needed.

### *3. Arterial Speed Basis*

Fanita Parkway serves as a primary route to Mast Boulevard, and ultimately to SR-52 for peak freeway commuter trips. Its design as a 40 MPH roadway with no fronting driveways and minimal intersections classifies Fanita Parkway as a Class II arterial per the HCM. As shown in the peak hour arterial analysis conducted earlier in this report, northbound speeds are calculated at approximately 28.0 MPH in the future, resulting in LOS B operations. A Class II arterial is measured at LOS E conditions once speeds decrease to below 17 MPH. However, for purposes of being conservative, the Class II LOS C speed of 28 MPH was applied as a measure of deficient operations. Thus, the trigger for a significant arterial speed impact along this roadway would be speeds equal to or lower than 28 MPH. Should the future observed average speed on Fanita Parkway between Ganley Road and Lake Canyon Road be lower than 28 MPH taking into account intersection delay at Ganley Road, a fourth lane would be needed.

### *Conclusions*

The Project proposes to mitigate Fanita Parkway between Ganley Road and Lake Canyon Road by constructing a second southbound lane, completing a Three-Lane Parkway design, prior to the occupancy of the 1,485$^{th}$ dwelling unit. Once this mitigation is completed, the roadway is anticipated to operate at acceptable LOS conditions. Nonetheless, it is recommended that the Project initiate a Monitoring Program upon the volume measured on Fanita Parkway between Ganley Road and Lake Canyon Road reaching 13,000 ADT. Once the 13,000 ADT threshold is met, ADT data will continue to be collected at this location on Fanita Parkway and at every 500$^{th}$ ADT increment (13,500 ADT, 14,000 ADT, etc.), a peak hour intersection analysis and arterial speed assessment would be conducted, and upon build-out of the Project, and the second anniversary of such build-out as determined by the City Engineer, the Monitoring Program will expire. The Monitoring Program would be implemented by collecting various data metrics along the roadway based on the three (3) thresholds detailed above.

1. **ADT Volume-to-Capacity:** Install a count station between Lake Canyon Road and Ganley Road or another counting capability at the Fanita Parkway/ Ganley Road signal to allow continuing ADT collection that is accessible from City Hall. A continuous weekday ADT count between Ganley Road and Lake Canyon Road shall be conducted to determine the amount of vehicular traffic on this segment. Should volumes exceed 13,000 trips, initiation of the Monitoring Program shall commence. The specifics of the ADT monitoring of Fanita Parkway will be conducted to the satisfaction of the City Engineer.

2. **Peak Hour Intersection Analysis:** Peak hour intersection counts at the Fanita Parkway/Ganley Road intersection shall be collected to the satisfaction of the City Engineer. An LOS analysis would be conducted by a licensed traffic engineer and should the northbound PM delay exceed LOS C, 20 seconds, the Peak Hour Intersection threshold would be exceeded.

3. **Arterial Speed:** A weekday speed survey shall be conducted on Fanita Parkway between Ganley Road and Lake Canyon Road to the satisfaction of the City Engineer. If the PM peak hour arterial speeds are determined to be less than LOS C (28 MPH) in the northbound direction, taking into consideration the intersection delay at Ganley Road, the Arterial Speed threshold would be exceeded.

These thresholds are based on various metrics specified to establish the necessity and timeframe for constructing the fourth lane: 1. ADT Volume-to-Capacity, 2. Peak Hour Intersection, and 3. Arterial Speed. It is recommended that once the 13,000 ADT threshold is met and the Monitoring Program commences, if one (1) of the two (2) remaining thresholds are met, the fourth lane should be constructed, to the satisfaction of the City Engineer.

## 21.4 Mitigation Phasing

An analysis was conducted at each of the impacted locations to determine the number of units that could be built before a significant Project impact would occur. The Project consists of various types of dwelling units and non-residential development. In order to determine the timing of when each mitigation measure is needed, the entire Project was converted to “Equivalent Dwelling Units” (EDU). A weighted average trip rate was determined. The Total External Project ADT / Total number of Residential Units equals weighted average trip rate:

i.e., 26,272 trips / 2,949 DU or, 8.91 trips per EDU.

A trial and error exercise was conducted to determine the number of EDUs which could be built before each impact would occur. Many of the impacted locations occur under Existing + Project, Existing + Cumulative Projects + Project, and Year 2035 + Project conditions. The Existing + Cumulative Projects + Project scenario was selected for identifying the Project EDU “trigger”. For any impact that only occurs in the Year 2035, Year 2035 conditions were used in the EDU trigger analysis.

As discussed throughout this report, since the completion of this transportation analysis, the Project Description has slightly changed, resulting in a shift between residential densities, changes to park

acreage, and a reduction in school students from 1,000 to 700 students. With these changes, the resulting trip generation decreases as compared to the numbers analyzed in this report and no new impacts would occur. Therefore, the analysis presented herein provides a conservative assessment of the local transportation system. The EDU triggers were calculated based on the land use and trip generation assumptions analyzed in this report.

***Table 21–4*** summarizes the number of EDUs that may be built and occupied, before each mitigation measure is required at intersections, street segments, and on freeway mainline segments.

It should be noted that the Development Agreement between the City of Santee and applicant would prohibit the issuance of any certificates of occupancy within the Fanita Ranch Project until the SR-52 corridor improvements addressed in *Section 21.3.1* of this report have been installed by Caltrans.

***Intersection Impacts***

For each intersection, Project-only peak hour volumes were multiplied by a given percent and added to baseline volumes to identify the point at which the impact would occur. The starting percentage, low enough not to trigger an impact, was then incrementally increased until the point at which the impact occurs was identified. Generally, this would be where intersection LOS deteriorates from LOS D to LOS E, though for intersections operating at LOS E or worse without the Project, it would be the point at which the increase in average delay due to the Project exceeds the 2.0 second threshold. The percent of Project trips at which the impact would occur was then related back to EDUs as well as the total Project ADT. ***Appendix W*** contains the intersection analysis sheets associated with the threshold operations identified for each intersection.

***Segment impacts***

For each street segment, the allowable ADT that can be added to each segment before triggering a significant impact was identified. This is then calculated as a percent of the total Project ADT on a given segment. The percent of total Project ADT that would be on the threshold of triggering a significant impact is then related back to EDUs.

TABLE 21–4
MITIGATION PHASING ANALYSIS

| MM# | ID | Location | Impact Type | Total Project ADT | EDU |
|---|---|---|---|---|---|
| **INTERSECTIONS** | | | | | |
| TRA-2. | #1. | Princess Joann Road/ Cuyamaca Street | Year 2035 Cumulative | 7,930 | 890 |
| TRA-3. | #3. | Ganley Road/ Fanita Parkway | Direct & Year 2035 Cumulative | 17,077 | 1,917 |
| TRA-4. | #4. | Woodglen Vista Drive/ Cuyamaca Street | Direct & Year 2035 Cumulative | 19,704 | 2,212 |
| TRA-5. | #6. | El Nopal/ Cuyamaca Street | Direct & Year 2035 Cumulative | 11,822 | 1,327 |
| TRA-6. | #8. | El Nopal/ Los Ranchitos Road | Direct & Year 2035 Cumulative | 23,645 | 2,654 |
| TRA-7. | #9. | Lake Canyon Road/ Fanita Parkway | Direct & Year 2035 Cumulative | 16,289 | 1,828 |
| TRA-8. | #12. | Beck Drive/ Cuyamaca Street | Direct & Year 2035 Cumulative | 2,364 | 265 |
| TRA-9. | #17. | Mast Boulevard/ SR-52 WB Ramps | Direct & Year 2035 Cumulative | 3,941 | 442 |
| TRA-10. | #18. | Mast Boulevard/ West Hills Parkway | Direct & Year 2035 Cumulative | 788 | 88 |
| TRA-11. | #22. | Mast Boulevard/ Fanita Parkway | Direct & Year 2035 Cumulative | 18,390 | 2,064 |
| TRA-12. | #25. | Mast Boulevard/ Cuyamaca Street | Direct & Year 2035 Cumulative | 19,704 | 2,212 |
| TRA-13. | #37. | Riverford Road/ SR-67 SB Ramps | Direct & Year 2035 Cumulative | 3,941 | 442 |
| TRA-14. | #39. | Riverford Road/ Woodside Avenue | Direct & Year 2035 Cumulative | 3,941 | 442 |
| TRA-15. | #40. | West Hills Parkway/ Mission Gorge Road | Year 2035 Cumulative | 2,115 | 237 |
| TRA-16. | #45. | Mission Gorge Road/ Carlton Hills Boulevard | Direct & Year 2035 Cumulative | 4,992 | 560 |
| TRA-17. | #47. | Mission Gorge Road/ Cuyamaca Street | Direct & Year 2035 Cumulative | 18,916 | 2,123 |
| TRA-18. | #55. | Buena Vista Avenue/ Cuyamaca Street | Direct & Year 2035 Cumulative | 1,839 | 206 |

*(Continued on Next Page)*

TABLE 21–4
MITIGATION PHASING ANALYSIS

| MM# | ID | Location | Impact Type | Total Project ADT | EDU |
|---|---|---|---|---|---|
| *(Continued from Previous Page)* | | | | | |
| **STREET SEGMENTS** | | | | | |
| TRA-19. | #4. | El Nopal: Magnolia Avenue to Los Ranchitos Road | Year 2035 Cumulative | 2,000 | 224 |
| TRA-20. | #5. | El Nopal: Los Ranchitos Road to Riverford Road | Direct & Year 2035 Cumulative | 7,700 | 864 |
| TRA-21. | #6. | Mast Boulevard: SR-52 to West Hills Parkway | Direct | 17,080 | 1,917 |
| TRA-22. | #16. | Carlton Oaks Drive: Fanita Parkway to Carlton Hills Boulevard | Direct & Year 2035 Cumulative | 16,418 | 1,843 |
| TRA-23. | #30. | Fanita Parkway: Ganley Road to Lake Canyon Road | Direct & Year 2035 Cumulative | 13,230 | 1,485 |
| TRA-24. | #31. | Fanita Parkway: Lake Canyon Road to Mast Boulevard | Direct & Year 2035 Cumulative | 11,260 | 1,264 |
| TRA-25. | #45. | Cuyamaca Street: Woodglen Vista Drive to El Nopal | Year 2035 Cumulative | 1,379 | 155 |
| TRA-26. | #46. | Cuyamaca Street: El Nopal to Mast Boulevard | Direct & Year 2035 Cumulative | 13,197 | 1,481 |
| TRA-27. | #50. | Cuyamaca Street: Mission Gorge Road to SR-52 Ramps | Direct & Year 2035 Cumulative | 23,610 | 2,650 |
| TRA-28. | #64. | Riverford Road: Riverside Drive to SR-67 Ramps | Direct & Year 2035 Cumulative | 6,000 | 673 |
| **FREEWAY MAINLINE SEGMENTS** | | | | | |
| TRA-29. | #1. | SR-52: Santo Road to Mast Boulevard: Eastbound PM Peak Hour | Direct & Year 2035 Cumulative | 2,497 | 280 |
| TRA-30. | #1. | SR-52: Santo Road to Mast Boulevard: Westbound AM Peak Hour | Direct & Year 2035 Cumulative | 2,560 | 287 |

***General Notes:***

1. MM# = Mitigation Measure number
2. ADT = Average daily trips by the Project
3. EDU = Equivalent dwelling units calculated per *Section 21.4*.

## 21.5 Post-Mitigation Operations

***Table 21–5*** summarizes the pre- and post-mitigation levels of service at the intersections, street segments, and freeway mainline segments for all impacted scenarios. The mitigation proposed for existing + project direct impacts is the same for near-term direct impacts. Therefore, the pre- and post-mitigation analysis is shown for the worst-case near-term condition. For locations also impacted in the Year 2035 cumulative condition, the pre- and post-mitigation levels of service are shown under this worst-case scenario. VMT reductions are also shown for significant VMT impacts.

The analysis worksheets of the mitigated intersections are included in ***Appendix X***.

TABLE 21–5
POST-MITIGATION ANALYSIS

| MM# | Intersection | Jur. | Control Type | Peak Hour | Pre-Mitigation Operations [c] | | | | Post Mitigation | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Without Project | | With Project | | | |
| | | | | | Delay [a] | LOS [b] | Delay | LOS | Delay | LOS |
| TRA-2. | #1. Princess Joann Rd/ Cuyamaca St | Santee | MSSC/ Signal | AM | 17.8 | C | 49.0 | E | 8.6 | A |
| | | | | PM | — | — | — | — | — | — |
| TRA-3. | #3. Ganley Rd/ Fanita Pkwy | Santee | MSSC/ Signal | AM | 17.9 | C | >100.0 | F | 8.4 | A |
| | | | | PM | 18.7 | C | 93.9 | F | 7.7 | A |
| TRA-4. | #4. Woodglen Vista Drive/ Cuyamaca Street | Santee | AWSC/ Signal | AM | 26.6 | D | >100.0 | F | 15.8 | B |
| | | | | PM | 98.7 | F | >100.0 | F | 9.4 | A |
| TRA-5. | #6. El Nopal/ Cuyamaca Street | Santee | AWSC/ Signal | AM | >100.0 | F | >100.0 | F | 12.2 | B |
| | | | | PM | >100.0 | F | >100.0 | F | 8.3 | A |
| TRA-6. | #8. El Nopal/ Los Ranchitos Road [d] | County | AWSC | AM | — | — | — | — | — | — |
| | | | | PM | 29.3 | D | 45.5 | E | 20.6 | C |
| TRA-7. | #9. Lake Canyon Road/ Fanita Parkway | Santee | AWSC/ Signal | AM | 15.8 | C | >100.0 | F | 6.4 | A |
| | | | | PM | 35.0 | D | >100.0 | F | 7.2 | A |
| TRA-8. | #12. Beck Drive/ Cuyamaca Street | Santee | AWSC/ Signal | AM | >100.0 | F | >100.0 | F | 7.7 | A |
| | | | | PM | >100.0 | F | >100.0 | F | 7.0 | A |
| TRA-9. | #17. Mast Boulevard/ SR-52 WB Ramps [d] | San Diego/ Caltrans | Signal | AM | >100.0 | F | >100.0 | F | 61.3 | E |
| | | | | PM | — | — | — | — | — | — |
| TRA-10. | #18. Mast Boulevard/ West Hills Parkway [d, e] | San Diego | Signal | AM | 160.0 | F | 193.7 | F | 101.3 | F |
| | | | | PM | 68.3 | E | 94.3 | F | 50.2 | D |
| TRA-11. | #22. Mast Boulevard/ Fanita Parkway | Santee | Signal | AM | 73.7 | E | >100.0 | F | 67.2 | E |
| | | | | PM | 56.9 | E | >100.0 | F | 41.3 | D |
| TRA-12. | #25. Mast Boulevard/ Cuyamaca Street | Santee | Signal | AM | 55.2 | E | 78.0 | E | 46.2 | D |
| | | | | PM | >100.0 | F | >100.0 | F | 57.3 | E |
| TRA-13. | #37. Riverford Road/ SR-67 SB Ramps [d] | County/ Caltrans | MSSC | AM | >200.0 | F | >200.0 | F | 100.9 | F |
| | | | | PM | >200.0 | F | >200.0 | F | 58.7 | E |
| TRA-14. | #39. Riverford Road/ Woodside Avenue [d] | County | Signal | AM | 96.9 | F | >100.0 | F | 39.9 | D |
| | | | | PM | — | — | — | — | — | — |
| TRA-15. | #40. West Hills Parkway/ Mission Gorge Road | Santee | Signal | AM | >100.0 | F | >100.0 | F | 52.7 | D |
| | | | | PM | — | — | — | — | — | — |
| TRA-16. | #45. Mission Gorge Road/ Carlton Hills Boulevard | Santee | Signal | AM | 83.1 | F | >100.0 | F | [f] | [f] |
| | | | | PM | 56.3 | E | 66.8 | E | [f] | [f] |
| TRA-17. | #47. Mission Gorge Road/ Cuyamaca Street | Santee | Signal | AM | — | — | — | — | — | — |
| | | | | PM | 79.0 | E | 88.5 | F | 59.1 | E |
| TRA-18. | #55. Buena Vista Avenue/ Cuyamaca Street | Santee | Signal | AM | — | — | — | — | — | — |
| | | | | PM | >100.0 | F | >100.0 | F | 66.5 | E |

| MM# | Street Segment | Jur. | Capacity | Pre-Mitigation Operations | | | | Post Mitigation | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Without Project | | With Project | | | |
| | | | | ADT | LOS | ADT | LOS | Capacity | LOS |
| TRA-19. | #4. El Nopal: Magnolia Avenue to Los Ranchitos Road | Santee | 15,000 | 12,800 | D | 14,960 | E | [g] | [g] |
| TRA-20. | #5. El Nopal: Los Ranchitos to Riverford Road [d] | County | 16,200 | 13,700 | E | 15,860 | E | [g] | [g] |
| TRA-21. | #6. Mast Boulevard: SR-52 to West Hills Parkway [d] | San Diego | 40,000 | 30,730 | D | 37,300 | E | [h] | [h] |
| TRA-22. | #16. Carlton Oaks Drive: Fanita Parkway to Carlton Hills Boulevard | Santee | 15,000 | 13,200 | E | 14,050 | E | [i] | [i] |
| TRA-23. | #30. Fanita Parkway: Ganley Road to Lake Canyon Road | Santee | 10,000 | 10,160 | F | 15,130 | F | [j] | [j] |
| TRA-24. | #31. Fanita Parkway: Lake Canyon Road to Mast Boulevard | Santee | 10,000 | 10,910 | F | 15,460 | F | 40,000 | A |

*(Continued on Next Page)*

TABLE 21–5
POST-MITIGATION ANALYSIS

*(Continued from Previous Page)*

| MM# | Street Segment | Jur. | Capacity | Pre-Mitigation Operations | | | | Post Mitigation | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Without Project | | With Project | | | |
| | | | | ADT | LOS | ADT | LOS | Capacity | LOS |
| TRA-25. | #45. Cuyamaca Street: Woodglen Vista Drive to El Nopal | Santee | 15,000 | 12,600 | D | 14,730 | E | 40,000 | A |
| TRA-26. | #46. Cuyamaca Street: El Nopal to Mast Boulevard | Santee | 15,000 | 16,500 | F | 18,630 | F | 40,000 | B |
| TRA-27. | #50. Cuyamaca Street: Mission Gorge Road to SR-52 Ramps | Santee | 50,000 | 49,600 | E | 50,660 | F | [k] | [k] |
| TRA-28. | #64. Riverford Road: Riverside Drive to SR-67 Ramps [d] | County | 23,500 | 24,900 | F | 25,430 | F | 24,580 [l] | F |
| **MM#** | **Freeway Mainline Segment** | **Jur.** | **—** | **Pre-Mitigation Operations** | | | | **Post Mitigation** | |
| | | | | **Without Project** | | **With Project** | | | |
| | | | | **V/C [e]** | **LOS** | **V/C** | **LOS** | **V/C** | **LOS** |
| TRA-29. | #1. SR-52: Santo Road to Mast Boulevard: Eastbound [d] | Caltrans | — | 1.215 | F | 1.245 | F | [m] | [m] |
| TRA-30. | #1. SR-52: Santo Road to Mast Boulevard: Westbound [d] | Caltrans | — | 1.314 | F | 1.351 | F | [m] | [m] |

| MM# | Existing City of Santee VMT Per Capita | City of Santee VMT Per Capita Threshold (85% of Existing) | Pre-Mitigation Project VMT per Capita | | % Decrease in VMT due to TDM Plan | | Post-Mitigation Project VMT per Capita | |
|---|---|---|---|---|---|---|---|---|
| | | | Project | "No School" Project | Project | "No School" Project | Project | "No School" Project |
| TRA-31. | 22.4 | 19.04 | Existing 25.60 | Existing 28.00 | 13.7% | 12.0% | Existing 22.30 | Existing 24.89 |
| | | | Year 2035 23.45 | Year 2035 25.70 | 13.7% | 12.0% | Year 2035 20.24 | Year 2035 22.62 |

***Footnotes:***

a. Average delay expressed in second per vehicle.
b. Level of service.
c. For locations where impacts occur as a near-term direct and cumulative impact only, Existing + Cumulative Projects conditions LOS is provided. For locations where a long-term cumulative impact is calculated, Year 2035 conditions LOS is provided.
d. The City of Santee is without jurisdiction to ensure the construction of the recommended improvements for mitigation measures proposed within Caltrans' and the City and County of San Diego jurisdictions. Therefore, these impacts are considered significant and unmitigated
e. Both the near-term direct and Year 2035 cumulative mitigation measures would mitigate this impact. However, since this intersection is located within City of San Diego's jurisdiction, the City of Santee is without jurisdiction to ensure the construction of the recommended improvements. Therefore, the impact is considered significant and unmitigated.
f. Adaptive Traffic Signal Controls.
g. These segments of El Nopal within both City of Santee and County of San Diego jurisdictions are currently built to their ultimate Mobility Element classifications. Widening along El Nopal would be infeasible given the lack of available right-of-way and residential driveways that front these segments. However, it is recommended that "spot" improvements be implemented. The provision of a WB left-turn lane at the Los Ranchitos Road intersection would improve the through flow of vehicles along these segments.
h. The improvements recommended in TRA-9 to improve the SR-52 WB Ramps at Mast Boulevard would mitigate this segment impact.
i. This segment of Carlton Oaks Drive is currently built to its ultimate Adopted Mobility Element classification and no right-of-way is available to widen the roadway. Consistent with the findings in the Mobility Element Update Traffic Study, the intersections along this section of Carlton Oaks Drive operate at LOS C or better during the peak hours. The additional trips added to this segment by the Project equate to about 33 peak hour trips, or approximately one extra trip every two minutes during peak hours. These additional peak hour trips do not result in significant peak hour impacts along Carlton Oaks Drive. Therefore, no additional improvements are recommended and the impact to the roadway would remain significant and unmitigated.
j. *Section 16.1.3* of this report provides the peak hour intersection, queuing, and arterial analysis of Fanita Parkway as a 3-lane roadway operating at LOS C or better. Therefore, the impact is mitigated to below significant levels.
k. Implementation of MM# TRA-17 at the intersection of Mission Gorge Road / Cuyamaca Street and MM# TRA-18 at the intersection of Cuyamaca Street / Buena Vista Avenue would mitigate this segment impact by improving traffic flow along the segment. A peak hour arterial analysis was conducted showing the improvements increase speeds to better than pre-Project levels. See *Section 21.5.1*.
l. With the lengthening of the additional SB lane by 320 feet, the proportion of the roadway that is now four-lanes is approximately 62%. Combining the 4.2B Boulevard and 2.2B Light Collector capacities at 62% 4-lanes and 38% 2-lanes arrives at a mitigated LOS F capacity of 24,580 ADT, thus enhancing the roadway capacity to better than pre-Project conditions. Regardless, the impact is shown to be significant and unmitigated.
m. The operations of SR-52 with potential widening improvements are being studied under the State Route 52 PSR-PDS. See *Appendix Z.*

***General Notes:***

1. MM# = Mitigation measure number.
2. Sig = Significant impact post-mitigation?
3. Mitigation provided for locations currently operating at LOS E or F are required to improve operations to better than or equal to pre-Project conditions only.
4. Jur. = Jurisdiction
5. Control Type: "TWSC"/"Signal" indicates pre- and post-mitigation control type.

### 21.5.1 *Peak Hour Arterial Analysis – Cuyamaca Street*

The segment impact at TRA-27 Segment #50: Cuyamaca Street: Mission Gorge Road to SR-52 Ramps would be mitigated by the implementation of MM# TRA-17 at the intersection of Mission Gorge Road/ Cuyamaca Street and MM# TRA-18 at the intersection of Cuyamaca Street / Buena Vista Avenue by improving traffic flow along the segment. As discussed for the segments of Fanita Parkway and Cuyamaca Street in previous sections of this report, daily street segment analysis lacks the precision of peak hour arterial analysis, which takes into account more detailed traffic flow patterns, intersection controls, and roadway features. ***Table 21–6*** summarizes peak hour arterial operations on this segment with the mitigation measures proposed at the intersections of Cuyamaca Street at Mission Gorge Road and Buena Vista Road. As shown in *Table 21–6*, the peak hour arterial operations show improvements to LOS as compared to the daily calculation. The speeds along this segment are shown to increase over baseline Year 2035 conditions with implementation of Project mitigation at the two (2) intersections. Thus, the recommended intersection improvements mitigate the Project impact to below significant levels.

Post-mitigation peak hour arterial worksheets are included in *Appendix W*.

TABLE 21–6
PEAK HOUR ARTERIAL ANALYSIS (POST-MITIGATION)
TRA-27: CUYAMACA STREET: MISSION GORGE ROAD TO SR 52

| Dir. | Segment | Year 2035 | | | | Year 2035 + Project (Post Mitigation) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | AM | | PM | | AM | | | PM | | |
| | | Speed [a] | LOS [b] | Speed | LOS | Speed | LOS | Δ [c] | Speed | LOS | Δ |
| NB | Buena Vista Ave to Mission Gorge Rd | 13.6 | E | 5.5 | F | 19.4 | C | 5.8 | 10.7 | E | 5.2 |
| SB | Mission Gorge Rd to Buena Vista Ave | 19.7 | C | 15.9 | D | 23.3 | C | 3.6 | 16.1 | D | 0.2 |

***Footnotes:***

a. Speed measured in miles per hour.
b. LOS = Level of Service
c. Increase in speed shown with the Project recommended mitigation.

***General Notes***

1. Dir. = Direction
2. NB = Northbound
3. SB = Southbound
4. Mitigation measures to TRA-17 and TRA-18 to improve operations at the intersections at either end of this segment of Cuyamaca Street are assumed for mitigated conditions.

SPEED (MPH) / LOS THRESHOLDS

| LOS | Class I | Class II | Class III | Class IV |
|---|---|---|---|---|
| A | >42 | >35 | >30 | >25 |
| B | >34-42 | >28-35 | >24-30 | >19-25 |
| C | >27-34 | >22-28 | >18-24 | >13-19 |
| D | >21-27 | >17-22 | >14-18 | >9-13 |
| E | >16-21 | >13-17 | >10-14 | >7-9 |
| F | ≤ 16 | ≤ 13 | ≤ 10 | ≤ 7 |

## 21.6 Fair Share Calculations

***Table 21–7*** provides the fair share calculations. Fair share calculations were completed using the trips associated with the development of the total Project and the Year 2035 With Project traffic volumes. The formula used to calculate the fair share percentages is based on the regionally accepted standard:

$$\text{Fair Share \%} = \frac{\text{Project Traffic Volumes}}{\text{Buildout (With Project) Traffic Volumes} - \text{Existing Traffic Volumes}}$$

For intersections, the combined AM + PM peak hour volumes were used to calculate the fair share percentages.

TABLE 21–7
FAIR SHARE CALCULATIONS

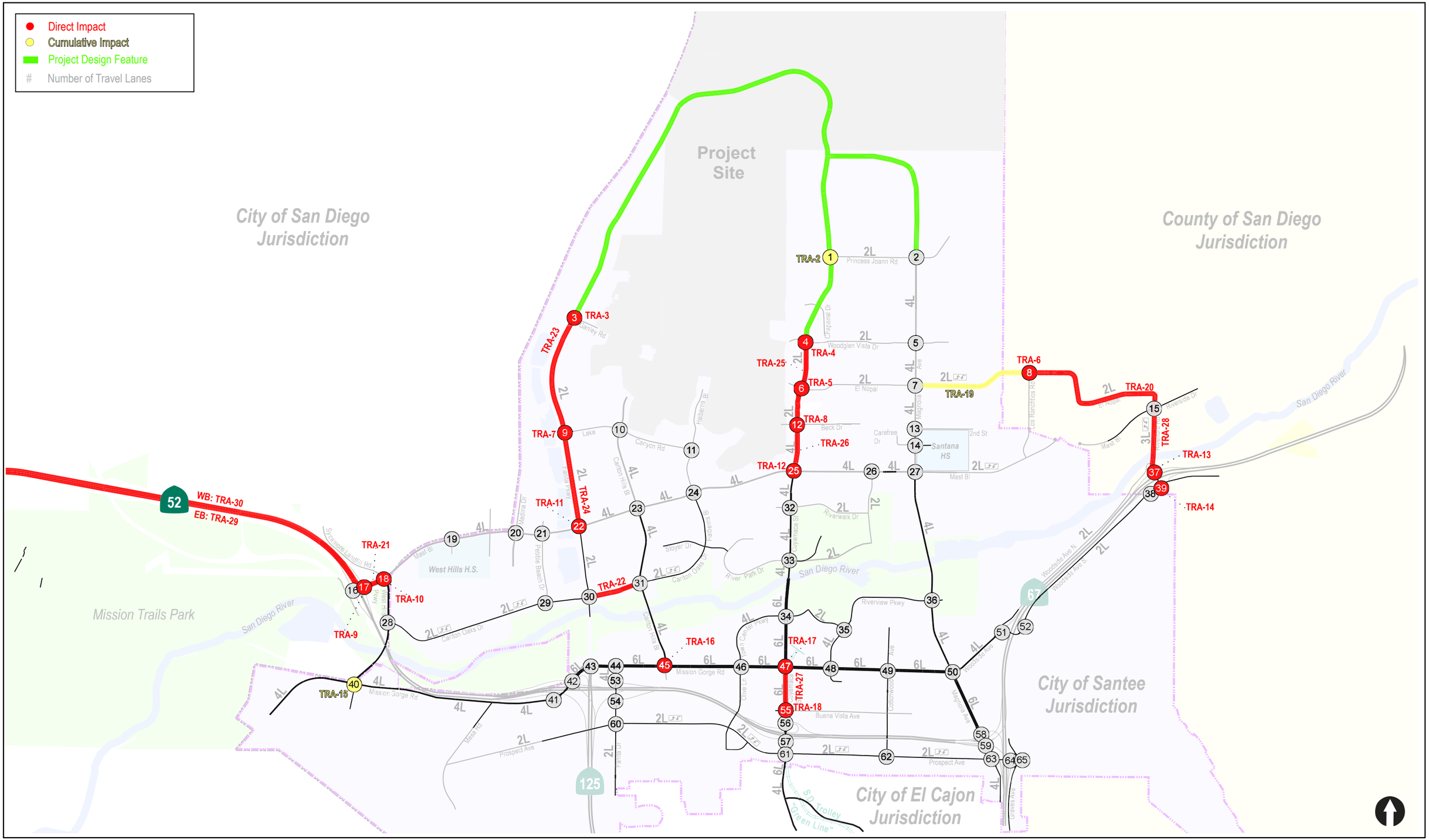
| MM# | Location | Formula | Fair Share % [a] |
|---|---|---|---|
| TRA-15 | Intersection #40.<br>West Hills Parkway/ Mission Gorge Road | $\frac{498}{(7{,}458 - 4{,}763)} =$ | 18.5% |

***Footnotes:***

a. Fair share percentage formula calculated using location-specific traffic volumes: Project ÷ (Buildout – Existing)

***General Notes:***

1. Intersection fair share calculations use the total AM + PM peak hour volumes for all approaches.

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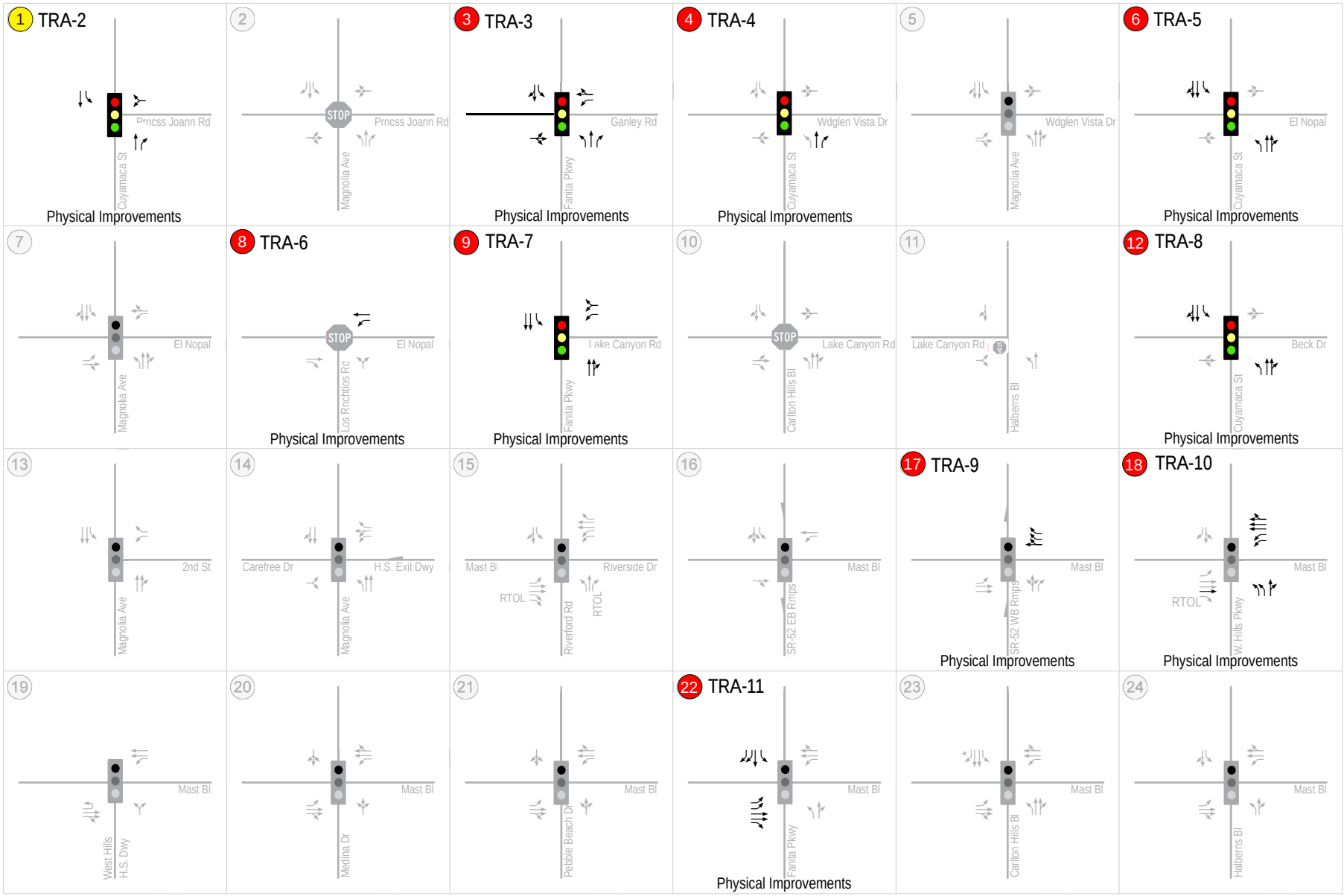
Date: 01/15/20

Figure 21-1

**Project Design Features, Impacts & Mitigation Measures**

Fanita Ranch

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Date: 12/17/19

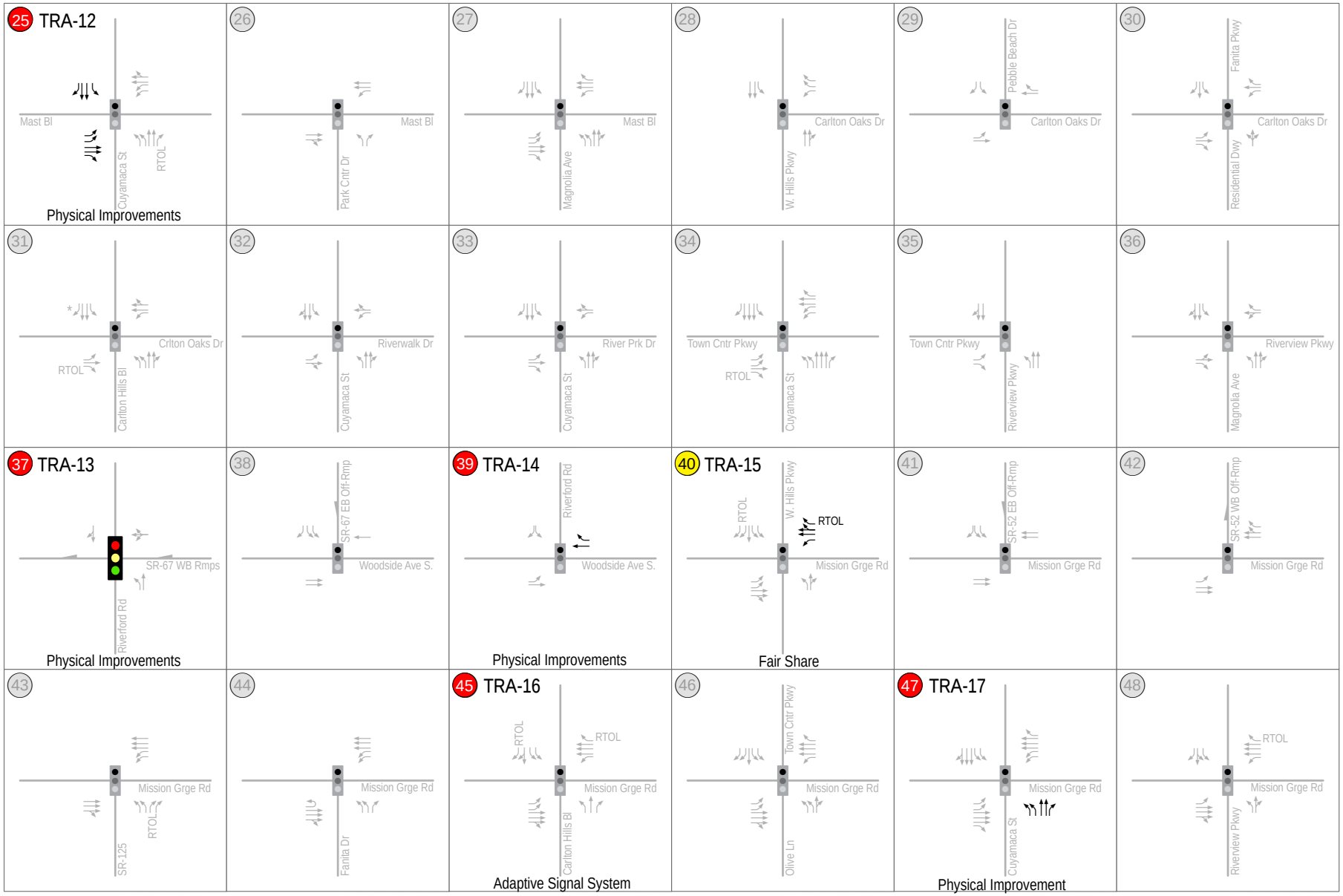
- Direct Impact
- Cumulative Impact
- Turn Lane Configurations
- Intersection Control
- RTOL Right-Turn Overlap
- * Sneaker Lane

Planned improvements shown in Bold

**Figure 21-1**
**(1 of 3)**

# Project Design Features, Impacts & Mitigation Measures

FANITA RANCH

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N:\2462\Figures
Date: 12/17/19

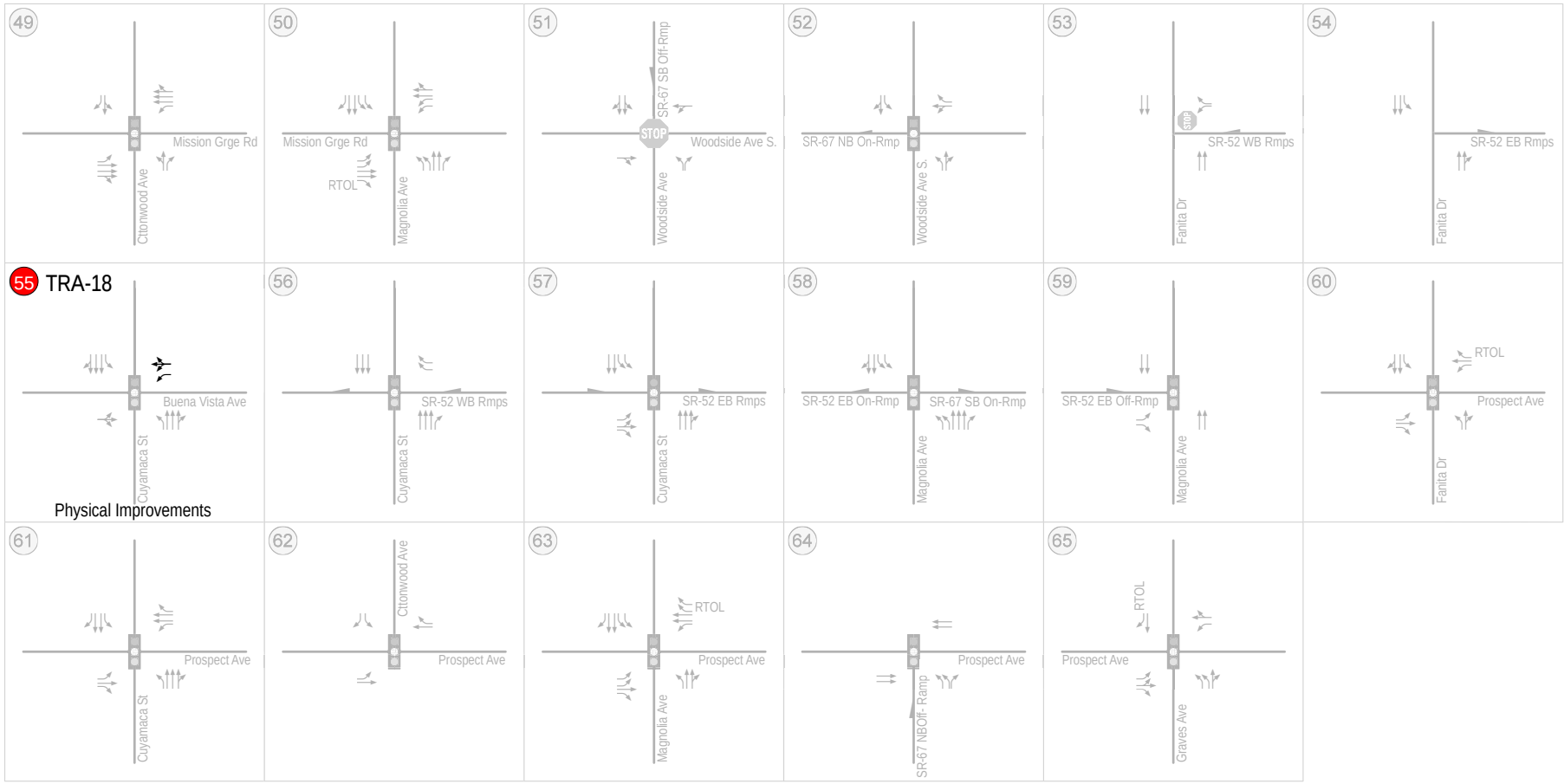
- Direct Impact
- Cumulative Impact
- Turn Lane Configurations
- Intersection Control
- RTOL Right-Turn Overlap
- * Sneaker Lane

Planned improvements shown in **Bold**

**Figure 21-1**
**(2 of 3)**

# Project Design Features, Impacts & Mitigation Measures

FANITA RANCH

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N:\2462\Figures
Date: 12/17/19

Direct Impact
Cumulative Impact
Turn Lane Configurations
Intersection Control
RTOL Right-Turn Overlap
Planned improvements shown in Bold

**Figure 21-1**
**(3 of 3)**

# Project Design Features, Impacts & Mitigation Measures

FANITA RANCH

***End of Report***

LINSCOTT LAW & GREENSPAN engineers

# TECHNICAL APPENDICES
# FANITA RANCH

Santee, California
March 25, 2020

LLG Ref. 3-15-2462

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# APPENDICES

APPENDIX

A. City of Santee, County of San Diego, and City of San Diego Roadway Classification Tables

B. Intersection and Segment Manual Count Sheets, Caltrans Freeway Volumes

C. Existing Peak Hour Analyses
   1. Synchro Intersection Sheets
   2. HCS Freeway Sheets

D. Trip Generation – Proposed Specific Plan Land Use

E. SANDAG Series 12 Select Zone Assignment (SZA) – Mobility Element Model Year 2035

F. Existing + Project Peak Hour Analyses
   1. Synchro Intersection Sheets
   2. HCS Freeway Sheets

G. Cumulative Projects Traffic Volume Assignment

H. Existing + Cumulative Projects Peak Hour Analyses
   1. Synchro Intersection Sheets
   2. HCS Freeway Sheets

I. Existing + Cumulative Projects + Project Peak Hour Analyses
   1. Synchro Intersection Sheets
   2. HCS Freeway Sheets

J. Year 2035 Baseline Project Peak Hour Analyses
   1. Synchro Intersection Sheets
   2. HCS Freeway Sheets

K. Year 2035 With Project Peak Hour Analyses
   1. Synchro Intersection Sheets
   2. HCS Freeway Sheets

L. Existing + Project (No School Scenario) Peak Hour Intersection Analysis Worksheets

M. Existing + Cumulative Projects + Project (No School Scenario) Peak Hour Intersection Analysis Worksheets

# APPENDICES *(CONTINUED)*

| APPENDIX | |
|---|---|
| N. | Year 2035 With Project (No School Scenario) Peak Hour Intersection Analysis Worksheets |
| O. | Proposed Fanita Ranch Roadway Cross-Sections |
| P. | 3-Lane Fanita Parkway Analysis: Peak Hour Intersection Analysis Worksheets, Peak Hour Arterial Analysis Worksheets, Queueing Analysis Worksheets |
| Q. | Cuyamaca Street Analysis: Peak Hour Intersection Analysis Worksheets, Peak Hour Arterial Analysis Worksheets |
| R. | Proposed Roundabout Configurations |
| S. | On-Site Intersections Peak Hour Intersection Analysis Worksheets |
| T. | VMT Calculations |
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| V. | Adaptive Traffic Signal Control Supporting Documentation |
| W. | Mitigation Phasing Peak Hour Intersection Analysis Worksheets |
| X. | Post-Mitigation Peak Hour Intersection and Arterial Analysis Worksheets |
| Y. | Timing for Magnolia Avenue Extension Analysis |
| Z. | State Route 52 Project Study Report – Project Development Support – January 2020 |

# APPENDIX A

## CITY OF SANTEE, COUNTY OF SAN DIEGO, & CITY OF SAN DIEGO ROADWAY CLASSIFICATION TABLES

Table 7.1 City of Santee Revised Roadway Classifications and Standards

| Street Classification | Description / Sub-classification | # of Lanes | LOS / ADT Thresholds | | | | |
|---|---|---|---|---|---|---|---|
| | | | A | B | C | D | E |
| **Circulation Element** | | | | | | | |
| Prime Arterial | Median | 6 lanes | 25,000 | 35,000 | 50,000 | 55,000 | 60,000 |
| Major Arterial | Median | 4 lanes | 15,000 | 21,000 | 30,000 | 35,000 | 40,000 |
| Parkway | Median | 4 lanes | 15,000 | 21,000 | 30,000 | 35,000 | 40,000 |
| | w/ TWLTL | 2 lanes w/ TWLTL | 5,000 | 7,000 | 10,000 | 13,000 | 15,000 |
| | - | 2 lanes | 4,000 | 5,500 | 7,500 | 9,000 | 10,000 |
| Collector | w/ TWLTL | 2 lanes w/ TWLTL | 5,000 | 7,000 | 10,000 | 13,000 | 15,000 |
| | Industrial Collector | 2 lanes | 2,500 | 3,500 | 5,000 | 6,500 | 8,000 |
| | Residential Collector | 2 lanes | 2,500 | 3,500 | 5,000 | 6,500 | 8,000 |
| **Non-Circulation Element** | | | | | | | |
| Industrial Local | | 2 lanes | - | - | 2,200* | - | - |
| Residential Local | | 2 lanes | - | - | 2,200* | - | - |
| Cul-De-Sac Street | | 2 lanes | - | - | 300* | - | - |
| Hillside Street | | 2 lanes | - | - | 700* | - | - |

Notes:
TWLTL = Two-way left-turn lane.
*represents design capacity of non-CE road. LOS does not apply to non-CE roads.

## TABLE 5–3
## AVERAGE DAILY VEHICLE TRIPS – COUNTY OF SAN DIEGO

| MOBILITY ELEMENT ROADS | | | LEVELS OF SERVICE | | | | |
|---|---|---|---|---|---|---|---|
| **Roadway Classification** | | **#of Travel Lanes** | **A** | **B** | **C** | **D** | **E** |
| **Expressway (6.1)** | | 6 | <36,000 | <54,000 | <70,000 | <86,000 | <108,000 |
| **Prime Arterial (6.2)** | | 6 | <22,200 | <37,000 | <44,600 | <50,000 | <57,000 |
| **Major Road** | w/ Raised Median (4.1A) | 4 | <14,800 | <24,700 | <29,600 | <33,400 | <37,000 |
| | w/ Intermittent Turn Lanes (4.1B) | 4 | <13,700 | <22,800 | <27,400 | <30,800 | <34,200 |
| **Boulevard** | w/ Raised Median (4.2A) | 4 | <18,000 | <21,000 | <24,000 | <27,000 | <30,000 |
| | w/ Intermittent Turn Lanes (4.2B) | 4 | <16,800 | <19,600 | <22,500 | <25,000 | <28,000 |
| **Community Collector** | w/ Raised Median (2.1A) | 2 | <10,000 | <11,700 | <13,400 | <15,000 | <19,000 |
| | w/ Continuous Left-Turn Lane (2.1B) | 2 | <3,000 | <6,000 | <9,500 | <13,500 | <19,000 |
| | w/ Intermittent Turn Lanes (2.1C) | 2 | <3,000 | <6,000 | <9,500 | <13,500 | <19,000 |
| | w/ Passing Lane (2.1D) | 2 | <3,000 | <6,000 | <9,500 | <13,500 | <19,000 |
| | No Median (2.1E) | 2 | <1,900 | <4,100 | <7,100 | <10,900 | <16,200 |
| **Light Collector** | w/ Raised Median (2.2A) | 2 | <3,000 | <6,000 | <9,500 | <13,500 | <19,000 |
| | w/ Continuous Left-Turn Lane (2.2B) | 2 | <3,000 | <6,000 | <9,500 | <13,500 | <19,000 |
| | w/ Intermittent Turn Lanes (2.2C) | 2 | <3,000 | <6,000 | <9,500 | <13,500 | <19,000 |
| | W/ Passing Lane (2.2D) | 2 | <3,000 | <6,000 | <9,500 | <13,500 | <19,000 |
| | No Median (2.2E) | 2 | <1,900 | <4,100 | <7,100 | <10,900 | <16,200 |
| | w/ Reduced Shoulder (2.2F) | 2 | <5,800 | <6,800 | <7,800 | <8,700 | <9,700 |
| **Minor Collector** | w/ Raised Median (2.3A) | 2 | <3,000 | <6,000 | <7,000 | <8,000 | <9,000 |
| | w/ Intermittent (Turn Lane (2.3B) | 2 | <3,000 | <6,000 | <7,000 | <8,000 | <9,000 |
| | No Median (2.3C) | 2 | <1,900 | <4,100 | <6,000 | <7,000 | <8,000 |
| **NON-MOBILITY ELEMENT ROADS **** | | | LEVELS OF SERVICE | | | | |
| Residential Collector | | 2 | - | - | <4,500 | - | - |
| Rural Residential Collector *** | | 2 | - | - | <4,500 | - | - |
| Residential Road | | 2 | - | - | <1,500 | - | - |
| Rural Residential Road *** | | 2 | - | - | <1,500 | - | - |
| Residential Cul-de-Sac or Loop Road | | 2 | - | - | <200 | - | - |

The values shown are subject to adjustment based on the geometry of the roadway side frictions, and other relevant factors as determined by the Director, Department of Public Works.
**Levels of service are not applied to residential streets since their primary purpose is to serve abutting lots, not carry through traffic. Levels of service normally apply to roads carrying through traffic between major trip generators and attractors.
***Rural Residential Collectors and Rural Residential Roads are intended to serve areas with lot sizes of 2 acres or more which do not have a demand for on-street parking. On-street parking is not assured for these cross sections. Additional right-of-way is needed if on-street parking is in paved area.
****See Tables 2A and 28 for roadway surfacing and right-of-way widths.

TABLE 2
Roadway Classifications, Levels of Service (LOS)
and Average Daily Traffic (ADT)

| | | | LEVEL OF SERVICE | | | | |
|---|---|---|---|---|---|---|---|
| STREET CLASSIFICATION | LANES | CROSS SECTIONS | A | B | C | D | E |
| Freeway | 8 lanes | | 60,000 | 84,000 | 120,000 | 140,000 | 150,000 |
| Freeway | 6 lanes | | 45,000 | 63,000 | 90,000 | 110,000 | 120,000 |
| Freeway | 4 lanes | | 30,000 | 42,000 | 60,000 | 70,000 | 80,000 |
| Expressway | 6 lanes | 102/122 | 30,000 | 42,000 | 60,000 | 70,000 | 80,000 |
| Primary Arterial | 6 lanes | 102/122 | 25,000 | 35,000 | 50,000 | 55,000 | 60,000 |
| Major Arterial | 6 lanes | 102/122 | 20,000 | 28,000 | 40,000 | 45,000 | 50,000 |
| Major Arterial | 4 lanes | 78/98 | 15,000 | 21,000 | 30,000 | 35,000 | 40,000 |
| Collector | 4 lanes | 72/92 | 10,000 | 14,000 | 20,000 | 25,000 | 30,000 |
| Collector (no center lane)<br>continuous left-turn lane) | 4 lanes<br>2 lanes | 64/84<br>50/70 | 5,000 | 7,000 | 10,000 | 13,000 | 15,000 |
| Collector<br>(no fronting property) | 2 lanes | 40/60 | 4,000 | 5,500 | 7,500 | 9,000 | 10,000 |
| Collector<br>(commercial-industrial fronting) | 2 lanes | 50/70 | 2,500 | 3,500 | 5,000 | 6,500 | 8,000 |
| Collector<br>(multifamily) | 2 lanes | 40/60 | 2,500 | 3,500 | 5,000 | 6,500 | 8,000 |
| Sub-Collector<br>(single-family) | 2 lanes | 36/56 | — | — | 2,200 | — | — |

LEGEND:

XXX/XXX = Curb to curb width (feet)/right-of-way width (feet): based on the City of San Diego Street Design. Manual

XX/XXX= Approximate recommended ADT based on the City of San Diego Street Design Manual.

NOTES:

1. The volumes and the average daily level of service listed above are only intended as a general planning guideline.

2. Levels of service are not applied to residential streets since their primary purpose is to serve abutting lots, not carry through traffic. Levels of service normally apply to roads carrying through traffic between major trip generators and attractors.

# APPENDIX B

## INTERSECTION AND SEGMENT MANUAL COUNT SHEETS, CALTRANS VOLUMES

# Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers

| | | | |
|---|---|---|---|
| Location: | #02 | File Name: | ITM-18-015-02 |
| Intersection: | Princess Joann Road / Magnolia Avenue | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Tuesday, January 30, 2018 | | Fanita Ranch |

| AM | Magnolia Avenue Southbound | | | Princess Joann Road Westbound | | | Magnolia Avenue Northbound | | | Princess Joann Road Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 7:00 | 0 | 2 | 0 | 10 | 0 | 0 | 4 | 3 | 3 | 0 | 0 | 10 | 32 |
| 7:15 | 0 | 0 | 0 | 4 | 1 | 0 | 4 | 0 | 0 | 0 | 0 | 20 | 29 |
| 7:30 | 0 | 0 | 0 | 11 | 1 | 0 | 13 | 0 | 1 | 0 | 0 | 19 | 45 |
| 7:45 | 0 | 0 | 0 | 6 | 2 | 0 | 11 | 1 | 4 | 0 | 0 | 5 | 29 |
| 8:00 | 0 | 1 | 0 | 4 | 0 | 0 | 7 | 1 | 1 | 0 | 0 | 7 | 21 |
| 8:15 | 0 | 1 | 0 | 3 | 1 | 0 | 7 | 0 | 3 | 0 | 0 | 4 | 19 |
| 8:30 | 0 | 0 | 0 | 2 | 0 | 0 | 8 | 0 | 4 | 0 | 0 | 6 | 20 |
| 8:45 | 0 | 3 | 0 | 6 | 0 | 0 | 17 | 0 | 1 | 0 | 0 | 12 | 39 |
| Total | 0 | 7 | 0 | 46 | 5 | 0 | 71 | 5 | 17 | 0 | 0 | 83 | 234 |
| Approach% | - | 100.0 | - | 90.2 | 9.8 | - | 76.3 | 5.4 | 18.3 | - | - | 100.0 | |
| Total% | - | 3.0 | - | 19.7 | 2.1 | - | 30.3 | 2.1 | 7.3 | - | - | 35.5 | |

**AM Intersection Peak Hour:** **07:00 to 08:00**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | - | 2 | - | 31 | 4 | - | 32 | 4 | 8 | - | - | 54 | 135 |
| Approach% | - | 100.0 | - | 88.6 | 11.4 | - | 72.7 | 9.1 | 18.2 | - | - | 100.0 | |
| Total% | - | 1.5 | - | 23.0 | 3.0 | - | 23.7 | 3.0 | 5.9 | - | - | 40.0 | |
| PHF | | | 0.25 | | | 0.73 | | | 0.69 | | | 0.68 | |

| PM | Magnolia Avenue Southbound | | | Princess Joann Road Westbound | | | Magnolia Avenue Northbound | | | Princess Joann Road Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 16:00 | 0 | 1 | 0 | 3 | 0 | 0 | 21 | 1 | 9 | 0 | 1 | 8 | 44 |
| 16:15 | 0 | 2 | 2 | 5 | 0 | 1 | 19 | 1 | 8 | 0 | 0 | 7 | 45 |
| 16:30 | 0 | 2 | 0 | 8 | 0 | 2 | 17 | 1 | 7 | 0 | 1 | 10 | 48 |
| 16:45 | 0 | 1 | 0 | 4 | 0 | 0 | 24 | 0 | 10 | 1 | 1 | 9 | 50 |
| 17:00 | 0 | 1 | 0 | 6 | 0 | 0 | 13 | 1 | 9 | 0 | 0 | 4 | 34 |
| 17:15 | 0 | 1 | 0 | 2 | 0 | 0 | 16 | 0 | 6 | 0 | 0 | 13 | 38 |
| 17:30 | 0 | 1 | 0 | 5 | 0 | 0 | 22 | 0 | 3 | 0 | 1 | 4 | 36 |
| 17:45 | 0 | 0 | 0 | 2 | 0 | 0 | 17 | 1 | 6 | 0 | 1 | 14 | 41 |
| Total | 0 | 9 | 2 | 35 | 0 | 3 | 149 | 5 | 58 | 1 | 5 | 69 | 336 |
| Approach% | - | 81.8 | 18.2 | 92.1 | - | 7.9 | 70.3 | 2.4 | 27.4 | 1.3 | 6.7 | 92.0 | |
| Total% | - | 3.8 | 0.9 | 15.0 | - | 1.3 | 63.7 | 2.1 | 24.8 | 0.4 | 2.1 | 29.5 | |

**PM Intersection Peak Hour:** **16:00 to 17:00**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | - | 6 | 2 | 20 | - | 3 | 81 | 3 | 34 | 1 | 3 | 34 | 187 |
| Approach% | - | 75.0 | 25.0 | 87.0 | - | 13.0 | 68.6 | 2.5 | 28.8 | 2.6 | 7.9 | 89.5 | |
| Total% | - | 4.4 | 1.5 | 14.8 | - | 2.2 | 60.0 | 2.2 | 25.2 | 0.7 | 2.2 | 25.2 | |
| PHF | | | 0.50 | | | 0.58 | | | 0.87 | | | 0.86 | |

# Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

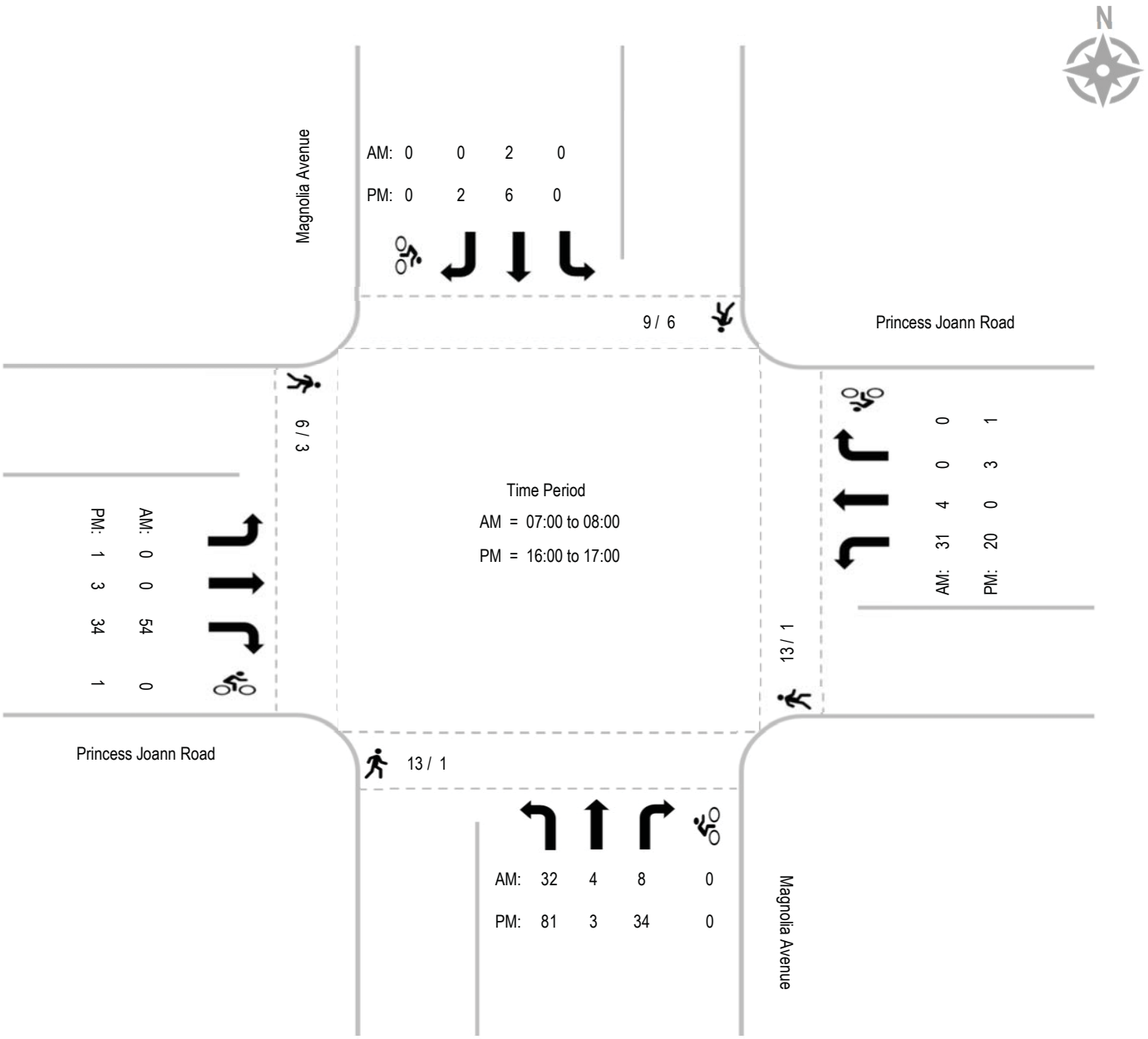
| | | | |
|---|---|---|---|
| Location: | #02 | File Name: | ITM-18-015-02 |
| Intersection: | Princess Joann Road / Magnolia Avenue | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Tuesday, January 30, 2018 | | Fanita Ranch |

| AM | Magnolia Avenue Southbound | | | | Princess Joann Road Westbound | | | | Magnolia Avenue Northbound | | | | Princess Joann Road Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 7:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:15 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 9 | 0 |
| 7:30 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 6 | 0 |
| 7:45 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 |
| 8:00 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 8:15 | 3 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 8 | 0 |
| 8:30 | 2 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 9 | 0 |
| 8:45 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 |
| Ped Total | 9 | | | | 13 | | | | 13 | | | | 6 | | | | 41 | |
| Bike Total | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 |

| PM | Magnolia Avenue Southbound | | | | Princess Joann Road Westbound | | | | Magnolia Avenue Northbound | | | | Princess Joann Road Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 16:00 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 3 | 0 |
| 16:15 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 16:30 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 2 |
| 16:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:00 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 17:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 3 | 0 |
| 17:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped Total | 6 | | | | 1 | | | | 1 | | | | 3 | | | | 11 | |
| Bike Total | | 0 | 0 | 0 | | 0 | 1 | 0 | | 0 | 0 | 0 | | 0 | 1 | 0 | | 2 |

# Intersection Turning Movement - Peak Hour Summary

| | | | | |
|---|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #02 | File Name: | ITM-18-015-02 |
| | Intersection: | Princess Joann Road / Magnolia Avenue | Project: | LLG Ref. 3-15-2462 |
| | Date of Count: | Tuesday, January 30, 2018 | | Fanita Ranch |



# Intersection Turning Movement - Peak Hour Vehicle Count

| | | | |
|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #03 | File Name: ITM-18-015-03 |
| | Intersection: | Ganley Road / Fanita Parkway | Project: LLG Ref. 3-15-2462 |
| | Date of Count: | Wednesday, January 31, 2018 | Fanita Ranch |

| AM | Fanita Parkway Southbound | | | Ganley Road Westbound | | | Fanita Parkway Northbound | | | - Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 7:00 | 0 | 0 | 0 | 12 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 17 |
| 7:15 | 0 | 0 | 0 | 12 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 14 |
| 7:30 | 0 | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 17 |
| 7:45 | 0 | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 9 | 0 | 0 | 0 | 19 |
| 8:00 | 0 | 0 | 0 | 18 | 0 | 0 | 0 | 0 | 12 | 0 | 0 | 0 | 30 |
| 8:15 | 0 | 0 | 0 | 17 | 0 | 0 | 0 | 3 | 4 | 0 | 0 | 0 | 24 |
| 8:30 | 0 | 0 | 0 | 14 | 0 | 0 | 0 | 1 | 6 | 0 | 0 | 0 | 21 |
| 8:45 | 0 | 0 | 0 | 11 | 0 | 0 | 0 | 2 | 5 | 0 | 0 | 0 | 18 |
| Total | 0 | 0 | 0 | 104 | 0 | 0 | 0 | 6 | 50 | 0 | 0 | 0 | 160 |
| Approach% | - | - | - | 100.0 | - | - | - | 10.7 | 89.3 | - | - | - | |
| Total% | - | - | - | 65.0 | - | - | - | 3.8 | 31.3 | - | - | - | |

**AM Intersection Peak Hour:** **07:45 to 08:45**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | - | - | - | 59 | - | - | - | 4 | 31 | - | - | - | 94 |
| Approach% | - | - | - | 100.0 | - | - | - | 11.4 | 88.6 | - | - | - | |
| Total% | - | - | - | 62.8 | - | - | - | 4.3 | 33.0 | - | - | - | |
| PHF | | | | | | 0.82 | | | 0.73 | | | | |

| PM | Fanita Parkway Southbound | | | Ganley Road Westbound | | | Fanita Parkway Northbound | | | - Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 16:00 | 0 | 0 | 0 | 14 | 0 | 0 | 0 | 0 | 15 | 0 | 0 | 0 | 29 |
| 16:15 | 0 | 0 | 0 | 14 | 0 | 0 | 0 | 0 | 18 | 0 | 0 | 0 | 32 |
| 16:30 | 0 | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 13 | 0 | 0 | 0 | 21 |
| 16:45 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 22 | 0 | 0 | 0 | 27 |
| 17:00 | 0 | 0 | 0 | 12 | 0 | 0 | 0 | 0 | 25 | 0 | 0 | 0 | 37 |
| 17:15 | 0 | 0 | 0 | 13 | 0 | 0 | 0 | 0 | 21 | 0 | 0 | 0 | 34 |
| 17:30 | 0 | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 15 | 0 | 0 | 0 | 24 |
| 17:45 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 1 | 13 | 0 | 0 | 0 | 21 |
| Total | 0 | 0 | 0 | 82 | 0 | 0 | 0 | 1 | 142 | 0 | 0 | 0 | 225 |
| Approach% | - | - | - | 100.0 | - | - | - | 0.7 | 99.3 | - | - | - | |
| Total% | - | - | - | 51.3 | - | - | - | 0.6 | 88.8 | - | - | - | |

**PM Intersection Peak Hour:** **16:45 to 17:45**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | - | - | - | 39 | - | - | - | - | 83 | - | - | - | 122 |
| Approach% | - | - | - | 100.0 | - | - | - | - | 100.0 | - | - | - | |
| Total% | - | - | - | 41.5 | - | - | - | - | 88.3 | - | - | - | |
| PHF | | | | | | 0.75 | | | 0.83 | | | | |

# Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

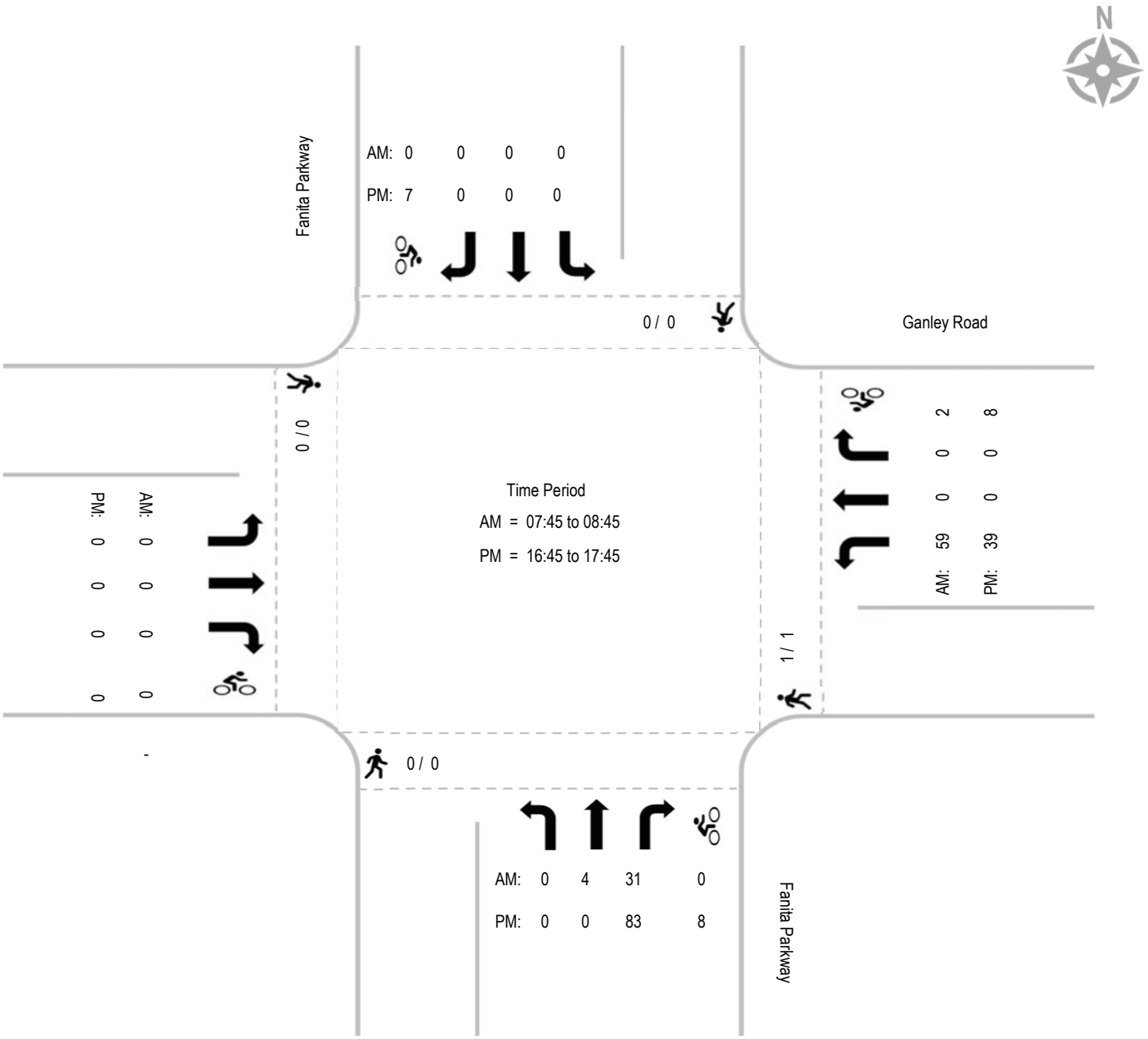
| | | | |
|---|---|---|---|
| Location: | #03 | File Name: | ITM-18-015-03 |
| Intersection: | Ganley Road / Fanita Parkway | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Wednesday, January 31, 2018 | | Fanita Ranch |

| AM | Fanita Parkway Southbound | | | | Ganley Road Westbound | | | | Fanita Parkway Northbound | | | | - Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 7:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 8:15 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 8:30 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 8:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped Total | 0 | | | | 1 | | | | 0 | | | | 0 | | | | 1 | |
| Bike Total | | 0 | 0 | 0 | | 2 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 2 |

| PM | Fanita Parkway Southbound | | | | Ganley Road Westbound | | | | Fanita Parkway Northbound | | | | - Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 16:00 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 8 |
| 16:15 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 3 | 0 | 1 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 8 |
| 16:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 |
| 16:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:00 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 17:15 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 17:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:45 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| Ped Total | 0 | | | | 1 | | | | 0 | | | | 0 | | | | 1 | |
| Bike Total | | 6 | 1 | 0 | | 2 | 0 | 6 | | 2 | 0 | 6 | | 0 | 0 | 0 | | 23 |

# Intersection Turning Movement - Peak Hour Summary

| | | | | |
|---|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #03 | File Name: | ITM-18-015-03 |
| | Intersection: | Ganley Road / Fanita Parkway | Project: | LLG Ref. 3-15-2462 |
| | Date of Count: | Wednesday, January 31, 2018 | | Fanita Ranch |



# Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers

| | | | |
|---|---|---|---|
| Location: | #04 | File Name: | ITM-18-015-04 |
| Intersection: | Woodglen Vista Drive / Cuyamaca Street | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Tuesday, January 30, 2018 | | Fanita Ranch |

| AM | Cuyamaca Street Southbound | | | Woodglen Vista Drive Westbound | | | Cuyamaca Street Northbound | | | Woodglen Vista Drive Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 7:00 | 2 | 9 | 0 | 57 | 0 | 1 | 1 | 1 | 15 | 0 | 0 | 2 | 88 |
| 7:15 | 3 | 8 | 0 | 46 | 0 | 0 | 1 | 2 | 17 | 0 | 0 | 5 | 82 |
| 7:30 | 2 | 5 | 0 | 74 | 0 | 2 | 0 | 2 | 17 | 0 | 0 | 2 | 104 |
| 7:45 | 1 | 5 | 0 | 50 | 0 | 1 | 1 | 1 | 17 | 0 | 1 | 3 | 80 |
| 8:00 | 4 | 4 | 0 | 53 | 0 | 0 | 0 | 5 | 15 | 0 | 0 | 6 | 87 |
| 8:15 | 1 | 5 | 0 | 38 | 2 | 0 | 2 | 5 | 21 | 0 | 0 | 1 | 75 |
| 8:30 | 0 | 5 | 0 | 30 | 1 | 1 | 2 | 4 | 18 | 0 | 0 | 5 | 66 |
| 8:45 | 1 | 5 | 0 | 35 | 0 | 0 | 0 | 3 | 20 | 0 | 0 | 1 | 65 |
| Total | 14 | 46 | 0 | 383 | 3 | 5 | 7 | 23 | 140 | 0 | 1 | 25 | 647 |
| Approach% | 23.3 | 76.7 | - | 98.0 | 0.8 | 1.3 | 4.1 | 13.5 | 82.4 | - | 3.8 | 96.2 | |
| Total% | 2.2 | 7.1 | - | 59.2 | 0.5 | 0.8 | 1.1 | 3.6 | 21.6 | - | 0.2 | 3.9 | |

**AM Intersection Peak Hour:** **07:00 to 08:00**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 8 | 27 | - | 227 | - | 4 | 3 | 6 | 66 | - | 1 | 12 | 354 |
| Approach% | 22.9 | 77.1 | - | 98.3 | - | 1.7 | 4.0 | 8.0 | 88.0 | - | 7.7 | 92.3 | |
| Total% | 2.3 | 7.6 | - | 64.1 | - | 1.1 | 0.8 | 1.7 | 18.6 | - | 0.3 | 3.4 | |
| PHF | | | 0.80 | | | 0.76 | | | 0.94 | | | 0.65 | |

| PM | Cuyamaca Street Southbound | | | Woodglen Vista Drive Westbound | | | Cuyamaca Street Northbound | | | Woodglen Vista Drive Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 16:00 | 1 | 3 | 0 | 20 | 0 | 2 | 1 | 4 | 46 | 0 | 0 | 0 | 77 |
| 16:15 | 0 | 4 | 0 | 29 | 0 | 2 | 1 | 8 | 44 | 0 | 1 | 1 | 90 |
| 16:30 | 1 | 4 | 0 | 19 | 1 | 2 | 5 | 5 | 49 | 0 | 2 | 3 | 91 |
| 16:45 | 1 | 6 | 0 | 34 | 1 | 4 | 1 | 10 | 59 | 0 | 1 | 3 | 120 |
| 17:00 | 1 | 1 | 0 | 30 | 0 | 1 | 3 | 9 | 66 | 0 | 0 | 0 | 111 |
| 17:15 | 1 | 4 | 1 | 18 | 0 | 3 | 2 | 8 | 53 | 0 | 0 | 1 | 91 |
| 17:30 | 0 | 3 | 1 | 26 | 1 | 3 | 1 | 6 | 54 | 0 | 0 | 3 | 98 |
| 17:45 | 1 | 3 | 0 | 26 | 0 | 2 | 2 | 9 | 50 | 0 | 0 | 0 | 93 |
| Total | 6 | 28 | 2 | 202 | 3 | 19 | 16 | 59 | 421 | 0 | 4 | 11 | 771 |
| Approach% | 16.7 | 77.8 | 5.6 | 90.2 | 1.3 | 8.5 | 3.2 | 11.9 | 84.9 | - | 26.7 | 73.3 | |
| Total% | 0.9 | 4.3 | 0.3 | 31.2 | 0.5 | 2.9 | 2.5 | 9.1 | 65.1 | - | 0.6 | 1.7 | |

**PM Intersection Peak Hour:** **16:45 to 17:45**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 3 | 14 | 2 | 108 | 2 | 11 | 7 | 33 | 232 | - | 1 | 7 | 420 |
| Approach% | 15.8 | 73.7 | 10.5 | 89.3 | 1.7 | 9.1 | 2.6 | 12.1 | 85.3 | - | 12.5 | 87.5 | |
| Total% | 0.8 | 4.0 | 0.6 | 30.5 | 0.6 | 3.1 | 2.0 | 9.3 | 65.5 | - | 0.3 | 2.0 | |
| PHF | | | 0.68 | | | 0.78 | | | 0.87 | | | 0.50 | |

# Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

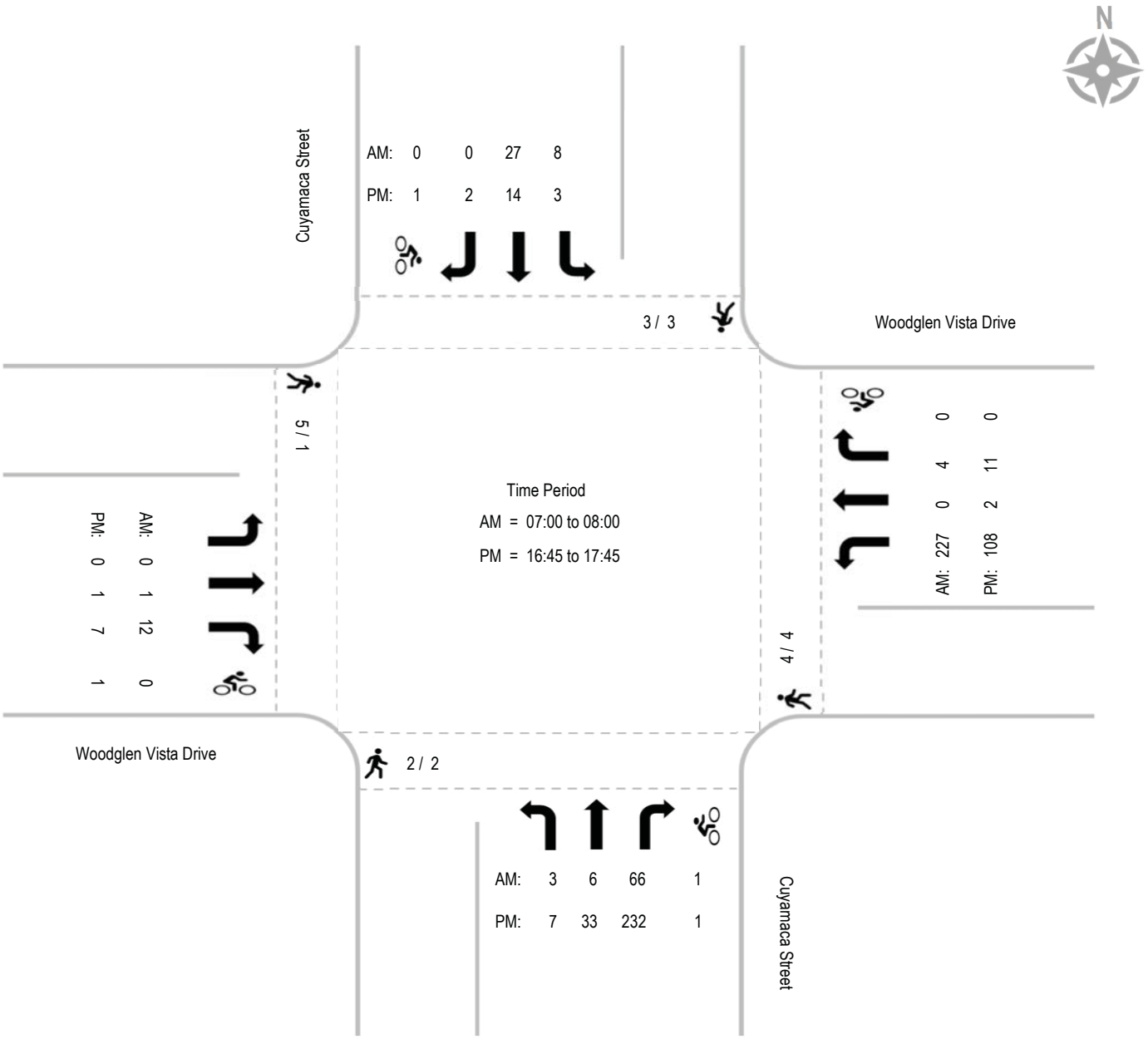
| | | | |
|---|---|---|---|
| Location: | #04 | File Name: | ITM-18-015-04 |
| Intersection: | Woodglen Vista Drive / Cuyamaca Street | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Tuesday, January 30, 2018 | | Fanita Ranch |

| AM | Cuyamaca Street Southbound | | | | Woodglen Vista Drive Westbound | | | | Cuyamaca Street Northbound | | | | Woodglen Vista Drive Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 7:00 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 7:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 7:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 |
| 8:00 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 3 | 0 |
| 8:15 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 3 | 0 |
| 8:30 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 |
| 8:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 0 |
| Ped Total | 3 | | | | 4 | | | | 2 | | | | 5 | | | | 14 | |
| Bike Total | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 1 | | 0 | 0 | 0 | | 1 |

| PM | Cuyamaca Street Southbound | | | | Woodglen Vista Drive Westbound | | | | Cuyamaca Street Northbound | | | | Woodglen Vista Drive Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16:15 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 2 |
| 16:30 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 4 | 0 |
| 16:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |
| 17:00 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 17:15 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 17:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped Total | 3 | | | | 4 | | | | 2 | | | | 1 | | | | 10 | |
| Bike Total | | 0 | 1 | 0 | | 0 | 0 | 0 | | 0 | 1 | 0 | | 1 | 0 | 0 | | 3 |

# Intersection Turning Movement - Peak Hour Summary

| | | | | |
|---|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #04 | File Name: | ITM-18-015-04 |
| | Intersection: | Woodglen Vista Drive / Cuyamaca Street | Project: | LLG Ref. 3-15-2462 |
| | Date of Count: | Tuesday, January 30, 2018 | | Fanita Ranch |



# Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers

| | | | |
|---|---|---|---|
| Location: | #05 | File Name: | ITM-18-015-05 |
| Intersection: | Woodglen Vista Drive / Magnolia Avenue | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Tuesday, January 30, 2018 | | Fanita Ranch |

| AM | Magnolia Avenue Southbound | | | Len Street Westbound | | | Magnolia Avenue Northbound | | | Woodglen Vista Drive Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 7:00 | 2 | 91 | 1 | 8 | 4 | 1 | 9 | 23 | 1 | 1 | 0 | 21 | 162 |
| 7:15 | 1 | 84 | 1 | 13 | 2 | 1 | 9 | 33 | 5 | 1 | 0 | 22 | 172 |
| 7:30 | 3 | 87 | 8 | 16 | 5 | 5 | 5 | 40 | 3 | 7 | 0 | 45 | 224 |
| 7:45 | 1 | 74 | 1 | 7 | 2 | 3 | 12 | 45 | 5 | 8 | 1 | 21 | 180 |
| 8:00 | 0 | 57 | 4 | 9 | 1 | 2 | 6 | 37 | 6 | 2 | 0 | 12 | 136 |
| 8:15 | 1 | 43 | 1 | 11 | 0 | 1 | 12 | 41 | 4 | 1 | 1 | 11 | 127 |
| 8:30 | 1 | 49 | 2 | 6 | 0 | 0 | 9 | 36 | 4 | 0 | 0 | 8 | 115 |
| 8:45 | 2 | 54 | 2 | 6 | 0 | 3 | 5 | 37 | 5 | 2 | 2 | 8 | 126 |
| Total | 11 | 539 | 20 | 76 | 14 | 16 | 67 | 292 | 33 | 22 | 4 | 148 | 1242 |
| Approach% | 1.9 | 94.6 | 3.5 | 71.7 | 13.2 | 15.1 | 17.1 | 74.5 | 8.4 | 12.6 | 2.3 | 85.1 | |
| Total% | 0.9 | 43.4 | 1.6 | 6.1 | 1.1 | 1.3 | 5.4 | 23.5 | 2.7 | 1.8 | 0.3 | 11.9 | |

**AM Intersection Peak Hour:** **07:00 to 08:00**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 7 | 336 | 11 | 44 | 13 | 10 | 35 | 141 | 14 | 17 | 1 | 109 | 738 |
| Approach% | 2.0 | 94.9 | 3.1 | 65.7 | 19.4 | 14.9 | 18.4 | 74.2 | 7.4 | 13.4 | 0.8 | 85.8 | |
| Total% | 0.9 | 45.5 | 1.5 | 6.0 | 1.8 | 1.4 | 4.7 | 19.1 | 1.9 | 2.3 | 0.1 | 14.8 | |
| PHF | | | 0.90 | | | 0.64 | | | 0.77 | | | 0.61 | |

| PM | Magnolia Avenue Southbound | | | Len Street Westbound | | | Magnolia Avenue Northbound | | | Woodglen Vista Drive Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 16:00 | 1 | 42 | 2 | 7 | 1 | 1 | 26 | 76 | 16 | 5 | 0 | 16 | 193 |
| 16:15 | 1 | 39 | 4 | 8 | 1 | 1 | 25 | 66 | 14 | 6 | 3 | 18 | 186 |
| 16:30 | 2 | 63 | 4 | 6 | 1 | 2 | 15 | 70 | 15 | 4 | 1 | 16 | 199 |
| 16:45 | 2 | 53 | 4 | 13 | 3 | 1 | 21 | 100 | 11 | 5 | 3 | 20 | 236 |
| 17:00 | 0 | 55 | 2 | 4 | 1 | 6 | 21 | 71 | 10 | 3 | 6 | 22 | 201 |
| 17:15 | 0 | 58 | 1 | 5 | 2 | 0 | 19 | 95 | 13 | 5 | 6 | 20 | 224 |
| 17:30 | 1 | 64 | 1 | 9 | 1 | 0 | 18 | 81 | 10 | 0 | 17 | 17 | 219 |
| 17:45 | 0 | 53 | 1 | 7 | 0 | 2 | 17 | 69 | 13 | 1 | 21 | 21 | 205 |
| Total | 7 | 427 | 19 | 59 | 10 | 13 | 162 | 628 | 102 | 29 | 57 | 150 | 1663 |
| Approach% | 1.5 | 94.3 | 4.2 | 72.0 | 12.2 | 15.9 | 18.2 | 70.4 | 11.4 | 12.3 | 24.2 | 63.6 | |
| Total% | 0.6 | 34.4 | 1.5 | 4.8 | 0.8 | 1.0 | 13.0 | 50.6 | 8.2 | 2.3 | 4.6 | 12.1 | |

**PM Intersection Peak Hour:** **16:45 to 17:45**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 3 | 230 | 8 | 31 | 7 | 7 | 79 | 347 | 44 | 13 | 32 | 79 | 880 |
| Approach% | 1.2 | 95.4 | 3.3 | 68.9 | 15.6 | 15.6 | 16.8 | 73.8 | 9.4 | 10.5 | 25.8 | 63.7 | |
| Total% | 0.4 | 31.2 | 1.1 | 4.2 | 0.9 | 0.9 | 10.7 | 47.0 | 6.0 | 1.8 | 4.3 | 10.7 | |
| PHF | | | 0.91 | | | 0.66 | | | 0.89 | | | 0.91 | |

# Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

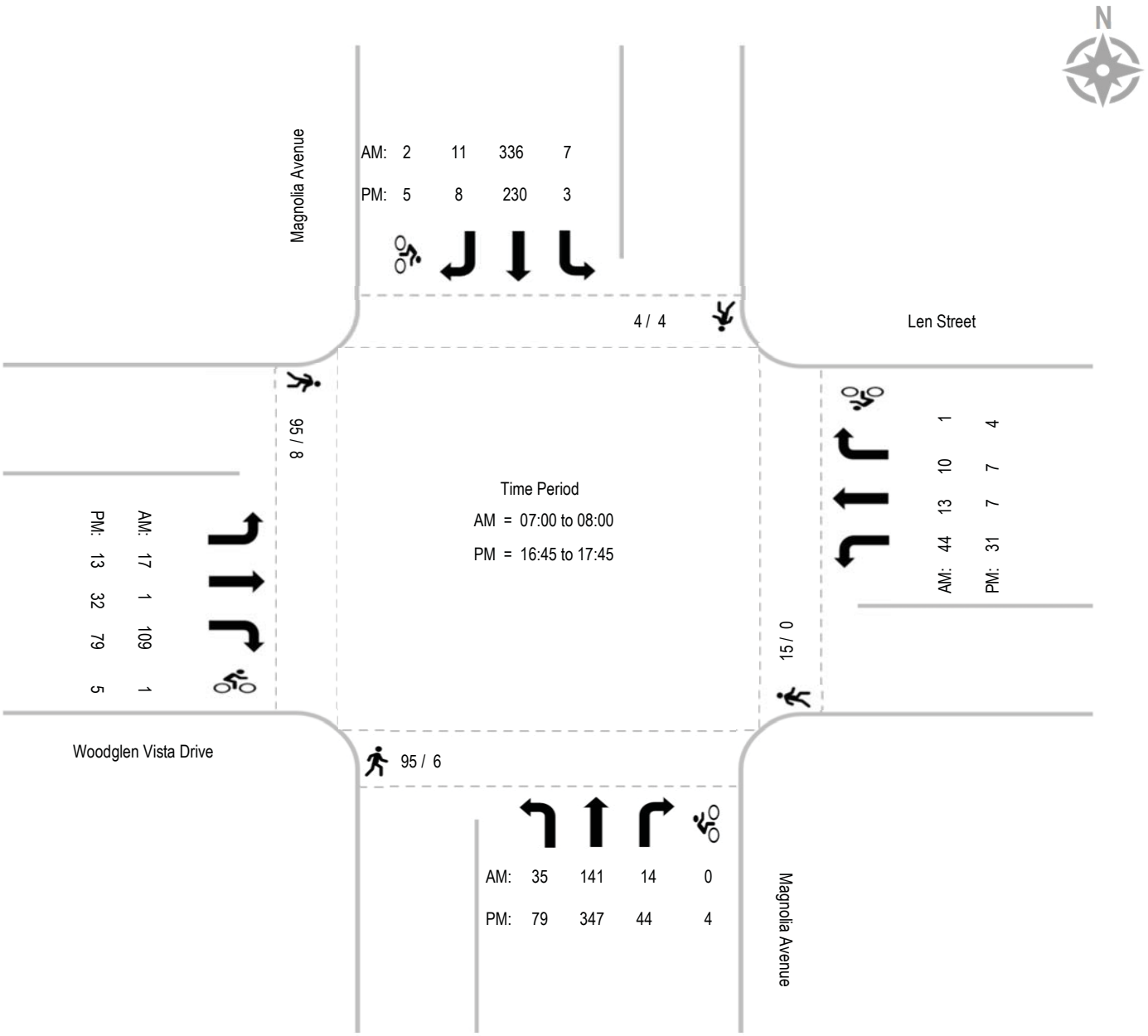
| | | | |
|---|---|---|---|
| Location: | #05 | File Name: | ITM-18-015-05 |
| Intersection: | Woodglen Vista Drive / Magnolia Avenue | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Tuesday, January 30, 2018 | | Fanita Ranch |

| AM | Magnolia Avenue Southbound | | | | Len Street Westbound | | | | Magnolia Avenue Northbound | | | | Woodglen Vista Drive Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 7:00 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 3 | 2 |
| 7:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 17 | 0 | 0 | 0 | 24 | 0 |
| 7:30 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 55 | 0 | 0 | 0 | 49 | 0 | 0 | 0 | 109 | 0 |
| 7:45 | 2 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 32 | 0 | 0 | 0 | 16 | 0 | 0 | 0 | 56 | 0 |
| 8:00 | 1 | 0 | 1 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 9 | 1 |
| 8:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 1 | 4 | 1 |
| 8:30 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 |
| 8:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 0 |
| Ped Total | 4 | | | | 15 | | | | 95 | | | | 95 | | | | 209 | |
| Bike Total | | 0 | 2 | 0 | | 1 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 1 | | 4 |

| PM | Magnolia Avenue Southbound | | | | Len Street Westbound | | | | Magnolia Avenue Northbound | | | | Woodglen Vista Drive Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 16:00 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 6 |
| 16:15 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 16:30 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 5 | 2 |
| 16:45 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 3 | 0 | 1 | 0 | 5 | 2 |
| 17:00 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 |
| 17:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 3 | 0 | 0 | 0 | 3 | 1 |
| 17:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 3 |
| 17:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |
| Ped Total | 4 | | | | 0 | | | | 6 | | | | 8 | | | | 18 | |
| Bike Total | | 2 | 3 | 0 | | 2 | 0 | 2 | | 1 | 3 | 0 | | 3 | 2 | 0 | | 18 |

# Intersection Turning Movement - Peak Hour Summary

| | | | | |
|---|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #05 | File Name: | ITM-18-015-05 |
| | Intersection: | Woodglen Vista Drive / Magnolia Avenue | Project: | LLG Ref. 3-15-2462 |
| | Date of Count: | Tuesday, January 30, 2018 | | Fanita Ranch |



# Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers

| | | | |
|---|---|---|---|
| Location: | #06 | File Name: | ITM-18-015-06 |
| Intersection: | El Nopal / Cuyamaca Street | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Tuesday, January 30, 2018 | | Fanita Ranch |

| AM | Cuyamaca Street Southbound | | | El Nopal Westbound | | | Cuyamaca Street Northbound | | | El Nopal Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 7:00 | 0 | 70 | 0 | 44 | 0 | 0 | 0 | 20 | 7 | 0 | 0 | 2 | 143 |
| 7:15 | 0 | 63 | 0 | 58 | 1 | 0 | 0 | 17 | 13 | 0 | 0 | 2 | 154 |
| 7:30 | 0 | 87 | 1 | 80 | 0 | 0 | 2 | 19 | 14 | 0 | 0 | 2 | 205 |
| 7:45 | 0 | 64 | 0 | 63 | 3 | 2 | 2 | 18 | 11 | 0 | 0 | 2 | 165 |
| 8:00 | 1 | 64 | 0 | 57 | 0 | 1 | 1 | 23 | 8 | 0 | 1 | 1 | 157 |
| 8:15 | 0 | 49 | 0 | 47 | 0 | 1 | 2 | 29 | 12 | 0 | 0 | 1 | 141 |
| 8:30 | 1 | 38 | 0 | 37 | 0 | 0 | 4 | 23 | 11 | 0 | 0 | 2 | 116 |
| 8:45 | 3 | 40 | 0 | 28 | 0 | 0 | 2 | 24 | 8 | 0 | 0 | 2 | 107 |
| Total | 5 | 475 | 1 | 414 | 4 | 4 | 13 | 173 | 84 | 0 | 1 | 14 | 1188 |
| Approach% | 1.0 | 98.8 | 0.2 | 98.1 | 0.9 | 0.9 | 4.8 | 64.1 | 31.1 | - | 6.7 | 93.3 | |
| Total% | 0.4 | 40.0 | 0.1 | 34.8 | 0.3 | 0.3 | 1.1 | 14.6 | 7.1 | - | 0.1 | 1.2 | |

**AM Intersection Peak Hour:** **07:15 to 08:15**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 1 | 278 | 1 | 258 | 4 | 3 | 5 | 77 | 46 | - | 1 | 7 | 681 |
| Approach% | 0.4 | 99.3 | 0.4 | 97.4 | 1.5 | 1.1 | 3.9 | 60.2 | 35.9 | - | 12.5 | 87.5 | |
| Total% | 0.1 | 40.8 | 0.1 | 37.9 | 0.6 | 0.4 | 0.7 | 11.3 | 6.8 | - | 0.1 | 1.0 | |
| PHF | | | 0.80 | | | 0.83 | | | 0.91 | | | 1.00 | |

| PM | Cuyamaca Street Southbound | | | El Nopal Westbound | | | Cuyamaca Street Northbound | | | El Nopal Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 16:00 | 1 | 23 | 0 | 21 | 2 | 0 | 2 | 61 | 28 | 0 | 0 | 1 | 139 |
| 16:15 | 1 | 36 | 0 | 28 | 1 | 1 | 3 | 51 | 20 | 0 | 0 | 2 | 143 |
| 16:30 | 1 | 25 | 0 | 23 | 0 | 0 | 1 | 55 | 22 | 0 | 0 | 1 | 128 |
| 16:45 | 0 | 43 | 0 | 19 | 7 | 0 | 4 | 70 | 28 | 1 | 0 | 1 | 173 |
| 17:00 | 0 | 33 | 0 | 35 | 1 | 0 | 1 | 86 | 28 | 0 | 0 | 1 | 185 |
| 17:15 | 2 | 23 | 0 | 26 | 0 | 1 | 6 | 61 | 27 | 0 | 1 | 1 | 148 |
| 17:30 | 1 | 35 | 0 | 19 | 0 | 2 | 2 | 59 | 23 | 0 | 0 | 2 | 143 |
| 17:45 | 0 | 31 | 0 | 24 | 0 | 0 | 5 | 72 | 35 | 0 | 1 | 2 | 170 |
| Total | 6 | 249 | 0 | 195 | 11 | 4 | 24 | 515 | 211 | 1 | 2 | 11 | 1229 |
| Approach% | 2.4 | 97.6 | - | 92.9 | 5.2 | 1.9 | 3.2 | 68.7 | 28.1 | 7.1 | 14.3 | 78.6 | |
| Total% | 0.5 | 21.0 | - | 16.4 | 0.9 | 0.3 | 2.0 | 43.4 | 17.8 | 0.1 | 0.2 | 0.9 | |

**PM Intersection Peak Hour:** **16:45 to 17:45**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 3 | 134 | - | 99 | 8 | 3 | 13 | 276 | 106 | 1 | 1 | 5 | 649 |
| Approach% | 2.2 | 97.8 | - | 90.0 | 7.3 | 2.7 | 3.3 | 69.9 | 26.8 | 14.3 | 14.3 | 71.4 | |
| Total% | 0.4 | 19.7 | - | 14.5 | 1.2 | 0.4 | 1.9 | 40.5 | 15.6 | 0.1 | 0.1 | 0.7 | |
| PHF | | | 0.80 | | | 0.76 | | | 0.86 | | | 0.88 | |

# Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

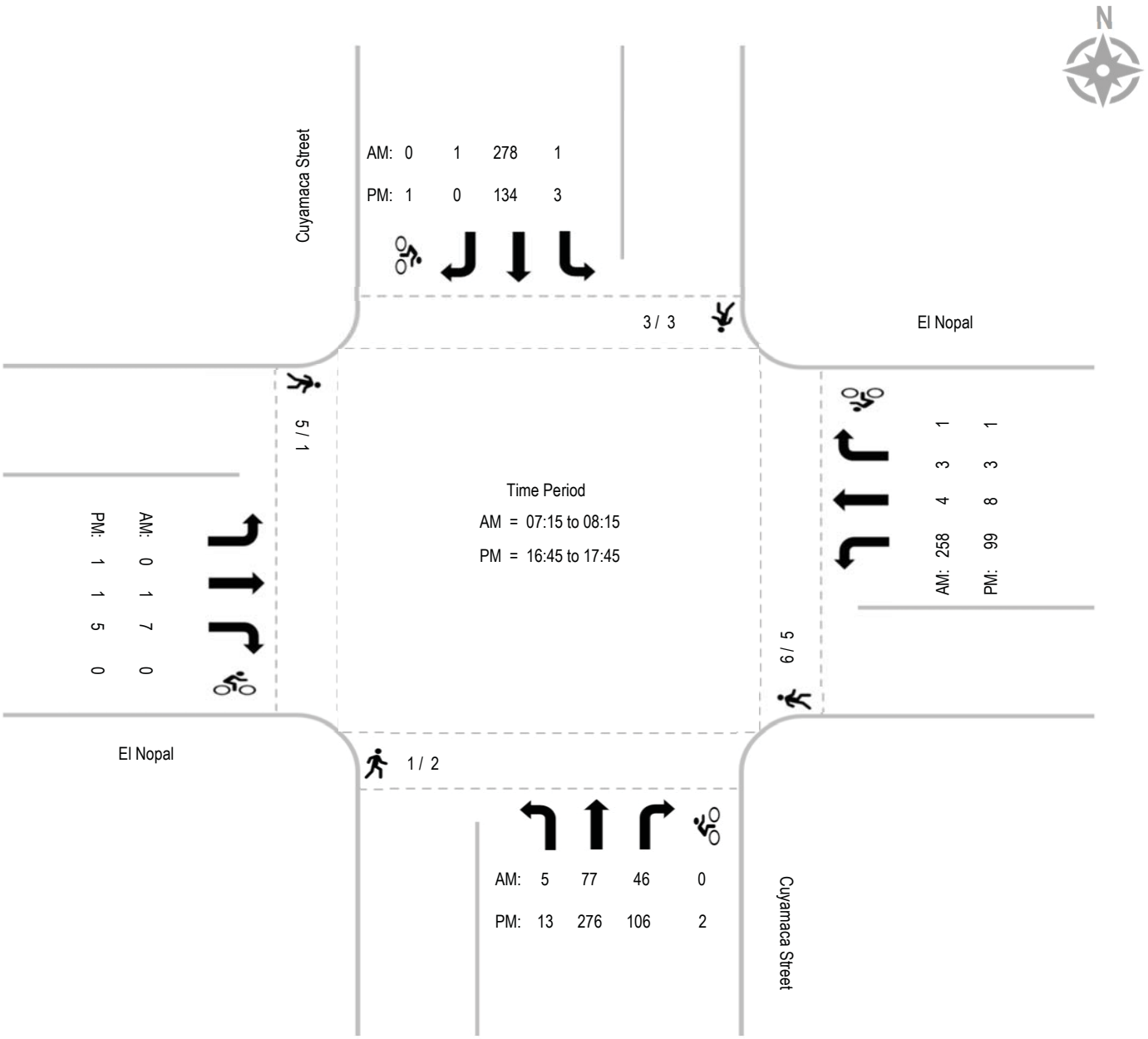
| | | | |
|---|---|---|---|
| Location: | #06 | File Name: | ITM-18-015-06 |
| Intersection: | El Nopal / Cuyamaca Street | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Tuesday, January 30, 2018 | | Fanita Ranch |

| AM | Cuyamaca Street Southbound | | | | El Nopal Westbound | | | | Cuyamaca Street Northbound | | | | El Nopal Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 7:00 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 |
| 7:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 8:00 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 8:15 | 1 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 |
| 8:30 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 3 | 1 |
| 8:45 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 3 | 0 |
| Ped Total | 3 | | | | 6 | | | | 1 | | | | 5 | | | | 15 | |
| Bike Total | | 0 | 0 | 0 | | 1 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 1 |

| PM | Cuyamaca Street Southbound | | | | El Nopal Westbound | | | | Cuyamaca Street Northbound | | | | El Nopal Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 16:15 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 16:30 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 |
| 16:45 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 17:00 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 17:15 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 4 | 1 |
| 17:30 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 17:45 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| Ped Total | 3 | | | | 5 | | | | 2 | | | | 1 | | | | 11 | |
| Bike Total | | 0 | 1 | 0 | | 1 | 0 | 0 | | 0 | 2 | 0 | | 0 | 0 | 0 | | 4 |

# Intersection Turning Movement - Peak Hour Summary

| | | | | |
|---|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #06 | File Name: | ITM-18-015-06 |
| | Intersection: | El Nopal / Cuyamaca Street | Project: | LLG Ref. 3-15-2462 |
| | Date of Count: | Tuesday, January 30, 2018 | | Fanita Ranch |



# Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers

| | | | |
|---|---|---|---|
| Location: | #07 | File Name: | ITM-18-015-07 |
| Intersection: | El Nopal / Magnolia Avenue | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Tuesday, January 30, 2018 | | Fanita Ranch |

| AM | Magnolia Avenue Southbound | | | El Nopal Westbound | | | Magnolia Avenue Northbound | | | El Nopal Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 7:00 | 15 | 105 | 1 | 39 | 20 | 15 | 12 | 54 | 22 | 4 | 15 | 21 | 323 |
| 7:15 | 35 | 99 | 22 | 30 | 29 | 29 | 8 | 76 | 11 | 12 | 13 | 18 | 382 |
| 7:30 | 49 | 159 | 46 | 32 | 31 | 51 | 22 | 93 | 6 | 22 | 21 | 17 | 549 |
| 7:45 | 15 | 95 | 14 | 35 | 39 | 4 | 6 | 39 | 14 | 7 | 14 | 37 | 319 |
| 8:00 | 8 | 70 | 3 | 46 | 36 | 5 | 16 | 56 | 15 | 2 | 29 | 29 | 315 |
| 8:15 | 8 | 45 | 3 | 45 | 16 | 11 | 8 | 40 | 23 | 1 | 12 | 11 | 223 |
| 8:30 | 8 | 64 | 1 | 38 | 23 | 7 | 2 | 42 | 20 | 0 | 12 | 13 | 230 |
| 8:45 | 10 | 61 | 0 | 22 | 15 | 8 | 2 | 46 | 28 | 2 | 11 | 15 | 220 |
| Total | 148 | 698 | 90 | 287 | 209 | 130 | 76 | 446 | 139 | 50 | 127 | 161 | 2561 |
| Approach% | 15.8 | 74.6 | 9.6 | 45.8 | 33.4 | 20.8 | 11.5 | 67.5 | 21.0 | 14.8 | 37.6 | 47.6 | |
| Total% | 5.8 | 27.3 | 3.5 | 11.2 | 8.2 | 5.1 | 3.0 | 17.4 | 5.4 | 2.0 | 5.0 | 6.3 | |

**AM Intersection Peak Hour:** **07:00 to 08:00**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 114 | 458 | 83 | 136 | 119 | 99 | 48 | 262 | 53 | 45 | 63 | 93 | 1,573 |
| Approach% | 17.4 | 69.9 | 12.7 | 38.4 | 33.6 | 28.0 | 13.2 | 72.2 | 14.6 | 22.4 | 31.3 | 46.3 | |
| Total% | 7.2 | 29.1 | 5.3 | 8.6 | 7.6 | 6.3 | 3.1 | 16.7 | 3.4 | 2.9 | 4.0 | 5.9 | |
| PHF | | | 0.64 | | | 0.78 | | | 0.75 | | | 0.84 | |

| PM | Magnolia Avenue Southbound | | | El Nopal Westbound | | | Magnolia Avenue Northbound | | | El Nopal Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 16:00 | 11 | 64 | 6 | 33 | 19 | 7 | 23 | 103 | 52 | 0 | 17 | 13 | 348 |
| 16:15 | 15 | 63 | 1 | 46 | 21 | 16 | 15 | 81 | 48 | 3 | 12 | 13 | 334 |
| 16:30 | 15 | 79 | 1 | 29 | 18 | 14 | 17 | 100 | 55 | 1 | 20 | 18 | 367 |
| 16:45 | 8 | 69 | 3 | 30 | 26 | 17 | 24 | 97 | 56 | 1 | 17 | 14 | 362 |
| 17:00 | 15 | 60 | 2 | 42 | 32 | 19 | 20 | 85 | 48 | 3 | 19 | 13 | 358 |
| 17:15 | 16 | 79 | 3 | 41 | 30 | 16 | 31 | 121 | 40 | 1 | 13 | 15 | 406 |
| 17:30 | 11 | 58 | 5 | 45 | 19 | 11 | 18 | 84 | 56 | 1 | 10 | 14 | 332 |
| 17:45 | 21 | 52 | 3 | 26 | 20 | 16 | 17 | 89 | 50 | 2 | 20 | 14 | 330 |
| Total | 112 | 524 | 24 | 292 | 185 | 116 | 165 | 760 | 405 | 12 | 128 | 114 | 2837 |
| Approach% | 17.0 | 79.4 | 3.6 | 49.2 | 31.2 | 19.6 | 12.4 | 57.1 | 30.5 | 4.7 | 50.4 | 44.9 | |
| Total% | 4.4 | 20.5 | 0.9 | 11.4 | 7.2 | 4.5 | 6.4 | 29.7 | 15.8 | 0.5 | 5.0 | 4.5 | |

**PM Intersection Peak Hour:** **16:30 to 17:30**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 54 | 287 | 9 | 142 | 106 | 66 | 92 | 403 | 199 | 6 | 69 | 60 | 1,493 |
| Approach% | 15.4 | 82.0 | 2.6 | 45.2 | 33.8 | 21.0 | 13.3 | 58.1 | 28.7 | 4.4 | 51.1 | 44.4 | |
| Total% | 3.4 | 18.2 | 0.6 | 9.0 | 6.7 | 4.2 | 5.8 | 25.6 | 12.7 | 0.4 | 4.4 | 3.8 | |
| PHF | | | 0.89 | | | 0.84 | | | 0.90 | | | 0.87 | |

# Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

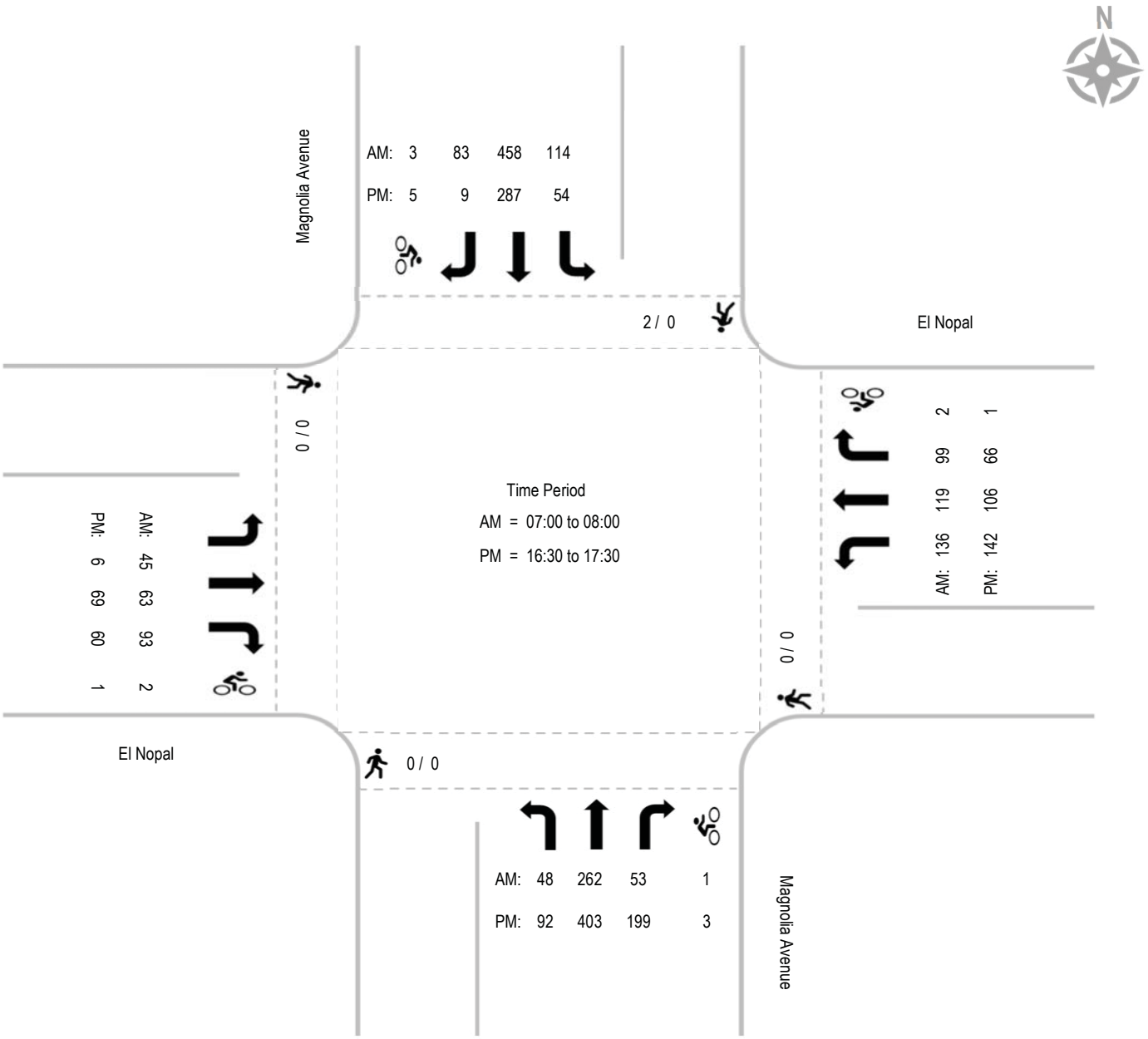
| | | | |
|---|---|---|---|
| Location: | #07 | File Name: | ITM-18-015-07 |
| Intersection: | El Nopal / Magnolia Avenue | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Tuesday, January 30, 2018 | | Fanita Ranch |

| AM | Magnolia Avenue Southbound | | | | El Nopal Westbound | | | | Magnolia Avenue Northbound | | | | El Nopal Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 7:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:15 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 3 |
| 7:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 |
| 8:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 8:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:30 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 8:45 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Ped Total | 2 | | | | 0 | | | | 0 | | | | 0 | | | | 2 | |
| Bike Total | | 0 | 3 | 0 | | 0 | 1 | 1 | | 0 | 1 | 0 | | 0 | 1 | 1 | | 8 |

| PM | Magnolia Avenue Southbound | | | | El Nopal Westbound | | | | Magnolia Avenue Northbound | | | | El Nopal Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 16:00 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 16:15 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 16:30 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 16:45 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 |
| 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 17:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 17:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped Total | 0 | | | | 0 | | | | 0 | | | | 0 | | | | 0 | |
| Bike Total | | 0 | 4 | 1 | | 0 | 1 | 0 | | 0 | 3 | 0 | | 0 | 0 | 1 | | 10 |

# Intersection Turning Movement - Peak Hour Summary

| | | | | |
|---|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #07 | File Name: | ITM-18-015-07 |
| | Intersection: | El Nopal / Magnolia Avenue | Project: | LLG Ref. 3-15-2462 |
| | Date of Count: | Tuesday, January 30, 2018 | | Fanita Ranch |



# Intersection Turning Movement - Peak Hour Vehicle Count

| | | | |
|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #08 | File Name: ITM-18-015-08 |
| | Intersection: | El Nopal / Los Ranchitos Road | Project: LLG Ref. 3-15-2462 |
| | Date of Count: | Tuesday, January 30, 2018 | Fanita Ranch |

| AM | - Southbound | | | El Nopal Westbound | | | Los Ranchitos Road Northbound | | | El Nopal Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 7:00 | 0 | 0 | 0 | 49 | 54 | 0 | 0 | 0 | 62 | 0 | 53 | 3 | 221 |
| 7:15 | 0 | 0 | 0 | 33 | 60 | 0 | 6 | 0 | 47 | 0 | 70 | 3 | 219 |
| 7:30 | 0 | 0 | 0 | 52 | 62 | 0 | 6 | 0 | 42 | 0 | 68 | 11 | 241 |
| 7:45 | 0 | 0 | 0 | 36 | 49 | 0 | 2 | 0 | 69 | 0 | 48 | 3 | 207 |
| 8:00 | 0 | 0 | 0 | 36 | 57 | 0 | 3 | 0 | 57 | 0 | 54 | 0 | 207 |
| 8:15 | 0 | 0 | 0 | 13 | 40 | 0 | 3 | 0 | 38 | 0 | 58 | 1 | 153 |
| 8:30 | 0 | 0 | 0 | 21 | 47 | 0 | 0 | 0 | 26 | 0 | 42 | 0 | 136 |
| 8:45 | 0 | 0 | 0 | 13 | 41 | 0 | 0 | 0 | 24 | 0 | 16 | 0 | 94 |
| Total | 0 | 0 | 0 | 253 | 410 | 0 | 20 | 0 | 365 | 0 | 409 | 21 | 1478 |
| Approach% | - | - | - | 38.2 | 61.8 | - | 5.2 | - | 94.8 | - | 95.1 | 4.9 | |
| Total% | - | - | - | 17.1 | 27.7 | - | 1.4 | - | 24.7 | - | 27.7 | 1.4 | |

**AM Intersection Peak Hour:** **07:00 to 08:00**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | - | - | - | 170 | 225 | - | 14 | - | 220 | - | 239 | 20 | 888 |
| Approach% | - | - | - | 43.0 | 57.0 | - | 6.0 | - | 94.0 | - | 92.3 | 7.7 | |
| Total% | - | - | - | 19.1 | 25.3 | - | 1.6 | - | 24.8 | - | 26.9 | 2.3 | |
| PHF | | | #DIV/0! | | | 0.87 | | | 0.82 | | | 0.82 | |

| PM | - Southbound | | | El Nopal Westbound | | | Los Ranchitos Road Northbound | | | El Nopal Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 16:00 | 0 | 0 | 0 | 22 | 53 | 0 | 0 | 0 | 43 | 0 | 50 | 0 | 168 |
| 16:15 | 0 | 0 | 0 | 42 | 82 | 0 | 1 | 0 | 31 | 0 | 40 | 3 | 199 |
| 16:30 | 0 | 0 | 0 | 38 | 65 | 0 | 0 | 0 | 37 | 0 | 37 | 7 | 184 |
| 16:45 | 0 | 0 | 0 | 28 | 71 | 0 | 2 | 0 | 37 | 0 | 50 | 1 | 189 |
| 17:00 | 0 | 0 | 0 | 41 | 101 | 0 | 1 | 0 | 48 | 0 | 69 | 4 | 264 |
| 17:15 | 0 | 0 | 0 | 49 | 54 | 0 | 3 | 0 | 62 | 0 | 63 | 3 | 234 |
| 17:30 | 0 | 0 | 0 | 33 | 60 | 0 | 3 | 0 | 47 | 0 | 60 | 3 | 206 |
| 17:45 | 0 | 0 | 0 | 23 | 62 | 0 | 2 | 0 | 36 | 0 | 59 | 2 | 184 |
| Total | 0 | 0 | 0 | 276 | 548 | 0 | 12 | 0 | 341 | 0 | 428 | 23 | 1628 |
| Approach% | - | - | - | 33.5 | 66.5 | - | 3.4 | - | 96.6 | - | 94.9 | 5.1 | |
| Total% | - | - | - | 18.7 | 37.1 | - | 0.8 | - | 23.1 | - | 29.0 | 1.6 | |

**PM Intersection Peak Hour:** **16:45 to 17:45**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | - | - | - | 151 | 286 | - | 9 | - | 194 | - | 242 | 11 | 893 |
| Approach% | - | - | - | 34.6 | 65.4 | - | 4.4 | - | 95.6 | - | 95.7 | 4.3 | |
| Total% | - | - | - | 17.0 | 32.2 | - | 1.0 | - | 21.8 | - | 27.3 | 1.2 | |
| PHF | | | #DIV/0! | | | 0.77 | | | 0.78 | | | 0.87 | |

# Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

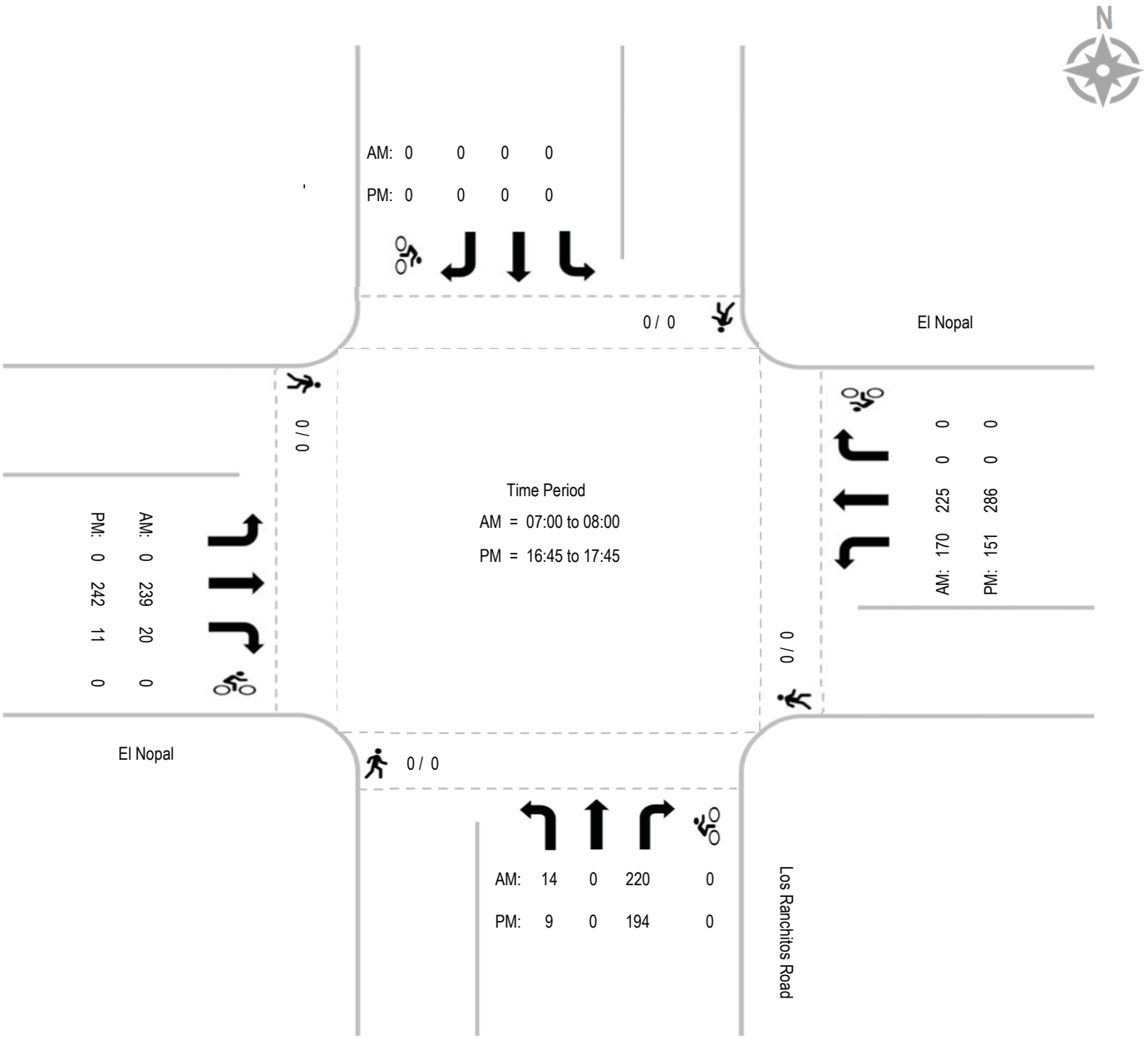
| | | | |
|---|---|---|---|
| Location: | #08 | File Name: | ITM-18-015-08 |
| Intersection: | El Nopal / Los Ranchitos Road | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Tuesday, January 30, 2018 | | Fanita Ranch |

| AM | - Southbound | | | | El Nopal Westbound | | | | Los Ranchitos Road Northbound | | | | El Nopal Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 7:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped Total | 0 | | | | 0 | | | | 0 | | | | 0 | | | | 0 | |
| Bike Total | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 |

| PM | - Southbound | | | | El Nopal Westbound | | | | Los Ranchitos Road Northbound | | | | El Nopal Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped Total | 0 | | | | 0 | | | | 0 | | | | 0 | | | | 0 | |
| Bike Total | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 |

# Intersection Turning Movement - Peak Hour Summary

| | | | | |
|---|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #08 | File Name: | ITM-18-015-08 |
| | Intersection: | El Nopal / Los Ranchitos Road | Project: | LLG Ref. 3-15-2462 |
| | Date of Count: | Tuesday, January 30, 2018 | | Fanita Ranch |



# Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers

| | | | |
|---|---|---|---|
| Location: | #09 | File Name: | ITM-18-015-09 |
| Intersection: | Lake Canyon Road / Fanita Parkway | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Wednesday, January 31, 2018 | | Fanita Ranch |

| AM | Fanita Parkway Southbound | | | Lake Canyon Road Westbound | | | Fanita Parkway Northbound | | | - Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 7:00 | 0 | 22 | 0 | 28 | 0 | 1 | 0 | 3 | 9 | 0 | 0 | 0 | 63 |
| 7:15 | 1 | 28 | 0 | 18 | 0 | 0 | 0 | 4 | 5 | 0 | 0 | 0 | 56 |
| 7:30 | 1 | 20 | 0 | 17 | 0 | 1 | 0 | 10 | 6 | 0 | 0 | 0 | 55 |
| 7:45 | 0 | 22 | 0 | 13 | 0 | 1 | 0 | 8 | 6 | 0 | 0 | 0 | 50 |
| 8:00 | 1 | 28 | 0 | 31 | 0 | 4 | 0 | 13 | 28 | 0 | 0 | 0 | 105 |
| 8:15 | 0 | 28 | 0 | 24 | 0 | 1 | 0 | 7 | 20 | 0 | 0 | 0 | 80 |
| 8:30 | 0 | 27 | 0 | 17 | 0 | 2 | 0 | 11 | 17 | 0 | 0 | 0 | 74 |
| 8:45 | 2 | 19 | 0 | 16 | 0 | 2 | 0 | 9 | 9 | 0 | 0 | 0 | 57 |
| Total | 5 | 194 | 0 | 164 | 0 | 12 | 0 | 65 | 100 | 0 | 0 | 0 | 540 |
| Approach% | 2.5 | 97.5 | - | 93.2 | - | 6.8 | - | 39.4 | 60.6 | - | - | - | |
| Total% | 0.9 | 35.9 | - | 30.4 | - | 2.2 | - | 12.0 | 18.5 | - | - | - | |

**AM Intersection Peak Hour:** **08:00 to 09:00**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 3 | 102 | - | 88 | - | 9 | - | 40 | 74 | - | - | - | 316 |
| Approach% | 2.9 | 97.1 | - | 90.7 | - | 9.3 | - | 35.1 | 64.9 | - | - | - | |
| Total% | 0.9 | 32.3 | - | 27.8 | - | 2.8 | - | 12.7 | 23.4 | - | - | - | |
| PHF | | | 0.91 | | | 0.69 | | | 0.70 | | | | |

| PM | Fanita Parkway Southbound | | | Lake Canyon Road Westbound | | | Fanita Parkway Northbound | | | - Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 16:00 | 5 | 16 | 0 | 9 | 0 | 3 | 0 | 32 | 23 | 0 | 0 | 0 | 88 |
| 16:15 | 2 | 21 | 0 | 13 | 1 | 6 | 2 | 28 | 9 | 0 | 0 | 0 | 82 |
| 16:30 | 0 | 20 | 0 | 7 | 0 | 2 | 0 | 21 | 25 | 0 | 0 | 0 | 75 |
| 16:45 | 0 | 17 | 0 | 8 | 0 | 4 | 2 | 29 | 25 | 0 | 0 | 0 | 85 |
| 17:00 | 1 | 20 | 0 | 21 | 0 | 6 | 3 | 36 | 31 | 0 | 2 | 0 | 120 |
| 17:15 | 3 | 22 | 0 | 13 | 0 | 4 | 2 | 36 | 16 | 0 | 0 | 0 | 96 |
| 17:30 | 3 | 16 | 0 | 10 | 0 | 6 | 2 | 26 | 19 | 0 | 0 | 0 | 82 |
| 17:45 | 1 | 14 | 0 | 3 | 1 | 4 | 2 | 25 | 14 | 0 | 0 | 0 | 64 |
| Total | 15 | 146 | 0 | 84 | 2 | 35 | 13 | 233 | 162 | 0 | 2 | 0 | 692 |
| Approach% | 9.3 | 90.7 | - | 69.4 | 1.7 | 28.9 | 3.2 | 57.1 | 39.7 | - | 100.0 | - | |
| Total% | 2.8 | 27.0 | - | 15.6 | 0.4 | 6.5 | 2.4 | 43.1 | 30.0 | - | 0.4 | - | |

**PM Intersection Peak Hour:** **16:45 to 17:45**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 7 | 75 | - | 52 | - | 20 | 9 | 127 | 91 | - | 2 | - | 383 |
| Approach% | 8.5 | 91.5 | - | 72.2 | - | 27.8 | 4.0 | 55.9 | 40.1 | - | 100.0 | - | |
| Total% | 2.2 | 23.7 | - | 16.5 | - | 6.3 | 2.8 | 40.2 | 28.8 | - | 0.6 | - | |
| PHF | | | 0.82 | | | 0.67 | | | 0.81 | | | 0.25 | |

# Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

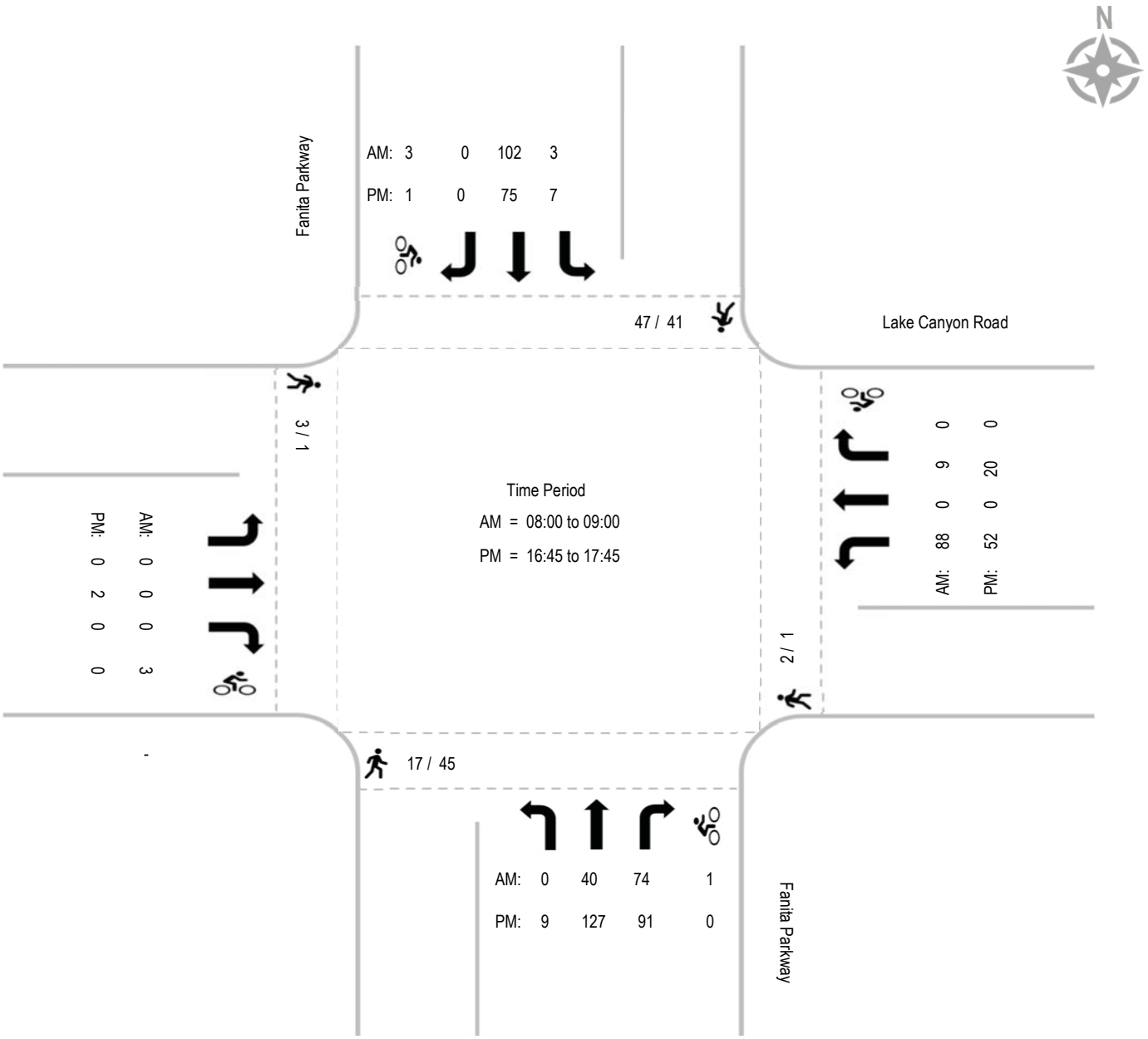
| | | | |
|---|---|---|---|
| Location: | #09 | File Name: | ITM-18-015-09 |
| Intersection: | Lake Canyon Road / Fanita Parkway | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Wednesday, January 31, 2018 | | Fanita Ranch |

| AM | Fanita Parkway Southbound | | | | Lake Canyon Road Westbound | | | | Fanita Parkway Northbound | | | | - Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 7:00 | 2 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 7 | 4 |
| 7:15 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 0 |
| 7:30 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 4 | 1 |
| 7:45 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 9 | 0 |
| 8:00 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 1 |
| 8:15 | 12 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 1 |
| 8:30 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 |
| 8:45 | 11 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 0 |
| Ped Total | 47 | | | | 2 | | | | 17 | | | | 3 | | | | 69 | |
| Bike Total | | 0 | 2 | 1 | | 0 | 0 | 0 | | 1 | 0 | 0 | | 3 | 0 | 0 | | 7 |

| PM | Fanita Parkway Southbound | | | | Lake Canyon Road Westbound | | | | Fanita Parkway Northbound | | | | - Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 16:00 | 6 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14 | 0 |
| 16:15 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 11 | 0 |
| 16:30 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 17 | 0 |
| 16:45 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 |
| 17:00 | 8 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19 | 1 |
| 17:15 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 17 | 0 |
| 17:30 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 |
| 17:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| Ped Total | 41 | | | | 1 | | | | 45 | | | | 1 | | | | 88 | |
| Bike Total | | 0 | 1 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 1 |

# Intersection Turning Movement - Peak Hour Summary

| | | | | |
|---|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #09 | File Name: | ITM-18-015-09 |
| | Intersection: | Lake Canyon Road / Fanita Parkway | Project: | LLG Ref. 3-15-2462 |
| | Date of Count: | Wednesday, January 31, 2018 | | Fanita Ranch |



# Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers

| | | | |
|---|---|---|---|
| Location: | #R10 | File Name: | ITM-18-015-R10 |
| Intersection: | Carlton Hills Boulevard & Lake Canyon Road | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Wednesday, January 31, 2018 | | Fanita Ranch |

| AM | Carlton Hills Boulevard Southbound | | | Lake Canyon Road Westbound | | | Carlton Hills Boulevard Northbound | | | Lake Canyon Road Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 7:00 | 0 | 3 | 2 | 4 | 5 | 0 | 11 | 3 | 2 | 0 | 1 | 17 | 48 |
| 7:15 | 0 | 4 | 1 | 6 | 3 | 0 | 13 | 1 | 0 | 0 | 2 | 18 | 48 |
| 7:30 | 0 | 7 | 0 | 3 | 3 | 0 | 33 | 3 | 6 | 1 | 1 | 30 | 87 |
| 7:45 | 1 | 8 | 2 | 4 | 5 | 0 | 45 | 5 | 1 | 0 | 2 | 31 | 104 |
| 8:00 | 0 | 6 | 1 | 2 | 12 | 1 | 56 | 5 | 0 | 1 | 2 | 24 | 110 |
| 8:15 | 0 | 9 | 0 | 2 | 4 | 8 | 72 | 23 | 1 | 2 | 6 | 69 | 196 |
| 8:30 | 2 | 8 | 0 | 0 | 5 | 1 | 33 | 3 | 2 | 0 | 10 | 69 | 133 |
| 8:45 | 0 | 12 | 0 | 3 | 3 | 0 | 23 | 9 | 1 | 0 | 4 | 48 | 103 |
| Total | 3 | 57 | 6 | 24 | 40 | 10 | 286 | 52 | 13 | 4 | 28 | 306 | 829 |
| Approach% | 4.5 | 86.4 | 9.1 | 32.4 | 54.1 | 13.5 | 81.5 | 14.8 | 3.7 | 1.2 | 8.3 | 90.5 | |
| Total% | 0.4 | 6.9 | 0.7 | 2.9 | 4.8 | 1.2 | 34.5 | 6.3 | 1.6 | 0.5 | 3.4 | 36.9 | |

**AM Intersection Peak Hour:** **07:45 to 08:45**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 3 | 31 | 3 | 8 | 26 | 10 | 206 | 36 | 4 | 3 | 20 | 193 | 543 |
| Approach% | 8.1 | 83.8 | 8.1 | 18.2 | 59.1 | 22.7 | 83.7 | 14.6 | 1.6 | 1.4 | 9.3 | 89.4 | |
| Total% | 0.6 | 5.7 | 0.6 | 1.5 | 4.8 | 1.8 | 37.9 | 6.6 | 0.7 | 0.6 | 3.7 | 35.5 | |
| PHF | | | 0.84 | | | 0.73 | | | 0.64 | | | 0.68 | |

| PM | Carlton Hills Boulevard Southbound | | | Lake Canyon Road Westbound | | | Carlton Hills Boulevard Northbound | | | Lake Canyon Road Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 16:00 | 0 | 7 | 0 | 1 | 3 | 0 | 38 | 9 | 3 | 1 | 0 | 26 | 88 |
| 16:15 | 0 | 3 | 2 | 2 | 1 | 0 | 35 | 8 | 1 | 0 | 1 | 34 | 87 |
| 16:30 | 0 | 7 | 0 | 5 | 1 | 1 | 40 | 9 | 5 | 0 | 5 | 36 | 109 |
| 16:45 | 0 | 5 | 0 | 2 | 2 | 2 | 44 | 17 | 5 | 0 | 3 | 38 | 118 |
| 17:00 | 2 | 8 | 0 | 3 | 2 | 1 | 45 | 12 | 7 | 2 | 7 | 44 | 133 |
| 17:15 | 0 | 6 | 1 | 1 | 1 | 1 | 22 | 7 | 7 | 1 | 0 | 42 | 89 |
| 17:30 | 0 | 7 | 0 | 3 | 2 | 1 | 25 | 9 | 4 | 1 | 0 | 19 | 71 |
| 17:45 | 1 | 5 | 0 | 1 | 1 | 0 | 28 | 8 | 5 | 0 | 1 | 17 | 67 |
| Total | 3 | 48 | 3 | 18 | 13 | 6 | 277 | 79 | 37 | 5 | 17 | 256 | 762 |
| Approach% | 5.6 | 88.9 | 5.6 | 48.6 | 35.1 | 16.2 | 70.5 | 20.1 | 9.4 | 1.8 | 6.1 | 92.1 | |
| Total% | 0.4 | 5.8 | 0.4 | 2.2 | 1.6 | 0.7 | 33.4 | 9.5 | 4.5 | 0.6 | 2.1 | 30.9 | |

**PM Intersection Peak Hour:** **16:30 to 17:30**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 2 | 26 | 1 | 11 | 6 | 5 | 151 | 45 | 24 | 3 | 15 | 160 | 449 |
| Approach% | 6.9 | 89.7 | 3.4 | 50.0 | 27.3 | 22.7 | 68.6 | 20.5 | 10.9 | 1.7 | 8.4 | 89.9 | |
| Total% | 0.4 | 4.8 | 0.2 | 2.0 | 1.1 | 0.9 | 27.8 | 8.3 | 4.4 | 0.6 | 2.8 | 29.5 | |
| PHF | | | 0.73 | | | 0.79 | | | 0.83 | | | 0.84 | |

# Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

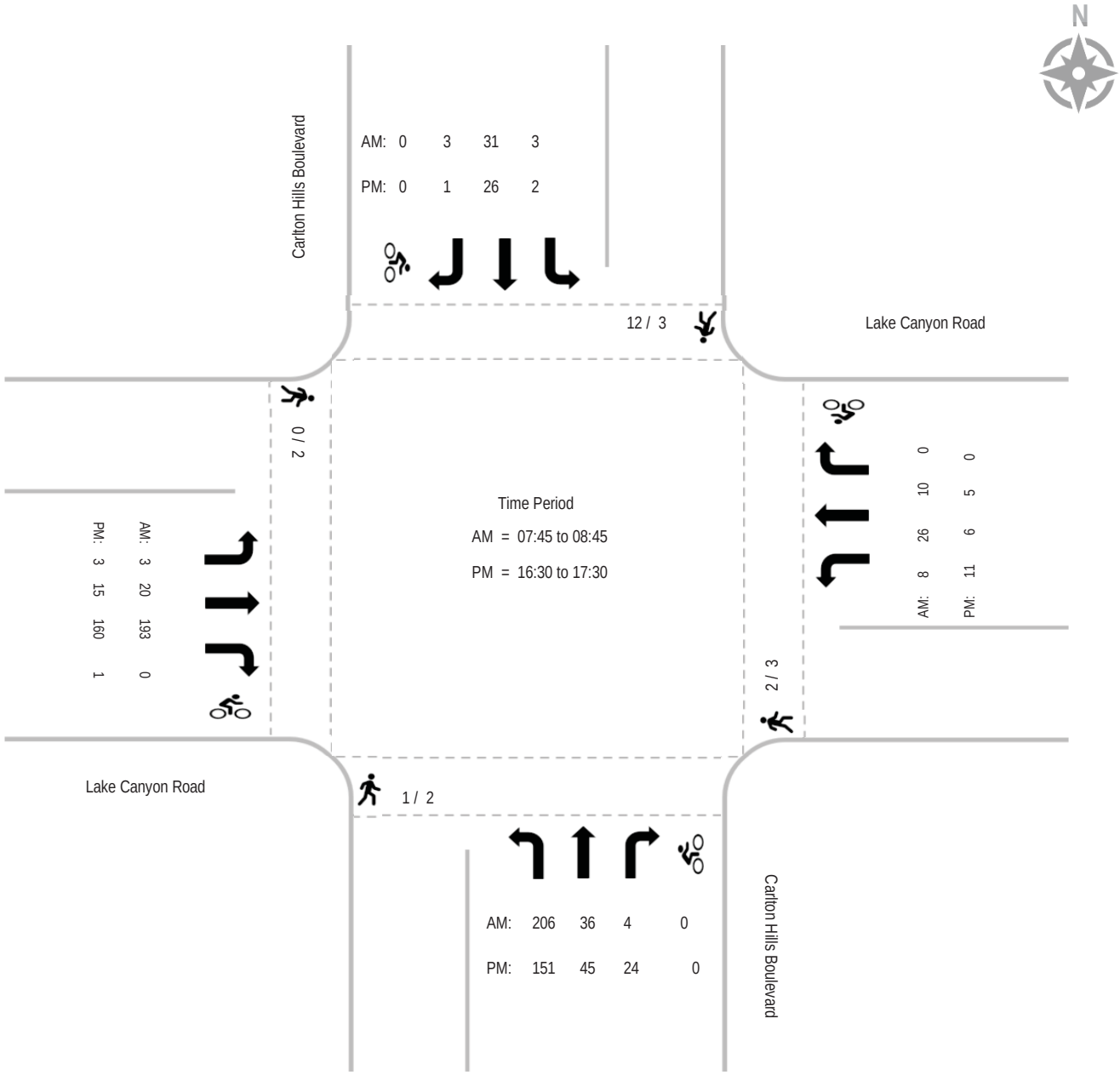
| | | | |
|---|---|---|---|
| Location: | #R10 | File Name: | ITM-18-015-R10 |
| Intersection: | Carlton Hills Boulevard & Lake Canyon Road | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Wednesday, January 31, 2018 | | Fanita Ranch |

| AM | Carlton Hills Boulevard Southbound | | | | Lake Canyon Road Westbound | | | | Carlton Hills Boulevard Northbound | | | | Lake Canyon Road Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 7:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:15 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 7:30 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 7:45 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 8:00 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 8:15 | 3 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 |
| 8:30 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 |
| 8:45 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| Ped Total | 12 | | | | 2 | | | | 1 | | | | 0 | | | | 15 | |
| Bike Total | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 |

| PM | Carlton Hills Boulevard Southbound | | | | Lake Canyon Road Westbound | | | | Carlton Hills Boulevard Northbound | | | | Lake Canyon Road Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16:30 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 16:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 4 | 0 |
| 17:00 | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 |
| 17:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 17:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped Total | 3 | | | | 3 | | | | 2 | | | | 2 | | | | 10 | |
| Bike Total | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 1 | 0 | | 1 |

# Intersection Turning Movement - Peak Hour Summary

| | | | |
|---|---|---|---|
| Location: | #R10 | File Name: | ITM-18-015-R10 |
| Intersection: | Carlton Hills Boulevard & Lake Canyon Road | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Wednesday, January 31, 2018 | | Fanita Ranch |



# Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers

| | | | |
|---|---|---|---|
| Location: | #11 | File Name: | ITM-18-015-11 |
| Intersection: | Lake Canyon Road / Halberns Boulevard | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Wednesday, January 31, 2018 | | Fanita Ranch |

| AM | Halberns Boulevard Southbound | | | - Westbound | | | Halberns Boulevard Northbound | | | Lake Canyon Road Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 7:00 | 0 | 0 | 4 | 0 | 0 | 0 | 2 | 3 | 0 | 1 | 0 | 10 | 20 |
| 7:15 | 0 | 0 | 8 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 13 | 25 |
| 7:30 | 0 | 0 | 5 | 0 | 0 | 0 | 3 | 1 | 0 | 0 | 0 | 7 | 16 |
| 7:45 | 0 | 0 | 11 | 0 | 0 | 0 | 6 | 4 | 0 | 1 | 0 | 10 | 32 |
| 8:00 | 0 | 0 | 10 | 0 | 0 | 0 | 6 | 9 | 0 | 2 | 0 | 12 | 39 |
| 8:15 | 0 | 0 | 5 | 0 | 0 | 0 | 7 | 4 | 0 | 4 | 0 | 8 | 28 |
| 8:30 | 0 | 0 | 5 | 0 | 0 | 0 | 4 | 3 | 0 | 1 | 0 | 11 | 24 |
| 8:45 | 0 | 0 | 7 | 0 | 0 | 0 | 3 | 4 | 0 | 2 | 0 | 8 | 24 |
| Total | 0 | 0 | 55 | 0 | 0 | 0 | 33 | 30 | 0 | 11 | 0 | 79 | 208 |
| Approach% | - | - | 100.0 | - | - | - | 52.4 | 47.6 | - | 12.2 | - | 87.8 | |
| Total% | - | - | 26.4 | - | - | - | 15.9 | 14.4 | - | 5.3 | - | 38.0 | |

**AM Intersection Peak Hour:** **07:45 to 08:45**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | - | - | 31 | - | - | - | 23 | 20 | - | 8 | - | 41 | 123 |
| Approach% | - | - | 100.0 | - | - | - | 53.5 | 46.5 | - | 16.3 | - | 83.7 | |
| Total% | - | - | 25.2 | - | - | - | 18.7 | 16.3 | - | 6.5 | - | 33.3 | |
| PHF | | | 0.70 | | | #DIV/0! | | | 0.72 | | | 0.88 | |

| PM | Halberns Boulevard Southbound | | | - Westbound | | | Halberns Boulevard Northbound | | | Lake Canyon Road Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 16:00 | 0 | 0 | 4 | 0 | 0 | 0 | 6 | 5 | 0 | 1 | 0 | 7 | 23 |
| 16:15 | 0 | 0 | 7 | 0 | 0 | 0 | 5 | 12 | 0 | 1 | 0 | 11 | 36 |
| 16:30 | 0 | 0 | 3 | 0 | 0 | 0 | 10 | 8 | 0 | 1 | 0 | 8 | 30 |
| 16:45 | 0 | 0 | 2 | 0 | 0 | 0 | 6 | 7 | 0 | 1 | 0 | 9 | 25 |
| 17:00 | 0 | 0 | 4 | 0 | 0 | 0 | 6 | 4 | 0 | 4 | 0 | 10 | 28 |
| 17:15 | 0 | 0 | 6 | 0 | 0 | 0 | 13 | 12 | 0 | 3 | 0 | 6 | 40 |
| 17:30 | 0 | 0 | 6 | 0 | 0 | 0 | 4 | 8 | 0 | 0 | 0 | 6 | 24 |
| 17:45 | 0 | 0 | 4 | 0 | 0 | 0 | 7 | 8 | 0 | 1 | 0 | 9 | 29 |
| Total | 0 | 0 | 36 | 0 | 0 | 0 | 57 | 64 | 0 | 12 | 0 | 66 | 235 |
| Approach% | - | - | 100.0 | - | - | - | 47.1 | 52.9 | - | 15.4 | - | 84.6 | |
| Total% | - | - | 17.3 | - | - | - | 27.4 | 30.8 | - | 5.8 | - | 31.7 | |

**PM Intersection Peak Hour:** **16:30 to 17:30**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | - | - | 15 | - | - | - | 35 | 31 | - | 9 | - | 33 | 123 |
| Approach% | - | - | 100.0 | - | - | - | 53.0 | 47.0 | - | 21.4 | - | 78.6 | |
| Total% | - | - | 12.2 | - | - | - | 28.5 | 25.2 | - | 7.3 | - | 26.8 | |
| PHF | | | 0.63 | | | #DIV/0! | | | 0.66 | | | 0.75 | |

# Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

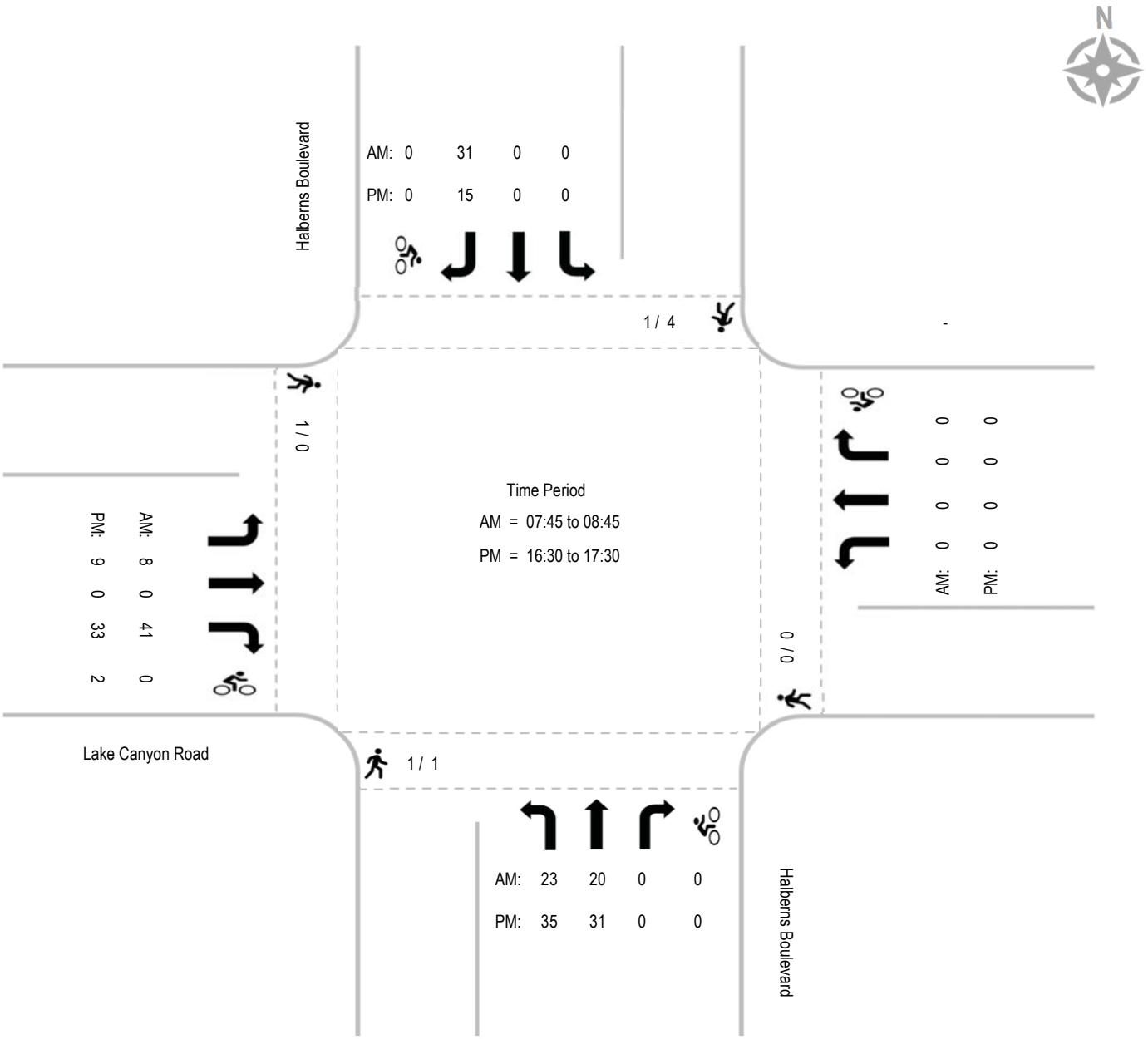
| | | | |
|---|---|---|---|
| Location: | #11 | File Name: | ITM-18-015-11 |
| Intersection: | Lake Canyon Road / Halberns Boulevard | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Wednesday, January 31, 2018 | | Fanita Ranch |

| AM | Halberns Boulevard Southbound | | | | - Westbound | | | | Halberns Boulevard Northbound | | | | Lake Canyon Road Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 7:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 |
| 8:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| Ped Total | 1 | | | | 0 | | | | 1 | | | | 1 | | | | 3 | |
| Bike Total | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 |

| PM | Halberns Boulevard Southbound | | | | - Westbound | | | | Halberns Boulevard Northbound | | | | Lake Canyon Road Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16:30 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 16:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:00 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 17:15 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 17:30 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 1 |
| 17:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| Ped Total | 4 | | | | 0 | | | | 1 | | | | 0 | | | | 5 | |
| Bike Total | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 2 | | 2 |

# Intersection Turning Movement - Peak Hour Summary

| | | | | |
|---|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #11 | File Name: | ITM-18-015-11 |
| | Intersection: | Lake Canyon Road / Halberns Boulevard | Project: | LLG Ref. 3-15-2462 |
| | Date of Count: | Wednesday, January 31, 2018 | | Fanita Ranch |



# Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers

| | | | |
|---|---|---|---|
| Location: | #12 | File Name: | ITM-18-015-12 |
| Intersection: | Beck Drive / Cuyamaca Street | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Tuesday, January 30, 2018 | | Fanita Ranch |

| AM | Cuyamaca Street Southbound | | | Beck Drive Westbound | | | Cuyamaca Street Northbound | | | Beck Drive Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 7:00 | 0 | 117 | 0 | 20 | 1 | 1 | 0 | 27 | 5 | 1 | 0 | 3 | 175 |
| 7:15 | 0 | 117 | 0 | 20 | 0 | 0 | 0 | 33 | 3 | 0 | 0 | 2 | 175 |
| 7:30 | 1 | 160 | 0 | 26 | 0 | 1 | 0 | 31 | 2 | 0 | 0 | 3 | 224 |
| 7:45 | 1 | 132 | 0 | 20 | 0 | 0 | 0 | 35 | 11 | 0 | 0 | 4 | 203 |
| 8:00 | 1 | 119 | 0 | 22 | 1 | 0 | 1 | 29 | 9 | 0 | 0 | 2 | 184 |
| 8:15 | 0 | 106 | 0 | 22 | 0 | 0 | 0 | 42 | 7 | 0 | 0 | 2 | 179 |
| 8:30 | 2 | 80 | 0 | 18 | 0 | 0 | 0 | 38 | 7 | 0 | 0 | 1 | 146 |
| 8:45 | 0 | 72 | 0 | 11 | 1 | 0 | 1 | 33 | 9 | 0 | 0 | 5 | 132 |
| Total | 5 | 903 | 0 | 159 | 3 | 2 | 2 | 268 | 53 | 1 | 0 | 22 | 1418 |
| Approach% | 0.6 | 99.4 | - | 97.0 | 1.8 | 1.2 | 0.6 | 83.0 | 16.4 | 4.3 | - | 95.7 | |
| Total% | 0.4 | 63.7 | - | 11.2 | 0.2 | 0.1 | 0.1 | 18.9 | 3.7 | 0.1 | - | 1.6 | |

**AM Intersection Peak Hour:** **07:30 to 08:30**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 3 | 517 | - | 90 | 1 | 1 | 1 | 137 | 29 | - | - | 11 | 790 |
| Approach% | 0.6 | 99.4 | - | 97.8 | 1.1 | 1.1 | 0.6 | 82.0 | 17.4 | - | - | 100.0 | |
| Total% | 0.4 | 65.4 | - | 11.4 | 0.1 | 0.1 | 0.1 | 17.3 | 3.7 | - | - | 1.4 | |
| PHF | | | 0.81 | | | 0.85 | | | 0.85 | | | 0.69 | |

| PM | Cuyamaca Street Southbound | | | Beck Drive Westbound | | | Cuyamaca Street Northbound | | | Beck Drive Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 16:00 | 0 | 54 | 1 | 14 | 0 | 0 | 1 | 98 | 8 | 0 | 0 | 0 | 176 |
| 16:15 | 0 | 57 | 1 | 8 | 0 | 0 | 1 | 72 | 22 | 0 | 0 | 1 | 162 |
| 16:30 | 0 | 52 | 0 | 9 | 0 | 0 | 1 | 78 | 10 | 0 | 0 | 1 | 151 |
| 16:45 | 0 | 73 | 1 | 12 | 0 | 0 | 1 | 94 | 20 | 0 | 0 | 0 | 201 |
| 17:00 | 0 | 47 | 2 | 15 | 0 | 0 | 3 | 120 | 19 | 0 | 0 | 1 | 207 |
| 17:15 | 2 | 51 | 1 | 13 | 0 | 1 | 2 | 91 | 13 | 0 | 0 | 3 | 177 |
| 17:30 | 0 | 56 | 0 | 16 | 1 | 0 | 4 | 85 | 13 | 0 | 0 | 1 | 176 |
| 17:45 | 0 | 63 | 0 | 10 | 1 | 1 | 0 | 111 | 18 | 0 | 0 | 1 | 205 |
| Total | 2 | 453 | 6 | 97 | 2 | 2 | 13 | 749 | 123 | 0 | 0 | 8 | 1455 |
| Approach% | 0.4 | 98.3 | 1.3 | 96.0 | 2.0 | 2.0 | 1.5 | 84.6 | 13.9 | - | - | 100.0 | |
| Total% | 0.1 | 31.9 | 0.4 | 6.8 | 0.1 | 0.1 | 0.9 | 52.8 | 8.7 | - | - | 0.6 | |

**PM Intersection Peak Hour:** **17:00 to 18:00**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 2 | 217 | 3 | 54 | 2 | 2 | 9 | 407 | 63 | - | - | 6 | 765 |
| Approach% | 0.9 | 97.7 | 1.4 | 93.1 | 3.4 | 3.4 | 1.9 | 85.0 | 13.2 | - | - | 100.0 | |
| Total% | 0.3 | 27.5 | 0.4 | 6.8 | 0.3 | 0.3 | 1.1 | 51.5 | 8.0 | - | - | 0.8 | |
| PHF | | | 0.88 | | | 0.85 | | | 0.84 | | | 0.50 | |

# Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

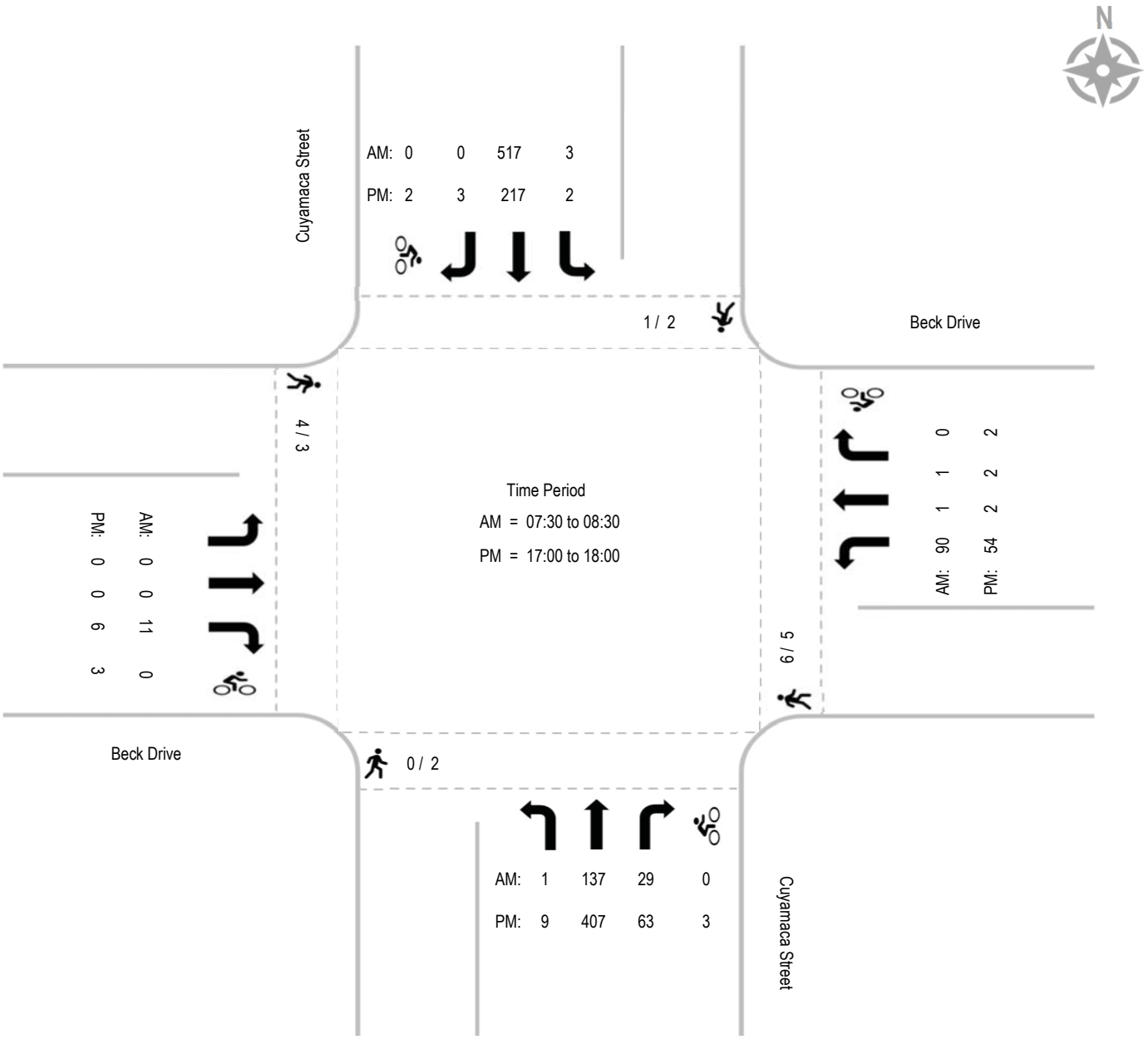
| | | | |
|---|---|---|---|
| Location: | #12 | File Name: | ITM-18-015-12 |
| Intersection: | Beck Drive / Cuyamaca Street | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Tuesday, January 30, 2018 | | Fanita Ranch |

| AM | Cuyamaca Street Southbound | | | | Beck Drive Westbound | | | | Cuyamaca Street Northbound | | | | Beck Drive Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 7:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 7:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 7:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 8:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:15 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 8:30 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 5 | 0 |
| 8:45 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| Ped Total | 1 | | | | 6 | | | | 0 | | | | 4 | | | | 11 | |
| Bike Total | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 |

| PM | Cuyamaca Street Southbound | | | | Beck Drive Westbound | | | | Cuyamaca Street Northbound | | | | Beck Drive Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 16:00 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 |
| 16:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 2 |
| 16:30 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 3 | 4 |
| 16:45 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 |
| 17:15 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 3 | 2 |
| 17:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped Total | 2 | | | | 5 | | | | 2 | | | | 3 | | | | 12 | |
| Bike Total | | 2 | 0 | 0 | | 0 | 2 | 0 | | 0 | 3 | 0 | | 0 | 3 | 0 | | 10 |

# Intersection Turning Movement - Peak Hour Summary

| | | | | |
|---|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #12 | File Name: | ITM-18-015-12 |
| | Intersection: | Beck Drive / Cuyamaca Street | Project: | LLG Ref. 3-15-2462 |
| | Date of Count: | Tuesday, January 30, 2018 | | Fanita Ranch |



# Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers

| | | | |
|---|---|---|---|
| Location: | #13 | File Name: | ITM-18-015-13 |
| Intersection: | 2nd Street / Magnolia Avenue | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Tuesday, January 30, 2018 | | Fanita Ranch |

| AM | Magnolia Avenue Southbound | | | 2nd Street Westbound | | | Magnolia Avenue Northbound | | | - Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 7:00 | 10 | 168 | 0 | 20 | 0 | 10 | 0 | 89 | 5 | 0 | 0 | 0 | 302 |
| 7:15 | 17 | 195 | 0 | 28 | 0 | 6 | 0 | 91 | 8 | 0 | 0 | 0 | 345 |
| 7:30 | 19 | 207 | 0 | 34 | 0 | 11 | 0 | 105 | 19 | 0 | 0 | 0 | 395 |
| 7:45 | 24 | 189 | 0 | 42 | 0 | 7 | 0 | 62 | 40 | 0 | 0 | 0 | 364 |
| 8:00 | 49 | 123 | 0 | 54 | 0 | 9 | 0 | 89 | 36 | 0 | 0 | 0 | 360 |
| 8:15 | 8 | 116 | 0 | 22 | 0 | 4 | 0 | 84 | 15 | 0 | 0 | 0 | 249 |
| 8:30 | 1 | 128 | 0 | 10 | 0 | 1 | 0 | 72 | 7 | 0 | 0 | 0 | 219 |
| 8:45 | 0 | 118 | 0 | 10 | 0 | 1 | 2 | 81 | 8 | 0 | 0 | 0 | 220 |
| Total | 128 | 1244 | 0 | 220 | 0 | 49 | 2 | 673 | 138 | 0 | 0 | 0 | 2454 |
| Approach% | 9.3 | 90.7 | - | 81.8 | - | 18.2 | 0.2 | 82.8 | 17.0 | - | - | - | |
| Total% | 5.2 | 50.7 | - | 9.0 | - | 2.0 | 0.1 | 27.4 | 5.6 | - | - | - | |

**AM Intersection Peak Hour:** **07:15 to 08:15**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 109 | 714 | - | 158 | - | 33 | - | 347 | 103 | - | - | - | 1,464 |
| Approach% | 13.2 | 86.8 | - | 82.7 | - | 17.3 | - | 77.1 | 22.9 | - | - | - | |
| Total% | 7.4 | 48.8 | - | 10.8 | - | 2.3 | - | 23.7 | 7.0 | - | - | - | |
| PHF | | | 0.91 | | | 0.76 | | | 0.90 | | | | |

| PM | Magnolia Avenue Southbound | | | 2nd Street Westbound | | | Magnolia Avenue Northbound | | | - Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 16:00 | 5 | 101 | 0 | 24 | 0 | 11 | 0 | 192 | 27 | 0 | 0 | 0 | 360 |
| 16:15 | 4 | 130 | 0 | 20 | 0 | 4 | 0 | 163 | 43 | 0 | 0 | 0 | 364 |
| 16:30 | 8 | 125 | 0 | 23 | 0 | 2 | 0 | 184 | 52 | 0 | 0 | 0 | 394 |
| 16:45 | 6 | 127 | 0 | 16 | 0 | 3 | 0 | 203 | 42 | 0 | 0 | 0 | 397 |
| 17:00 | 7 | 133 | 0 | 25 | 0 | 10 | 0 | 161 | 37 | 0 | 0 | 0 | 373 |
| 17:15 | 7 | 140 | 0 | 16 | 0 | 5 | 0 | 210 | 25 | 0 | 0 | 0 | 403 |
| 17:30 | 7 | 134 | 0 | 19 | 2 | 5 | 0 | 177 | 36 | 0 | 0 | 0 | 380 |
| 17:45 | 4 | 132 | 0 | 21 | 0 | 4 | 0 | 193 | 36 | 0 | 0 | 0 | 390 |
| Total | 48 | 1022 | 0 | 164 | 2 | 44 | 0 | 1483 | 298 | 0 | 0 | 0 | 3061 |
| Approach% | 4.5 | 95.5 | - | 78.1 | 1.0 | 21.0 | - | 83.3 | 16.7 | - | - | - | |
| Total% | 2.0 | 41.6 | - | 6.7 | 0.1 | 1.8 | - | 60.4 | 12.1 | - | - | - | |

**PM Intersection Peak Hour:** **16:30 to 17:30**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 28 | 525 | - | 80 | - | 20 | - | 758 | 156 | - | - | - | 1,567 |
| Approach% | 5.1 | 94.9 | - | 80.0 | - | 20.0 | - | 82.9 | 17.1 | - | - | - | |
| Total% | 1.9 | 35.9 | - | 5.5 | - | 1.4 | - | 51.8 | 10.7 | - | - | - | |
| PHF | | | 0.94 | | | 0.71 | | | 0.93 | | | | |

# Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

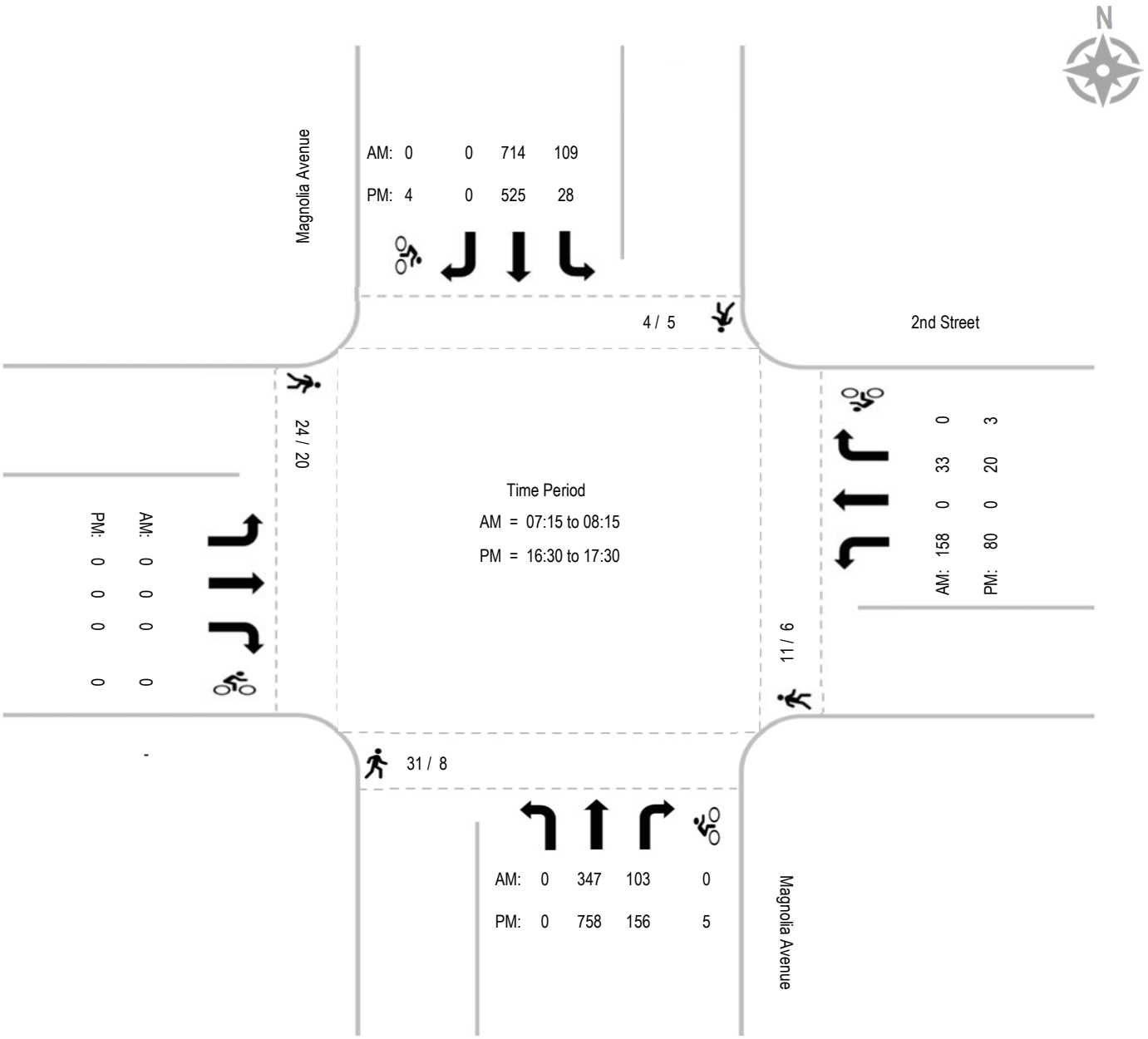
| | | | |
|---|---|---|---|
| Location: | #13 | File Name: | ITM-18-015-13 |
| Intersection: | 2nd Street / Magnolia Avenue | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Tuesday, January 30, 2018 | | Fanita Ranch |

| AM | Magnolia Avenue Southbound | | | | 2nd Street Westbound | | | | Magnolia Avenue Northbound | | | | - Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 7:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 7:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 7:30 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 12 | 0 |
| 7:45 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 20 | 0 |
| 8:00 | 1 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 17 | 0 |
| 8:15 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 8 | 0 |
| 8:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 3 | 0 |
| 8:45 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 8 | 0 |
| Ped Total | 4 | | | | 11 | | | | 31 | | | | 24 | | | | 70 | |
| Bike Total | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 |

| PM | Magnolia Avenue Southbound | | | | 2nd Street Westbound | | | | Magnolia Avenue Northbound | | | | - Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 16:00 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 |
| 16:15 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 3 | 0 | 0 | 0 | 3 | 2 |
| 16:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 3 | 3 |
| 16:45 | 2 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 3 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 10 | 2 |
| 17:00 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 1 |
| 17:15 | 0 | 0 | 1 | 0 | 3 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 5 | 0 | 0 | 0 | 9 | 2 |
| 17:30 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 4 | 0 | 0 | 0 | 7 | 1 |
| 17:45 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 3 | 0 |
| Ped Total | 5 | | | | 6 | | | | 8 | | | | 20 | | | | 39 | |
| Bike Total | | 0 | 4 | 0 | | 1 | 0 | 2 | | 4 | 1 | 0 | | 0 | 0 | 0 | | 12 |

# Intersection Turning Movement - Peak Hour Summary

| | | | | |
|---|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #13 | File Name: | ITM-18-015-13 |
| | Intersection: | 2nd Street / Magnolia Avenue | Project: | LLG Ref. 3-15-2462 |
| | Date of Count: | Tuesday, January 30, 2018 | | Fanita Ranch |



# Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers

| | | | |
|---|---|---|---|
| Location: | #14 | File Name: | ITM-18-015-14 |
| Intersection: | Carefree Drive / Magnolia Avenue | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Tuesday, January 30, 2018 | | Fanita Ranch |

| AM | Magnolia Avenue Southbound | | | Carefree Drive Westbound | | | Magnolia Avenue Northbound | | | Carefree Drive Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 7:00 | 0 | 176 | 2 | 7 | 0 | 19 | 1 | 145 | 0 | 1 | 0 | 23 | 374 |
| 7:15 | 0 | 210 | 1 | 24 | 0 | 5 | 5 | 101 | 0 | 2 | 0 | 27 | 375 |
| 7:30 | 0 | 236 | 0 | 24 | 0 | 1 | 4 | 127 | 0 | 1 | 0 | 4 | 397 |
| 7:45 | 0 | 222 | 1 | 49 | 0 | 6 | 5 | 104 | 0 | 0 | 0 | 12 | 399 |
| 8:00 | 0 | 173 | 0 | 88 | 0 | 18 | 3 | 96 | 0 | 2 | 0 | 14 | 394 |
| 8:15 | 0 | 151 | 0 | 17 | 0 | 2 | 4 | 91 | 0 | 1 | 0 | 16 | 282 |
| 8:30 | 0 | 128 | 0 | 4 | 0 | 0 | 8 | 77 | 0 | 3 | 0 | 12 | 232 |
| 8:45 | 0 | 126 | 1 | 2 | 0 | 0 | 6 | 88 | 0 | 0 | 0 | 17 | 240 |
| Total | 0 | 1422 | 5 | 215 | 0 | 51 | 36 | 829 | 0 | 10 | 0 | 125 | 2693 |
| Approach% | - | 99.6 | 0.4 | 80.8 | - | 19.2 | 4.2 | 95.8 | - | 7.4 | - | 92.6 | |
| Total% | - | 52.8 | 0.2 | 8.0 | - | 1.9 | 1.3 | 30.8 | - | 0.4 | - | 4.6 | |

**AM Intersection Peak Hour:** **07:15 to 08:15**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | - | 841 | 2 | 185 | - | 30 | 17 | 428 | - | 5 | - | 57 | 1,565 |
| Approach% | - | 99.8 | 0.2 | 86.0 | - | 14.0 | 3.8 | 96.2 | - | 8.1 | - | 91.9 | |
| Total% | - | 53.7 | 0.1 | 11.8 | - | 1.9 | 1.1 | 27.3 | - | 0.3 | - | 3.6 | |
| PHF | | | 0.89 | | | 0.51 | | | 0.85 | | | 0.53 | |

| PM | Magnolia Avenue Southbound | | | Carefree Drive Westbound | | | Magnolia Avenue Northbound | | | Carefree Drive Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 16:00 | 0 | 138 | 0 | 8 | 0 | 1 | 12 | 203 | 0 | 3 | 0 | 8 | 373 |
| 16:15 | 0 | 148 | 2 | 2 | 0 | 1 | 14 | 204 | 0 | 0 | 0 | 6 | 377 |
| 16:30 | 0 | 135 | 1 | 1 | 0 | 0 | 24 | 241 | 0 | 1 | 0 | 10 | 413 |
| 16:45 | 0 | 140 | 2 | 1 | 0 | 0 | 17 | 251 | 0 | 1 | 0 | 15 | 427 |
| 17:00 | 0 | 150 | 3 | 1 | 0 | 0 | 23 | 189 | 0 | 2 | 0 | 12 | 380 |
| 17:15 | 0 | 152 | 2 | 1 | 0 | 0 | 12 | 229 | 0 | 2 | 0 | 14 | 412 |
| 17:30 | 0 | 157 | 2 | 3 | 0 | 1 | 23 | 210 | 0 | 0 | 0 | 9 | 405 |
| 17:45 | 0 | 152 | 0 | 1 | 0 | 0 | 16 | 228 | 0 | 1 | 0 | 16 | 414 |
| Total | 0 | 1172 | 12 | 18 | 0 | 3 | 141 | 1755 | 0 | 10 | 0 | 90 | 3201 |
| Approach% | - | 99.0 | 1.0 | 85.7 | - | 14.3 | 7.4 | 92.6 | - | 10.0 | - | 90.0 | |
| Total% | - | 43.5 | 0.4 | 0.7 | - | 0.1 | 5.2 | 65.2 | - | 0.4 | - | 3.3 | |

**PM Intersection Peak Hour:** **16:30 to 17:30**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | - | 577 | 8 | 4 | - | - | 76 | 910 | - | 6 | - | 51 | 1,632 |
| Approach% | - | 98.6 | 1.4 | 100.0 | - | - | 7.7 | 92.3 | - | 10.5 | - | 89.5 | |
| Total% | - | 36.9 | 0.5 | 0.3 | - | - | 4.9 | 58.1 | - | 0.4 | - | 3.3 | |
| PHF | | | 0.95 | | | 1.00 | | | 0.92 | | | 0.89 | |

# Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

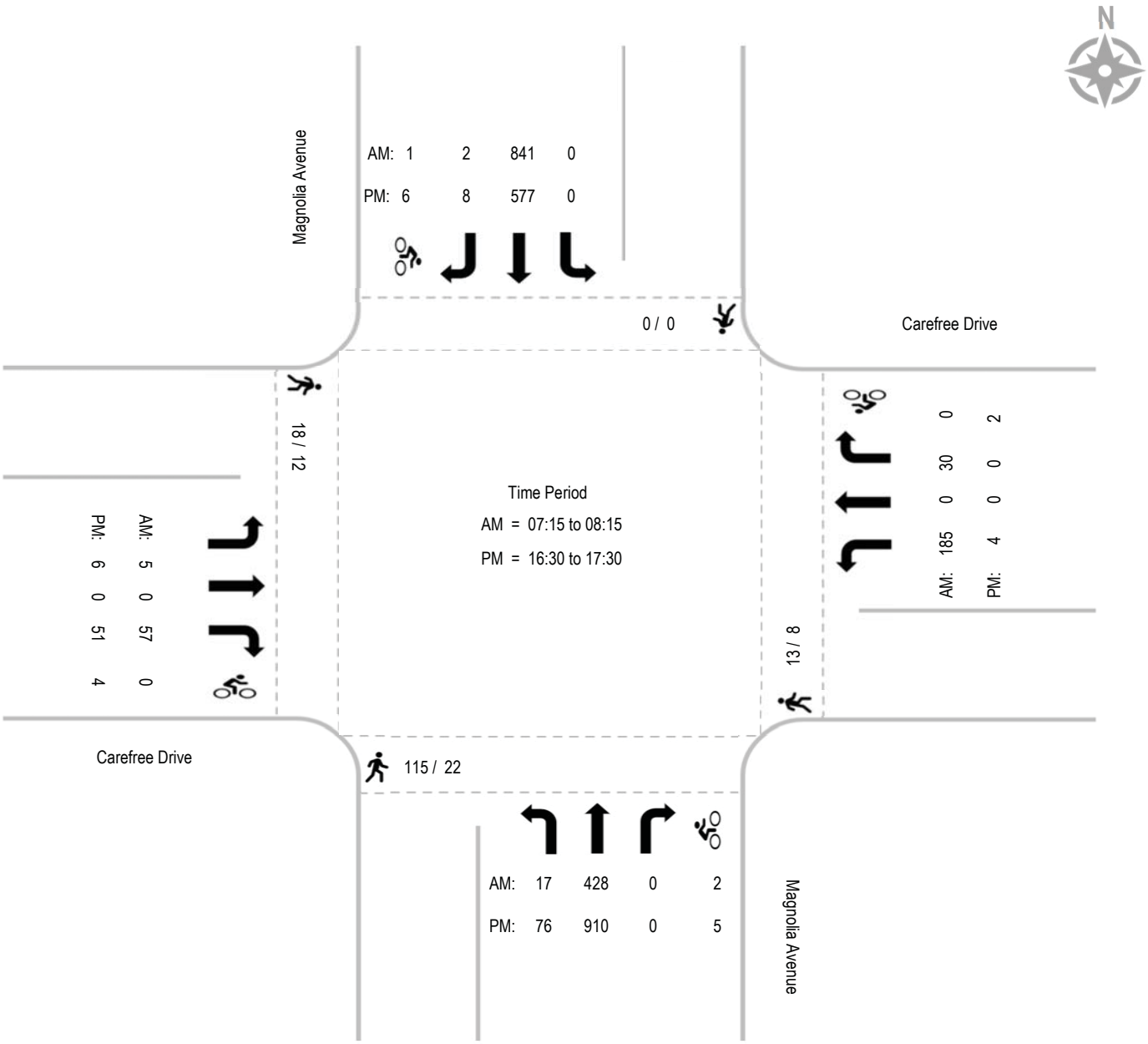
| | | | |
|---|---|---|---|
| Location: | #14 | File Name: | ITM-18-015-14 |
| Intersection: | Carefree Drive / Magnolia Avenue | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Tuesday, January 30, 2018 | | Fanita Ranch |

| AM | Magnolia Avenue Southbound | | | | Carefree Drive Westbound | | | | Magnolia Avenue Northbound | | | | Carefree Drive Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 7:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 30 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 33 | 0 |
| 7:15 | 0 | 0 | 1 | 0 | 4 | 0 | 0 | 0 | 12 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 18 | 1 |
| 7:30 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 17 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 20 | 1 |
| 7:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 22 | 0 |
| 8:00 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 29 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 30 | 1 |
| 8:15 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 8 | 0 |
| 8:30 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 7 | 0 |
| 8:45 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 8 | 0 |
| Ped Total | 0 | | | | 13 | | | | 115 | | | | 18 | | | | 146 | |
| Bike Total | | 0 | 1 | 0 | | 0 | 0 | 0 | | 0 | 1 | 1 | | 0 | 0 | 0 | | 3 |

| PM | Magnolia Avenue Southbound | | | | Carefree Drive Westbound | | | | Magnolia Avenue Northbound | | | | Carefree Drive Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 16:00 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 9 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 11 | 1 |
| 16:15 | 0 | 0 | 1 | 0 | 3 | 0 | 0 | 0 | 3 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 6 | 4 |
| 16:30 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 4 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 5 | 5 |
| 16:45 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 2 |
| 17:00 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 3 | 1 |
| 17:15 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 3 | 1 | 1 | 0 | 6 | 3 |
| 17:30 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 4 | 0 | 0 | 0 | 6 | 1 |
| 17:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 3 | 0 |
| Ped Total | 0 | | | | 8 | | | | 22 | | | | 12 | | | | 42 | |
| Bike Total | | 0 | 5 | 1 | | 1 | 1 | 0 | | 0 | 5 | 0 | | 2 | 1 | 1 | | 17 |

# Intersection Turning Movement - Peak Hour Summary

| | | | |
|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #14 | File Name: ITM-18-015-14 |
| | Intersection: | Carefree Drive / Magnolia Avenue | Project: LLG Ref. 3-15-2462 |
| | Date of Count: | Tuesday, January 30, 2018 | Fanita Ranch |



# Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers

| | | | |
|---|---|---|---|
| Location: | #15 | File Name: | ITM-18-015-15 |
| Intersection: | Riverford Road / Riverside Drive | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Tuesday, January 30, 2018 | | Fanita Ranch |

| AM | Riverford Road Southbound | | | Riverside Drive Westbound | | | Riverford Road Northbound | | | Mast Blvd Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 7:00 | 72 | 69 | 4 | 104 | 3 | 64 | 8 | 37 | 71 | 11 | 22 | 11 | 476 |
| 7:15 | 64 | 66 | 2 | 119 | 2 | 48 | 0 | 43 | 83 | 6 | 4 | 11 | 448 |
| 7:30 | 61 | 82 | 3 | 121 | 2 | 62 | 3 | 58 | 97 | 7 | 1 | 14 | 511 |
| 7:45 | 71 | 73 | 4 | 100 | 4 | 46 | 5 | 39 | 70 | 6 | 3 | 14 | 435 |
| 8:00 | 63 | 81 | 2 | 93 | 4 | 53 | 4 | 58 | 46 | 4 | 2 | 5 | 415 |
| 8:15 | 47 | 72 | 2 | 91 | 4 | 28 | 5 | 38 | 57 | 1 | 3 | 13 | 361 |
| 8:30 | 53 | 59 | 4 | 113 | 3 | 38 | 4 | 50 | 99 | 0 | 4 | 8 | 435 |
| 8:45 | 34 | 43 | 2 | 137 | 3 | 30 | 2 | 33 | 73 | 4 | 3 | 5 | 369 |
| Total | 465 | 545 | 23 | 878 | 25 | 369 | 31 | 356 | 596 | 39 | 42 | 81 | 3450 |
| Approach% | 45.0 | 52.8 | 2.2 | 69.0 | 2.0 | 29.0 | 3.2 | 36.2 | 60.6 | 24.1 | 25.9 | 50.0 | |
| Total% | 13.5 | 15.8 | 0.7 | 25.4 | 0.7 | 10.7 | 0.9 | 10.3 | 17.3 | 1.1 | 1.2 | 2.3 | |
| **AM Intersection Peak Hour:** | **07:00 to 08:00** | | | | | | | | | | | | |
| Volume | 268 | 290 | 13 | 444 | 11 | 220 | 16 | 177 | 321 | 30 | 30 | 50 | 1,870 |
| Approach% | 46.9 | 50.8 | 2.3 | 65.8 | 1.6 | 32.6 | 3.1 | 34.4 | 62.5 | 27.3 | 27.3 | 45.5 | |
| Total% | 14.3 | 15.5 | 0.7 | 23.7 | 0.6 | 11.8 | 0.9 | 9.5 | 17.2 | 1.6 | 1.6 | 2.7 | |
| PHF | | | 0.96 | | | 0.91 | | | 0.81 | | | 0.63 | |

| PM | Riverford Road Southbound | | | Riverside Drive Westbound | | | Riverford Road Northbound | | | Mast Blvd Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 16:00 | 48 | 45 | 2 | 118 | 7 | 56 | 14 | 52 | 100 | 2 | 2 | 5 | 451 |
| 16:15 | 58 | 40 | 5 | 131 | 5 | 77 | 10 | 65 | 126 | 5 | 2 | 6 | 530 |
| 16:30 | 43 | 42 | 4 | 108 | 7 | 60 | 11 | 60 | 116 | 5 | 1 | 6 | 463 |
| 16:45 | 45 | 46 | 10 | 138 | 20 | 75 | 26 | 50 | 103 | 2 | 2 | 12 | 529 |
| 17:00 | 46 | 52 | 3 | 129 | 6 | 72 | 18 | 64 | 105 | 3 | 2 | 7 | 507 |
| 17:15 | 59 | 47 | 6 | 125 | 6 | 65 | 15 | 70 | 113 | 7 | 7 | 10 | 530 |
| 17:30 | 57 | 41 | 4 | 99 | 5 | 78 | 7 | 52 | 85 | 0 | 4 | 6 | 438 |
| 17:45 | 48 | 44 | 4 | 107 | 4 | 46 | 8 | 37 | 73 | 2 | 3 | 5 | 381 |
| Total | 404 | 357 | 38 | 955 | 60 | 529 | 109 | 450 | 821 | 26 | 23 | 57 | 3829 |
| Approach% | 50.6 | 44.7 | 4.8 | 61.9 | 3.9 | 34.3 | 7.9 | 32.6 | 59.5 | 24.5 | 21.7 | 53.8 | |
| Total% | 11.7 | 10.3 | 1.1 | 27.7 | 1.7 | 15.3 | 3.2 | 13.0 | 23.8 | 0.8 | 0.7 | 1.7 | |
| **PM Intersection Peak Hour:** | **16:15 to 17:15** | | | | | | | | | | | | |
| Volume | 192 | 180 | 22 | 506 | 38 | 284 | 65 | 239 | 450 | 15 | 7 | 31 | 2,029 |
| Approach% | 48.7 | 45.7 | 5.6 | 61.1 | 4.6 | 34.3 | 8.6 | 31.7 | 59.7 | 28.3 | 13.2 | 58.5 | |
| Total% | 10.3 | 9.6 | 1.2 | 27.1 | 2.0 | 15.2 | 3.5 | 12.8 | 24.1 | 0.8 | 0.4 | 1.7 | |
| PHF | | | 0.96 | | | 0.89 | | | 0.94 | | | 0.83 | |

# Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

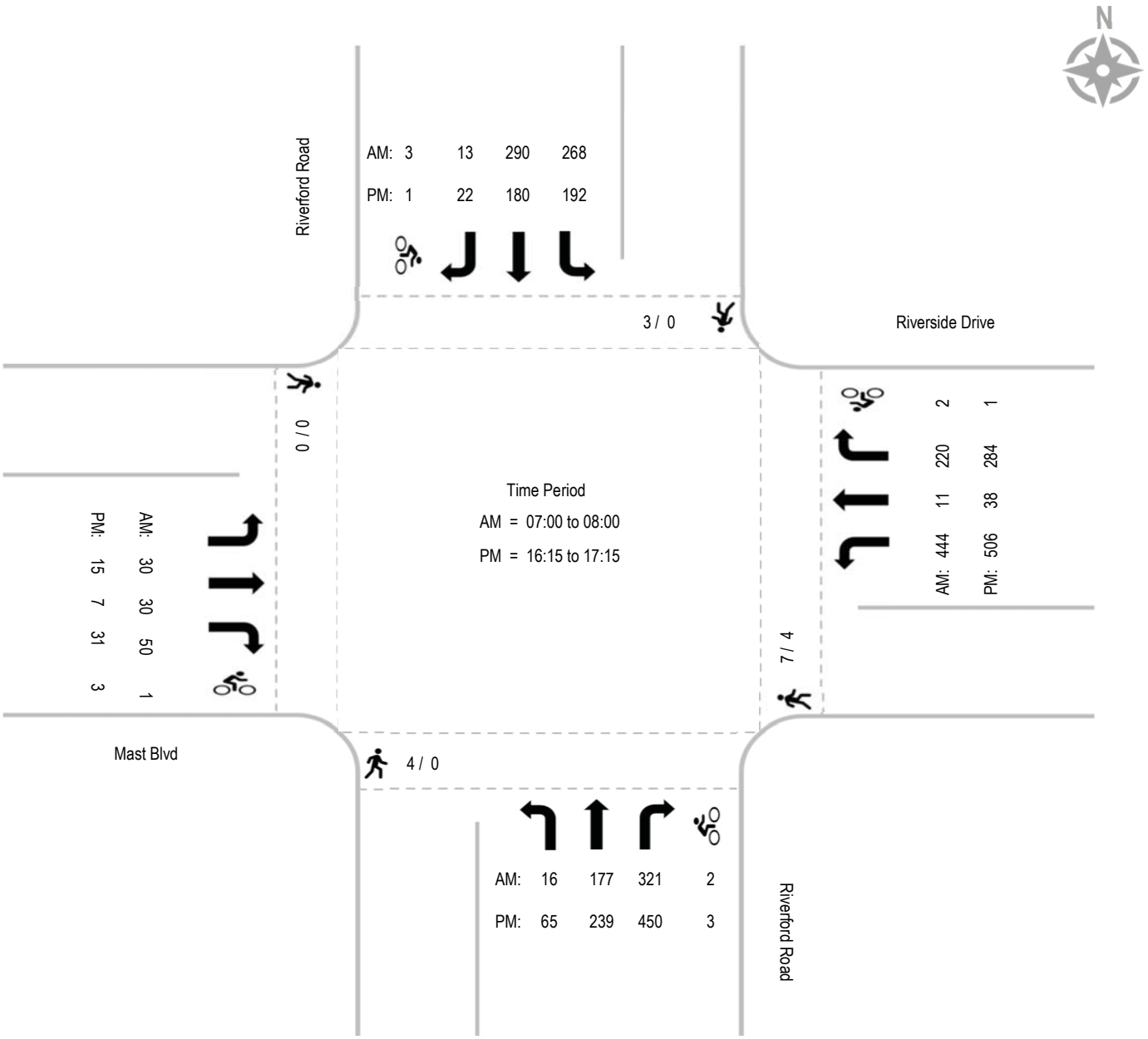
| | | | |
|---|---|---|---|
| Location: | #15 | File Name: | ITM-18-015-15 |
| Intersection: | Riverford Road / Riverside Drive | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Tuesday, January 30, 2018 | | Fanita Ranch |

| AM | Riverford Road Southbound | | | | Riverside Drive Westbound | | | | Riverford Road Northbound | | | | Mast Blvd Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 7:00 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 7:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 7:45 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 8:00 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 2 |
| 8:15 | 0 | 0 | 1 | 0 | 4 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 1 |
| 8:30 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 8:45 | 3 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 2 |
| Ped Total | 3 | | | | 7 | | | | 4 | | | | 0 | | | | 14 | |
| Bike Total | | 0 | 3 | 0 | | 1 | 0 | 1 | | 0 | 2 | 0 | | 0 | 1 | 0 | | 8 |

| PM | Riverford Road Southbound | | | | Riverside Drive Westbound | | | | Riverford Road Northbound | | | | Mast Blvd Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 16:00 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |
| 16:15 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 2 |
| 16:30 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 3 |
| 16:45 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 |
| 17:45 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| Ped Total | 0 | | | | 4 | | | | 0 | | | | 0 | | | | 4 | |
| Bike Total | | 0 | 1 | 0 | | 0 | 0 | 1 | | 0 | 2 | 1 | | 0 | 1 | 2 | | 8 |

# Intersection Turning Movement - Peak Hour Summary

| | | | | |
|---|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #15 | File Name: | ITM-18-015-15 |
| | Intersection: | Riverford Road / Riverside Drive | Project: | LLG Ref. 3-15-2462 |
| | Date of Count: | Tuesday, January 30, 2018 | | Fanita Ranch |



# Intersection Turning Movement - Peak Hour Vehicle Count

| | | | |
|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #16 | File Name: ITM-18-015-16 |
| | Intersection: | Mast Boulevard / SR 52 EB Ramps | Project: LLG Ref. 3-15-2462 |
| | Date of Count: | Wednesday, February 7, 2018 | Fanita Ranch |

| AM | SR 52 EB Off-Ramp Southbound | | | Mast Boulevard Westbound | | | SR 52 EB On-Ramp Northbound | | | Mast Boulevard Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 7:00 | 59 | 0 | 1 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 2 | 69 |
| 7:15 | 49 | 0 | 0 | 11 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 62 |
| 7:30 | 53 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 61 |
| 7:45 | 76 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 77 |
| 8:00 | 60 | 0 | 0 | 18 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 80 |
| 8:15 | 64 | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 74 |
| 8:30 | 54 | 0 | 1 | 25 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 81 |
| 8:45 | 76 | 0 | 1 | 35 | 1 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 118 |
| Total | 491 | 0 | 3 | 111 | 4 | 0 | 0 | 0 | 0 | 0 | 11 | 2 | 622 |
| Approach% | 99.4 | - | 0.6 | 96.5 | 3.5 | - | - | - | - | - | 84.6 | 15.4 | |
| Total% | 78.9 | - | 0.5 | 17.8 | 0.6 | - | - | - | - | - | 1.8 | 0.3 | |

**AM Intersection Peak Hour:** **08:00 to 09:00**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 254 | - | 2 | 88 | 3 | - | - | - | - | - | 6 | - | 353 |
| Approach% | 99.2 | - | 0.8 | 96.7 | 3.3 | - | - | - | - | - | 100.0 | - | |
| Total% | 72.0 | - | 0.6 | 24.9 | 0.8 | - | - | - | - | - | 1.7 | - | |
| PHF | | | 0.83 | | | 0.63 | | | | | | 0.30 | |

| PM | SR 52 EB Off-Ramp Southbound | | | Mast Boulevard Westbound | | | SR 52 EB On-Ramp Northbound | | | Mast Boulevard Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 16:00 | 250 | 2 | 3 | 45 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 302 |
| 16:15 | 258 | 0 | 2 | 49 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 3 | 316 |
| 16:30 | 313 | 0 | 3 | 44 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 363 |
| 16:45 | 244 | 0 | 1 | 51 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 3 | 301 |
| 17:00 | 298 | 0 | 0 | 61 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 361 |
| 17:15 | 272 | 1 | 2 | 58 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 336 |
| 17:30 | 255 | 0 | 2 | 40 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 5 | 306 |
| 17:45 | 245 | 3 | 0 | 59 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 3 | 314 |
| Total | 2135 | 6 | 13 | 407 | 0 | 0 | 0 | 0 | 0 | 1 | 18 | 19 | 2599 |
| Approach% | 99.1 | 0.3 | 0.6 | 100.0 | - | - | - | - | - | 2.6 | 47.4 | 50.0 | |
| Total% | 343.2 | 1.0 | 2.1 | 65.4 | - | - | - | - | - | 0.2 | 2.9 | 3.1 | |

**PM Intersection Peak Hour:** **16:30 to 17:30**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 1,127 | 1 | 6 | 214 | - | - | - | - | - | - | 5 | 8 | 1,361 |
| Approach% | 99.4 | 0.1 | 0.5 | 100.0 | - | - | - | - | - | - | 38.5 | 61.5 | |
| Total% | 319.3 | 0.3 | 1.7 | 60.6 | - | - | - | - | - | - | 1.4 | 2.3 | |
| PHF | | | 0.90 | | | 0.88 | | | | | | 0.65 | |

# Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

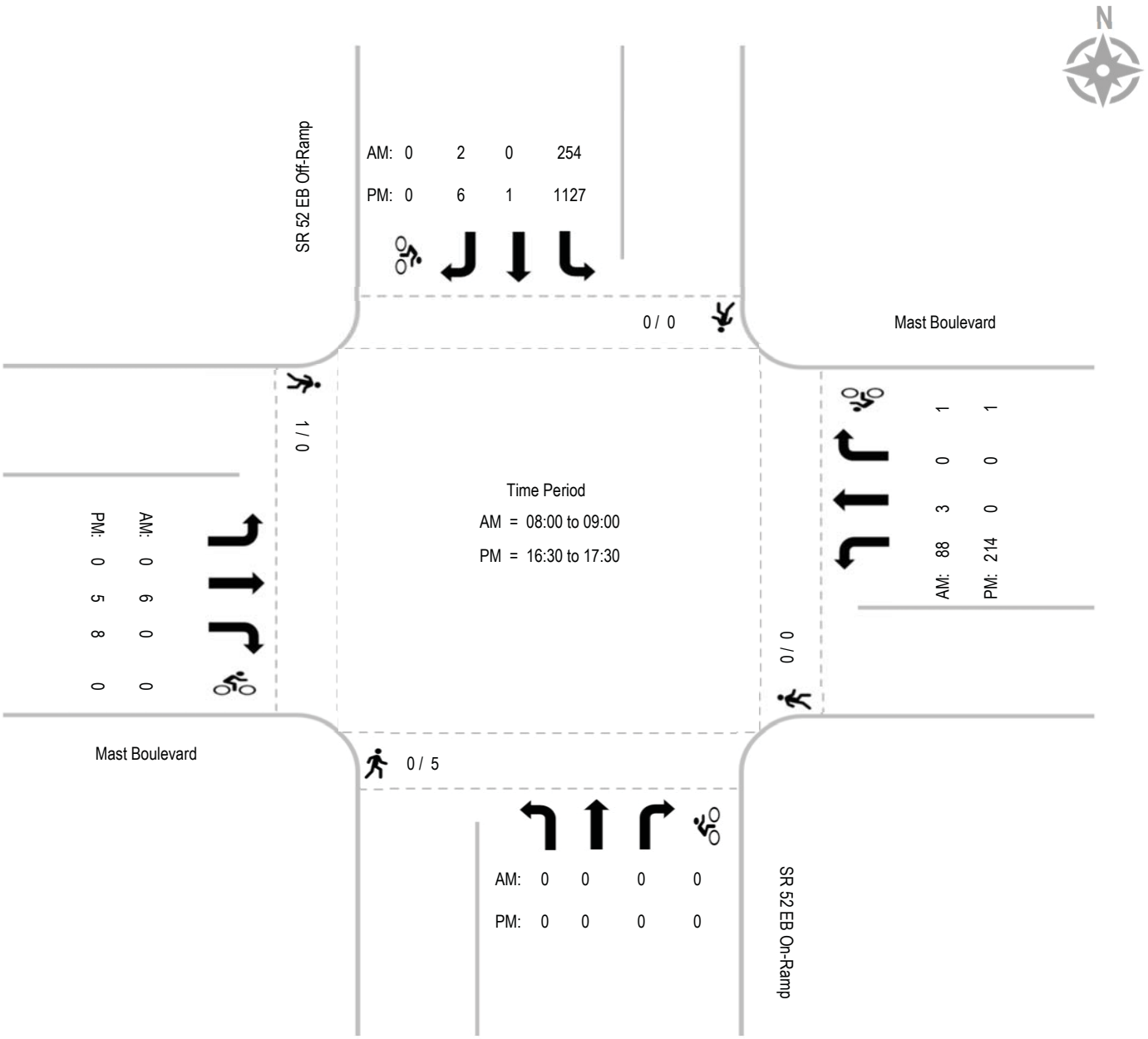
| | | | |
|---|---|---|---|
| Location: | #16 | File Name: | ITM-18-015-16 |
| Intersection: | Mast Boulevard / SR 52 EB Ramps | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Wednesday, February 7, 2018 | | Fanita Ranch |

| AM | SR 52 EB Off-Ramp Southbound | | | | Mast Boulevard Westbound | | | | SR 52 EB On-Ramp Northbound | | | | Mast Boulevard Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 7:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 7:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Ped Total | 0 | | | | 0 | | | | 0 | | | | 1 | | | | 1 | |
| Bike Total | | 0 | 0 | 0 | | 0 | 0 | 1 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 1 |

| PM | SR 52 EB Off-Ramp Southbound | | | | Mast Boulevard Westbound | | | | SR 52 EB On-Ramp Northbound | | | | Mast Boulevard Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 |
| 16:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 16:30 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 16:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped Total | 0 | | | | 0 | | | | 5 | | | | 0 | | | | 5 | |
| Bike Total | | 0 | 0 | 0 | | 0 | 1 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 1 |

# Intersection Turning Movement - Peak Hour Summary

| | | | | | |
|---|---|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #16 | File Name: | ITM-18-015-16 |
| | Intersection: | Mast Boulevard / SR 52 EB Ramps | Project: | LLG Ref. 3-15-2462 |
| | Date of Count: | Wednesday, February 7, 2018 | | Fanita Ranch |



# Intersection Turning Movement - Peak Hour Vehicle Count

| | | | |
|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #17 | File Name: ITM-18-015-17 |
| | Intersection: | Mast Boulevard / SR 52 WB Ramps | Project: LLG Ref. 3-15-2462 |
| | Date of Count: | Wednesday, February 7, 2018 | Fanita Ranch |

| AM | SR 52 WB On-Ramp Southbound | | | Mast Boulevard Westbound | | | SR 52 WB Off-Ramp Northbound | | | Mast Boulevard Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 7:00 | 0 | 0 | 0 | 3 | 8 | 523 | 1 | 0 | 4 | 0 | 68 | 0 | 607 |
| 7:15 | 0 | 0 | 0 | 0 | 8 | 499 | 0 | 0 | 1 | 1 | 53 | 0 | 562 |
| 7:30 | 0 | 0 | 0 | 0 | 7 | 497 | 1 | 0 | 1 | 1 | 55 | 0 | 562 |
| 7:45 | 0 | 0 | 0 | 0 | 2 | 502 | 0 | 0 | 3 | 0 | 69 | 0 | 576 |
| 8:00 | 0 | 0 | 0 | 0 | 8 | 516 | 1 | 0 | 3 | 1 | 57 | 0 | 586 |
| 8:15 | 0 | 0 | 0 | 0 | 2 | 511 | 1 | 0 | 3 | 1 | 64 | 0 | 582 |
| 8:30 | 0 | 0 | 0 | 0 | 11 | 533 | 1 | 0 | 4 | 1 | 65 | 0 | 615 |
| 8:45 | 0 | 0 | 0 | 0 | 24 | 489 | 3 | 0 | 8 | 4 | 62 | 0 | 590 |
| Total | 0 | 0 | 0 | 3 | 70 | 4070 | 8 | 0 | 27 | 9 | 493 | 0 | 4680 |
| Approach% | - | - | - | 0.1 | 1.7 | 98.2 | 22.9 | - | 77.1 | 1.8 | 98.2 | - | |
| Total% | - | - | - | 0.1 | 1.5 | 87.0 | 0.2 | - | 0.6 | 0.2 | 10.5 | - | |

**AM Intersection Peak Hour:** **08:00 to 09:00**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | - | - | - | - | 45 | 2,049 | 6 | - | 18 | 7 | 248 | - | 2,373 |
| Approach% | - | - | - | - | 2.1 | 97.9 | 25.0 | - | 75.0 | 2.7 | 97.3 | - | |
| Total% | - | - | - | - | 1.9 | 86.3 | 0.3 | - | 0.8 | 0.3 | 10.5 | - | |
| PHF | | | | | | 0.96 | | | 0.55 | | | 0.97 | |

| PM | SR 52 WB On-Ramp Southbound | | | Mast Boulevard Westbound | | | SR 52 WB Off-Ramp Northbound | | | Mast Boulevard Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 16:00 | 0 | 0 | 0 | 0 | 56 | 86 | 0 | 1 | 0 | 1 | 242 | 0 | 386 |
| 16:15 | 0 | 0 | 0 | 0 | 43 | 84 | 0 | 2 | 91 | 0 | 268 | 0 | 488 |
| 16:30 | 0 | 0 | 0 | 0 | 45 | 83 | 0 | 2 | 74 | 1 | 293 | 0 | 498 |
| 16:45 | 0 | 0 | 0 | 0 | 27 | 94 | 0 | 0 | 44 | 0 | 147 | 0 | 312 |
| 17:00 | 0 | 0 | 0 | 0 | 36 | 82 | 0 | 1 | 124 | 3 | 292 | 0 | 538 |
| 17:15 | 0 | 0 | 0 | 0 | 34 | 94 | 0 | 0 | 153 | 0 | 297 | 0 | 578 |
| 17:30 | 0 | 0 | 0 | 0 | 44 | 72 | 0 | 1 | 107 | 1 | 232 | 0 | 457 |
| 17:45 | 0 | 0 | 0 | 0 | 46 | 64 | 0 | 1 | 111 | 1 | 256 | 0 | 479 |
| Total | 0 | 0 | 0 | 0 | 331 | 659 | 0 | 8 | 704 | 7 | 2027 | 0 | 3736 |
| Approach% | - | - | - | - | 33.4 | 66.6 | - | 1.1 | 98.9 | 0.3 | 99.7 | - | |
| Total% | - | - | - | - | 7.1 | 14.1 | - | 0.2 | 15.0 | 0.1 | 43.3 | - | |

**PM Intersection Peak Hour:** **17:00 to 18:00**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | - | - | - | - | 160 | 312 | - | 3 | 495 | 5 | 1,077 | - | 2,052 |
| Approach% | - | - | - | - | 33.9 | 66.1 | - | 0.6 | 99.4 | 0.5 | 99.5 | - | |
| Total% | - | - | - | - | 6.7 | 13.1 | - | 0.1 | 20.9 | 0.2 | 45.4 | - | |
| PHF | | | | | | 0.92 | | | 0.81 | | | 0.91 | |

# Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

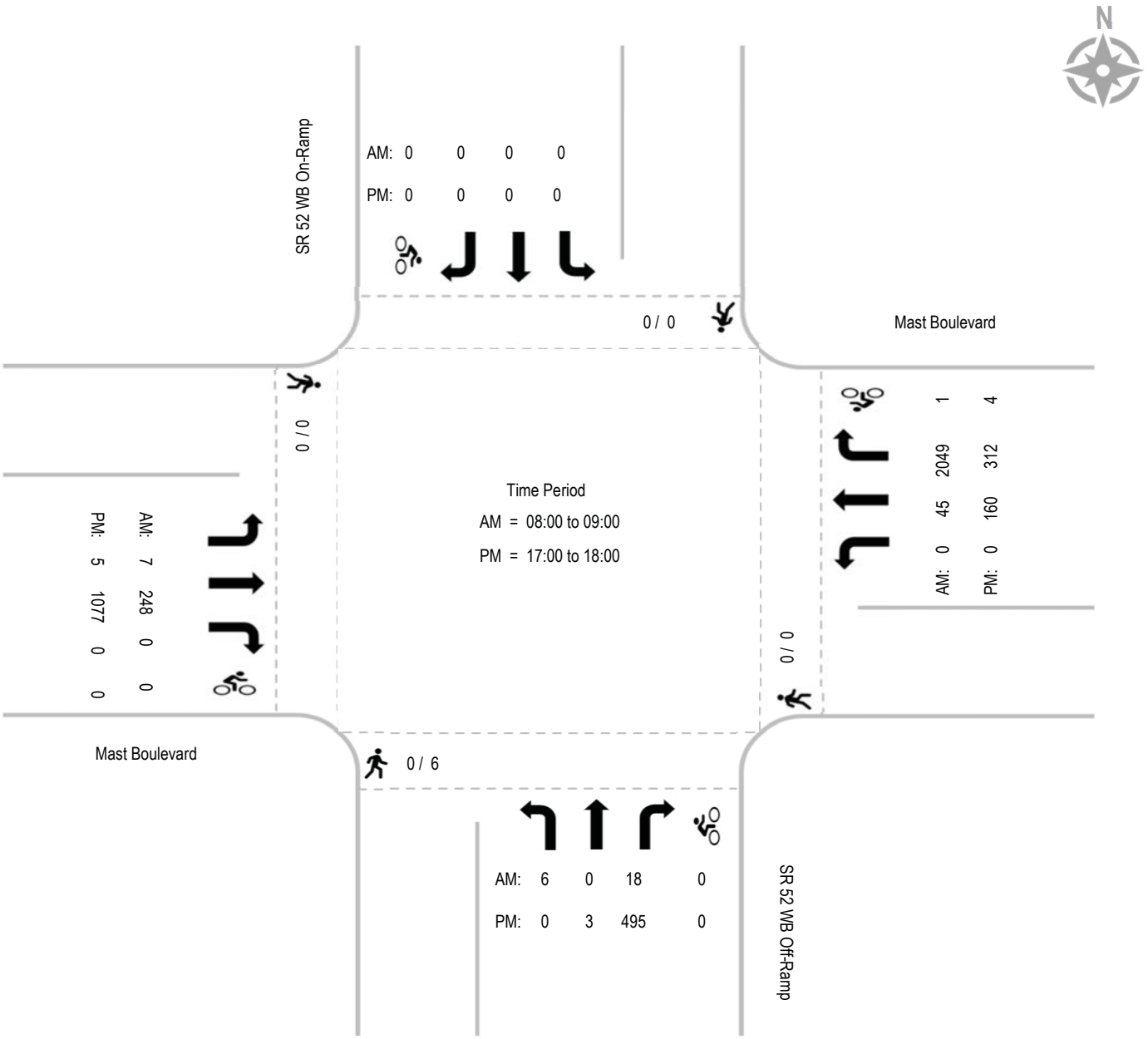
| | | | |
|---|---|---|---|
| Location: | #17 | File Name: | ITM-18-015-17 |
| Intersection: | Mast Boulevard / SR 52 WB Ramps | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Wednesday, February 7, 2018 | | Fanita Ranch |

| AM | SR 52 WB On-Ramp Southbound | | | | Mast Boulevard Westbound | | | | SR 52 WB Off-Ramp Northbound | | | | Mast Boulevard Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 7:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Ped Total | 0 | | | | 0 | | | | 0 | | | | 0 | | | | 0 | |
| Bike Total | | 0 | 0 | 0 | | 0 | 0 | 1 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 1 |

| PM | SR 52 WB On-Ramp Southbound | | | | Mast Boulevard Westbound | | | | SR 52 WB Off-Ramp Northbound | | | | Mast Boulevard Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 1 |
| 16:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 16:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:00 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 |
| 17:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:30 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 17:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped Total | 0 | | | | 0 | | | | 6 | | | | 0 | | | | 6 | |
| Bike Total | | 0 | 0 | 0 | | 2 | 0 | 2 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 4 |

# Intersection Turning Movement - Peak Hour Summary

| | | | | |
|---|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #17 | File Name: | ITM-18-015-17 |
| | Intersection: | Mast Boulevard / SR 52 WB Ramps | Project: | LLG Ref. 3-15-2462 |
| | Date of Count: | Wednesday, February 7, 2018 | | Fanita Ranch |



# Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers

| | | | |
|---|---|---|---|
| Location: | #18 | File Name: | ITM-18-015-18 |
| Intersection: | Mast Boulevard / West Hills Parkway | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Wednesday, February 7, 2018 | | Fanita Ranch |

| AM | Sycamore Landfill Road Southbound | | | Mast Boulevard Westbound | | | West Hills Parkway Northbound | | | Mast Boulevard Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 7:00 | 0 | 0 | 7 | 4 | 314 | 1 | 241 | 3 | 91 | 6 | 39 | 18 | 724 |
| 7:15 | 1 | 0 | 12 | 4 | 267 | 2 | 260 | 0 | 24 | 8 | 33 | 16 | 627 |
| 7:30 | 1 | 2 | 13 | 1 | 271 | 1 | 236 | 3 | 15 | 8 | 34 | 18 | 603 |
| 7:45 | 1 | 1 | 8 | 3 | 284 | 2 | 263 | 5 | 37 | 12 | 48 | 19 | 683 |
| 8:00 | 2 | 0 | 12 | 4 | 282 | 2 | 231 | 5 | 52 | 14 | 27 | 22 | 653 |
| 8:15 | 0 | 0 | 4 | 6 | 261 | 0 | 269 | 3 | 15 | 7 | 39 | 23 | 627 |
| 8:30 | 1 | 1 | 12 | 8 | 321 | 1 | 220 | 6 | 11 | 14 | 44 | 18 | 657 |
| 8:45 | 0 | 1 | 13 | 24 | 234 | 0 | 250 | 7 | 14 | 15 | 42 | 29 | 629 |
| Total | 6 | 5 | 81 | 54 | 2234 | 9 | 1970 | 32 | 259 | 84 | 306 | 163 | 5203 |
| Approach% | 6.5 | 5.4 | 88.0 | 2.4 | 97.3 | 0.4 | 87.1 | 1.4 | 11.5 | 15.2 | 55.3 | 29.5 | |
| Total% | 0.1 | 0.1 | 1.6 | 1.0 | 42.9 | 0.2 | 37.9 | 0.6 | 5.0 | 1.6 | 5.9 | 3.1 | |

**AM Intersection Peak Hour:** **07:00 to 08:00**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 3 | 3 | 40 | 12 | 1,136 | 6 | 1,000 | 11 | 167 | 34 | 154 | 71 | 2,637 |
| Approach% | 6.5 | 6.5 | 87.0 | 1.0 | 98.4 | 0.5 | 84.9 | 0.9 | 14.2 | 13.1 | 59.5 | 27.4 | |
| Total% | 0.1 | 0.1 | 1.5 | 0.5 | 43.1 | 0.2 | 37.9 | 0.4 | 6.3 | 1.3 | 5.8 | 2.7 | |
| PHF | | | 0.72 | | | 0.90 | | | 0.88 | | | 0.82 | |

| PM | Sycamore Landfill Road Southbound | | | Mast Boulevard Westbound | | | West Hills Parkway Northbound | | | Mast Boulevard Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 16:00 | 1 | 1 | 8 | 19 | 108 | 1 | 41 | 2 | 35 | 3 | 246 | 7 | 472 |
| 16:15 | 2 | 1 | 14 | 16 | 87 | 1 | 47 | 1 | 61 | 4 | 250 | 7 | 491 |
| 16:30 | 0 | 1 | 8 | 16 | 79 | 0 | 53 | 1 | 51 | 1 | 281 | 7 | 498 |
| 16:45 | 0 | 1 | 6 | 30 | 66 | 0 | 50 | 0 | 61 | 0 | 256 | 7 | 477 |
| 17:00 | 0 | 1 | 0 | 33 | 87 | 0 | 46 | 0 | 99 | 0 | 293 | 7 | 566 |
| 17:15 | 0 | 0 | 2 | 26 | 77 | 0 | 41 | 0 | 97 | 1 | 298 | 7 | 549 |
| 17:30 | 0 | 0 | 1 | 29 | 76 | 0 | 43 | 0 | 74 | 0 | 233 | 7 | 463 |
| 17:45 | 0 | 0 | 7 | 31 | 67 | 0 | 43 | 0 | 53 | 1 | 233 | 7 | 442 |
| Total | 3 | 5 | 46 | 200 | 647 | 2 | 364 | 4 | 531 | 10 | 2090 | 56 | 3958 |
| Approach% | 5.6 | 9.3 | 85.2 | 23.6 | 76.2 | 0.2 | 40.5 | 0.4 | 59.1 | 0.5 | 96.9 | 2.6 | |
| Total% | 0.1 | 0.1 | 0.9 | 3.8 | 12.4 | 0.0 | 7.0 | 0.1 | 10.2 | 0.2 | 40.2 | 1.1 | |

**PM Intersection Peak Hour:** **16:30 to 17:30**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | - | 3 | 16 | 105 | 309 | - | 190 | 1 | 308 | 2 | 1,128 | 28 | 2,090 |
| Approach% | - | 15.8 | 84.2 | 25.4 | 74.6 | - | 38.1 | 0.2 | 61.7 | 0.2 | 97.4 | 2.4 | |
| Total% | - | 0.1 | 0.6 | 4.0 | 11.7 | - | 7.2 | 0.0 | 11.7 | 0.1 | 42.8 | 1.1 | |
| PHF | | | 0.53 | | | 0.86 | | | 0.86 | | | 0.95 | |

# Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

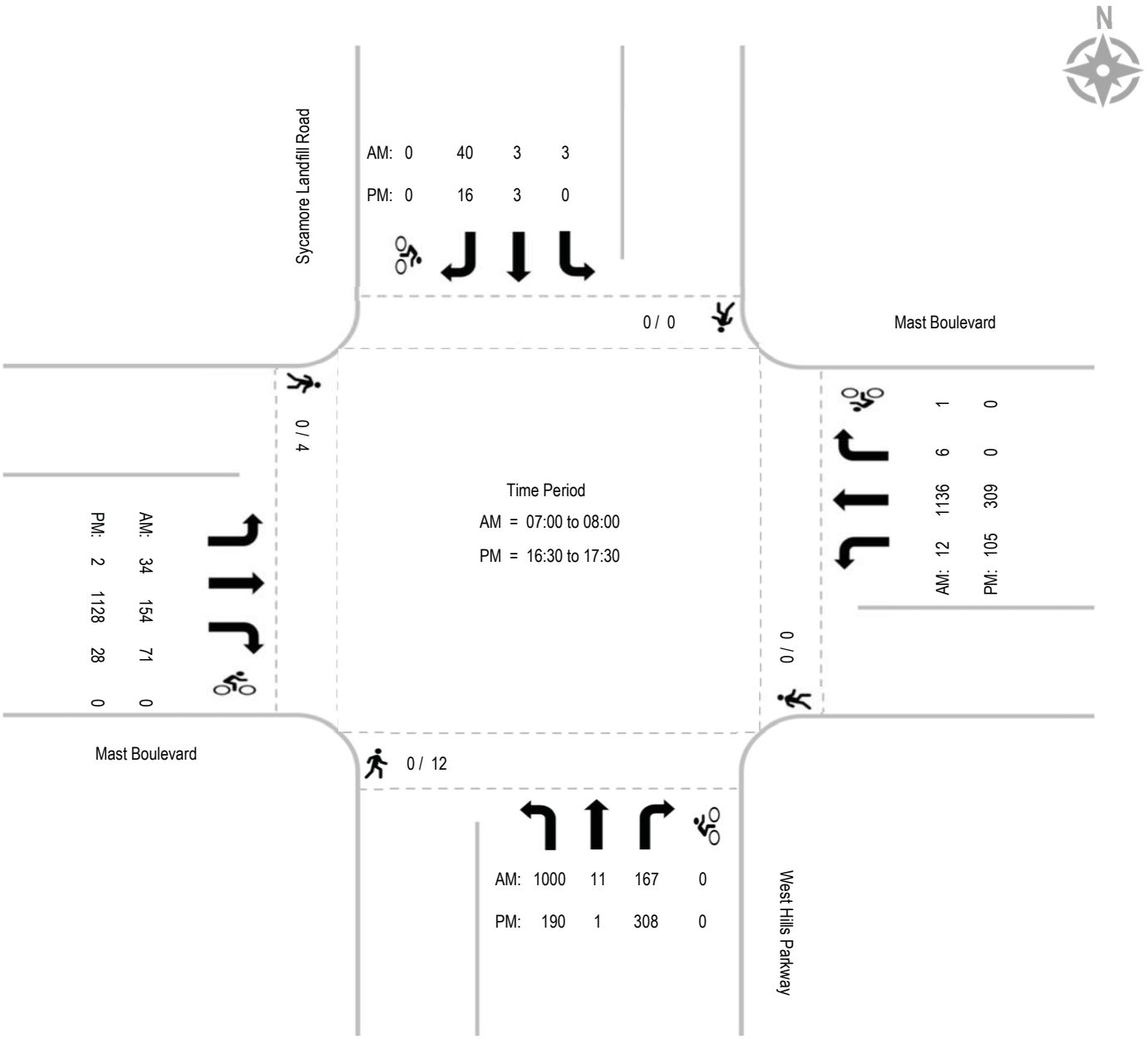
| | | | |
|---|---|---|---|
| Location: | #18 | File Name: | ITM-18-015-18 |
| Intersection: | Mast Boulevard / West Hills Parkway | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Wednesday, February 7, 2018 | | Fanita Ranch |

| AM | Sycamore Landfill Road Southbound | | | | Mast Boulevard Westbound | | | | West Hills Parkway Northbound | | | | Mast Boulevard Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 7:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:30 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 7:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped Total | 0 | | | | 0 | | | | 0 | | | | 0 | | | | 0 | |
| Bike Total | | 0 | 0 | 0 | | 0 | 1 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 1 |

| PM | Sycamore Landfill Road Southbound | | | | Mast Boulevard Westbound | | | | West Hills Parkway Northbound | | | | Mast Boulevard Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 3 | 0 |
| 16:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 16:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 |
| 16:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 0 |
| 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped Total | 0 | | | | 0 | | | | 12 | | | | 4 | | | | 16 | |
| Bike Total | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 |

# Intersection Turning Movement - Peak Hour Summary

| | | | | |
|---|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #18 | File Name: | ITM-18-015-18 |
| | Intersection: | Mast Boulevard / West Hills Parkway | Project: | LLG Ref. 3-15-2462 |
| | Date of Count: | Wednesday, February 7, 2018 | | Fanita Ranch |



# Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers

| | | | |
|---|---|---|---|
| Location: | #19 | File Name: | ITM-18-015-19 |
| Intersection: | Mast Boulevard / West Hills High School Driveway | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Wednesday, January 31, 2018 | | Fanita Ranch |

| AM | - Southbound | | | Mast Boulevard Westbound | | | West Hills High School Northbound | | | Mast Boulevard Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 7:00 | 0 | 0 | 0 | 0 | 301 | 0 | 8 | 0 | 9 | 1 | 74 | 20 | 413 |
| 7:15 | 0 | 0 | 0 | 3 | 270 | 0 | 3 | 0 | 1 | 1 | 56 | 4 | 338 |
| 7:30 | 0 | 0 | 0 | 5 | 233 | 0 | 5 | 0 | 1 | 0 | 62 | 0 | 306 |
| 7:45 | 0 | 0 | 0 | 14 | 240 | 0 | 11 | 0 | 5 | 0 | 72 | 9 | 351 |
| 8:00 | 0 | 0 | 0 | 20 | 256 | 0 | 7 | 0 | 8 | 0 | 85 | 11 | 387 |
| 8:15 | 0 | 0 | 0 | 3 | 249 | 0 | 1 | 0 | 2 | 0 | 52 | 0 | 307 |
| 8:30 | 0 | 0 | 0 | 1 | 241 | 0 | 1 | 0 | 0 | 2 | 68 | 0 | 313 |
| 8:45 | 0 | 0 | 0 | 2 | 171 | 0 | 0 | 0 | 0 | 0 | 65 | 0 | 238 |
| Total | 0 | 0 | 0 | 48 | 1961 | 0 | 36 | 0 | 26 | 4 | 534 | 44 | 2653 |
| Approach% | - | - | - | 2.4 | 97.6 | - | 58.1 | - | 41.9 | 0.7 | 91.8 | 7.6 | |
| Total% | - | - | - | 1.8 | 73.9 | - | 1.4 | - | 1.0 | 0.2 | 20.1 | 1.7 | |

**AM Intersection Peak Hour:** **07:00 to 08:00**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | - | - | - | 22 | 1,044 | - | 27 | - | 16 | 2 | 264 | 33 | 1,408 |
| Approach% | - | - | - | 2.1 | 97.9 | - | 62.8 | - | 37.2 | 0.7 | 88.3 | 11.0 | |
| Total% | - | - | - | 1.6 | 74.1 | - | 1.9 | - | 1.1 | 0.1 | 18.8 | 2.3 | |
| PHF | | | | | | 0.89 | | | 0.63 | | | 0.79 | |

| PM | - Southbound | | | Mast Boulevard Westbound | | | West Hills High School Northbound | | | Mast Boulevard Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 16:00 | 0 | 0 | 0 | 3 | 106 | 0 | 3 | 0 | 1 | 0 | 268 | 5 | 386 |
| 16:15 | 0 | 0 | 0 | 7 | 75 | 0 | 5 | 0 | 9 | 1 | 259 | 5 | 361 |
| 16:30 | 0 | 0 | 0 | 3 | 104 | 0 | 3 | 0 | 4 | 0 | 267 | 5 | 386 |
| 16:45 | 0 | 0 | 0 | 4 | 93 | 0 | 11 | 0 | 18 | 1 | 250 | 5 | 382 |
| 17:00 | 0 | 0 | 0 | 3 | 98 | 0 | 13 | 0 | 20 | 3 | 297 | 9 | 443 |
| 17:15 | 0 | 0 | 0 | 3 | 87 | 0 | 19 | 0 | 15 | 2 | 306 | 1 | 433 |
| 17:30 | 0 | 0 | 0 | 1 | 93 | 0 | 5 | 0 | 3 | 2 | 235 | 4 | 343 |
| 17:45 | 0 | 0 | 0 | 2 | 59 | 0 | 2 | 0 | 1 | 1 | 218 | 4 | 287 |
| Total | 0 | 0 | 0 | 26 | 715 | 0 | 61 | 0 | 71 | 10 | 2100 | 38 | 3021 |
| Approach% | - | - | - | 3.5 | 96.5 | - | 46.2 | - | 53.8 | 0.5 | 97.8 | 1.8 | |
| Total% | - | - | - | 1.0 | 27.0 | - | 2.3 | - | 2.7 | 0.4 | 79.2 | 1.4 | |

**PM Intersection Peak Hour:** **16:30 to 17:30**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | - | - | - | 13 | 382 | - | 46 | - | 57 | 6 | 1,120 | 20 | 1,644 |
| Approach% | - | - | - | 3.3 | 96.7 | - | 44.7 | - | 55.3 | 0.5 | 97.7 | 1.7 | |
| Total% | - | - | - | 0.9 | 27.1 | - | 3.3 | - | 4.0 | 0.4 | 79.5 | 1.4 | |
| PHF | | | | | | 0.92 | | | 0.76 | | | 0.93 | |

# Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

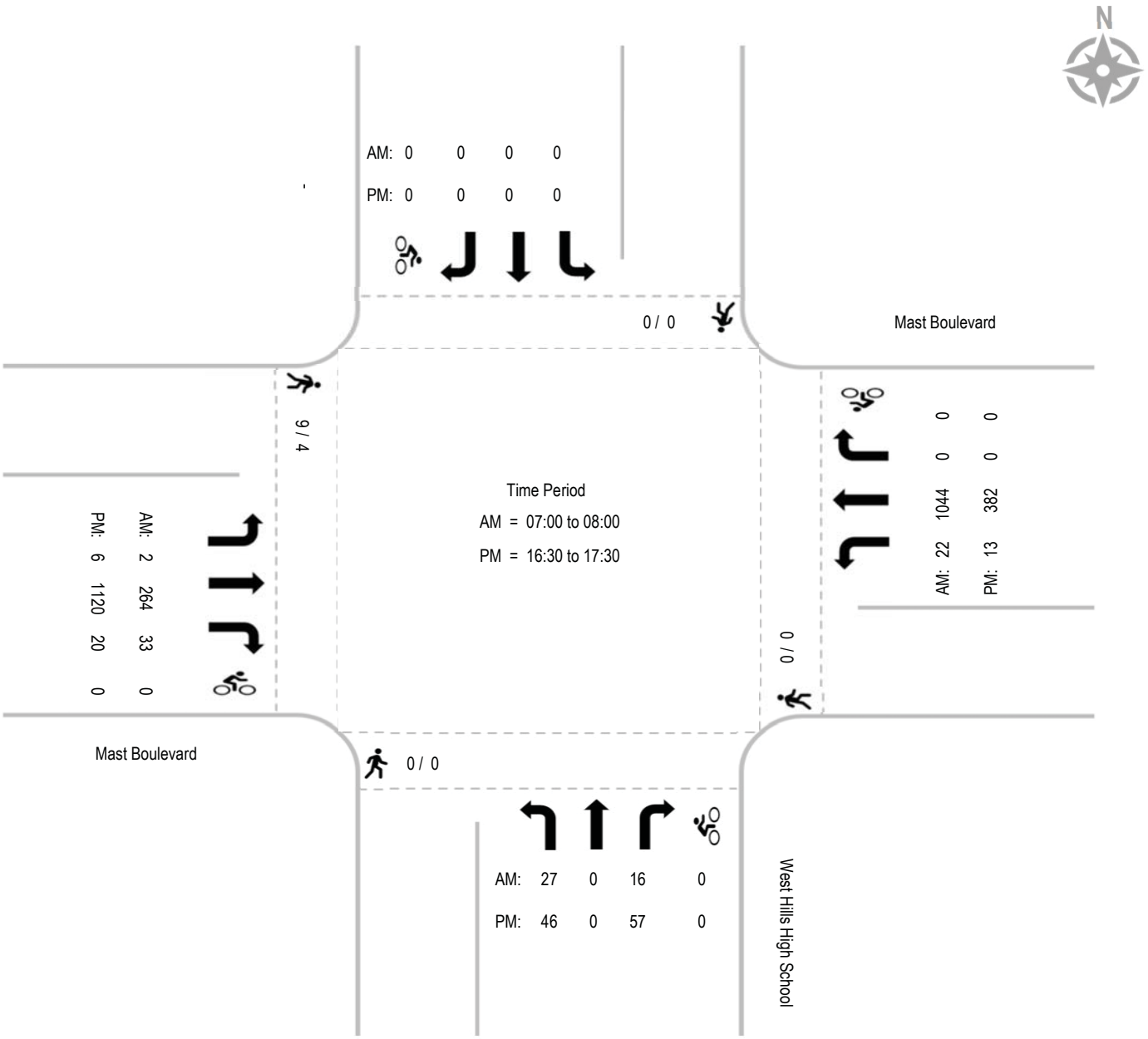
| | | | |
|---|---|---|---|
| Location: | #19 | File Name: | ITM-18-015-19 |
| Intersection: | Mast Boulevard / West Hills High School Driveway | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Wednesday, January 31, 2018 | | Fanita Ranch |

| AM | - Southbound | | | | Mast Boulevard Westbound | | | | West Hills High School Northbound | | | | Mast Boulevard Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 7:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 7:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 3 | 0 |
| 7:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 7:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 3 | 0 |
| 8:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 8:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped Total | 0 | | | | 0 | | | | 0 | | | | 9 | | | | 9 | |
| Bike Total | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 |

| PM | - Southbound | | | | Mast Boulevard Westbound | | | | West Hills High School Northbound | | | | Mast Boulevard Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 4 | 0 |
| 16:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped Total | 0 | | | | 0 | | | | 0 | | | | 4 | | | | 4 | |
| Bike Total | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 |

# Intersection Turning Movement - Peak Hour Summary

| | | | | |
|---|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #19 | File Name: | ITM-18-015-19 |
| | Intersection: | Mast Boulevard / West Hills High School Driveway | Project: | LLG Ref. 3-15-2462 |
| | Date of Count: | Wednesday, January 31, 2018 | | Fanita Ranch |



# Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers

| | | | |
|---|---|---|---|
| Location: | #20 | File Name: | ITM-18-015-20 |
| Intersection: | Mast Boulevard / Medina Drive | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Wednesday, January 31, 2018 | | Fanita Ranch |

| AM | Medina Drive Southbound | | | Mast Boulevard Westbound | | | Medina Drive Northbound | | | Mast Boulevard Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 7:00 | 7 | 5 | 10 | 1 | 355 | 2 | 22 | 2 | 3 | 5 | 106 | 12 | 530 |
| 7:15 | 7 | 3 | 15 | 1 | 238 | 3 | 5 | 1 | 0 | 6 | 65 | 2 | 346 |
| 7:30 | 5 | 1 | 2 | 2 | 319 | 0 | 4 | 0 | 4 | 2 | 73 | 3 | 415 |
| 7:45 | 4 | 2 | 7 | 5 | 324 | 2 | 11 | 1 | 0 | 1 | 134 | 12 | 503 |
| 8:00 | 5 | 6 | 2 | 3 | 306 | 5 | 10 | 2 | 6 | 1 | 200 | 18 | 564 |
| 8:15 | 2 | 6 | 5 | 1 | 214 | 1 | 13 | 7 | 6 | 2 | 48 | 2 | 307 |
| 8:30 | 2 | 1 | 7 | 1 | 215 | 2 | 5 | 2 | 10 | 1 | 53 | 5 | 304 |
| 8:45 | 2 | 1 | 12 | 1 | 147 | 2 | 4 | 0 | 1 | 2 | 56 | 0 | 228 |
| Total | 34 | 25 | 60 | 15 | 2118 | 17 | 74 | 15 | 30 | 20 | 735 | 54 | 3197 |
| Approach% | 28.6 | 21.0 | 50.4 | 0.7 | 98.5 | 0.8 | 62.2 | 12.6 | 25.2 | 2.5 | 90.9 | 6.7 | |
| Total% | 1.1 | 0.8 | 1.9 | 0.5 | 66.2 | 0.5 | 2.3 | 0.5 | 0.9 | 0.6 | 23.0 | 1.7 | |

**AM Intersection Peak Hour:** **07:15 to 08:15**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 21 | 12 | 26 | 11 | 1,187 | 10 | 30 | 4 | 10 | 10 | 472 | 35 | 1,828 |
| Approach% | 35.6 | 20.3 | 44.1 | 0.9 | 98.3 | 0.8 | 68.2 | 9.1 | 22.7 | 1.9 | 91.3 | 6.8 | |
| Total% | 1.1 | 0.7 | 1.4 | 0.6 | 64.9 | 0.5 | 1.6 | 0.2 | 0.5 | 0.5 | 25.8 | 1.9 | |
| PHF | | | 0.59 | | | 0.91 | | | 0.61 | | | 0.59 | |

| PM | Medina Drive Southbound | | | Mast Boulevard Westbound | | | Medina Drive Northbound | | | Mast Boulevard Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 16:00 | 7 | 0 | 8 | 0 | 96 | 6 | 1 | 0 | 2 | 2 | 238 | 8 | 368 |
| 16:15 | 6 | 0 | 2 | 0 | 73 | 7 | 1 | 0 | 2 | 9 | 254 | 5 | 359 |
| 16:30 | 0 | 1 | 6 | 0 | 87 | 13 | 5 | 1 | 2 | 10 | 239 | 7 | 371 |
| 16:45 | 10 | 1 | 10 | 3 | 94 | 2 | 4 | 0 | 6 | 6 | 239 | 4 | 379 |
| 17:00 | 4 | 2 | 5 | 1 | 83 | 0 | 1 | 2 | 2 | 13 | 297 | 9 | 419 |
| 17:15 | 4 | 0 | 6 | 1 | 85 | 10 | 2 | 0 | 4 | 6 | 286 | 12 | 416 |
| 17:30 | 5 | 0 | 7 | 2 | 80 | 7 | 3 | 0 | 2 | 11 | 209 | 2 | 328 |
| 17:45 | 3 | 0 | 5 | 1 | 69 | 9 | 1 | 0 | 3 | 16 | 253 | 4 | 364 |
| Total | 39 | 4 | 49 | 8 | 667 | 54 | 18 | 3 | 23 | 73 | 2015 | 51 | 3004 |
| Approach% | 42.4 | 4.3 | 53.3 | 1.1 | 91.5 | 7.4 | 40.9 | 6.8 | 52.3 | 3.4 | 94.2 | 2.4 | |
| Total% | 1.2 | 0.1 | 1.5 | 0.3 | 20.9 | 1.7 | 0.6 | 0.1 | 0.7 | 2.3 | 63.0 | 1.6 | |

**PM Intersection Peak Hour:** **16:30 to 17:30**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 18 | 4 | 27 | 5 | 349 | 25 | 12 | 3 | 14 | 35 | 1,061 | 32 | 1,585 |
| Approach% | 36.7 | 8.2 | 55.1 | 1.3 | 92.1 | 6.6 | 41.4 | 10.3 | 48.3 | 3.1 | 94.1 | 2.8 | |
| Total% | 1.0 | 0.2 | 1.5 | 0.3 | 19.1 | 1.4 | 0.7 | 0.2 | 0.8 | 1.9 | 58.0 | 1.8 | |
| PHF | | | 0.58 | | | 0.95 | | | 0.73 | | | 0.88 | |

# Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

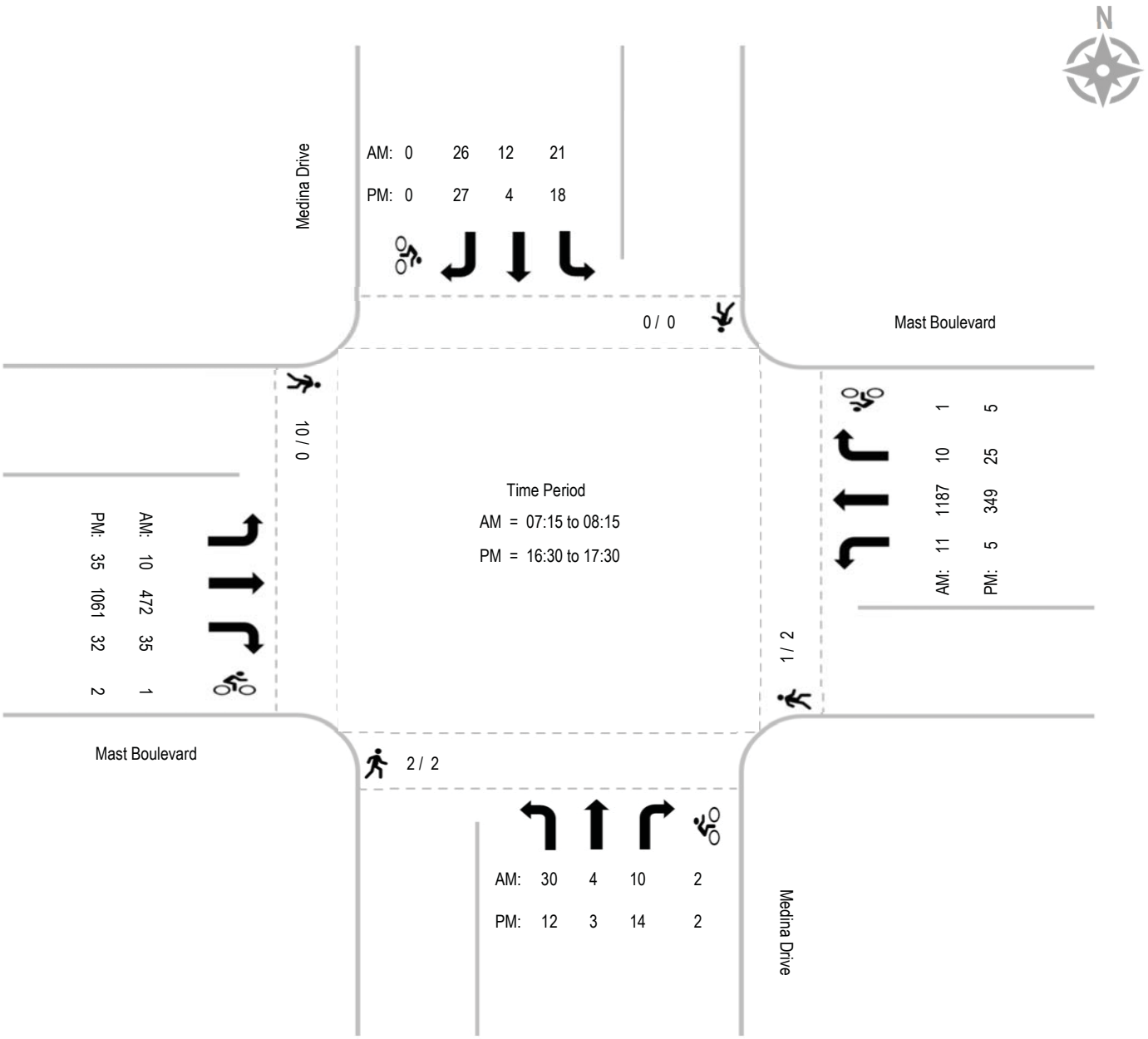
| | | | |
|---|---|---|---|
| Location: | #20 | File Name: | ITM-18-015-20 |
| Intersection: | Mast Boulevard / Medina Drive | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Wednesday, January 31, 2018 | | Fanita Ranch |

| AM | Medina Drive Southbound | | | | Mast Boulevard Westbound | | | | Medina Drive Northbound | | | | Mast Boulevard Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 7:00 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 7:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:30 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 2 | 1 |
| 7:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 8 | 0 | 1 | 0 | 8 | 2 |
| 8:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 3 | 0 |
| 8:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped Total | 0 | | | | 1 | | | | 2 | | | | 10 | | | | 13 | |
| Bike Total | | 0 | 0 | 0 | | 0 | 1 | 0 | | 0 | 2 | 0 | | 0 | 1 | 0 | | 4 |

| PM | Medina Drive Southbound | | | | Mast Boulevard Westbound | | | | Medina Drive Northbound | | | | Mast Boulevard Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 16:00 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 16:15 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 16:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 16:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 17:15 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 17:30 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 17:45 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| Ped Total | 0 | | | | 2 | | | | 2 | | | | 0 | | | | 4 | |
| Bike Total | | 0 | 0 | 0 | | 0 | 5 | 0 | | 0 | 2 | 0 | | 0 | 2 | 0 | | 9 |

# Intersection Turning Movement - Peak Hour Summary

| | | | | |
|---|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #20 | File Name: | ITM-18-015-20 |
| | Intersection: | Mast Boulevard / Medina Drive | Project: | LLG Ref. 3-15-2462 |
| | Date of Count: | Wednesday, January 31, 2018 | | Fanita Ranch |



# Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers

| | | | |
|---|---|---|---|
| Location: | #21 | File Name: | ITM-18-015-21 |
| Intersection: | Mast Boulevard / Pebble Beach Drive | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Wednesday, January 31, 2018 | | Fanita Ranch |

| AM | Pebble Beach Drive Southbound | | | Mast Boulevard Westbound | | | Pebble Beach Drive Northbound | | | Mast Boulevard Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 7:00 | 5 | 3 | 7 | 6 | 411 | 8 | 4 | 1 | 4 | 1 | 98 | 1 | 549 |
| 7:15 | 11 | 2 | 3 | 2 | 268 | 10 | 5 | 0 | 5 | 0 | 86 | 1 | 393 |
| 7:30 | 24 | 4 | 5 | 1 | 286 | 3 | 4 | 0 | 3 | 1 | 90 | 1 | 422 |
| 7:45 | 18 | 3 | 1 | 7 | 332 | 6 | 7 | 5 | 2 | 1 | 111 | 2 | 495 |
| 8:00 | 16 | 6 | 6 | 6 | 336 | 8 | 4 | 2 | 15 | 1 | 189 | 12 | 601 |
| 8:15 | 8 | 9 | 8 | 2 | 279 | 5 | 2 | 0 | 16 | 1 | 88 | 2 | 420 |
| 8:30 | 15 | 2 | 3 | 2 | 219 | 9 | 2 | 4 | 12 | 4 | 70 | 1 | 343 |
| 8:45 | 9 | 1 | 10 | 4 | 142 | 11 | 0 | 0 | 5 | 6 | 56 | 0 | 244 |
| Total | 106 | 30 | 43 | 30 | 2273 | 60 | 28 | 12 | 62 | 15 | 788 | 20 | 3467 |
| Approach% | 59.2 | 16.8 | 24.0 | 1.3 | 96.2 | 2.5 | 27.5 | 11.8 | 60.8 | 1.8 | 95.7 | 2.4 | |
| Total% | 3.1 | 0.9 | 1.2 | 0.9 | 65.6 | 1.7 | 0.8 | 0.3 | 1.8 | 0.4 | 22.7 | 0.6 | |

**AM Intersection Peak Hour:** **07:30 to 08:30**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 66 | 22 | 20 | 16 | 1,233 | 22 | 17 | 7 | 36 | 4 | 478 | 17 | 1,938 |
| Approach% | 61.1 | 20.4 | 18.5 | 1.3 | 97.0 | 1.7 | 28.3 | 11.7 | 60.0 | 0.8 | 95.8 | 3.4 | |
| Total% | 3.4 | 1.1 | 1.0 | 0.8 | 63.6 | 1.1 | 0.9 | 0.4 | 1.9 | 0.2 | 24.7 | 0.9 | |
| PHF | | | 0.82 | | | 0.91 | | | 0.71 | | | 0.62 | |

| PM | Pebble Beach Drive Southbound | | | Mast Boulevard Westbound | | | Pebble Beach Drive Northbound | | | Mast Boulevard Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 16:00 | 12 | 0 | 4 | 1 | 91 | 7 | 2 | 0 | 5 | 2 | 228 | 3 | 355 |
| 16:15 | 11 | 1 | 6 | 2 | 76 | 11 | 3 | 2 | 9 | 4 | 245 | 0 | 370 |
| 16:30 | 17 | 0 | 5 | 2 | 93 | 13 | 3 | 1 | 2 | 1 | 251 | 3 | 391 |
| 16:45 | 14 | 0 | 2 | 3 | 83 | 5 | 2 | 1 | 0 | 1 | 214 | 3 | 328 |
| 17:00 | 10 | 0 | 4 | 1 | 82 | 14 | 3 | 1 | 10 | 3 | 292 | 2 | 422 |
| 17:15 | 8 | 0 | 1 | 0 | 88 | 15 | 2 | 0 | 1 | 2 | 278 | 5 | 400 |
| 17:30 | 6 | 0 | 2 | 3 | 92 | 13 | 1 | 1 | 1 | 4 | 233 | 2 | 358 |
| 17:45 | 9 | 3 | 4 | 2 | 80 | 10 | 4 | 4 | 2 | 2 | 210 | 4 | 334 |
| Total | 87 | 4 | 28 | 14 | 685 | 88 | 20 | 10 | 30 | 19 | 1951 | 22 | 2958 |
| Approach% | 73.1 | 3.4 | 23.5 | 1.8 | 87.0 | 11.2 | 33.3 | 16.7 | 50.0 | 1.0 | 97.9 | 1.1 | |
| Total% | 2.5 | 0.1 | 0.8 | 0.4 | 19.8 | 2.5 | 0.6 | 0.3 | 0.9 | 0.5 | 56.3 | 0.6 | |

**PM Intersection Peak Hour:** **16:30 to 17:30**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 49 | - | 12 | 6 | 346 | 47 | 10 | 3 | 13 | 7 | 1,035 | 13 | 1,541 |
| Approach% | 80.3 | - | 19.7 | 1.5 | 86.7 | 11.8 | 38.5 | 11.5 | 50.0 | 0.7 | 98.1 | 1.2 | |
| Total% | 2.5 | - | 0.6 | 0.3 | 17.9 | 2.4 | 0.5 | 0.2 | 0.7 | 0.4 | 53.4 | 0.7 | |
| PHF | | | 0.69 | | | 0.92 | | | 0.46 | | | 0.89 | |

# Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

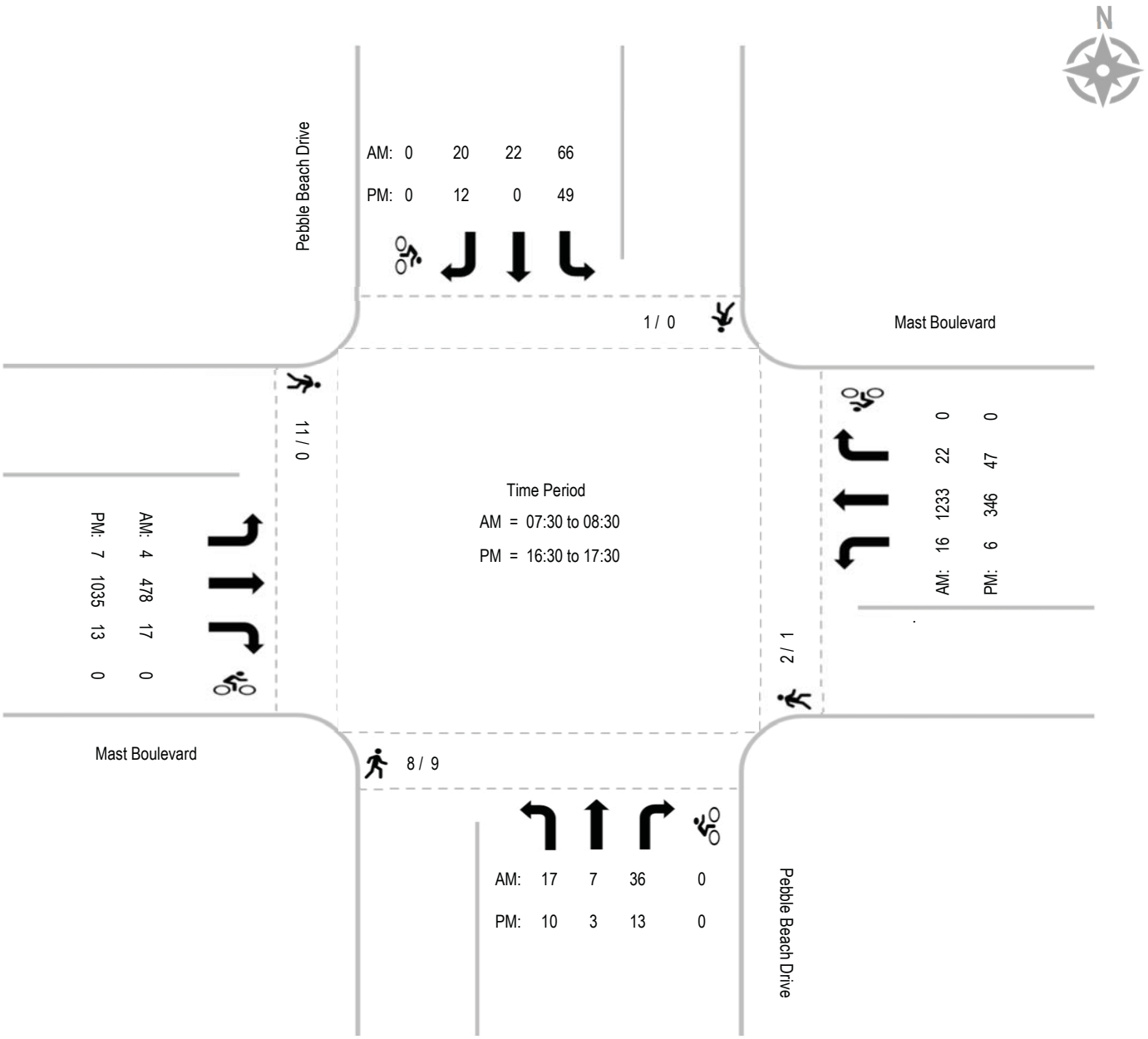
| | | | |
|---|---|---|---|
| Location: | #21 | File Name: | ITM-18-015-21 |
| Intersection: | Mast Boulevard / Pebble Beach Drive | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Wednesday, January 31, 2018 | | Fanita Ranch |

| AM | Pebble Beach Drive Southbound | | | | Mast Boulevard Westbound | | | | Pebble Beach Drive Northbound | | | | Mast Boulevard Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 7:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 |
| 7:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:30 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 |
| 7:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 0 | 0 | 0 | 9 | 0 |
| 8:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 |
| 8:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 8:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 8:45 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| Ped Total | 1 | | | | 2 | | | | 8 | | | | 11 | | | | 22 | |
| Bike Total | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 |

| PM | Pebble Beach Drive Southbound | | | | Mast Boulevard Westbound | | | | Pebble Beach Drive Northbound | | | | Mast Boulevard Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 16:00 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 16:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 |
| 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 17:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 |
| 17:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped Total | 0 | | | | 1 | | | | 9 | | | | 0 | | | | 10 | |
| Bike Total | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 |

# Intersection Turning Movement - Peak Hour Summary

| | | | | |
|---|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #21 | File Name: | ITM-18-015-21 |
| | Intersection: | Mast Boulevard / Pebble Beach Drive | Project: | LLG Ref. 3-15-2462 |
| | Date of Count: | Wednesday, January 31, 2018 | | Fanita Ranch |



# Intersection Turning Movement - Peak Hour Vehicle Count

| | | | | |
|---|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #22 | File Name: | ITM-18-015-22 |
| | Intersection: | Mast Boulevard / Fanita Parkway | Project: | LLG Ref. 3-15-2462 |
| | Date of Count: | Wednesday, January 31, 2018 | | Fanita Ranch |

| AM | Fanita Parkway Southbound | | | Mast Boulevard Westbound | | | Fanita Parkway Northbound | | | Mast Boulevard Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 7:00 | 5 | 18 | 27 | 11 | 350 | 1 | 17 | 4 | 1 | 8 | 97 | 19 | 558 |
| 7:15 | 7 | 17 | 21 | 17 | 241 | 4 | 5 | 1 | 6 | 3 | 75 | 17 | 414 |
| 7:30 | 2 | 13 | 21 | 17 | 271 | 3 | 14 | 7 | 3 | 8 | 87 | 20 | 466 |
| 7:45 | 6 | 9 | 21 | 25 | 323 | 3 | 9 | 8 | 19 | 8 | 92 | 22 | 545 |
| 8:00 | 8 | 16 | 33 | 19 | 284 | 20 | 8 | 9 | 2 | 26 | 184 | 34 | 643 |
| 8:15 | 6 | 14 | 31 | 14 | 216 | 6 | 4 | 8 | 6 | 13 | 73 | 8 | 399 |
| 8:30 | 7 | 10 | 34 | 9 | 210 | 6 | 3 | 6 | 11 | 13 | 75 | 8 | 392 |
| 8:45 | 5 | 16 | 17 | 10 | 132 | 2 | 4 | 5 | 2 | 9 | 49 | 9 | 260 |
| Total | 46 | 113 | 205 | 122 | 2027 | 45 | 64 | 48 | 50 | 88 | 732 | 137 | 3677 |
| Approach% | 12.6 | 31.0 | 56.3 | 5.6 | 92.4 | 2.1 | 39.5 | 29.6 | 30.9 | 9.2 | 76.5 | 14.3 | |
| Total% | 1.3 | 3.1 | 5.6 | 3.3 | 55.1 | 1.2 | 1.7 | 1.3 | 1.4 | 2.4 | 19.9 | 3.7 | |

**AM Intersection Peak Hour:** **07:15 to 08:15**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 23 | 55 | 96 | 78 | 1,119 | 30 | 36 | 25 | 30 | 45 | 438 | 93 | 2,068 |
| Approach% | 13.2 | 31.6 | 55.2 | 6.4 | 91.2 | 2.4 | 39.6 | 27.5 | 33.0 | 7.8 | 76.0 | 16.1 | |
| Total% | 1.1 | 2.7 | 4.6 | 3.8 | 54.1 | 1.5 | 1.7 | 1.2 | 1.5 | 2.2 | 21.2 | 4.5 | |
| PHF | | | 0.76 | | | 0.87 | | | 0.63 | | | 0.59 | |

| PM | Fanita Parkway Southbound | | | Mast Boulevard Westbound | | | Fanita Parkway Northbound | | | Mast Boulevard Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 16:00 | 5 | 14 | 9 | 9 | 72 | 9 | 11 | 10 | 11 | 25 | 225 | 6 | 406 |
| 16:15 | 9 | 6 | 17 | 6 | 62 | 13 | 8 | 8 | 6 | 26 | 250 | 9 | 420 |
| 16:30 | 9 | 11 | 9 | 4 | 89 | 9 | 5 | 9 | 2 | 31 | 218 | 9 | 405 |
| 16:45 | 11 | 3 | 11 | 9 | 83 | 10 | 6 | 13 | 8 | 34 | 211 | 18 | 417 |
| 17:00 | 11 | 13 | 13 | 1 | 76 | 12 | 8 | 11 | 10 | 40 | 257 | 9 | 461 |
| 17:15 | 13 | 6 | 15 | 11 | 102 | 16 | 9 | 10 | 4 | 37 | 246 | 12 | 481 |
| 17:30 | 8 | 9 | 11 | 5 | 107 | 11 | 10 | 11 | 7 | 32 | 212 | 10 | 433 |
| 17:45 | 5 | 2 | 12 | 3 | 70 | 6 | 7 | 11 | 6 | 23 | 207 | 3 | 355 |
| Total | 71 | 64 | 97 | 48 | 661 | 86 | 64 | 83 | 54 | 248 | 1826 | 76 | 3378 |
| Approach% | 30.6 | 27.6 | 41.8 | 6.0 | 83.1 | 10.8 | 31.8 | 41.3 | 26.9 | 11.5 | 84.9 | 3.5 | |
| Total% | 1.9 | 1.7 | 2.6 | 1.3 | 18.0 | 2.3 | 1.7 | 2.3 | 1.5 | 6.7 | 49.7 | 2.1 | |

**PM Intersection Peak Hour:** **16:45 to 17:45**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 43 | 31 | 50 | 26 | 368 | 49 | 33 | 45 | 29 | 143 | 926 | 49 | 1,792 |
| Approach% | 34.7 | 25.0 | 40.3 | 5.9 | 83.1 | 11.1 | 30.8 | 42.1 | 27.1 | 12.8 | 82.8 | 4.4 | |
| Total% | 2.1 | 1.5 | 2.4 | 1.3 | 17.8 | 2.4 | 1.6 | 2.2 | 1.4 | 6.9 | 44.8 | 2.4 | |
| PHF | | | 0.84 | | | 0.86 | | | 0.92 | | | 0.91 | |

# Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

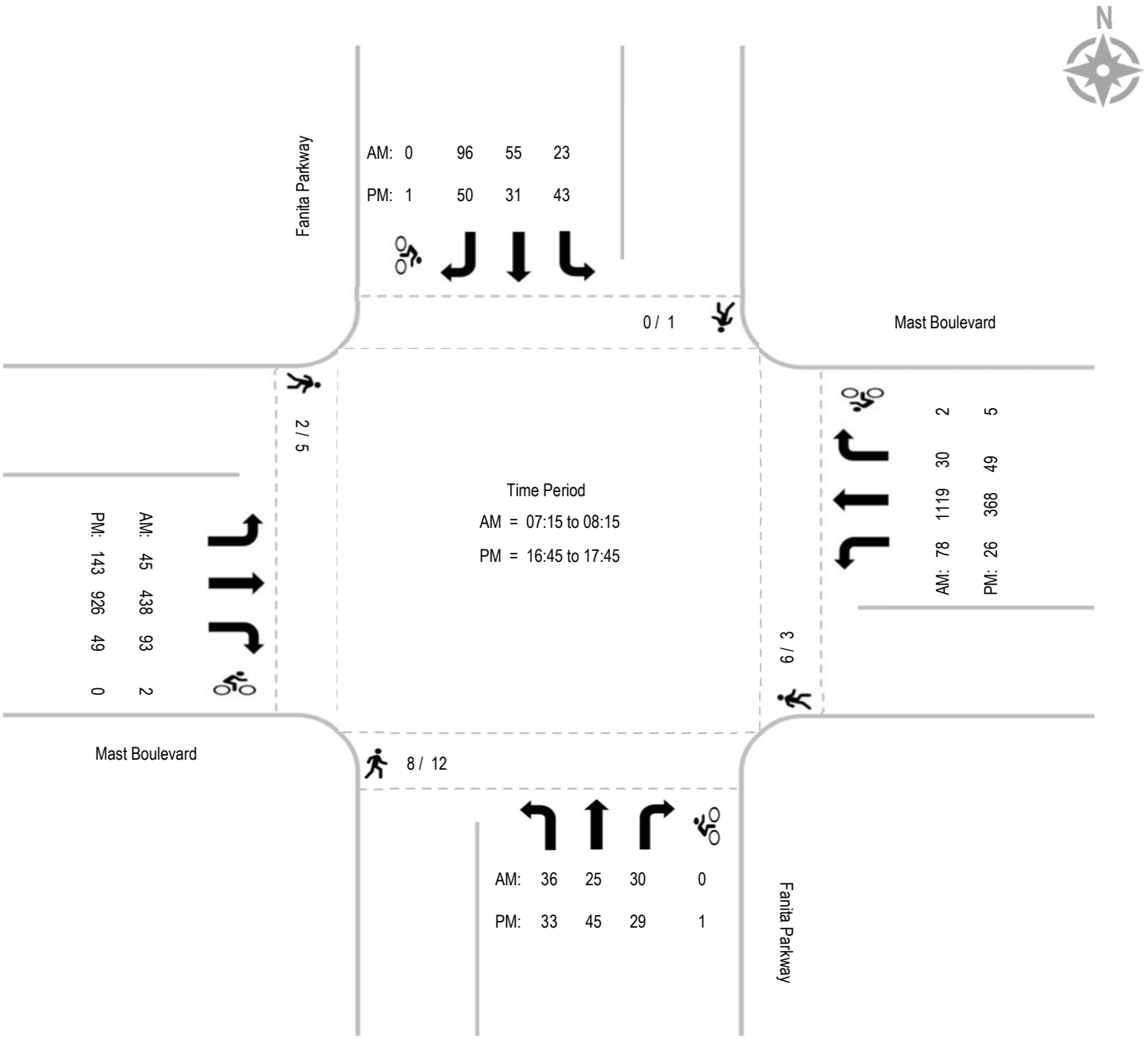
| | | | |
|---|---|---|---|
| Location: | #22 | File Name: | ITM-18-015-22 |
| Intersection: | Mast Boulevard / Fanita Parkway | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Wednesday, January 31, 2018 | | Fanita Ranch |

| AM | Fanita Parkway Southbound | | | | Mast Boulevard Westbound | | | | Fanita Parkway Northbound | | | | Mast Boulevard Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 7:00 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 2 |
| 7:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 |
| 7:30 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 7:45 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 |
| 8:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:30 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 8:45 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 4 | 1 |
| Ped Total | 0 | | | | 6 | | | | 8 | | | | 2 | | | | 16 | |
| Bike Total | | 0 | 0 | 0 | | 0 | 2 | 0 | | 0 | 0 | 0 | | 0 | 2 | 0 | | 4 |

| PM | Fanita Parkway Southbound | | | | Mast Boulevard Westbound | | | | Fanita Parkway Northbound | | | | Mast Boulevard Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 4 | 0 |
| 16:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 |
| 16:30 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 16:45 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 2 |
| 17:00 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 4 | 1 |
| 17:15 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 1 |
| 17:30 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 4 | 0 |
| 17:45 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Ped Total | 1 | | | | 3 | | | | 12 | | | | 5 | | | | 21 | |
| Bike Total | | 1 | 0 | 0 | | 2 | 3 | 0 | | 0 | 1 | 0 | | 0 | 0 | 0 | | 7 |

# Intersection Turning Movement - Peak Hour Summary

| | | | | |
|---|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #22 | File Name: | ITM-18-015-22 |
| | Intersection: | Mast Boulevard / Fanita Parkway | Project: | LLG Ref. 3-15-2462 |
| | Date of Count: | Wednesday, January 31, 2018 | | Fanita Ranch |



# Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers

| | | | |
|---|---|---|---|
| Location: | #R23 | File Name: | ITM-18-015-R23 |
| Intersection: | Carlton Hills Boulevard & Mast Boulevard | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Wednesday, January 31, 2018 | | Fanita Ranch |

| AM | Carlton Hills Boulevard Southbound | | | Mast Boulevard Westbound | | | Carlton Hills Boulevard Northbound | | | Mast Boulevard Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 7:00 | 18 | 46 | 20 | 33 | 273 | 6 | 33 | 14 | 14 | 12 | 73 | 24 | 566 |
| 7:15 | 21 | 46 | 19 | 48 | 193 | 8 | 19 | 15 | 19 | 6 | 59 | 21 | 474 |
| 7:30 | 22 | 66 | 12 | 46 | 262 | 13 | 32 | 36 | 22 | 5 | 71 | 25 | 612 |
| 7:45 | 28 | 35 | 21 | 40 | 253 | 15 | 49 | 39 | 24 | 4 | 87 | 28 | 623 |
| 8:00 | 22 | 48 | 23 | 38 | 214 | 27 | 38 | 23 | 18 | 17 | 107 | 44 | 619 |
| 8:15 | 43 | 44 | 16 | 44 | 175 | 33 | 33 | 44 | 14 | 9 | 48 | 10 | 513 |
| 8:30 | 46 | 55 | 8 | 31 | 158 | 15 | 51 | 24 | 21 | 10 | 65 | 12 | 496 |
| 8:45 | 39 | 40 | 9 | 32 | 111 | 10 | 31 | 19 | 19 | 4 | 46 | 6 | 366 |
| Total | 239 | 380 | 128 | 312 | 1639 | 127 | 286 | 214 | 151 | 67 | 556 | 170 | 4269 |
| Approach% | 32.0 | 50.9 | 17.1 | 15.0 | 78.9 | 6.1 | 43.9 | 32.9 | 23.2 | 8.4 | 70.1 | 21.4 | |
| Total% | 5.6 | 8.9 | 3.0 | 7.3 | 38.4 | 3.0 | 6.7 | 5.0 | 3.5 | 1.6 | 13.0 | 4.0 | |
| **AM Intersection Peak Hour:** | **07:30 to 08:30** | | | | | | | | | | | | |
| Volume | 115 | 193 | 72 | 168 | 904 | 88 | 152 | 142 | 78 | 35 | 313 | 107 | 2,367 |
| Approach% | 30.3 | 50.8 | 18.9 | 14.5 | 77.9 | 7.6 | 40.9 | 38.2 | 21.0 | 7.7 | 68.8 | 23.5 | |
| Total% | 4.9 | 8.2 | 3.0 | 7.1 | 38.2 | 3.7 | 6.4 | 6.0 | 3.3 | 1.5 | 13.2 | 4.5 | |
| PHF | | | 0.92 | | | 0.90 | | | 0.83 | | | 0.68 | |

| PM | Carlton Hills Boulevard Southbound | | | Mast Boulevard Westbound | | | Carlton Hills Boulevard Northbound | | | Mast Boulevard Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 16:00 | 25 | 35 | 7 | 21 | 71 | 21 | 20 | 50 | 36 | 13 | 170 | 22 | 491 |
| 16:15 | 31 | 31 | 5 | 24 | 63 | 20 | 24 | 53 | 19 | 17 | 216 | 15 | 518 |
| 16:30 | 46 | 39 | 12 | 22 | 69 | 26 | 29 | 55 | 39 | 12 | 218 | 15 | 582 |
| 16:45 | 34 | 41 | 13 | 24 | 70 | 25 | 24 | 58 | 49 | 13 | 182 | 14 | 547 |
| 17:00 | 58 | 50 | 7 | 24 | 66 | 25 | 17 | 60 | 46 | 23 | 230 | 22 | 628 |
| 17:15 | 48 | 43 | 8 | 28 | 83 | 22 | 21 | 52 | 43 | 15 | 178 | 21 | 562 |
| 17:30 | 37 | 34 | 3 | 29 | 84 | 22 | 27 | 42 | 38 | 16 | 180 | 22 | 534 |
| 17:45 | 24 | 34 | 7 | 33 | 66 | 15 | 24 | 59 | 44 | 20 | 203 | 21 | 550 |
| Total | 303 | 307 | 62 | 205 | 572 | 176 | 186 | 429 | 314 | 129 | 1577 | 152 | 4412 |
| Approach% | 45.1 | 45.7 | 9.2 | 21.5 | 60.0 | 18.5 | 20.0 | 46.2 | 33.8 | 6.9 | 84.9 | 8.2 | |
| Total% | 7.1 | 7.2 | 1.5 | 4.8 | 13.4 | 4.1 | 4.4 | 10.0 | 7.4 | 3.0 | 36.9 | 3.6 | |
| **PM Intersection Peak Hour:** | **16:30 to 17:30** | | | | | | | | | | | | |
| Volume | 186 | 173 | 40 | 98 | 288 | 98 | 91 | 225 | 177 | 63 | 808 | 72 | 2,319 |
| Approach% | 46.6 | 43.4 | 10.0 | 20.2 | 59.5 | 20.2 | 18.5 | 45.6 | 35.9 | 6.7 | 85.7 | 7.6 | |
| Total% | 7.9 | 7.3 | 1.7 | 4.1 | 12.2 | 4.1 | 3.8 | 9.5 | 7.5 | 2.7 | 34.1 | 3.0 | |
| PHF | | | 0.87 | | | 0.91 | | | 0.94 | | | 0.86 | |

# Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

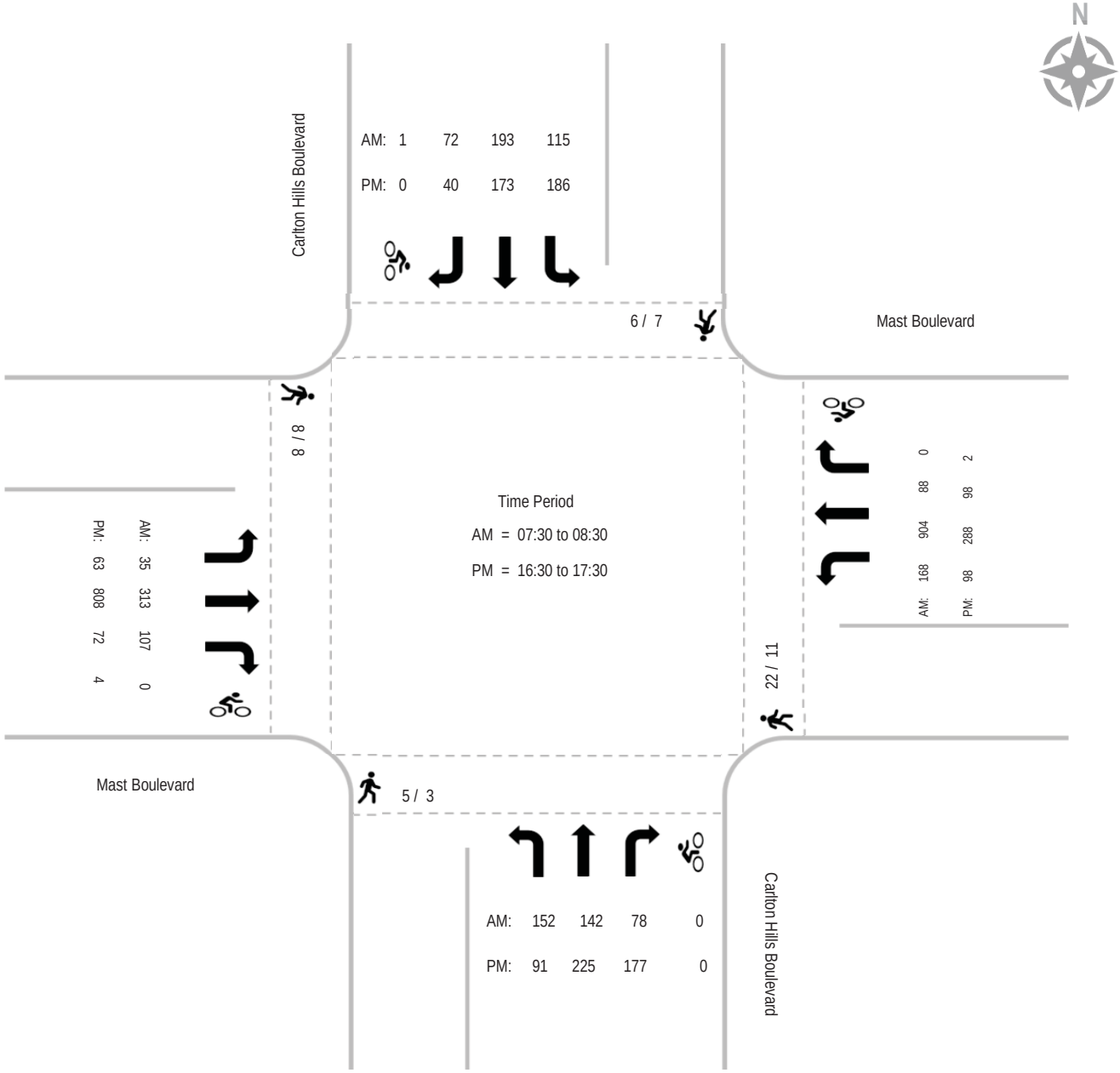
| | | | |
|---|---|---|---|
| Location: | #R23 | File Name: | ITM-18-015-R23 |
| Intersection: | Carlton Hills Boulevard & Mast Boulevard | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Wednesday, January 31, 2018 | | Fanita Ranch |

| AM | Carlton Hills Boulevard Southbound | | | | Mast Boulevard Westbound | | | | Carlton Hills Boulevard Northbound | | | | Mast Boulevard Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 7:00 | 1 | 0 | 1 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 1 |
| 7:15 | 0 | 0 | 0 | 0 | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 0 |
| 7:30 | 1 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 0 |
| 7:45 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 5 | 0 |
| 8:00 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 8:15 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 6 | 0 |
| 8:30 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 3 | 0 |
| 8:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped Total | 6 | | | | 22 | | | | 5 | | | | 8 | | | | 41 | |
| Bike Total | | 0 | 1 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 1 |

| PM | Carlton Hills Boulevard Southbound | | | | Mast Boulevard Westbound | | | | Carlton Hills Boulevard Northbound | | | | Mast Boulevard Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16:15 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 3 | 0 |
| 16:30 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 4 | 0 |
| 16:45 | 0 | 0 | 0 | 0 | 3 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 4 | 0 | 4 | 6 |
| 17:00 | 3 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 |
| 17:15 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 6 | 0 |
| 17:30 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 5 | 0 |
| 17:45 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 3 | 0 |
| Ped Total | 7 | | | | 11 | | | | 3 | | | | 8 | | | | 29 | |
| Bike Total | | 0 | 0 | 0 | | 0 | 2 | 0 | | 0 | 0 | 0 | | 0 | 4 | 0 | | 6 |

# Intersection Turning Movement - Peak Hour Summary

| | | | |
|---|---|---|---|
| Location: | #R23 | File Name: | ITM-18-015-R23 |
| Intersection: | Carlton Hills Boulevard & Mast Boulevard | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Wednesday, January 31, 2018 | | Fanita Ranch |



# Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers

| | | | |
|---|---|---|---|
| Location: | #24 | File Name: | ITM-18-015-24 |
| Intersection: | Mast Boulevard / Halberns Boulevard | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Wednesday, January 31, 2018 | | Fanita Ranch |

| AM | Halberns Boulevard Southbound | | | Mast Boulevard Westbound | | | Halberns Boulevard Northbound | | | Mast Boulevard Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 7:00 | 9 | 11 | 14 | 10 | 299 | 5 | 17 | 3 | 7 | 3 | 77 | 3 | 458 |
| 7:15 | 11 | 4 | 13 | 9 | 275 | 5 | 7 | 4 | 22 | 1 | 102 | 10 | 463 |
| 7:30 | 12 | 11 | 8 | 44 | 279 | 0 | 13 | 4 | 18 | 1 | 119 | 0 | 509 |
| 7:45 | 7 | 8 | 11 | 18 | 296 | 7 | 9 | 8 | 16 | 3 | 139 | 2 | 524 |
| 8:00 | 13 | 16 | 12 | 16 | 280 | 10 | 12 | 7 | 15 | 5 | 140 | 6 | 532 |
| 8:15 | 8 | 6 | 13 | 8 | 275 | 8 | 6 | 3 | 14 | 7 | 98 | 1 | 447 |
| 8:30 | 11 | 10 | 10 | 8 | 199 | 6 | 17 | 9 | 13 | 1 | 100 | 3 | 387 |
| 8:45 | 12 | 8 | 5 | 16 | 163 | 9 | 4 | 2 | 5 | 5 | 133 | 6 | 368 |
| Total | 83 | 74 | 86 | 129 | 2066 | 50 | 85 | 40 | 110 | 26 | 908 | 31 | 3688 |
| Approach% | 34.2 | 30.5 | 35.4 | 5.7 | 92.0 | 2.2 | 36.2 | 17.0 | 46.8 | 2.7 | 94.1 | 3.2 | |
| Total% | 2.3 | 2.0 | 2.3 | 3.5 | 56.0 | 1.4 | 2.3 | 1.1 | 3.0 | 0.7 | 24.6 | 0.8 | |

**AM Intersection Peak Hour:** **07:15 to 08:15**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 43 | 39 | 44 | 87 | 1,130 | 22 | 41 | 23 | 71 | 10 | 500 | 18 | 2,028 |
| Approach% | 34.1 | 31.0 | 34.9 | 7.0 | 91.2 | 1.8 | 30.4 | 17.0 | 52.6 | 1.9 | 94.7 | 3.4 | |
| Total% | 2.1 | 1.9 | 2.2 | 4.3 | 55.7 | 1.1 | 2.0 | 1.1 | 3.5 | 0.5 | 24.7 | 0.9 | |
| PHF | | | 0.77 | | | 0.96 | | | 0.96 | | | 0.87 | |

| PM | Halberns Boulevard Southbound | | | Mast Boulevard Westbound | | | Halberns Boulevard Northbound | | | Mast Boulevard Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 16:00 | 9 | 1 | 4 | 6 | 120 | 8 | 4 | 5 | 25 | 6 | 215 | 5 | 408 |
| 16:15 | 13 | 7 | 3 | 8 | 107 | 12 | 9 | 11 | 35 | 5 | 236 | 14 | 460 |
| 16:30 | 10 | 6 | 0 | 4 | 108 | 9 | 9 | 8 | 33 | 8 | 268 | 9 | 472 |
| 16:45 | 11 | 3 | 2 | 9 | 129 | 17 | 4 | 12 | 25 | 2 | 231 | 11 | 456 |
| 17:00 | 11 | 21 | 13 | 17 | 134 | 6 | 7 | 25 | 31 | 9 | 255 | 10 | 539 |
| 17:15 | 9 | 12 | 5 | 2 | 64 | 6 | 4 | 17 | 20 | 5 | 146 | 6 | 296 |
| 17:30 | 13 | 9 | 5 | 15 | 50 | 3 | 6 | 13 | 20 | 6 | 139 | 0 | 279 |
| 17:45 | 9 | 1 | 2 | 4 | 73 | 8 | 3 | 4 | 18 | 6 | 138 | 19 | 285 |
| Total | 85 | 60 | 34 | 65 | 785 | 69 | 46 | 95 | 207 | 47 | 1628 | 74 | 3195 |
| Approach% | 47.5 | 33.5 | 19.0 | 7.1 | 85.4 | 7.5 | 13.2 | 27.3 | 59.5 | 2.7 | 93.1 | 4.2 | |
| Total% | 2.3 | 1.6 | 0.9 | 1.8 | 21.3 | 1.9 | 1.2 | 2.6 | 5.6 | 1.3 | 44.1 | 2.0 | |

**PM Intersection Peak Hour:** **16:15 to 17:15**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 45 | 37 | 18 | 38 | 478 | 44 | 29 | 56 | 124 | 24 | 990 | 44 | 1,927 |
| Approach% | 45.0 | 37.0 | 18.0 | 6.8 | 85.4 | 7.9 | 13.9 | 26.8 | 59.3 | 2.3 | 93.6 | 4.2 | |
| Total% | 2.2 | 1.8 | 0.9 | 1.9 | 23.6 | 2.2 | 1.4 | 2.8 | 6.1 | 1.2 | 48.8 | 2.2 | |
| PHF | | | 0.56 | | | 0.89 | | | 0.83 | | | 0.93 | |

# Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

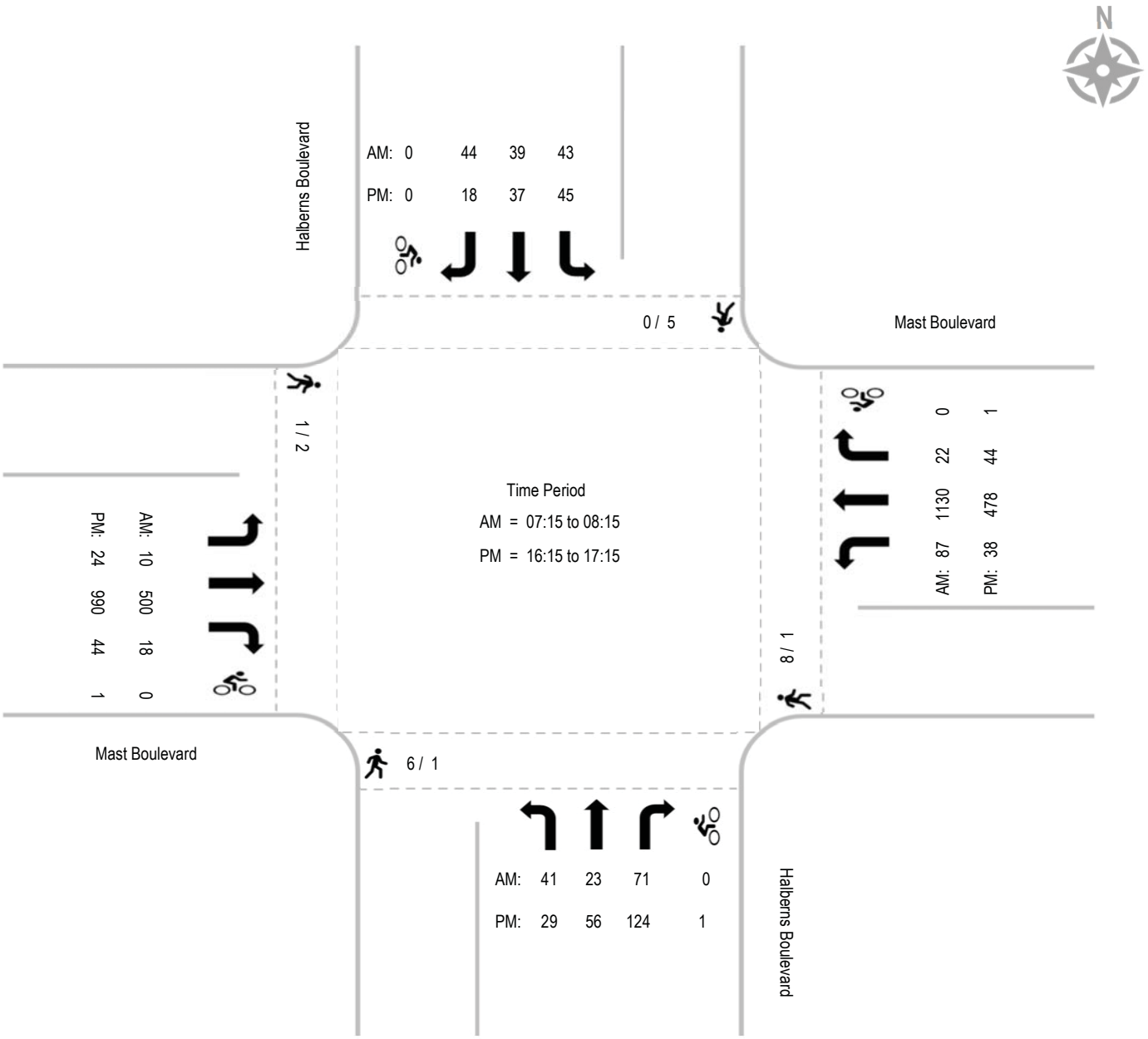
| | | | |
|---|---|---|---|
| Location: | #24 | File Name: | ITM-18-015-24 |
| Intersection: | Mast Boulevard / Halberns Boulevard | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Wednesday, January 31, 2018 | | Fanita Ranch |

| AM | Halberns Boulevard Southbound | | | | Mast Boulevard Westbound | | | | Halberns Boulevard Northbound | | | | Mast Boulevard Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 7:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 |
| 7:30 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 5 | 0 |
| 7:45 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 8:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:15 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 8:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 |
| Ped Total | 0 | | | | 8 | | | | 6 | | | | 1 | | | | 15 | |
| Bike Total | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 |

| PM | Halberns Boulevard Southbound | | | | Mast Boulevard Westbound | | | | Halberns Boulevard Northbound | | | | Mast Boulevard Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16:15 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 16:30 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 2 |
| 16:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 17:15 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 3 | 0 |
| 17:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:45 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 3 | 0 |
| Ped Total | 5 | | | | 1 | | | | 1 | | | | 2 | | | | 9 | |
| Bike Total | | 0 | 0 | 0 | | 0 | 0 | 1 | | 0 | 1 | 0 | | 0 | 1 | 0 | | 3 |

# Intersection Turning Movement - Peak Hour Summary

| | | | | |
|---|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #24 | File Name: | ITM-18-015-24 |
| | Intersection: | Mast Boulevard / Halberns Boulevard | Project: | LLG Ref. 3-15-2462 |
| | Date of Count: | Wednesday, January 31, 2018 | | Fanita Ranch |



# Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers

| | | | |
|---|---|---|---|
| Location: | #25 | File Name: | ITM-18-015-25 |
| Intersection: | Mast Boulevard / Cuyamaca Street | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Tuesday, January 30, 2018 | | Fanita Ranch |

| AM | Cuyamaca Street Southbound | | | Mast Boulevard Westbound | | | Cuyamaca Street Northbound | | | Mast Boulevard Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 7:00 | 0 | 44 | 98 | 66 | 195 | 4 | 33 | 11 | 25 | 17 | 98 | 24 | 615 |
| 7:15 | 2 | 66 | 71 | 67 | 172 | 2 | 45 | 12 | 15 | 29 | 80 | 38 | 599 |
| 7:30 | 3 | 66 | 119 | 68 | 202 | 2 | 42 | 15 | 42 | 18 | 65 | 41 | 683 |
| 7:45 | 0 | 66 | 93 | 79 | 175 | 0 | 45 | 19 | 38 | 22 | 85 | 42 | 664 |
| 8:00 | 2 | 59 | 76 | 101 | 133 | 2 | 52 | 19 | 43 | 25 | 79 | 66 | 657 |
| 8:15 | 3 | 60 | 80 | 79 | 140 | 1 | 58 | 37 | 56 | 19 | 79 | 51 | 663 |
| 8:30 | 1 | 42 | 59 | 46 | 119 | 3 | 62 | 31 | 55 | 22 | 69 | 44 | 553 |
| 8:45 | 2 | 44 | 47 | 59 | 90 | 2 | 33 | 23 | 31 | 19 | 60 | 48 | 458 |
| Total | 13 | 447 | 643 | 565 | 1226 | 16 | 370 | 167 | 305 | 171 | 615 | 354 | 4892 |
| Approach% | 1.2 | 40.5 | 58.3 | 31.3 | 67.8 | 0.9 | 43.9 | 19.8 | 36.2 | 15.0 | 53.9 | 31.1 | |
| Total% | 0.3 | 9.1 | 13.1 | 11.5 | 25.1 | 0.3 | 7.6 | 3.4 | 6.2 | 3.5 | 12.6 | 7.2 | |

**AM Intersection Peak Hour:** **07:30 to 08:30**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 8 | 251 | 368 | 327 | 650 | 5 | 197 | 90 | 179 | 84 | 308 | 200 | 2,667 |
| Approach% | 1.3 | 40.0 | 58.7 | 33.3 | 66.2 | 0.5 | 42.3 | 19.3 | 38.4 | 14.2 | 52.0 | 33.8 | |
| Total% | 0.3 | 9.4 | 13.8 | 12.3 | 24.4 | 0.2 | 7.4 | 3.4 | 6.7 | 3.1 | 11.5 | 7.5 | |
| PHF | | | 0.83 | | | 0.90 | | | 0.77 | | | 0.87 | |

| PM | Cuyamaca Street Southbound | | | Mast Boulevard Westbound | | | Cuyamaca Street Northbound | | | Mast Boulevard Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 16:00 | 2 | 39 | 28 | 55 | 68 | 1 | 67 | 56 | 102 | 49 | 154 | 44 | 665 |
| 16:15 | 1 | 50 | 25 | 68 | 70 | 6 | 47 | 61 | 114 | 33 | 166 | 67 | 708 |
| 16:30 | 1 | 52 | 24 | 62 | 77 | 6 | 72 | 55 | 100 | 45 | 154 | 69 | 717 |
| 16:45 | 1 | 49 | 30 | 71 | 57 | 2 | 54 | 80 | 99 | 46 | 147 | 57 | 693 |
| 17:00 | 4 | 59 | 29 | 83 | 76 | 6 | 61 | 88 | 94 | 59 | 160 | 59 | 778 |
| 17:15 | 2 | 50 | 23 | 63 | 80 | 6 | 58 | 63 | 109 | 37 | 147 | 70 | 708 |
| 17:30 | 4 | 35 | 35 | 89 | 71 | 2 | 45 | 54 | 102 | 44 | 148 | 73 | 702 |
| 17:45 | 2 | 43 | 31 | 67 | 54 | 3 | 74 | 74 | 110 | 55 | 178 | 52 | 743 |
| Total | 17 | 377 | 225 | 558 | 553 | 32 | 478 | 531 | 830 | 368 | 1254 | 491 | 5714 |
| Approach% | 2.7 | 60.9 | 36.3 | 48.8 | 48.4 | 2.8 | 26.0 | 28.9 | 45.1 | 17.4 | 59.3 | 23.2 | |
| Total% | 0.3 | 7.7 | 4.6 | 11.4 | 11.3 | 0.7 | 9.8 | 10.9 | 17.0 | 7.5 | 25.6 | 10.0 | |

**PM Intersection Peak Hour:** **17:00 to 18:00**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 12 | 187 | 118 | 302 | 281 | 17 | 238 | 279 | 415 | 195 | 633 | 254 | 2,931 |
| Approach% | 3.8 | 59.0 | 37.2 | 50.3 | 46.8 | 2.8 | 25.5 | 29.9 | 44.5 | 18.0 | 58.5 | 23.5 | |
| Total% | 0.4 | 7.0 | 4.4 | 11.3 | 10.5 | 0.6 | 8.9 | 10.5 | 15.6 | 7.3 | 23.7 | 9.5 | |
| PHF | | | 0.86 | | | 0.91 | | | 0.90 | | | 0.95 | |

# Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

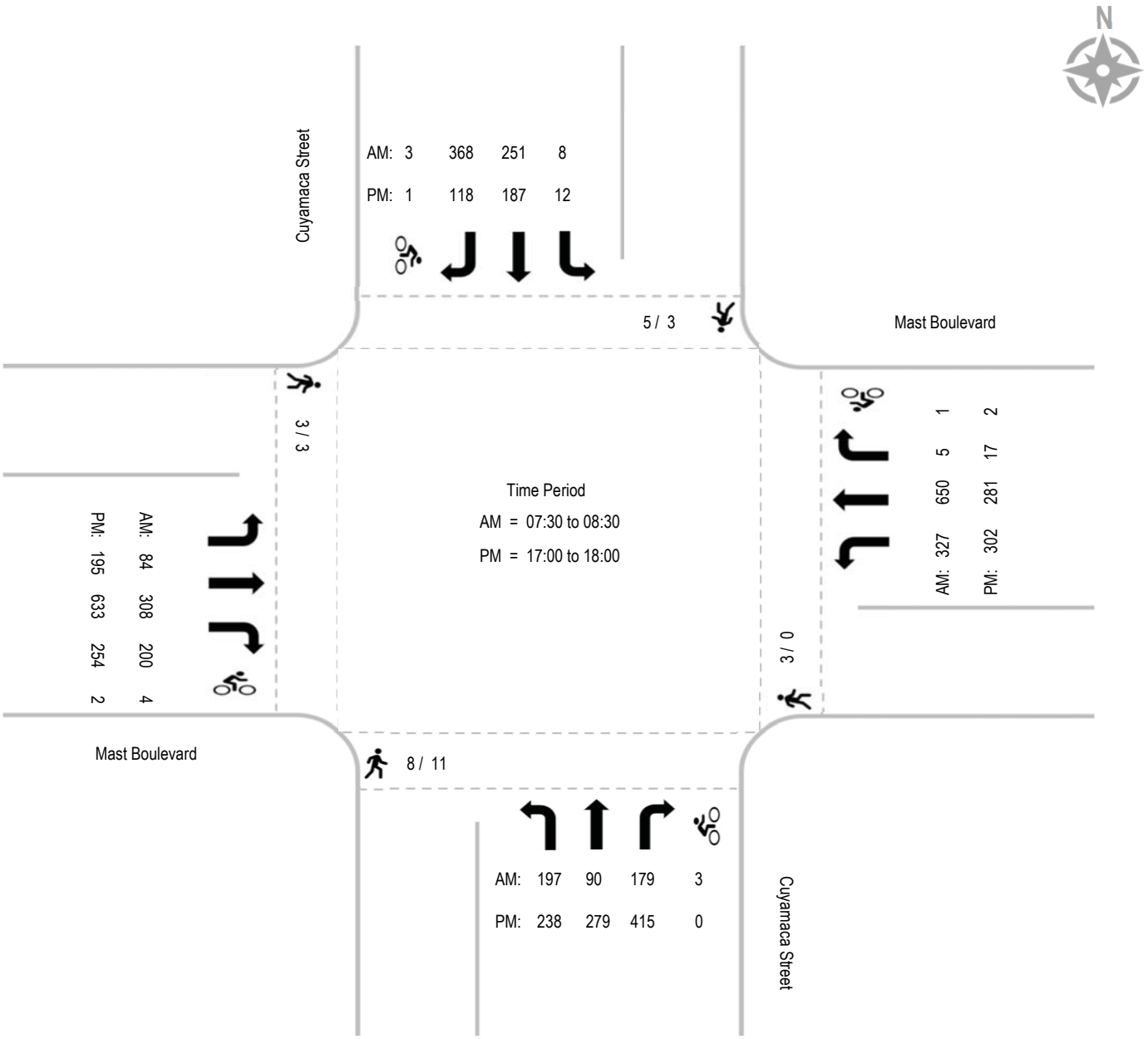
| | | | |
|---|---|---|---|
| Location: | #25 | File Name: | ITM-18-015-25 |
| Intersection: | Mast Boulevard / Cuyamaca Street | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Tuesday, January 30, 2018 | | Fanita Ranch |

| AM | Cuyamaca Street Southbound | | | | Mast Boulevard Westbound | | | | Cuyamaca Street Northbound | | | | Mast Boulevard Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 7:00 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 1 |
| 7:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 3 | 2 |
| 7:30 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 3 | 2 |
| 7:45 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 |
| 8:00 | 2 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 0 |
| 8:15 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 2 |
| 8:30 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 2 | 2 |
| 8:45 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Ped Total | 5 | | | | 3 | | | | 8 | | | | 3 | | | | 19 | |
| Bike Total | | 0 | 3 | 0 | | 0 | 0 | 1 | | 0 | 2 | 1 | | 0 | 2 | 2 | | 11 |

| PM | Cuyamaca Street Southbound | | | | Mast Boulevard Westbound | | | | Cuyamaca Street Northbound | | | | Mast Boulevard Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 1 |
| 16:15 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 1 |
| 16:30 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 1 |
| 16:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 17:00 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 |
| 17:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 17:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 |
| 17:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped Total | 3 | | | | 0 | | | | 11 | | | | 3 | | | | 17 | |
| Bike Total | | 0 | 0 | 1 | | 1 | 0 | 1 | | 0 | 0 | 0 | | 1 | 1 | 0 | | 5 |

# Intersection Turning Movement - Peak Hour Summary

| | | | | |
|---|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #25 | File Name: | ITM-18-015-25 |
| | Intersection: | Mast Boulevard / Cuyamaca Street | Project: | LLG Ref. 3-15-2462 |
| | Date of Count: | Tuesday, January 30, 2018 | | Fanita Ranch |



# Intersection Turning Movement - Peak Hour Vehicle Count

| | | | |
|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #26 | File Name: ITM-18-015-26 |
| | Intersection: | Mast Boulevard / Park Center Drive | Project: LLG Ref. 3-15-2462 |
| | Date of Count: | Tuesday, January 30, 2018 | Fanita Ranch |

| AM | - Southbound | | | Mast Boulevard Westbound | | | Park Center Drive Northbound | | | Mast Boulevard Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 7:00 | 0 | 0 | 0 | 9 | 213 | 0 | 0 | 0 | 17 | 0 | 144 | 1 | 384 |
| 7:15 | 0 | 0 | 0 | 10 | 204 | 0 | 1 | 0 | 14 | 0 | 99 | 6 | 334 |
| 7:30 | 0 | 0 | 0 | 12 | 262 | 0 | 2 | 0 | 13 | 0 | 108 | 7 | 404 |
| 7:45 | 0 | 0 | 0 | 20 | 234 | 0 | 5 | 0 | 16 | 0 | 125 | 3 | 403 |
| 8:00 | 0 | 0 | 0 | 53 | 198 | 0 | 3 | 0 | 11 | 0 | 123 | 35 | 423 |
| 8:15 | 0 | 0 | 0 | 31 | 167 | 0 | 11 | 0 | 50 | 0 | 119 | 22 | 400 |
| 8:30 | 0 | 0 | 0 | 14 | 153 | 0 | 4 | 0 | 25 | 0 | 103 | 6 | 305 |
| 8:45 | 0 | 0 | 0 | 14 | 113 | 0 | 3 | 0 | 8 | 0 | 107 | 4 | 249 |
| Total | 0 | 0 | 0 | 163 | 1544 | 0 | 29 | 0 | 154 | 0 | 928 | 84 | 2902 |
| Approach% | - | - | - | 9.5 | 90.5 | - | 15.8 | - | 84.2 | - | 91.7 | 8.3 | |
| Total% | - | - | - | 5.6 | 53.2 | - | 1.0 | - | 5.3 | - | 32.0 | 2.9 | |

**AM Intersection Peak Hour:** **07:30 to 08:30**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | - | - | - | 116 | 861 | - | 21 | - | 90 | - | 475 | 67 | 1,630 |
| Approach% | - | - | - | 11.9 | 88.1 | - | 18.9 | - | 81.1 | - | 87.6 | 12.4 | |
| Total% | - | - | - | 7.1 | 52.8 | - | 1.3 | - | 5.5 | - | 29.1 | 4.1 | |
| PHF | | | | | | 0.89 | | | 0.45 | | | 0.86 | |

| PM | - Southbound | | | Mast Boulevard Westbound | | | Park Center Drive Northbound | | | Mast Boulevard Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 16:00 | 0 | 0 | 0 | 19 | 137 | 0 | 7 | 0 | 42 | 0 | 249 | 9 | 463 |
| 16:15 | 0 | 0 | 0 | 33 | 132 | 0 | 5 | 0 | 25 | 0 | 216 | 6 | 417 |
| 16:30 | 0 | 0 | 0 | 17 | 136 | 0 | 7 | 0 | 30 | 0 | 233 | 5 | 428 |
| 16:45 | 0 | 0 | 0 | 26 | 114 | 0 | 6 | 0 | 32 | 0 | 188 | 4 | 370 |
| 17:00 | 0 | 0 | 0 | 22 | 193 | 0 | 5 | 0 | 30 | 0 | 236 | 6 | 492 |
| 17:15 | 0 | 0 | 0 | 20 | 133 | 0 | 1 | 0 | 31 | 0 | 214 | 5 | 404 |
| 17:30 | 0 | 0 | 0 | 31 | 154 | 0 | 4 | 0 | 31 | 0 | 234 | 7 | 461 |
| 17:45 | 0 | 0 | 0 | 30 | 128 | 0 | 6 | 0 | 25 | 0 | 267 | 10 | 466 |
| Total | 0 | 0 | 0 | 198 | 1127 | 0 | 41 | 0 | 246 | 0 | 1837 | 52 | 3501 |
| Approach% | - | - | - | 14.9 | 85.1 | - | 14.3 | - | 85.7 | - | 97.2 | 2.8 | |
| Total% | - | - | - | 6.8 | 38.8 | - | 1.4 | - | 8.5 | - | 63.3 | 1.8 | |

**PM Intersection Peak Hour:** **17:00 to 18:00**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | - | - | - | 103 | 608 | - | 16 | - | 117 | - | 951 | 28 | 1,823 |
| Approach% | - | - | - | 14.5 | 85.5 | - | 12.0 | - | 88.0 | - | 97.1 | 2.9 | |
| Total% | - | - | - | 6.3 | 37.3 | - | 1.0 | - | 7.2 | - | 58.3 | 1.7 | |
| PHF | | | | | | 0.83 | | | 0.95 | | | 0.88 | |

# Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

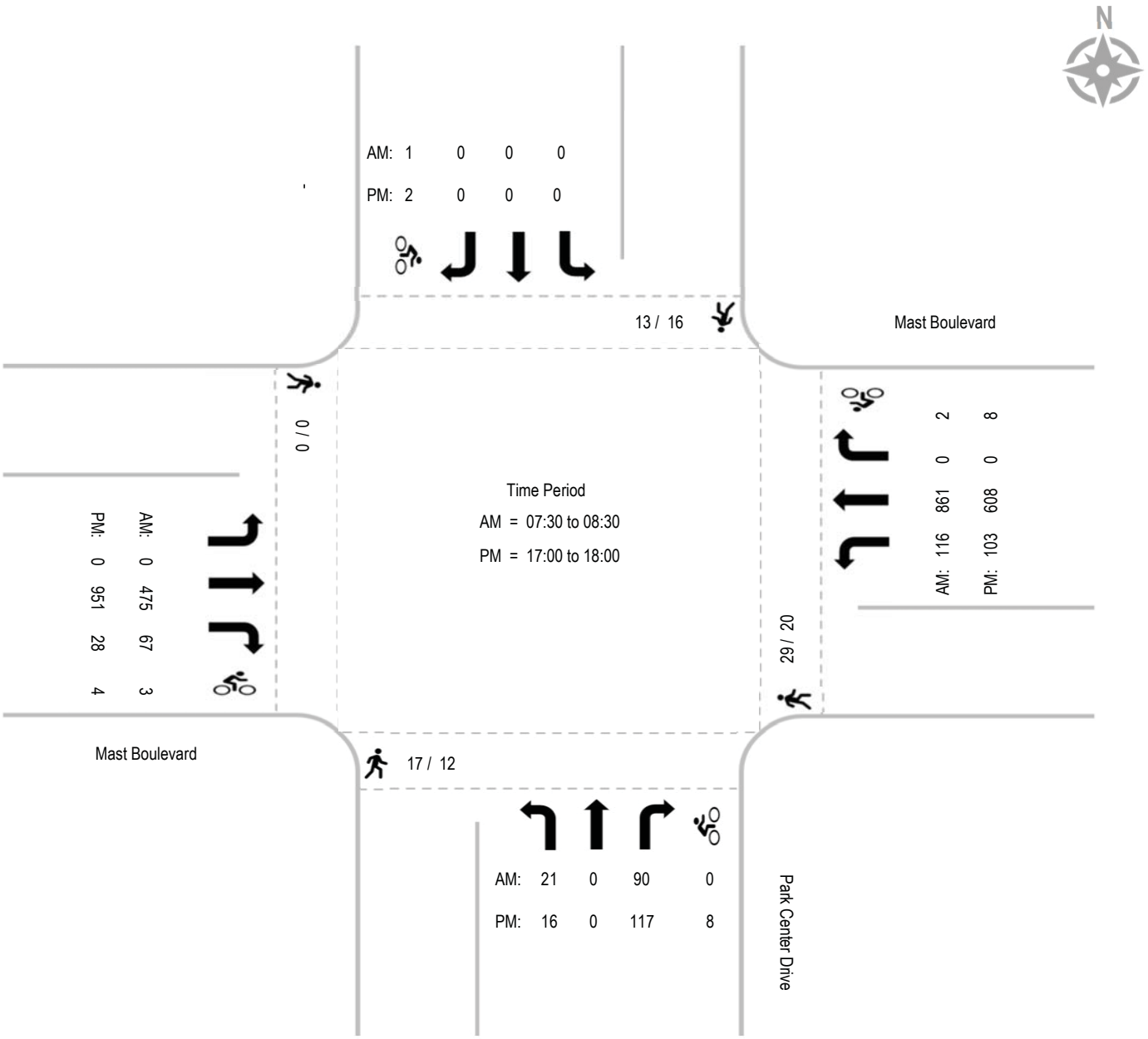
| | | | |
|---|---|---|---|
| Location: | #26 | File Name: | ITM-18-015-26 |
| Intersection: | Mast Boulevard / Park Center Drive | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Tuesday, January 30, 2018 | | Fanita Ranch |

| AM | - Southbound | | | | Mast Boulevard Westbound | | | | Park Center Drive Northbound | | | | Mast Boulevard Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 7:00 | 2 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 0 |
| 7:15 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 1 |
| 7:30 | 3 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 0 |
| 7:45 | 2 | 0 | 0 | 1 | 11 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18 | 1 |
| 8:00 | 3 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 8 | 1 |
| 8:15 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 8:30 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 4 | 1 |
| 8:45 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 |
| Ped Total | 13 | | | | 29 | | | | 17 | | | | 0 | | | | 59 | |
| Bike Total | | 0 | 0 | 1 | | 0 | 1 | 1 | | 0 | 0 | 0 | | 0 | 3 | 0 | | 6 |

| PM | - Southbound | | | | Mast Boulevard Westbound | | | | Park Center Drive Northbound | | | | Mast Boulevard Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 16:00 | 2 | 0 | 2 | 0 | 3 | 0 | 4 | 0 | 2 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 7 | 10 |
| 16:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 2 |
| 16:30 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 1 |
| 16:45 | 4 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 7 | 4 |
| 17:00 | 4 | 0 | 0 | 0 | 4 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 9 | 3 |
| 17:15 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 4 | 2 |
| 17:30 | 3 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 |
| 17:45 | 1 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 0 |
| Ped Total | 16 | | | | 20 | | | | 12 | | | | 0 | | | | 48 | |
| Bike Total | | 0 | 2 | 0 | | 2 | 6 | 0 | | 0 | 4 | 4 | | 0 | 4 | 0 | | 22 |

# Intersection Turning Movement - Peak Hour Summary

| | | | | |
|---|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #26 | File Name: | ITM-18-015-26 |
| | Intersection: | Mast Boulevard / Park Center Drive | Project: | LLG Ref. 3-15-2462 |
| | Date of Count: | Tuesday, January 30, 2018 | | Fanita Ranch |



# Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers

| | | | |
|---|---|---|---|
| Location: | #27 | File Name: | ITM-18-015-27 |
| Intersection: | Mast Boulevard / Magnolia Avenue | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Tuesday, January 30, 2018 | | Fanita Ranch |

| AM | Magnolia Avenue Southbound | | | Mast Boulevard Westbound | | | Magnolia Avenue Northbound | | | Mast Boulevard Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 7:00 | 1 | 154 | 104 | 18 | 48 | 9 | 54 | 191 | 3 | 67 | 28 | 50 | 727 |
| 7:15 | 24 | 149 | 99 | 22 | 39 | 4 | 67 | 92 | 15 | 33 | 29 | 46 | 619 |
| 7:30 | 19 | 145 | 83 | 54 | 71 | 16 | 91 | 111 | 19 | 36 | 35 | 49 | 729 |
| 7:45 | 9 | 156 | 115 | 37 | 71 | 17 | 71 | 114 | 7 | 43 | 21 | 65 | 726 |
| 8:00 | 12 | 140 | 114 | 19 | 60 | 17 | 75 | 124 | 7 | 46 | 37 | 54 | 705 |
| 8:15 | 5 | 88 | 61 | 10 | 37 | 4 | 77 | 53 | 7 | 43 | 35 | 55 | 475 |
| 8:30 | 3 | 80 | 56 | 18 | 29 | 2 | 59 | 39 | 9 | 44 | 22 | 61 | 422 |
| 8:45 | 7 | 94 | 44 | 15 | 23 | 3 | 58 | 65 | 9 | 31 | 15 | 40 | 404 |
| Total | 80 | 1006 | 676 | 193 | 378 | 72 | 552 | 789 | 76 | 343 | 222 | 420 | 4807 |
| Approach% | 4.5 | 57.1 | 38.4 | 30.0 | 58.8 | 11.2 | 39.0 | 55.7 | 5.4 | 34.8 | 22.5 | 42.6 | |
| Total% | 1.7 | 20.9 | 14.1 | 4.0 | 7.9 | 1.5 | 11.5 | 16.4 | 1.6 | 7.1 | 4.6 | 8.7 | |

**AM Intersection Peak Hour:** **07:00 to 08:00**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 53 | 604 | 401 | 131 | 229 | 46 | 283 | 508 | 44 | 179 | 113 | 210 | 2,801 |
| Approach% | 5.0 | 57.1 | 37.9 | 32.3 | 56.4 | 11.3 | 33.9 | 60.8 | 5.3 | 35.7 | 22.5 | 41.8 | |
| Total% | 1.9 | 21.6 | 14.3 | 4.7 | 8.2 | 1.6 | 10.1 | 18.1 | 1.6 | 6.4 | 4.0 | 7.5 | |
| PHF | | | 0.94 | | | 0.72 | | | 0.84 | | | 0.87 | |

| PM | Magnolia Avenue Southbound | | | Mast Boulevard Westbound | | | Magnolia Avenue Northbound | | | Mast Boulevard Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 16:00 | 13 | 84 | 59 | 17 | 18 | 2 | 66 | 119 | 23 | 119 | 75 | 64 | 659 |
| 16:15 | 17 | 80 | 56 | 12 | 38 | 8 | 70 | 117 | 21 | 97 | 58 | 55 | 629 |
| 16:30 | 13 | 83 | 45 | 26 | 27 | 12 | 68 | 153 | 21 | 107 | 60 | 58 | 673 |
| 16:45 | 12 | 98 | 52 | 16 | 43 | 8 | 74 | 121 | 21 | 105 | 42 | 63 | 655 |
| 17:00 | 23 | 85 | 53 | 24 | 44 | 11 | 77 | 124 | 21 | 90 | 62 | 84 | 698 |
| 17:15 | 21 | 105 | 47 | 40 | 14 | 1 | 71 | 150 | 32 | 96 | 55 | 42 | 674 |
| 17:30 | 17 | 107 | 62 | 18 | 43 | 8 | 79 | 116 | 15 | 101 | 66 | 49 | 681 |
| 17:45 | 20 | 101 | 53 | 20 | 32 | 7 | 59 | 119 | 32 | 113 | 56 | 73 | 685 |
| Total | 136 | 743 | 427 | 173 | 259 | 57 | 564 | 1019 | 186 | 828 | 474 | 488 | 5354 |
| Approach% | 10.4 | 56.9 | 32.7 | 35.4 | 53.0 | 11.7 | 31.9 | 57.6 | 10.5 | 46.3 | 26.5 | 27.3 | |
| Total% | 2.8 | 15.5 | 8.9 | 3.6 | 5.4 | 1.2 | 11.7 | 21.2 | 3.9 | 17.2 | 9.9 | 10.2 | |

**PM Intersection Peak Hour:** **17:00 to 18:00**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 81 | 398 | 215 | 102 | 133 | 27 | 286 | 509 | 100 | 400 | 239 | 248 | 2,738 |
| Approach% | 11.7 | 57.3 | 31.0 | 38.9 | 50.8 | 10.3 | 32.0 | 56.9 | 11.2 | 45.1 | 26.9 | 28.0 | |
| Total% | 2.9 | 14.2 | 7.7 | 3.6 | 4.7 | 1.0 | 10.2 | 18.2 | 3.6 | 14.3 | 8.5 | 8.9 | |
| PHF | | | 0.93 | | | 0.83 | | | 0.88 | | | 0.92 | |

# Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

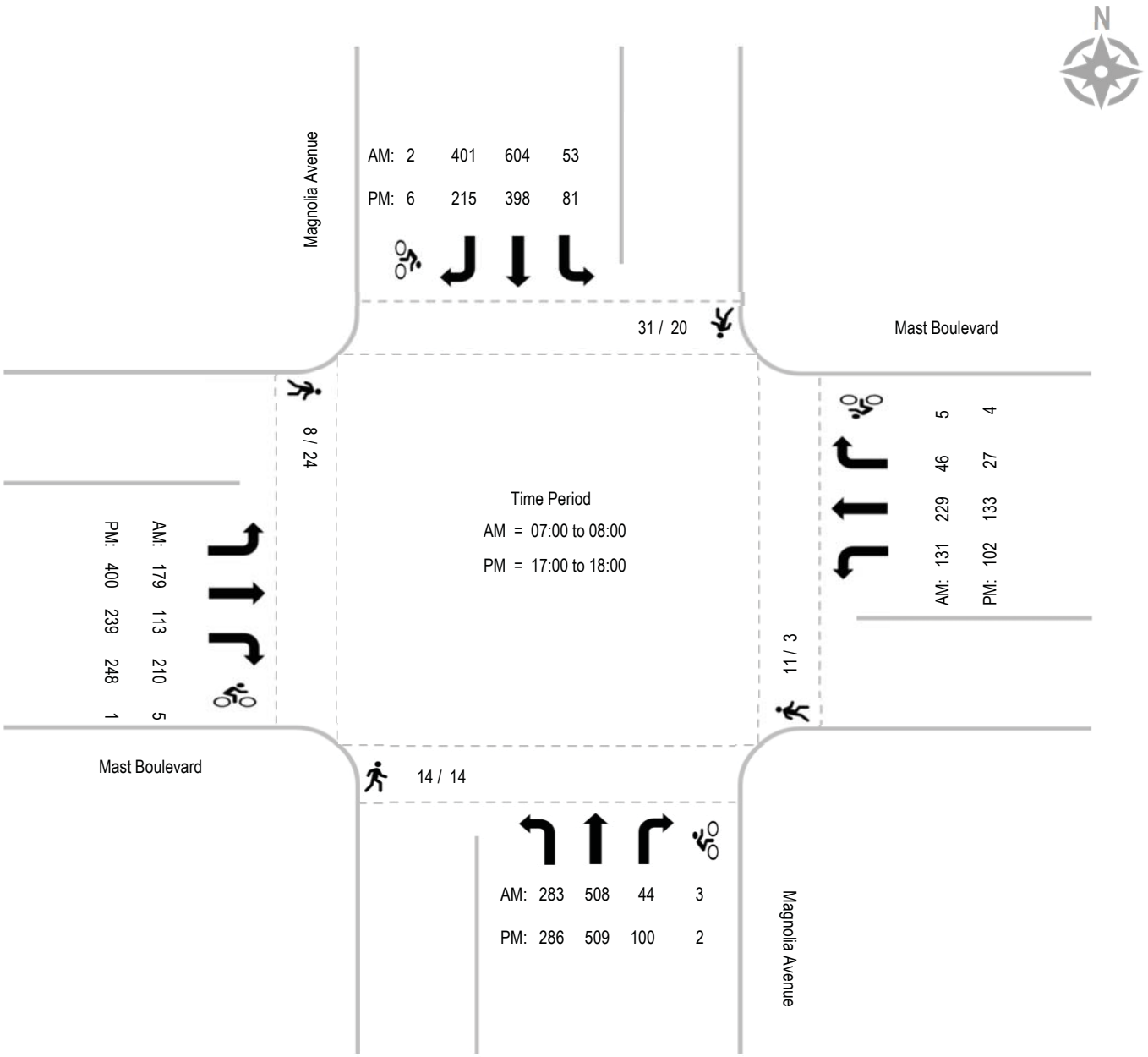
| | | | |
|---|---|---|---|
| Location: | #27 | File Name: | ITM-18-015-27 |
| Intersection: | Mast Boulevard / Magnolia Avenue | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Tuesday, January 30, 2018 | | Fanita Ranch |

| AM | Magnolia Avenue Southbound | | | | Mast Boulevard Westbound | | | | Magnolia Avenue Northbound | | | | Mast Boulevard Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 7:00 | 4 | 0 | 0 | 0 | 7 | 0 | 0 | 1 | 5 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 17 | 2 |
| 7:15 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 2 | 0 | 2 | 0 | 2 | 2 | 7 | 7 |
| 7:30 | 3 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 9 | 0 |
| 7:45 | 14 | 0 | 0 | 1 | 2 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 19 | 2 |
| 8:00 | 8 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 10 | 0 |
| 8:15 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 8:30 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 2 | 3 |
| 8:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped Total | 31 | | | | 11 | | | | 14 | | | | 8 | | | | 64 | |
| Bike Total | | 0 | 1 | 1 | | 0 | 4 | 1 | | 0 | 2 | 1 | | 0 | 3 | 2 | | 15 |

| PM | Magnolia Avenue Southbound | | | | Mast Boulevard Westbound | | | | Magnolia Avenue Northbound | | | | Mast Boulevard Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 16:00 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 7 | 0 |
| 16:15 | 9 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 3 | 0 | 0 | 0 | 14 | 3 |
| 16:30 | 3 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 1 | 0 | 7 | 0 | 0 | 0 | 12 | 3 |
| 16:45 | 2 | 0 | 3 | 0 | 2 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 11 | 3 |
| 17:00 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 4 | 0 |
| 17:15 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 3 | 1 |
| 17:30 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 2 | 3 |
| 17:45 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 8 | 0 |
| Ped Total | 20 | | | | 3 | | | | 14 | | | | 24 | | | | 61 | |
| Bike Total | | 0 | 6 | 0 | | 0 | 4 | 0 | | 0 | 2 | 0 | | 0 | 1 | 0 | | 13 |

# Intersection Turning Movement - Peak Hour Summary

| | | | | |
|---|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #27 | File Name: | ITM-18-015-27 |
| | Intersection: | Mast Boulevard / Magnolia Avenue | Project: | LLG Ref. 3-15-2462 |
| | Date of Count: | Tuesday, January 30, 2018 | | Fanita Ranch |



# Intersection Turning Movement - Peak Hour Vehicle Count

| | | | |
|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #28 | File Name: ITM-18-015-28 |
| | Intersection: | Carlton Oaks Drive / West Hills Parkway | Project: LLG Ref. 3-15-2462 |
| | Date of Count: | Wednesday, February 7, 2018 | Fanita Ranch |

| AM | West Hills Parkway Southbound | | | Carlton Oaks Drive Westbound | | | West Hills Parkway Northbound | | | - Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 7:00 | 8 | 14 | 0 | 69 | 0 | 147 | 0 | 211 | 6 | 0 | 0 | 0 | 455 |
| 7:15 | 6 | 16 | 0 | 59 | 0 | 117 | 0 | 171 | 6 | 0 | 0 | 0 | 375 |
| 7:30 | 10 | 11 | 0 | 98 | 0 | 173 | 0 | 162 | 11 | 0 | 0 | 0 | 465 |
| 7:45 | 8 | 10 | 0 | 85 | 0 | 174 | 0 | 159 | 17 | 0 | 0 | 0 | 453 |
| 8:00 | 13 | 21 | 0 | 82 | 0 | 133 | 0 | 168 | 23 | 0 | 0 | 0 | 440 |
| 8:15 | 8 | 21 | 0 | 98 | 0 | 132 | 0 | 205 | 47 | 0 | 0 | 0 | 511 |
| 8:30 | 9 | 20 | 0 | 78 | 0 | 80 | 0 | 200 | 23 | 0 | 0 | 0 | 410 |
| 8:45 | 11 | 38 | 0 | 32 | 0 | 36 | 0 | 139 | 10 | 0 | 0 | 0 | 266 |
| Total | 73 | 151 | 0 | 601 | 0 | 992 | 0 | 1415 | 143 | 0 | 0 | 0 | 3375 |
| Approach% | 32.6 | 67.4 | - | 37.7 | - | 62.3 | - | 90.8 | 9.2 | - | - | - | |
| Total% | 2.2 | 4.5 | - | 17.8 | - | 29.4 | - | 41.9 | 4.2 | - | - | - | |

**AM Intersection Peak Hour:** **07:30 to 08:30**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 39 | 63 | - | 363 | - | 612 | - | 694 | 98 | - | - | - | 1,869 |
| Approach% | 38.2 | 61.8 | - | 37.2 | - | 62.8 | - | 87.6 | 12.4 | - | - | - | |
| Total% | 2.1 | 3.4 | - | 19.4 | - | 32.7 | - | 37.1 | 5.2 | - | - | - | |
| PHF | | | 0.75 | | | 0.90 | | | 0.79 | | | | |

| PM | West Hills Parkway Southbound | | | Carlton Oaks Drive Westbound | | | West Hills Parkway Northbound | | | - Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 16:00 | 49 | 83 | 0 | 21 | 0 | 13 | 0 | 68 | 35 | 0 | 0 | 0 | 269 |
| 16:15 | 50 | 72 | 0 | 25 | 0 | 31 | 0 | 70 | 41 | 0 | 0 | 0 | 289 |
| 16:30 | 56 | 93 | 0 | 15 | 0 | 24 | 0 | 88 | 32 | 0 | 0 | 0 | 308 |
| 16:45 | 31 | 102 | 0 | 24 | 0 | 28 | 0 | 78 | 46 | 0 | 0 | 0 | 309 |
| 17:00 | 62 | 119 | 0 | 18 | 0 | 41 | 0 | 103 | 41 | 0 | 0 | 0 | 384 |
| 17:15 | 63 | 109 | 0 | 15 | 0 | 33 | 0 | 103 | 39 | 0 | 0 | 0 | 362 |
| 17:30 | 51 | 113 | 0 | 15 | 0 | 23 | 0 | 90 | 32 | 0 | 0 | 0 | 324 |
| 17:45 | 73 | 103 | 0 | 16 | 0 | 24 | 0 | 72 | 38 | 0 | 0 | 0 | 326 |
| Total | 435 | 794 | 0 | 149 | 0 | 217 | 0 | 672 | 304 | 0 | 0 | 0 | 2571 |
| Approach% | 35.4 | 64.6 | - | 40.7 | - | 59.3 | - | 68.9 | 31.1 | - | - | - | |
| Total% | 12.9 | 23.5 | - | 4.4 | - | 6.4 | - | 19.9 | 9.0 | - | - | - | |

**PM Intersection Peak Hour:** **17:00 to 18:00**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 249 | 444 | - | 64 | - | 121 | - | 368 | 150 | - | - | - | 1,396 |
| Approach% | 35.9 | 64.1 | - | 34.6 | - | 65.4 | - | 71.0 | 29.0 | - | - | - | |
| Total% | 13.3 | 23.8 | - | 3.4 | - | 6.5 | - | 19.7 | 8.0 | - | - | - | |
| PHF | | | 0.96 | | | 0.78 | | | 0.90 | | | | |

# Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

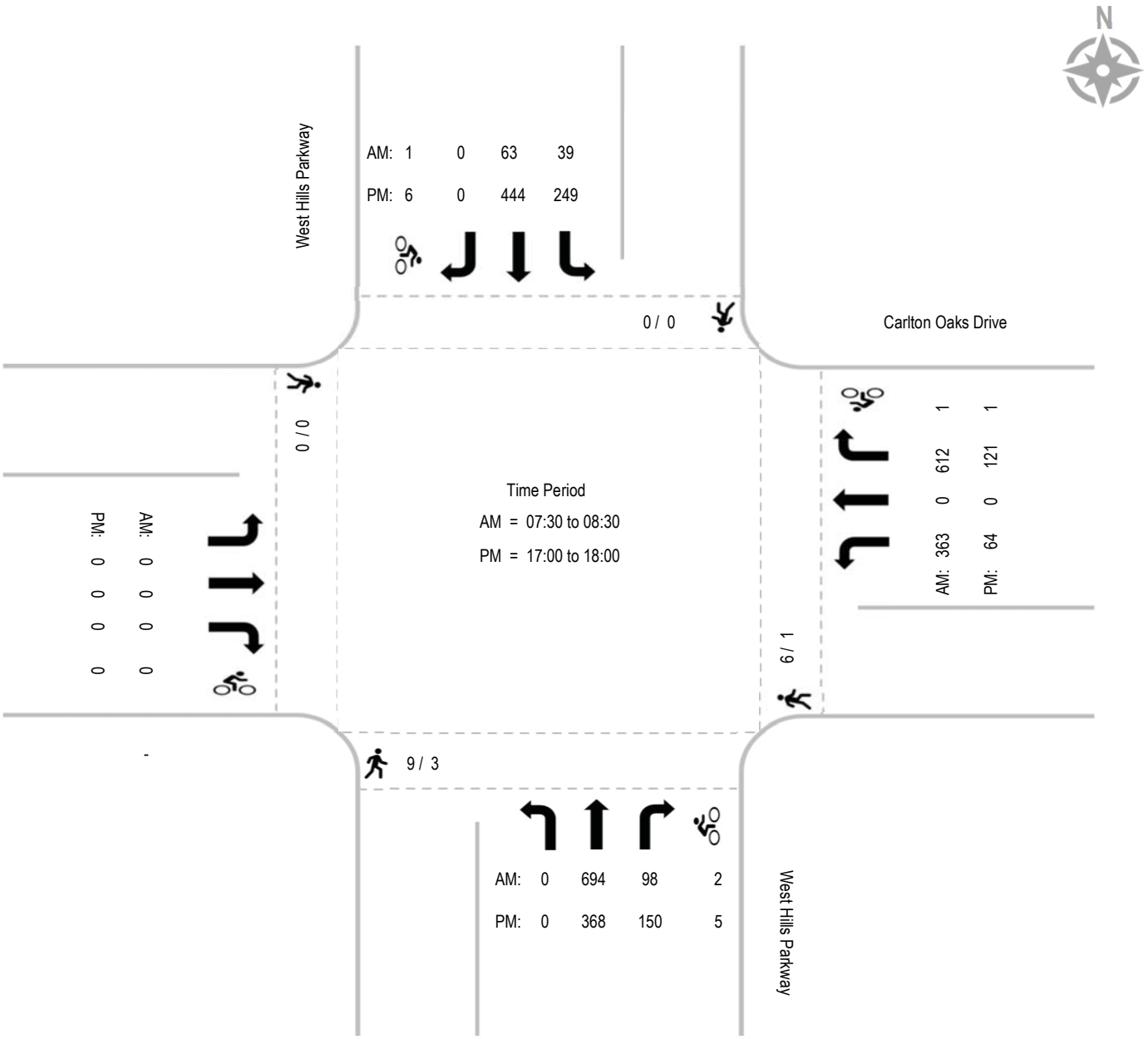
| | | | |
|---|---|---|---|
| Location: | #28 | File Name: | ITM-18-015-28 |
| Intersection: | Carlton Oaks Drive / West Hills Parkway | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Wednesday, February 7, 2018 | | Fanita Ranch |

| AM | West Hills Parkway Southbound | | | | Carlton Oaks Drive Westbound | | | | West Hills Parkway Northbound | | | | - Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 7:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 7:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 7:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 |
| 7:45 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 |
| 8:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 8:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:30 | 0 | 0 | 1 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 1 |
| 8:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 |
| Ped Total | 0 | | | | 6 | | | | 9 | | | | 0 | | | | 15 | |
| Bike Total | | 0 | 1 | 0 | | 0 | 0 | 1 | | 0 | 2 | 0 | | 0 | 0 | 0 | | 4 |

| PM | West Hills Parkway Southbound | | | | Carlton Oaks Drive Westbound | | | | West Hills Parkway Northbound | | | | - Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 16:00 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 16:15 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 16:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 16:45 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 17:00 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 6 |
| 17:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 1 | 3 |
| 17:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped Total | 0 | | | | 1 | | | | 3 | | | | 0 | | | | 4 | |
| Bike Total | | 0 | 6 | 0 | | 1 | 0 | 0 | | 0 | 1 | 4 | | 0 | 0 | 0 | | 12 |

# Intersection Turning Movement - Peak Hour Summary

| | | | | |
|---|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #28 | File Name: | ITM-18-015-28 |
| | Intersection: | Carlton Oaks Drive / West Hills Parkway | Project: | LLG Ref. 3-15-2462 |
| | Date of Count: | Wednesday, February 7, 2018 | | Fanita Ranch |



# Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers

| | | | |
|---|---|---|---|
| Location: | #29 | File Name: | ITM-18-015-29 |
| Intersection: | Carlton Oaks Drive / Pebble Beach Drive | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Wednesday, January 31, 2018 | | Fanita Ranch |

| AM | Pebble Beach Drive Southbound | | | Carlton Oaks Drive Westbound | | | - Northbound | | | Carlton Oaks Drive Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 7:00 | 37 | 0 | 11 | 0 | 147 | 76 | 0 | 0 | 0 | 2 | 48 | 0 | 321 |
| 7:15 | 22 | 0 | 4 | 0 | 153 | 20 | 0 | 0 | 0 | 0 | 41 | 0 | 240 |
| 7:30 | 23 | 0 | 3 | 0 | 147 | 29 | 0 | 0 | 0 | 1 | 60 | 0 | 263 |
| 7:45 | 32 | 0 | 13 | 0 | 168 | 61 | 0 | 0 | 0 | 2 | 78 | 0 | 354 |
| 8:00 | 50 | 0 | 24 | 0 | 201 | 51 | 0 | 0 | 0 | 0 | 82 | 0 | 408 |
| 8:15 | 52 | 0 | 10 | 0 | 152 | 9 | 0 | 0 | 0 | 2 | 79 | 0 | 304 |
| 8:30 | 30 | 0 | 2 | 0 | 73 | 3 | 0 | 0 | 0 | 2 | 76 | 0 | 186 |
| 8:45 | 7 | 0 | 3 | 0 | 81 | 5 | 0 | 0 | 0 | 0 | 25 | 0 | 121 |
| Total | 253 | 0 | 70 | 0 | 1122 | 254 | 0 | 0 | 0 | 9 | 489 | 0 | 2197 |
| Approach% | 78.3 | - | 21.7 | - | 81.5 | 18.5 | - | - | - | 1.8 | 98.2 | - | |
| Total% | 11.5 | - | 3.2 | - | 51.1 | 11.6 | - | - | - | 0.4 | 22.3 | - | |

**AM Intersection Peak Hour:** **07:30 to 08:30**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 157 | - | 50 | - | 668 | 150 | - | - | - | 5 | 299 | - | 1,329 |
| Approach% | 75.8 | - | 24.2 | - | 81.7 | 18.3 | - | - | - | 1.6 | 98.4 | - | |
| Total% | 11.8 | - | 3.8 | - | 50.3 | 11.3 | - | - | - | 0.4 | 22.5 | - | |
| PHF | | | 0.70 | | | 0.81 | | | | | | 0.93 | |

| PM | Pebble Beach Drive Southbound | | | Carlton Oaks Drive Westbound | | | - Northbound | | | Carlton Oaks Drive Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 16:00 | 5 | 0 | 2 | 0 | 60 | 7 | 0 | 0 | 0 | 3 | 84 | 0 | 161 |
| 16:15 | 5 | 0 | 1 | 0 | 57 | 10 | 0 | 0 | 0 | 1 | 80 | 0 | 154 |
| 16:30 | 4 | 0 | 1 | 0 | 56 | 10 | 0 | 0 | 0 | 3 | 66 | 0 | 140 |
| 16:45 | 9 | 0 | 2 | 0 | 60 | 9 | 0 | 0 | 0 | 1 | 92 | 0 | 173 |
| 17:00 | 6 | 0 | 1 | 0 | 84 | 8 | 0 | 0 | 0 | 3 | 75 | 0 | 177 |
| 17:15 | 4 | 0 | 2 | 0 | 64 | 10 | 0 | 0 | 0 | 2 | 80 | 0 | 162 |
| 17:30 | 5 | 0 | 2 | 0 | 60 | 8 | 0 | 0 | 0 | 4 | 99 | 0 | 178 |
| 17:45 | 12 | 0 | 2 | 0 | 45 | 13 | 0 | 0 | 0 | 5 | 70 | 0 | 147 |
| Total | 50 | 0 | 13 | 0 | 486 | 75 | 0 | 0 | 0 | 22 | 646 | 0 | 1292 |
| Approach% | 79.4 | - | 20.6 | - | 86.6 | 13.4 | - | - | - | 3.3 | 96.7 | - | |
| Total% | 2.3 | - | 0.6 | - | 22.1 | 3.4 | - | - | - | 1.0 | 29.4 | - | |

**PM Intersection Peak Hour:** **16:45 to 17:45**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 24 | - | 7 | - | 268 | 35 | - | - | - | 10 | 346 | - | 690 |
| Approach% | 77.4 | - | 22.6 | - | 88.4 | 11.6 | - | - | - | 2.8 | 97.2 | - | |
| Total% | 1.8 | - | 0.5 | - | 20.2 | 2.6 | - | - | - | 0.8 | 26.0 | - | |
| PHF | | | 0.70 | | | 0.82 | | | | | | 0.86 | |

# Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

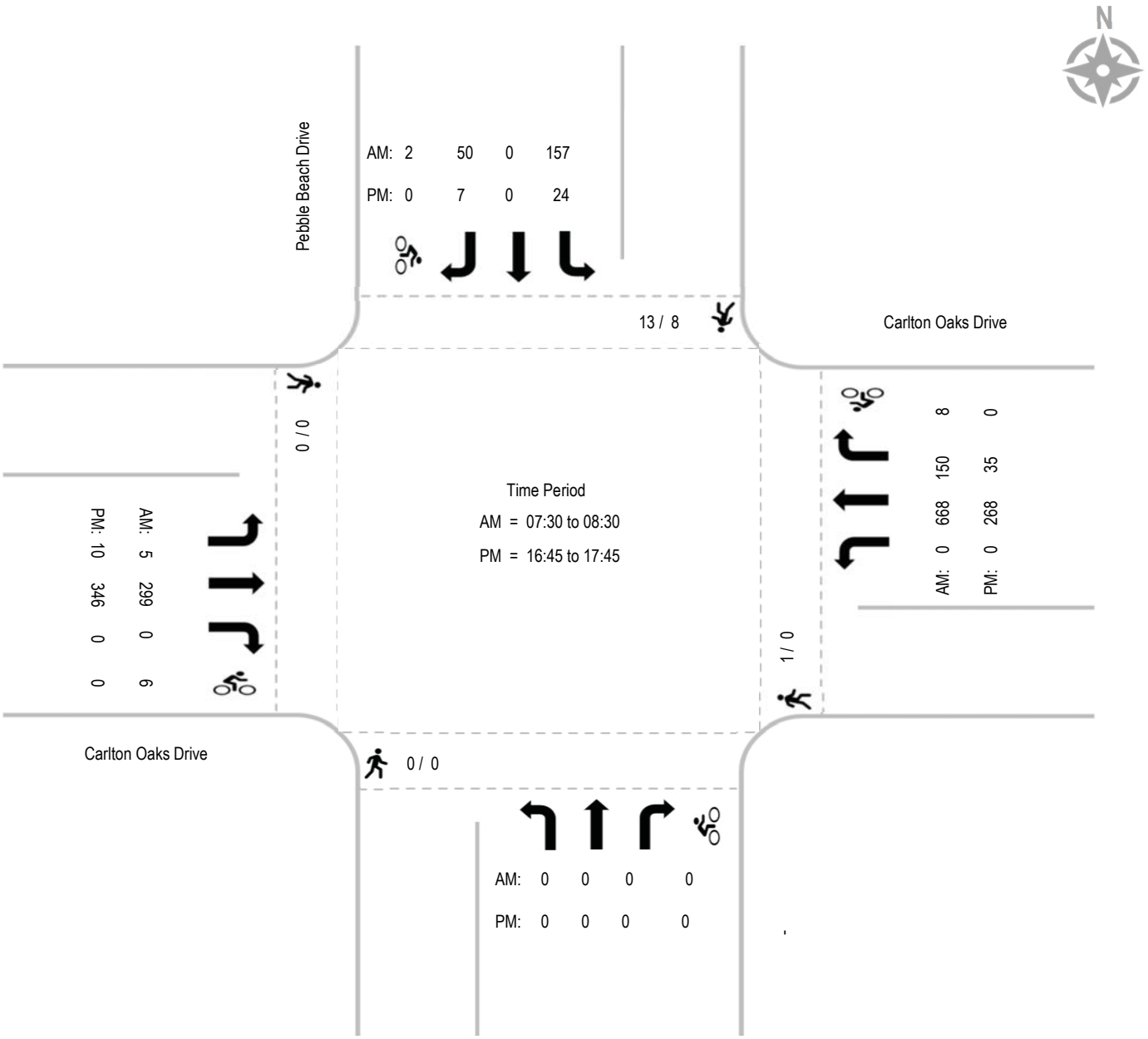
| | | | |
|---|---|---|---|
| Location: | #29 | File Name: | ITM-18-015-29 |
| Intersection: | Carlton Oaks Drive / Pebble Beach Drive | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Wednesday, January 31, 2018 | | Fanita Ranch |

| AM | Pebble Beach Drive Southbound | | | | Carlton Oaks Drive Westbound | | | | - Northbound | | | | Carlton Oaks Drive Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 7:00 | 3 | 0 | 0 | 1 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 4 |
| 7:15 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 7:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 | 6 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 7 | 4 |
| 8:00 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 4 |
| 8:15 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 3 |
| 8:30 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 8:45 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| Ped Total | 13 | | | | 1 | | | | 0 | | | | 0 | | | | 14 | |
| Bike Total | | 1 | 0 | 1 | | 0 | 6 | 2 | | 0 | 0 | 0 | | 0 | 6 | 0 | | 16 |

| PM | Pebble Beach Drive Southbound | | | | Carlton Oaks Drive Westbound | | | | - Northbound | | | | Carlton Oaks Drive Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 16:00 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 16:15 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 16:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:15 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 |
| 17:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:45 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| Ped Total | 8 | | | | 0 | | | | 0 | | | | 0 | | | | 8 | |
| Bike Total | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 |

# Intersection Turning Movement - Peak Hour Summary

| | | | | |
|---|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #29 | File Name: | ITM-18-015-29 |
| | Intersection: | Carlton Oaks Drive / Pebble Beach Drive | Project: | LLG Ref. 3-15-2462 |
| | Date of Count: | Wednesday, January 31, 2018 | | Fanita Ranch |



# Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers

| | | | |
|---|---|---|---|
| Location: | #30 | File Name: | ITM-18-015-30 |
| Intersection: | Carlton Oaks Drive / Fanita Parkway | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Wednesday, January 31, 2018 | | Fanita Ranch |

| AM | Fanita Parkway Southbound | | | Carlton Oaks Drive Westbound | | | Fanita Parkway Northbound | | | Carlton Oaks Drive Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 7:00 | 31 | 2 | 19 | 0 | 199 | 23 | 1 | 0 | 1 | 4 | 86 | 0 | 366 |
| 7:15 | 29 | 0 | 25 | 0 | 142 | 21 | 0 | 0 | 2 | 9 | 53 | 0 | 281 |
| 7:30 | 35 | 0 | 31 | 0 | 150 | 29 | 0 | 0 | 1 | 3 | 73 | 0 | 322 |
| 7:45 | 37 | 0 | 28 | 0 | 193 | 30 | 2 | 0 | 1 | 10 | 92 | 0 | 393 |
| 8:00 | 29 | 0 | 25 | 0 | 142 | 12 | 0 | 0 | 2 | 7 | 53 | 0 | 270 |
| 8:15 | 35 | 0 | 31 | 0 | 150 | 29 | 0 | 0 | 1 | 3 | 73 | 0 | 322 |
| 8:30 | 37 | 0 | 28 | 0 | 193 | 30 | 2 | 0 | 1 | 10 | 92 | 0 | 393 |
| 8:45 | 31 | 2 | 19 | 0 | 199 | 23 | 1 | 0 | 1 | 4 | 86 | 0 | 366 |
| Total | 264 | 4 | 206 | 0 | 1368 | 197 | 6 | 0 | 10 | 50 | 608 | 0 | 2713 |
| Approach% | 55.7 | 0.8 | 43.5 | - | 87.4 | 12.6 | 37.5 | - | 62.5 | 7.6 | 92.4 | - | |
| Total% | 9.7 | 0.1 | 7.6 | - | 50.4 | 7.3 | 0.2 | - | 0.4 | 1.8 | 22.4 | - | |

**AM Intersection Peak Hour:** **07:45 to 08:45**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 138 | - | 112 | - | 678 | 101 | 4 | - | 5 | 30 | 310 | - | 1,378 |
| Approach% | 55.2 | - | 44.8 | - | 87.0 | 13.0 | 44.4 | - | 55.6 | 8.8 | 91.2 | - | |
| Total% | 10.0 | - | 8.1 | - | 49.2 | 7.3 | 0.3 | - | 0.4 | 2.2 | 22.5 | - | |
| PHF | | | 0.95 | | | 0.87 | | | 0.75 | | | 0.83 | |

| PM | Fanita Parkway Southbound | | | Carlton Oaks Drive Westbound | | | Fanita Parkway Northbound | | | Carlton Oaks Drive Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 16:00 | 22 | 1 | 12 | 0 | 56 | 23 | 0 | 0 | 1 | 9 | 96 | 0 | 220 |
| 16:15 | 20 | 0 | 12 | 2 | 41 | 19 | 1 | 1 | 0 | 6 | 58 | 0 | 160 |
| 16:30 | 22 | 0 | 11 | 4 | 33 | 8 | 0 | 0 | 0 | 6 | 57 | 1 | 142 |
| 16:45 | 26 | 2 | 6 | 2 | 32 | 14 | 0 | 0 | 0 | 11 | 53 | 0 | 146 |
| 17:00 | 28 | 0 | 8 | 2 | 77 | 12 | 1 | 0 | 1 | 11 | 83 | 2 | 225 |
| 17:15 | 29 | 1 | 9 | 3 | 62 | 14 | 0 | 0 | 3 | 11 | 76 | 0 | 208 |
| 17:30 | 23 | 0 | 7 | 1 | 61 | 17 | 0 | 0 | 4 | 10 | 87 | 0 | 210 |
| 17:45 | 8 | 0 | 3 | 3 | 54 | 18 | 1 | 0 | 0 | 7 | 76 | 0 | 170 |
| Total | 178 | 4 | 68 | 17 | 416 | 125 | 3 | 1 | 9 | 71 | 586 | 3 | 1481 |
| Approach% | 71.2 | 1.6 | 27.2 | 3.0 | 74.6 | 22.4 | 23.1 | 7.7 | 69.2 | 10.8 | 88.8 | 0.5 | |
| Total% | 6.6 | 0.1 | 2.5 | 0.6 | 15.3 | 4.6 | 0.1 | 0.0 | 0.3 | 2.6 | 21.6 | 0.1 | |

**PM Intersection Peak Hour:** **17:00 to 18:00**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 88 | 1 | 27 | 9 | 254 | 61 | 2 | - | 8 | 39 | 322 | 2 | 813 |
| Approach% | 75.9 | 0.9 | 23.3 | 2.8 | 78.4 | 18.8 | 20.0 | - | 80.0 | 10.7 | 88.7 | 0.6 | |
| Total% | 6.4 | 0.1 | 2.0 | 0.7 | 18.4 | 4.4 | 0.1 | - | 0.6 | 2.8 | 23.4 | 0.1 | |
| PHF | | | 0.74 | | | 0.89 | | | 0.63 | | | 0.94 | |

# Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

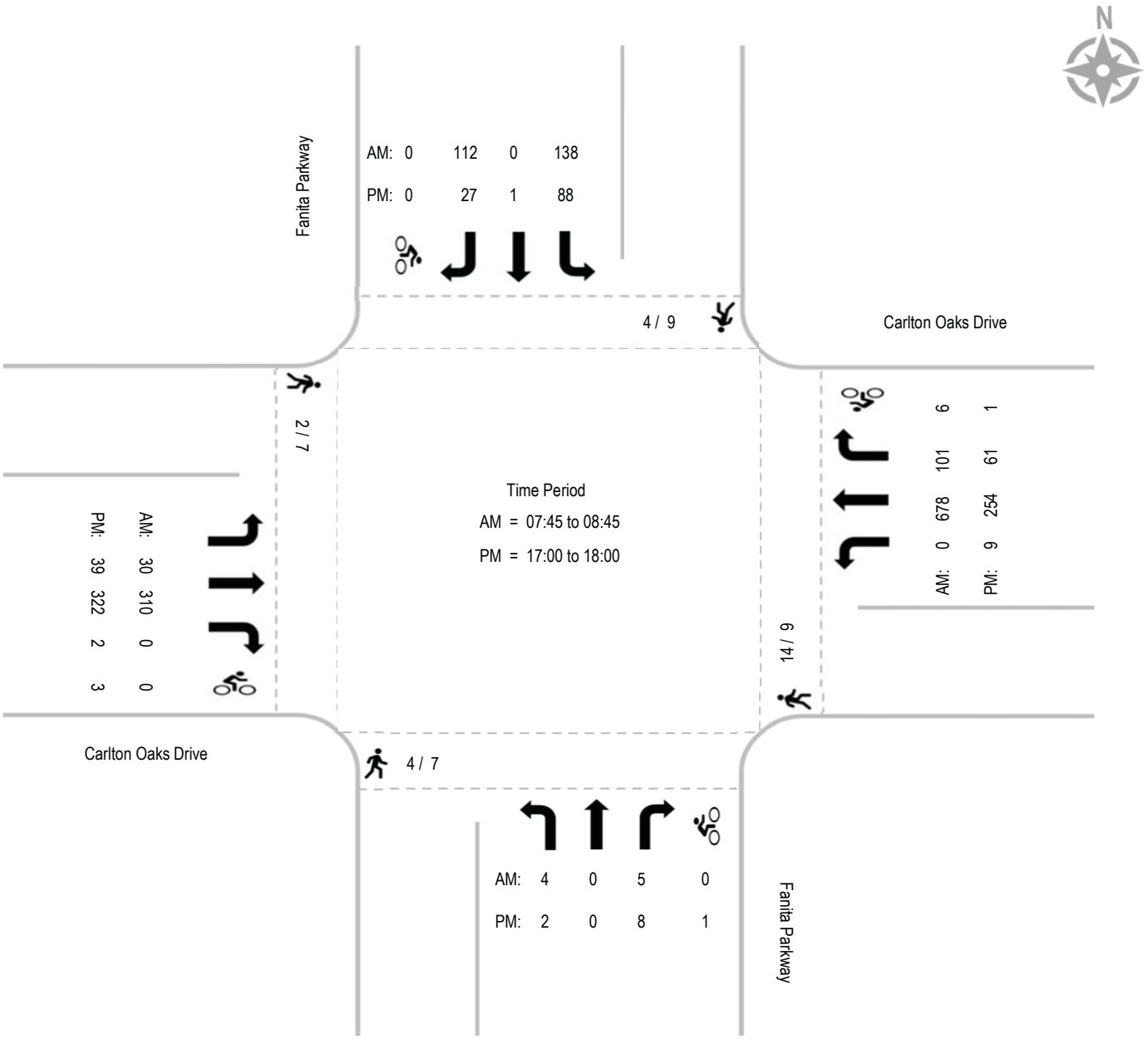
| | | | |
|---|---|---|---|
| Location: | #30 | File Name: | ITM-18-015-30 |
| Intersection: | Carlton Oaks Drive / Fanita Parkway | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Wednesday, January 31, 2018 | | Fanita Ranch |

| AM | Fanita Parkway Southbound | | | | Carlton Oaks Drive Westbound | | | | Fanita Parkway Northbound | | | | Carlton Oaks Drive Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 7:00 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 3 | 1 |
| 7:15 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 |
| 7:30 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 |
| 7:45 | 0 | 0 | 0 | 0 | 2 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 3 |
| 8:00 | 0 | 0 | 0 | 0 | 4 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 1 |
| 8:15 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 8:30 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 8:45 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 3 | 0 |
| Ped Total | 4 | | | | 14 | | | | 4 | | | | 2 | | | | 24 | |
| Bike Total | | 0 | 0 | 0 | | 1 | 5 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 6 |

| PM | Fanita Parkway Southbound | | | | Carlton Oaks Drive Westbound | | | | Fanita Parkway Northbound | | | | Carlton Oaks Drive Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 2 |
| 16:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 16:30 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 1 |
| 16:45 | 4 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 9 | 0 |
| 17:00 | 0 | 0 | 0 | 0 | 4 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 5 | 2 |
| 17:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 17:30 | 3 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 8 | 0 |
| 17:45 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 |
| Ped Total | 9 | | | | 9 | | | | 7 | | | | 7 | | | | 32 | |
| Bike Total | | 0 | 0 | 0 | | 0 | 1 | 0 | | 0 | 1 | 0 | | 0 | 1 | 2 | | 5 |

# Intersection Turning Movement - Peak Hour Summary

| | | | | |
|---|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #30 | File Name: | ITM-18-015-30 |
| | Intersection: | Carlton Oaks Drive / Fanita Parkway | Project: | LLG Ref. 3-15-2462 |
| | Date of Count: | Wednesday, January 31, 2018 | | Fanita Ranch |



# Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers

| | | | |
|---|---|---|---|
| Location: | #31 | File Name: | ITM-18-015-31 |
| Intersection: | Carlton Oaks Drive / Carlton Hills Boulevard | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Wednesday, January 31, 2018 | | Fanita Ranch |

| AM | Carlton Hills Boulevard Southbound | | | Carlton Oaks Drive Westbound | | | Carlton Hills Boulevard Northbound | | | Carlton Oaks Drive Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 7:00 | 3 | 76 | 13 | 61 | 60 | 1 | 141 | 57 | 21 | 1 | 18 | 79 | 531 |
| 7:15 | 3 | 90 | 17 | 48 | 43 | 1 | 103 | 32 | 57 | 2 | 21 | 108 | 525 |
| 7:30 | 1 | 143 | 18 | 62 | 32 | 0 | 111 | 62 | 89 | 3 | 27 | 84 | 632 |
| 7:45 | 2 | 146 | 25 | 43 | 48 | 7 | 147 | 76 | 35 | 5 | 38 | 108 | 680 |
| 8:00 | 8 | 107 | 19 | 61 | 61 | 1 | 155 | 83 | 33 | 2 | 32 | 120 | 682 |
| 8:15 | 3 | 129 | 16 | 55 | 29 | 2 | 132 | 93 | 20 | 0 | 24 | 129 | 632 |
| 8:30 | 8 | 97 | 7 | 47 | 20 | 4 | 83 | 87 | 20 | 5 | 28 | 115 | 521 |
| 8:45 | 3 | 81 | 1 | 39 | 16 | 1 | 82 | 74 | 17 | 2 | 20 | 56 | 392 |
| Total | 31 | 869 | 116 | 416 | 309 | 17 | 954 | 564 | 292 | 20 | 208 | 799 | 4595 |
| Approach% | 3.1 | 85.5 | 11.4 | 56.1 | 41.6 | 2.3 | 52.7 | 31.2 | 16.1 | 1.9 | 20.3 | 77.8 | |
| Total% | 0.7 | 18.9 | 2.5 | 9.1 | 6.7 | 0.4 | 20.8 | 12.3 | 6.4 | 0.4 | 4.5 | 17.4 | |

**AM Intersection Peak Hour:** **07:30 to 08:30**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 14 | 525 | 78 | 221 | 170 | 10 | 545 | 314 | 177 | 10 | 121 | 441 | 2,626 |
| Approach% | 2.3 | 85.1 | 12.6 | 55.1 | 42.4 | 2.5 | 52.6 | 30.3 | 17.1 | 1.7 | 21.2 | 77.1 | |
| Total% | 0.5 | 20.0 | 3.0 | 8.4 | 6.5 | 0.4 | 20.8 | 12.0 | 6.7 | 0.4 | 4.6 | 16.8 | |
| PHF | | | 0.89 | | | 0.82 | | | 0.96 | | | 0.93 | |

| PM | Carlton Hills Boulevard Southbound | | | Carlton Oaks Drive Westbound | | | Carlton Hills Boulevard Northbound | | | Carlton Oaks Drive Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 16:00 | 2 | 62 | 2 | 39 | 17 | 2 | 68 | 100 | 48 | 3 | 38 | 65 | 446 |
| 16:15 | 8 | 68 | 1 | 33 | 22 | 2 | 72 | 98 | 68 | 6 | 47 | 66 | 491 |
| 16:30 | 15 | 61 | 3 | 38 | 19 | 3 | 66 | 122 | 59 | 6 | 30 | 54 | 476 |
| 16:45 | 3 | 86 | 3 | 45 | 12 | 5 | 85 | 123 | 58 | 5 | 39 | 78 | 542 |
| 17:00 | 6 | 70 | 6 | 48 | 32 | 1 | 76 | 228 | 44 | 10 | 59 | 71 | 651 |
| 17:15 | 5 | 89 | 5 | 43 | 20 | 5 | 79 | 107 | 60 | 7 | 41 | 70 | 531 |
| 17:30 | 8 | 86 | 1 | 48 | 17 | 3 | 77 | 109 | 76 | 4 | 38 | 58 | 525 |
| 17:45 | 6 | 68 | 2 | 55 | 18 | 2 | 68 | 98 | 46 | 7 | 44 | 50 | 464 |
| Total | 53 | 590 | 23 | 349 | 157 | 23 | 591 | 985 | 459 | 48 | 336 | 512 | 4126 |
| Approach% | 8.0 | 88.6 | 3.5 | 66.0 | 29.7 | 4.3 | 29.0 | 48.4 | 22.6 | 5.4 | 37.5 | 57.1 | |
| Total% | 1.2 | 12.8 | 0.5 | 7.6 | 3.4 | 0.5 | 12.9 | 21.4 | 10.0 | 1.0 | 7.3 | 11.1 | |

**PM Intersection Peak Hour:** **16:45 to 17:45**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 22 | 331 | 15 | 184 | 81 | 14 | 317 | 567 | 238 | 26 | 177 | 277 | 2,249 |
| Approach% | 6.0 | 89.9 | 4.1 | 65.9 | 29.0 | 5.0 | 28.3 | 50.5 | 21.2 | 5.4 | 36.9 | 57.7 | |
| Total% | 0.8 | 12.6 | 0.6 | 7.0 | 3.1 | 0.5 | 12.1 | 21.6 | 9.1 | 1.0 | 6.7 | 10.5 | |
| PHF | | | 0.93 | | | 0.86 | | | 0.81 | | | 0.86 | |

# Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

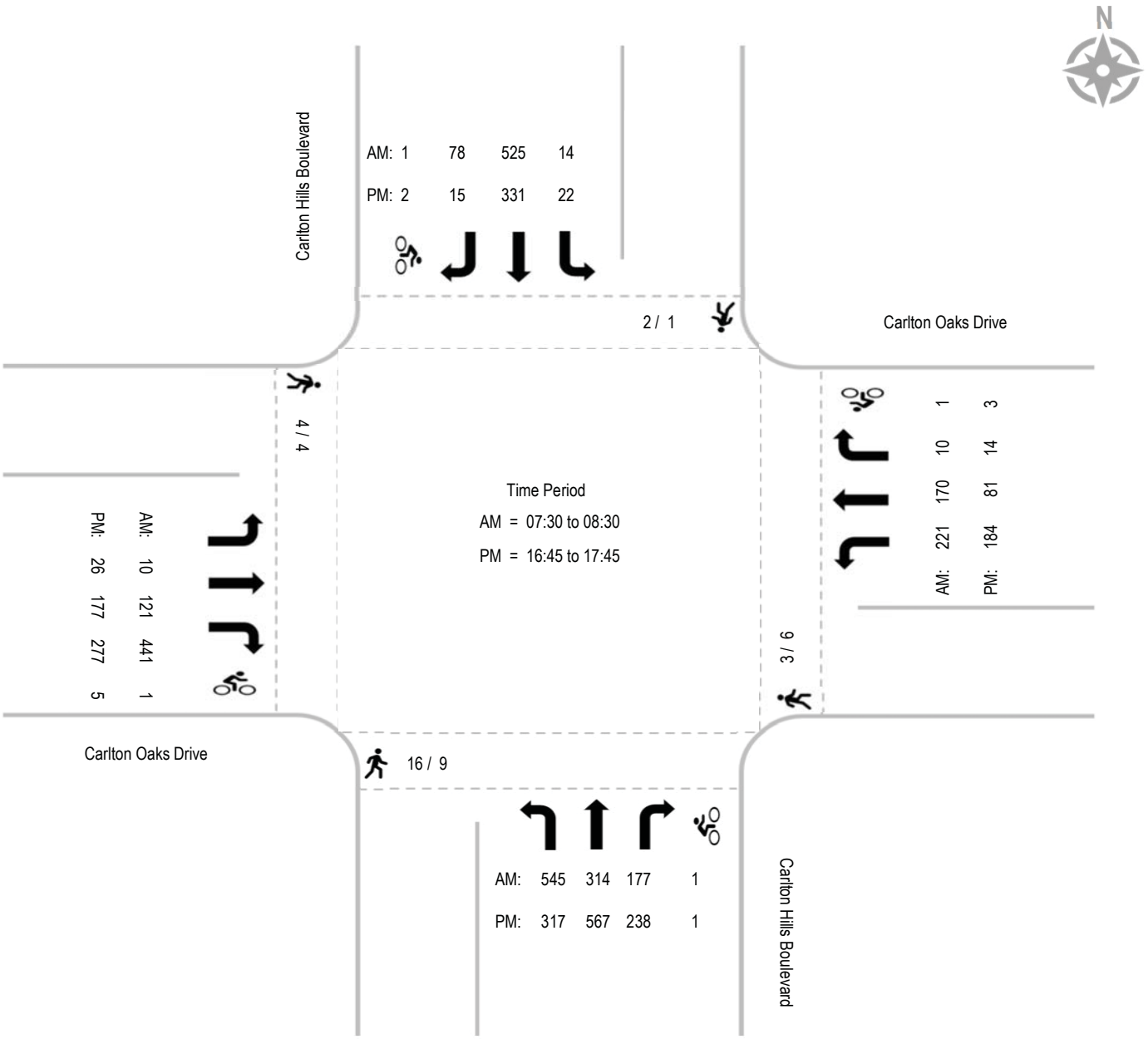
| | | | |
|---|---|---|---|
| Location: | #31 | File Name: | ITM-18-015-31 |
| Intersection: | Carlton Oaks Drive / Carlton Hills Boulevard | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Wednesday, January 31, 2018 | | Fanita Ranch |

| AM | Carlton Hills Boulevard Southbound | | | | Carlton Oaks Drive Westbound | | | | Carlton Hills Boulevard Northbound | | | | Carlton Oaks Drive Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 7:00 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 3 |
| 7:15 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 7:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 9 | 0 |
| 7:45 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 6 | 0 |
| 8:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 |
| 8:15 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 4 | 0 |
| 8:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped Total | 2 | | | | 3 | | | | 16 | | | | 4 | | | | 25 | |
| Bike Total | | 0 | 1 | 0 | | 0 | 1 | 0 | | 1 | 0 | 0 | | 0 | 1 | 0 | | 4 |

| PM | Carlton Hills Boulevard Southbound | | | | Carlton Oaks Drive Westbound | | | | Carlton Hills Boulevard Northbound | | | | Carlton Oaks Drive Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 16:00 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 3 | 3 |
| 16:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 4 | 1 |
| 16:30 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 16:45 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 2 |
| 17:15 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 1 |
| 17:30 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 |
| 17:45 | 0 | 0 | 0 | 0 | 4 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 7 | 1 |
| Ped Total | 1 | | | | 6 | | | | 9 | | | | 4 | | | | 20 | |
| Bike Total | | 0 | 0 | 2 | | 0 | 3 | 0 | | 0 | 1 | 0 | | 2 | 3 | 0 | | 11 |

# Intersection Turning Movement - Peak Hour Summary

| | | | | |
|---|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #31 | File Name: | ITM-18-015-31 |
| | Intersection: | Carlton Oaks Drive / Carlton Hills Boulevard | Project: | LLG Ref. 3-15-2462 |
| | Date of Count: | Wednesday, January 31, 2018 | | Fanita Ranch |



# Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers

| | | | |
|---|---|---|---|
| Location: | #32 | File Name: | ITM-18-015-32 |
| Intersection: | Riverwalk Drive / Cuyamaca Street | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Thursday, February 1, 2018 | | Fanita Ranch |

| AM | Cuyamaca Street Southbound | | | Riverwalk Drive Westbound | | | Cuyamaca Street Northbound | | | Driveway Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 7:00 | 3 | 159 | 1 | 22 | 0 | 9 | 1 | 72 | 15 | 0 | 0 | 0 | 282 |
| 7:15 | 7 | 177 | 2 | 11 | 0 | 14 | 2 | 92 | 10 | 0 | 0 | 0 | 315 |
| 7:30 | 5 | 217 | 0 | 41 | 1 | 11 | 3 | 92 | 11 | 0 | 0 | 0 | 381 |
| 7:45 | 16 | 207 | 1 | 16 | 0 | 8 | 4 | 102 | 21 | 0 | 0 | 0 | 375 |
| 8:00 | 35 | 248 | 0 | 9 | 0 | 12 | 6 | 108 | 24 | 0 | 0 | 0 | 442 |
| 8:15 | 42 | 238 | 2 | 24 | 0 | 24 | 4 | 131 | 24 | 1 | 0 | 0 | 490 |
| 8:30 | 10 | 156 | 1 | 28 | 1 | 19 | 5 | 112 | 18 | 0 | 0 | 0 | 350 |
| 8:45 | 8 | 126 | 2 | 14 | 0 | 16 | 8 | 80 | 23 | 2 | 1 | 0 | 280 |
| Total | 126 | 1528 | 9 | 165 | 2 | 113 | 33 | 789 | 146 | 3 | 1 | 0 | 2915 |
| Approach% | 7.6 | 91.9 | 0.5 | 58.9 | 0.7 | 40.4 | 3.4 | 81.5 | 15.1 | 75.0 | 25.0 | - | |
| Total% | 4.3 | 52.4 | 0.3 | 5.7 | 0.1 | 3.9 | 1.1 | 27.1 | 5.0 | 0.1 | 0.0 | - | |

**AM Intersection Peak Hour:** **07:30 to 08:30**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 98 | 910 | 3 | 90 | 1 | 55 | 17 | 433 | 80 | 1 | - | - | 1,688 |
| Approach% | 9.7 | 90.0 | 0.3 | 61.6 | 0.7 | 37.7 | 3.2 | 81.7 | 15.1 | 100.0 | - | - | |
| Total% | 5.8 | 53.9 | 0.2 | 5.3 | 0.1 | 3.3 | 1.0 | 25.7 | 4.7 | 0.1 | - | - | |
| PHF | | | 0.89 | | | 0.69 | | | 0.83 | | | 0.25 | |

| PM | Cuyamaca Street Southbound | | | Riverwalk Drive Westbound | | | Cuyamaca Street Northbound | | | Driveway Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 16:00 | 14 | 193 | 1 | 27 | 0 | 18 | 2 | 219 | 35 | 4 | 1 | 2 | 516 |
| 16:15 | 16 | 170 | 3 | 20 | 0 | 9 | 6 | 211 | 33 | 4 | 0 | 1 | 473 |
| 16:30 | 12 | 187 | 0 | 37 | 1 | 9 | 3 | 221 | 37 | 5 | 0 | 0 | 512 |
| 16:45 | 14 | 169 | 1 | 20 | 1 | 7 | 4 | 221 | 49 | 4 | 0 | 1 | 491 |
| 17:00 | 11 | 215 | 0 | 40 | 0 | 6 | 3 | 208 | 32 | 10 | 3 | 3 | 531 |
| 17:15 | 26 | 216 | 1 | 15 | 0 | 7 | 4 | 268 | 38 | 3 | 1 | 1 | 580 |
| 17:30 | 22 | 219 | 0 | 28 | 0 | 8 | 1 | 241 | 44 | 2 | 0 | 8 | 573 |
| 17:45 | 19 | 230 | 0 | 35 | 0 | 11 | 5 | 233 | 60 | 2 | 2 | 3 | 600 |
| Total | 134 | 1599 | 6 | 222 | 2 | 75 | 28 | 1822 | 328 | 34 | 7 | 19 | 4276 |
| Approach% | 7.7 | 91.9 | 0.3 | 74.2 | 0.7 | 25.1 | 1.3 | 83.7 | 15.1 | 56.7 | 11.7 | 31.7 | |
| Total% | 4.6 | 54.9 | 0.2 | 7.6 | 0.1 | 2.6 | 1.0 | 62.5 | 11.3 | 1.2 | 0.2 | 0.7 | |

**PM Intersection Peak Hour:** **17:00 to 18:00**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 78 | 880 | 1 | 118 | - | 32 | 13 | 950 | 174 | 17 | 6 | 15 | 2,284 |
| Approach% | 8.1 | 91.8 | 0.1 | 78.7 | - | 21.3 | 1.1 | 83.6 | 15.3 | 44.7 | 15.8 | 39.5 | |
| Total% | 4.6 | 52.1 | 0.1 | 7.0 | - | 1.9 | 0.8 | 56.3 | 10.3 | 1.0 | 0.4 | 0.9 | |
| PHF | | | 0.96 | | | 0.82 | | | 0.92 | | | 0.59 | |

# Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

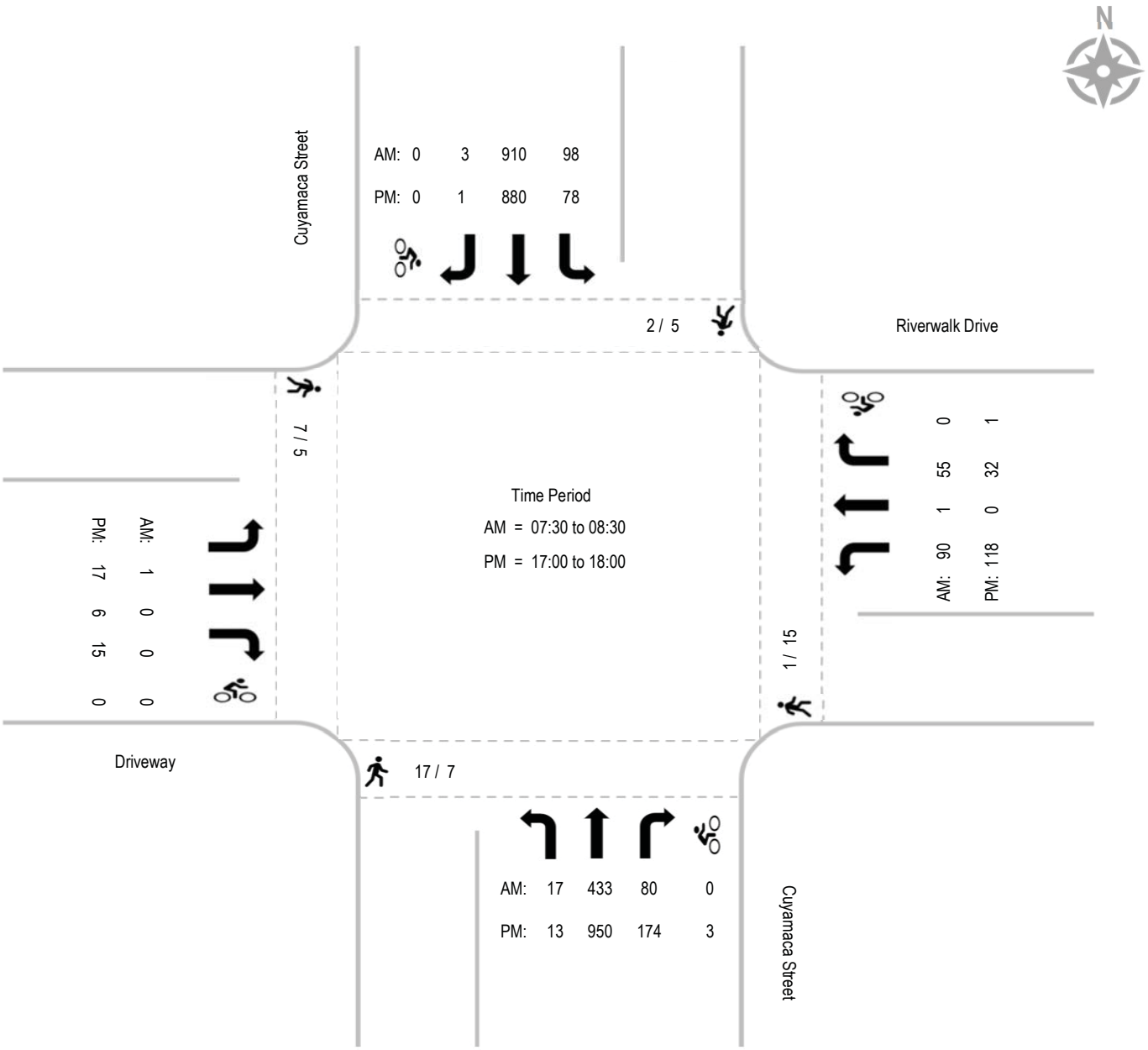
| | | | |
|---|---|---|---|
| Location: | #32 | File Name: | ITM-18-015-32 |
| Intersection: | Riverwalk Drive / Cuyamaca Street | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Thursday, February 1, 2018 | | Fanita Ranch |

| AM | Cuyamaca Street Southbound | | | | Riverwalk Drive Westbound | | | | Cuyamaca Street Northbound | | | | Driveway Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 7:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 7:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 7:30 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 4 | 0 |
| 7:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 0 |
| 8:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 10 | 0 |
| 8:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 3 | 0 |
| Ped Total | 2 | | | | 1 | | | | 17 | | | | 7 | | | | 27 | |
| Bike Total | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 |

| PM | Cuyamaca Street Southbound | | | | Riverwalk Drive Westbound | | | | Cuyamaca Street Northbound | | | | Driveway Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 16:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 3 | 2 |
| 16:15 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 4 | 0 |
| 16:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 16:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 3 | 1 |
| 17:00 | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 0 |
| 17:15 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 |
| 17:30 | 0 | 0 | 0 | 0 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 0 |
| 17:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped Total | 5 | | | | 15 | | | | 7 | | | | 5 | | | | 32 | |
| Bike Total | | 0 | 0 | 0 | | 0 | 1 | 0 | | 1 | 2 | 0 | | 0 | 0 | 0 | | 4 |

# Intersection Turning Movement - Peak Hour Summary

| | | | | |
|---|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #32 | File Name: | ITM-18-015-32 |
| | Intersection: | Riverwalk Drive / Cuyamaca Street | Project: | LLG Ref. 3-15-2462 |
| | Date of Count: | Thursday, February 1, 2018 | | Fanita Ranch |



# Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers

| | | | |
|---|---|---|---|
| Location: | #33 | File Name: | ITM-18-015-33 |
| Intersection: | Riverpark Drive / Cuyamaca Street | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Tuesday, February 6, 2018 | | Fanita Ranch |

| AM | Cuyamaca Street Southbound | | | Riverpark Drive Westbound | | | Cuyamaca Street Northbound | | | Riverpark Drive Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 7:00 | 2 | 147 | 0 | 0 | 0 | 2 | 15 | 72 | 3 | 7 | 0 | 18 | 266 |
| 7:15 | 1 | 177 | 1 | 1 | 0 | 2 | 24 | 97 | 2 | 11 | 1 | 27 | 344 |
| 7:30 | 1 | 208 | 3 | 3 | 0 | 1 | 39 | 95 | 2 | 6 | 1 | 34 | 393 |
| 7:45 | 1 | 181 | 2 | 3 | 2 | 1 | 38 | 128 | 7 | 14 | 0 | 24 | 401 |
| 8:00 | 5 | 187 | 3 | 11 | 2 | 7 | 29 | 131 | 13 | 20 | 9 | 25 | 442 |
| 8:15 | 8 | 193 | 13 | 49 | 21 | 8 | 29 | 152 | 46 | 18 | 9 | 26 | 572 |
| 8:30 | 0 | 177 | 2 | 14 | 6 | 2 | 29 | 117 | 1 | 8 | 1 | 29 | 386 |
| 8:45 | 3 | 182 | 21 | 3 | 1 | 10 | 39 | 149 | 21 | 12 | 7 | 17 | 465 |
| Total | 21 | 1452 | 45 | 84 | 32 | 33 | 242 | 941 | 95 | 96 | 28 | 200 | 3269 |
| Approach% | 1.4 | 95.7 | 3.0 | 56.4 | 21.5 | 22.1 | 18.9 | 73.6 | 7.4 | 29.6 | 8.6 | 61.7 | |
| Total% | 0.6 | 44.4 | 1.4 | 2.6 | 1.0 | 1.0 | 7.4 | 28.8 | 2.9 | 2.9 | 0.9 | 6.1 | |

**AM Intersection Peak Hour:** **08:00 to 09:00**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 16 | 739 | 39 | 77 | 30 | 27 | 126 | 549 | 81 | 58 | 26 | 97 | 1,865 |
| Approach% | 2.0 | 93.1 | 4.9 | 57.5 | 22.4 | 20.1 | 16.7 | 72.6 | 10.7 | 32.0 | 14.4 | 53.6 | |
| Total% | 0.9 | 39.6 | 2.1 | 4.1 | 1.6 | 1.4 | 6.8 | 29.4 | 4.3 | 3.1 | 1.4 | 5.2 | |
| PHF | | | 0.93 | | | 0.43 | | | 0.83 | | | 0.84 | |

| PM | Cuyamaca Street Southbound | | | Riverpark Drive Westbound | | | Cuyamaca Street Northbound | | | Riverpark Drive Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 16:00 | 5 | 201 | 2 | 5 | 1 | 0 | 43 | 250 | 16 | 15 | 0 | 33 | 571 |
| 16:15 | 12 | 191 | 10 | 4 | 0 | 0 | 57 | 207 | 15 | 13 | 3 | 26 | 538 |
| 16:30 | 3 | 229 | 11 | 13 | 2 | 8 | 42 | 213 | 8 | 15 | 0 | 28 | 572 |
| 16:45 | 11 | 146 | 11 | 2 | 0 | 0 | 38 | 150 | 15 | 27 | 3 | 12 | 415 |
| 17:00 | 8 | 305 | 0 | 1 | 2 | 4 | 72 | 340 | 32 | 25 | 0 | 28 | 817 |
| 17:15 | 39 | 246 | 6 | 13 | 4 | 5 | 75 | 252 | 29 | 29 | 8 | 29 | 735 |
| 17:30 | 10 | 145 | 26 | 20 | 5 | 16 | 48 | 164 | 6 | 9 | 7 | 22 | 478 |
| 17:45 | 39 | 167 | 16 | 25 | 0 | 8 | 46 | 197 | 15 | 21 | 6 | 24 | 564 |
| Total | 127 | 1630 | 82 | 83 | 14 | 41 | 421 | 1773 | 136 | 154 | 27 | 202 | 4690 |
| Approach% | 6.9 | 88.6 | 4.5 | 60.1 | 10.1 | 29.7 | 18.1 | 76.1 | 5.8 | 40.2 | 7.0 | 52.7 | |
| Total% | 3.9 | 49.9 | 2.5 | 2.5 | 0.4 | 1.3 | 12.9 | 54.2 | 4.2 | 4.7 | 0.8 | 6.2 | |

**PM Intersection Peak Hour:** **17:00 to 18:00**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 96 | 863 | 48 | 59 | 11 | 33 | 241 | 953 | 82 | 84 | 21 | 103 | 2,594 |
| Approach% | 9.5 | 85.7 | 4.8 | 57.3 | 10.7 | 32.0 | 18.9 | 74.7 | 6.4 | 40.4 | 10.1 | 49.5 | |
| Total% | 5.1 | 46.3 | 2.6 | 3.2 | 0.6 | 1.8 | 12.9 | 51.1 | 4.4 | 4.5 | 1.1 | 5.5 | |
| PHF | | | 0.80 | | | 0.63 | | | 0.72 | | | 0.79 | |

# Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

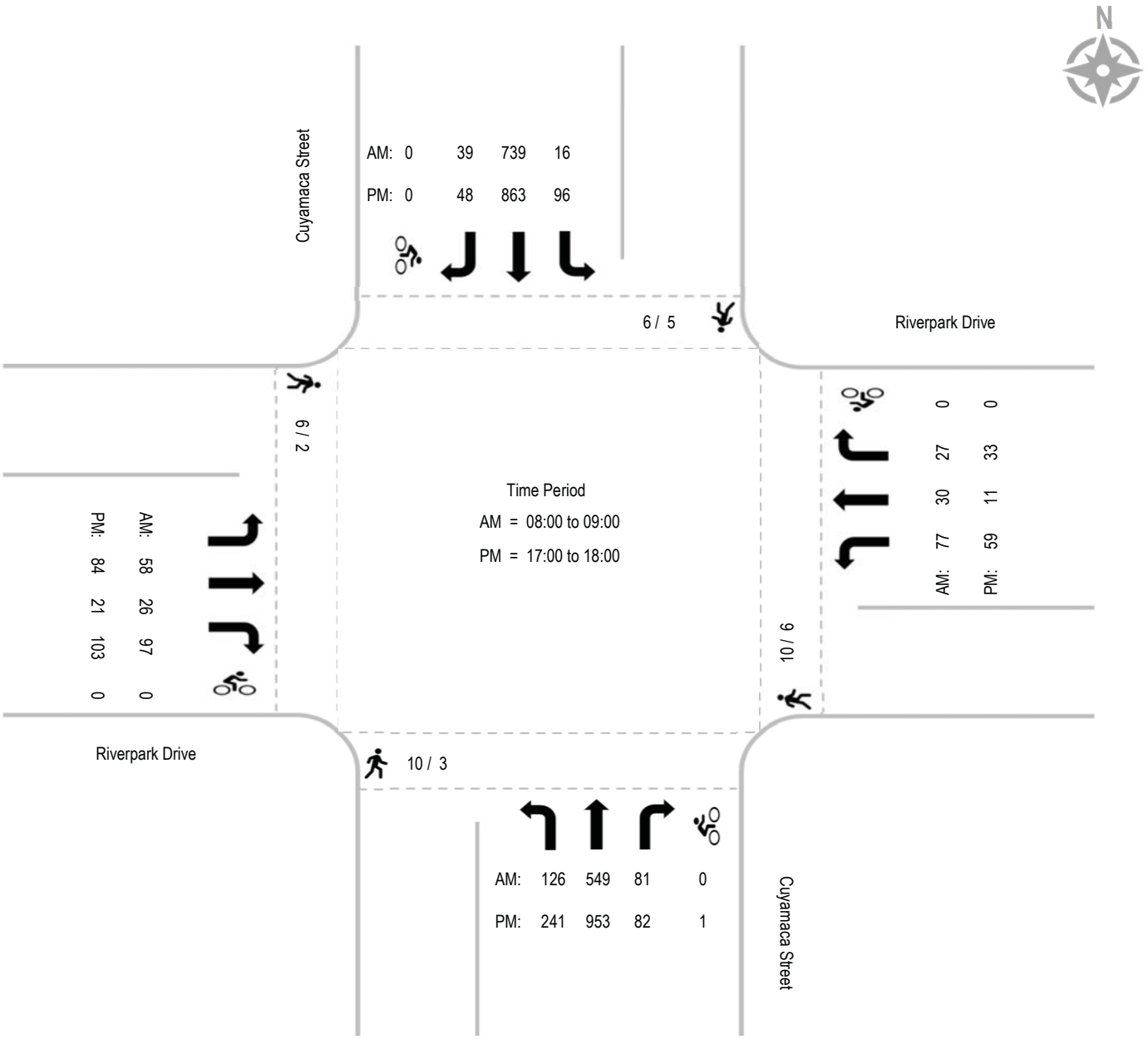
| | | | |
|---|---|---|---|
| Location: | #33 | File Name: | ITM-18-015-33 |
| Intersection: | Riverpark Drive / Cuyamaca Street | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Tuesday, February 6, 2018 | | Fanita Ranch |

| AM | Cuyamaca Street Southbound | | | | Riverpark Drive Westbound | | | | Cuyamaca Street Northbound | | | | Riverpark Drive Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 7:00 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 7:15 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 6 | 0 |
| 7:30 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 7:45 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 |
| 8:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 3 | 0 |
| 8:15 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 |
| 8:30 | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 7 | 0 |
| 8:45 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 3 | 0 |
| Ped Total | 6 | | | | 10 | | | | 10 | | | | 6 | | | | 32 | |
| Bike Total | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 |

| PM | Cuyamaca Street Southbound | | | | Riverpark Drive Westbound | | | | Cuyamaca Street Northbound | | | | Riverpark Drive Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 16:00 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 |
| 16:15 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 16:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16:45 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:15 | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 8 | 0 |
| 17:30 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 17:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped Total | 5 | | | | 6 | | | | 3 | | | | 2 | | | | 16 | |
| Bike Total | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 1 | 0 | | 0 | 0 | 0 | | 1 |

# Intersection Turning Movement - Peak Hour Summary

| | | | | |
|---|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #33 | File Name: | ITM-18-015-33 |
| | Intersection: | Riverpark Drive / Cuyamaca Street | Project: | LLG Ref. 3-15-2462 |
| | Date of Count: | Tuesday, February 6, 2018 | | Fanita Ranch |



# Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers

| | | | |
|---|---|---|---|
| Location: | #34 | File Name: | ITM-18-015-34 |
| Intersection: | Town Center Parkway / Cuyamaca Street | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Thursday, February 1, 2018 | | Fanita Ranch |

| AM | Cuyamaca Street Southbound | | | Town Center Parkway Westbound | | | Cuyamaca Street Northbound | | | Town Center Parkway Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 7:00 | 14 | 122 | 67 | 4 | 8 | 10 | 23 | 65 | 2 | 29 | 7 | 14 | 365 |
| 7:15 | 8 | 126 | 64 | 10 | 6 | 12 | 18 | 73 | 6 | 42 | 11 | 19 | 395 |
| 7:30 | 30 | 121 | 87 | 10 | 11 | 15 | 29 | 90 | 12 | 31 | 13 | 18 | 467 |
| 7:45 | 15 | 64 | 42 | 14 | 8 | 8 | 19 | 42 | 6 | 33 | 4 | 11 | 266 |
| 8:00 | 16 | 65 | 34 | 25 | 15 | 20 | 23 | 63 | 12 | 29 | 27 | 39 | 368 |
| 8:15 | 15 | 84 | 24 | 2 | 7 | 17 | 15 | 32 | 1 | 14 | 3 | 19 | 233 |
| 8:30 | 8 | 112 | 15 | 2 | 2 | 7 | 15 | 105 | 4 | 15 | 1 | 3 | 289 |
| 8:45 | 18 | 113 | 28 | 3 | 4 | 6 | 34 | 102 | 11 | 23 | 5 | 19 | 366 |
| Total | 124 | 807 | 361 | 70 | 61 | 95 | 176 | 572 | 54 | 216 | 71 | 142 | 2749 |
| Approach% | 9.6 | 62.5 | 27.9 | 31.0 | 27.0 | 42.0 | 21.9 | 71.3 | 6.7 | 50.3 | 16.6 | 33.1 | |
| Total% | 4.5 | 29.4 | 13.1 | 2.5 | 2.2 | 3.5 | 6.4 | 20.8 | 2.0 | 7.9 | 2.6 | 5.2 | |

**AM Intersection Peak Hour:** **07:15 to 08:15**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 69 | 376 | 227 | 59 | 40 | 55 | 89 | 268 | 36 | 135 | 55 | 87 | 1,496 |
| Approach% | 10.3 | 56.0 | 33.8 | 38.3 | 26.0 | 35.7 | 22.6 | 68.2 | 9.2 | 48.7 | 19.9 | 31.4 | |
| Total% | 4.6 | 25.1 | 15.2 | 3.9 | 2.7 | 3.7 | 5.9 | 17.9 | 2.4 | 9.0 | 3.7 | 5.8 | |
| PHF | | | 0.71 | | | 0.64 | | | 0.75 | | | 0.73 | |

| PM | Cuyamaca Street Southbound | | | Town Center Parkway Westbound | | | Cuyamaca Street Northbound | | | Town Center Parkway Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 16:00 | 65 | 234 | 97 | 9 | 20 | 20 | 93 | 258 | 12 | 199 | 34 | 53 | 1094 |
| 16:15 | 16 | 205 | 84 | 7 | 12 | 17 | 81 | 216 | 3 | 142 | 15 | 40 | 838 |
| 16:30 | 51 | 197 | 40 | 12 | 17 | 26 | 130 | 241 | 5 | 154 | 9 | 22 | 904 |
| 16:45 | 20 | 185 | 52 | 15 | 12 | 11 | 68 | 185 | 13 | 135 | 10 | 20 | 726 |
| 17:00 | 28 | 168 | 66 | 4 | 9 | 28 | 53 | 170 | 20 | 116 | 23 | 64 | 749 |
| 17:15 | 24 | 180 | 64 | 8 | 16 | 28 | 44 | 215 | 7 | 129 | 19 | 37 | 771 |
| 17:30 | 27 | 145 | 81 | 5 | 23 | 39 | 69 | 171 | 10 | 105 | 20 | 58 | 753 |
| 17:45 | 24 | 200 | 83 | 7 | 11 | 21 | 44 | 207 | 16 | 126 | 18 | 49 | 806 |
| Total | 255 | 1514 | 567 | 67 | 120 | 190 | 582 | 1663 | 86 | 1106 | 148 | 343 | 6641 |
| Approach% | 10.9 | 64.8 | 24.3 | 17.8 | 31.8 | 50.4 | 25.0 | 71.3 | 3.7 | 69.3 | 9.3 | 21.5 | |
| Total% | 9.3 | 55.1 | 20.6 | 2.4 | 4.4 | 6.9 | 21.2 | 60.5 | 3.1 | 40.2 | 5.4 | 12.5 | |

**PM Intersection Peak Hour:** **16:00 to 17:00**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 152 | 821 | 273 | 43 | 61 | 74 | 372 | 900 | 33 | 630 | 68 | 135 | 3,562 |
| Approach% | 12.2 | 65.9 | 21.9 | 24.2 | 34.3 | 41.6 | 28.5 | 69.0 | 2.5 | 75.6 | 8.2 | 16.2 | |
| Total% | 10.2 | 54.9 | 18.2 | 2.9 | 4.1 | 4.9 | 24.9 | 60.2 | 2.2 | 42.1 | 4.5 | 9.0 | |
| PHF | | | 0.79 | | | 0.81 | | | 0.87 | | | 0.73 | |

# Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

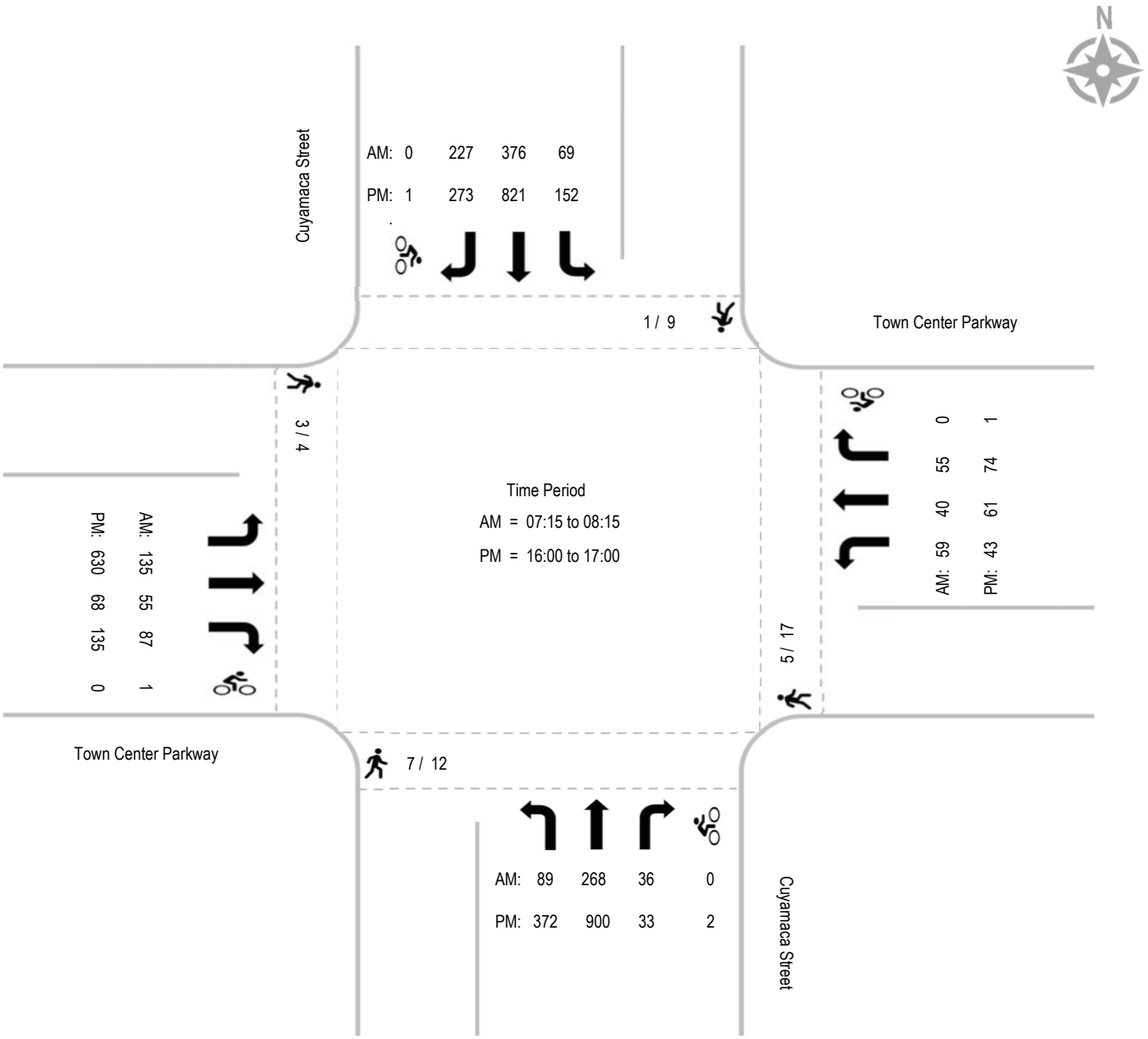
| | | | |
|---|---|---|---|
| Location: | #34 | File Name: | ITM-18-015-34 |
| Intersection: | Town Center Parkway / Cuyamaca Street | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Thursday, February 1, 2018 | | Fanita Ranch |

| AM | Cuyamaca Street Southbound | | | | Town Center Parkway Westbound | | | | Cuyamaca Street Northbound | | | | Town Center Parkway Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 7:00 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 7:15 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 4 | 0 |
| 7:30 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 |
| 7:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 8:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 4 | 0 |
| 8:15 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 |
| 8:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 8:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| Ped Total | 1 | | | | 5 | | | | 7 | | | | 3 | | | | 16 | |
| Bike Total | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 1 | 0 | | 1 |

| PM | Cuyamaca Street Southbound | | | | Town Center Parkway Westbound | | | | Cuyamaca Street Northbound | | | | Town Center Parkway Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 16:00 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 0 |
| 16:15 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 16:30 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 3 | 0 |
| 16:45 | 2 | 0 | 0 | 0 | 9 | 0 | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 21 | 0 |
| 17:00 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 1 |
| 17:15 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 5 | 1 |
| 17:30 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 4 | 1 |
| 17:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Ped Total | 9 | | | | 17 | | | | 12 | | | | 4 | | | | 42 | |
| Bike Total | | 0 | 0 | 1 | | 0 | 1 | 0 | | 0 | 2 | 0 | | 0 | 0 | 0 | | 4 |

# Intersection Turning Movement - Peak Hour Summary

| | | | | |
|---|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #34 | File Name: | ITM-18-015-34 |
| | Intersection: | Town Center Parkway / Cuyamaca Street | Project: | LLG Ref. 3-15-2462 |
| | Date of Count: | Thursday, February 1, 2018 | | Fanita Ranch |



# Intersection Turning Movement - Peak Hour Vehicle Count

| | | | |
|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #35 | File Name: ITM-18-015-35 |
| | Intersection: | Town Center Parkway / Riverview Parkway | Project: LLG Ref. 3-15-2462 |
| | Date of Count: | Thursday, February 1, 2018 | Fanita Ranch |

| AM | Riverview Parkway Southbound | | | - Westbound | | | Riverview Parkway Northbound | | | Town Center Parkway Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 7:00 | 0 | 2 | 0 | 0 | 0 | 0 | 6 | 2 | 0 | 0 | 0 | 13 | 23 |
| 7:15 | 0 | 2 | 0 | 0 | 0 | 0 | 15 | 6 | 0 | 0 | 0 | 12 | 35 |
| 7:30 | 0 | 2 | 0 | 0 | 0 | 0 | 15 | 26 | 0 | 0 | 0 | 17 | 60 |
| 7:45 | 0 | 2 | 1 | 0 | 0 | 0 | 21 | 44 | 0 | 0 | 0 | 26 | 94 |
| 8:00 | 0 | 1 | 1 | 0 | 0 | 0 | 33 | 18 | 0 | 0 | 0 | 21 | 74 |
| 8:15 | 0 | 1 | 1 | 0 | 0 | 0 | 30 | 7 | 0 | 0 | 0 | 31 | 70 |
| 8:30 | 0 | 2 | 1 | 0 | 0 | 0 | 15 | 5 | 0 | 0 | 0 | 13 | 36 |
| 8:45 | 0 | 5 | 0 | 0 | 0 | 0 | 11 | 11 | 0 | 0 | 0 | 20 | 47 |
| Total | 0 | 17 | 4 | 0 | 0 | 0 | 146 | 119 | 0 | 0 | 0 | 153 | 439 |
| Approach% | - | 81.0 | 19.0 | - | - | - | 55.1 | 44.9 | - | - | - | 100.0 | |
| Total% | - | 3.9 | 0.9 | - | - | - | 33.3 | 27.1 | - | - | - | 34.9 | |

**AM Intersection Peak Hour:** **07:30 to 08:30**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | - | 6 | 3 | - | - | - | 99 | 95 | - | - | - | 95 | 298 |
| Approach% | - | 66.7 | 33.3 | - | - | - | 51.0 | 49.0 | - | - | - | 100.0 | |
| Total% | - | 2.0 | 1.0 | - | - | - | 33.2 | 31.9 | - | - | - | 31.9 | |
| PHF | | | 0.75 | | | | | | 0.75 | | | 0.77 | |

| PM | Riverview Parkway Southbound | | | - Westbound | | | Riverview Parkway Northbound | | | Town Center Parkway Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 16:00 | 0 | 7 | 0 | 0 | 0 | 0 | 37 | 2 | 0 | 0 | 0 | 55 | 101 |
| 16:15 | 0 | 2 | 0 | 0 | 0 | 0 | 46 | 3 | 0 | 0 | 0 | 42 | 93 |
| 16:30 | 0 | 4 | 0 | 0 | 0 | 0 | 26 | 11 | 0 | 0 | 0 | 26 | 67 |
| 16:45 | 0 | 5 | 0 | 0 | 0 | 0 | 33 | 7 | 0 | 0 | 0 | 46 | 91 |
| 17:00 | 0 | 4 | 0 | 0 | 0 | 0 | 37 | 10 | 0 | 0 | 0 | 35 | 86 |
| 17:15 | 0 | 8 | 0 | 0 | 0 | 0 | 30 | 7 | 0 | 0 | 0 | 34 | 79 |
| 17:30 | 0 | 7 | 0 | 0 | 0 | 0 | 34 | 9 | 0 | 0 | 0 | 36 | 86 |
| 17:45 | 0 | 1 | 1 | 0 | 0 | 0 | 23 | 17 | 0 | 0 | 0 | 13 | 55 |
| Total | 0 | 38 | 1 | 0 | 0 | 0 | 266 | 66 | 0 | 0 | 0 | 287 | 658 |
| Approach% | - | 97.4 | 2.6 | - | - | - | 80.1 | 19.9 | - | - | - | 100.0 | |
| Total% | - | 8.7 | 0.2 | - | - | - | 60.6 | 15.0 | - | - | - | 65.4 | |

**PM Intersection Peak Hour:** **16:00 to 17:00**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | - | 18 | - | - | - | - | 142 | 23 | - | - | - | 169 | 352 |
| Approach% | - | 100.0 | - | - | - | - | 86.1 | 13.9 | - | - | - | 100.0 | |
| Total% | - | 6.0 | - | - | - | - | 47.7 | 7.7 | - | - | - | 56.7 | |
| PHF | | | 0.64 | | | | | | 0.84 | | | 0.77 | |

# Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

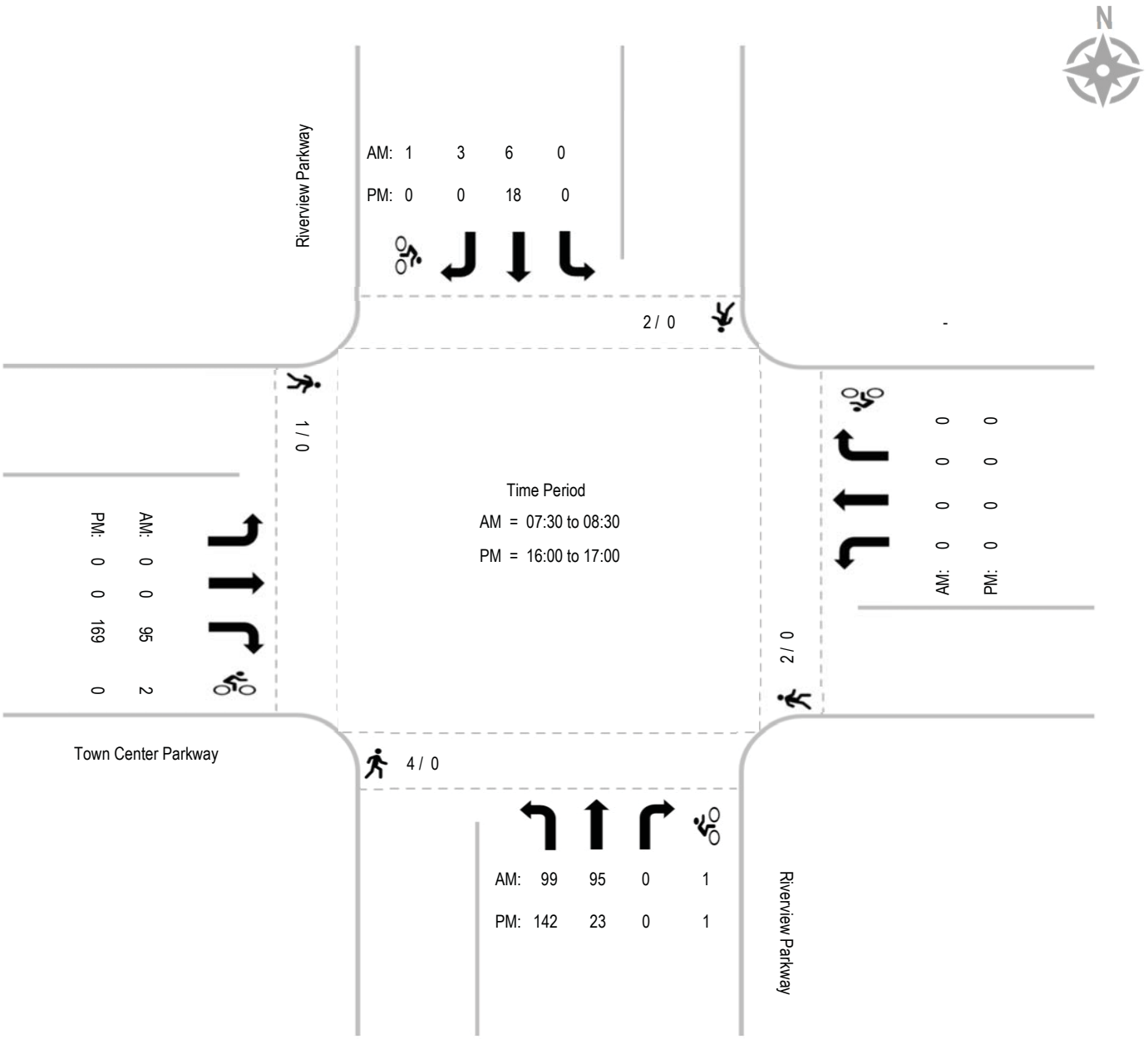
| | | | |
|---|---|---|---|
| Location: | #35 | File Name: | ITM-18-015-35 |
| Intersection: | Town Center Parkway / Riverview Parkway | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Thursday, February 1, 2018 | | Fanita Ranch |

| AM | Riverview Parkway Southbound | | | | - Westbound | | | | Riverview Parkway Northbound | | | | Town Center Parkway Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 7:00 | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 6 | 0 |
| 7:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 7:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 8:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 1 |
| 8:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 8:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped Total | 2 | | | | 2 | | | | 4 | | | | 1 | | | | 9 | |
| Bike Total | | 0 | 0 | 1 | | 0 | 0 | 0 | | 0 | 1 | 0 | | 0 | 0 | 2 | | 4 |

| PM | Riverview Parkway Southbound | | | | - Westbound | | | | Riverview Parkway Northbound | | | | Town Center Parkway Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 17:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped Total | 0 | | | | 0 | | | | 0 | | | | 0 | | | | 0 | |
| Bike Total | | 0 | 0 | 0 | | 0 | 0 | 0 | | 1 | 0 | 0 | | 0 | 0 | 0 | | 1 |

# Intersection Turning Movement - Peak Hour Summary

| | | | | |
|---|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #35 | File Name: | ITM-18-015-35 |
| | Intersection: | Town Center Parkway / Riverview Parkway | Project: | LLG Ref. 3-15-2462 |
| | Date of Count: | Thursday, February 1, 2018 | | Fanita Ranch |



# Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers

| | | | |
|---|---|---|---|
| Location: | #36 | File Name: | ITM-18-015-36 |
| Intersection: | Riverview Parkway / Magnolia Avenue | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Thursday, February 1, 2018 | | Fanita Ranch |

| AM | Magnolia Avenue Southbound | | | Riverview Parkway Westbound | | | Magnolia Avenue Northbound | | | Riverview Parkway Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 7:00 | 2 | 199 | 0 | 2 | 0 | 2 | 6 | 158 | 2 | 1 | 0 | 0 | 372 |
| 7:15 | 1 | 274 | 1 | 10 | 0 | 2 | 6 | 200 | 8 | 0 | 0 | 1 | 503 |
| 7:30 | 2 | 302 | 1 | 10 | 0 | 3 | 15 | 264 | 4 | 0 | 0 | 1 | 602 |
| 7:45 | 4 | 336 | 1 | 9 | 0 | 1 | 17 | 255 | 2 | 1 | 0 | 3 | 629 |
| 8:00 | 1 | 291 | 0 | 6 | 0 | 2 | 7 | 241 | 5 | 0 | 0 | 2 | 555 |
| 8:15 | 0 | 230 | 0 | 7 | 0 | 2 | 11 | 134 | 11 | 0 | 0 | 2 | 397 |
| 8:30 | 0 | 170 | 1 | 8 | 0 | 2 | 3 | 111 | 4 | 0 | 0 | 2 | 301 |
| 8:45 | 2 | 177 | 2 | 12 | 0 | 3 | 3 | 134 | 8 | 1 | 0 | 1 | 343 |
| Total | 12 | 1979 | 6 | 64 | 0 | 17 | 68 | 1497 | 44 | 3 | 0 | 12 | 3702 |
| Approach% | 0.6 | 99.1 | 0.3 | 79.0 | - | 21.0 | 4.2 | 93.0 | 2.7 | 20.0 | - | 80.0 | |
| Total% | 0.3 | 53.5 | 0.2 | 1.7 | - | 0.5 | 1.8 | 40.4 | 1.2 | 0.1 | - | 0.3 | |

**AM Intersection Peak Hour:** **07:15 to 08:15**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 8 | 1,203 | 3 | 35 | - | 8 | 45 | 960 | 19 | 1 | - | 7 | 2,289 |
| Approach% | 0.7 | 99.1 | 0.2 | 81.4 | - | 18.6 | 4.4 | 93.8 | 1.9 | 12.5 | - | 87.5 | |
| Total% | 0.3 | 52.6 | 0.1 | 1.5 | - | 0.3 | 2.0 | 41.9 | 0.8 | 0.0 | - | 0.3 | |
| PHF | | | 0.89 | | | 0.83 | | | 0.90 | | | 0.50 | |

| PM | Magnolia Avenue Southbound | | | Riverview Parkway Westbound | | | Magnolia Avenue Northbound | | | Riverview Parkway Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 16:00 | 3 | 178 | 0 | 12 | 0 | 5 | 3 | 249 | 20 | 1 | 0 | 11 | 482 |
| 16:15 | 4 | 169 | 1 | 13 | 0 | 2 | 11 | 278 | 6 | 0 | 0 | 9 | 493 |
| 16:30 | 3 | 200 | 1 | 9 | 0 | 5 | 12 | 297 | 14 | 0 | 0 | 9 | 550 |
| 16:45 | 4 | 173 | 2 | 13 | 0 | 3 | 14 | 299 | 9 | 0 | 0 | 2 | 519 |
| 17:00 | 2 | 197 | 3 | 12 | 0 | 3 | 19 | 276 | 15 | 1 | 0 | 8 | 536 |
| 17:15 | 1 | 187 | 0 | 10 | 0 | 4 | 9 | 241 | 17 | 1 | 0 | 10 | 480 |
| 17:30 | 2 | 210 | 2 | 5 | 0 | 0 | 5 | 265 | 9 | 0 | 0 | 10 | 508 |
| 17:45 | 2 | 174 | 2 | 7 | 0 | 1 | 6 | 234 | 5 | 0 | 0 | 26 | 457 |
| Total | 21 | 1488 | 11 | 81 | 0 | 23 | 79 | 2139 | 95 | 3 | 0 | 85 | 4025 |
| Approach% | 1.4 | 97.9 | 0.7 | 77.9 | - | 22.1 | 3.4 | 92.5 | 4.1 | 3.4 | - | 96.6 | |
| Total% | 0.6 | 40.2 | 0.3 | 2.2 | - | 0.6 | 2.1 | 57.8 | 2.6 | 0.1 | - | 2.3 | |

**PM Intersection Peak Hour:** **16:15 to 17:15**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 13 | 739 | 7 | 47 | - | 13 | 56 | 1,150 | 44 | 1 | - | 28 | 2,098 |
| Approach% | 1.7 | 97.4 | 0.9 | 78.3 | - | 21.7 | 4.5 | 92.0 | 3.5 | 3.4 | - | 96.6 | |
| Total% | 0.6 | 32.3 | 0.3 | 2.1 | - | 0.6 | 2.4 | 50.2 | 1.9 | 0.0 | - | 1.2 | |
| PHF | | | 0.93 | | | 0.94 | | | 0.97 | | | 0.81 | |

# Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

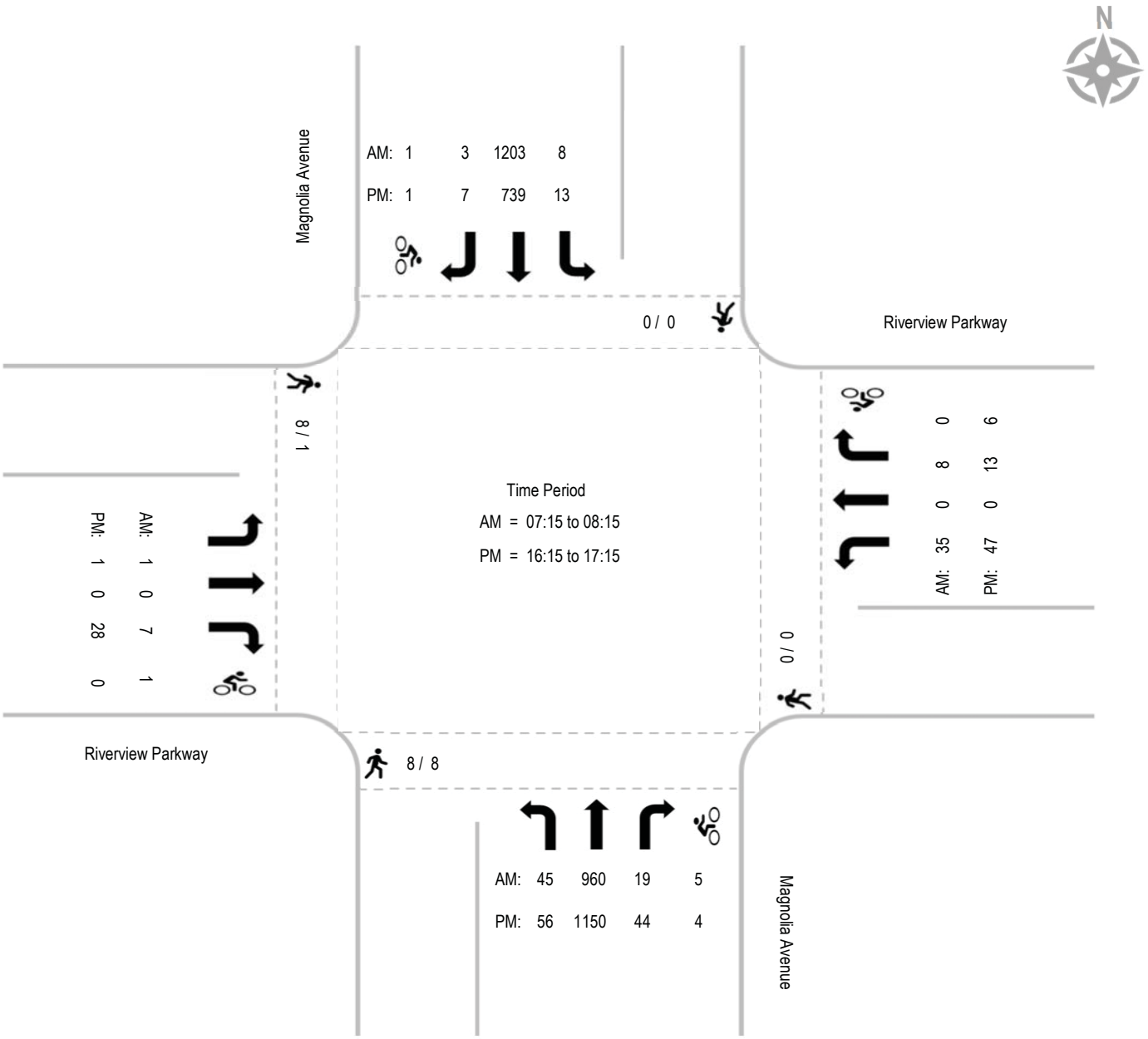
| | | | |
|---|---|---|---|
| Location: | #36 | File Name: | ITM-18-015-36 |
| Intersection: | Riverview Parkway / Magnolia Avenue | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Thursday, February 1, 2018 | | Fanita Ranch |

| AM | Magnolia Avenue Southbound | | | | Riverview Parkway Westbound | | | | Magnolia Avenue Northbound | | | | Riverview Parkway Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 7:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 7 | 0 |
| 7:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 2 | 1 |
| 7:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 3 | 0 | 0 | 0 | 4 | 1 |
| 7:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 |
| 8:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 8:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 8:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 8:45 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| Ped Total | 0 | | | | 0 | | | | 8 | | | | 8 | | | | 16 | |
| Bike Total | | 0 | 1 | 0 | | 0 | 0 | 0 | | 3 | 2 | 0 | | 0 | 0 | 1 | | 7 |

| PM | Magnolia Avenue Southbound | | | | Riverview Parkway Westbound | | | | Magnolia Avenue Northbound | | | | Riverview Parkway Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16:15 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 6 |
| 16:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:00 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 17:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 1 |
| 17:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 2 |
| 17:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 2 | 1 |
| Ped Total | 0 | | | | 0 | | | | 8 | | | | 1 | | | | 9 | |
| Bike Total | | 1 | 0 | 0 | | 0 | 6 | 0 | | 0 | 4 | 0 | | 0 | 0 | 0 | | 11 |

# Intersection Turning Movement - Peak Hour Summary

| | | | | |
|---|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #36 | File Name: | ITM-18-015-36 |
| | Intersection: | Riverview Parkway / Magnolia Avenue | Project: | LLG Ref. 3-15-2462 |
| | Date of Count: | Thursday, February 1, 2018 | | Fanita Ranch |



# Intersection Turning Movement - Peak Hour Vehicle Count

| | | | |
|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #37 | File Name: ITM-18-015-37 |
| | Intersection: | Riverford Road / SR-67 SB Ramps | Project: LLG Ref. 3-15-2462 |
| | Date of Count: | Thursday, February 1, 2018 | Fanita Ranch |

| AM | Riverford Road Southbound | | | SR-67 SB Off Ramp Westbound | | | Riverford Road Northbound | | | SR-67 SB On Ramp Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 7:00 | 0 | 32 | 137 | 2 | 0 | 25 | 103 | 120 | 0 | 0 | 0 | 0 | 419 |
| 7:15 | 0 | 38 | 157 | 3 | 0 | 37 | 107 | 132 | 0 | 0 | 0 | 0 | 474 |
| 7:30 | 0 | 40 | 149 | 4 | 0 | 40 | 106 | 140 | 0 | 0 | 0 | 0 | 479 |
| 7:45 | 0 | 72 | 124 | 4 | 0 | 40 | 81 | 174 | 0 | 0 | 0 | 0 | 495 |
| 8:00 | 0 | 69 | 116 | 4 | 0 | 29 | 88 | 117 | 0 | 0 | 0 | 0 | 423 |
| 8:15 | 0 | 65 | 108 | 5 | 0 | 20 | 128 | 138 | 0 | 0 | 0 | 0 | 464 |
| 8:30 | 0 | 58 | 146 | 4 | 0 | 18 | 86 | 140 | 0 | 0 | 0 | 0 | 452 |
| 8:45 | 0 | 37 | 141 | 5 | 0 | 20 | 73 | 108 | 0 | 0 | 0 | 0 | 384 |
| Total | 0 | 411 | 1078 | 31 | 0 | 229 | 772 | 1069 | 0 | 0 | 0 | 0 | 3590 |
| Approach% | - | 27.6 | 72.4 | 11.9 | - | 88.1 | 41.9 | 58.1 | - | - | - | - | |
| Total% | - | 11.4 | 30.0 | 0.9 | - | 6.4 | 21.5 | 29.8 | - | - | - | - | |

**AM Intersection Peak Hour:** **07:15 to 08:15**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | - | 219 | 546 | 15 | - | 146 | 382 | 563 | - | - | - | - | 1,871 |
| Approach% | - | 28.6 | 71.4 | 9.3 | - | 90.7 | 40.4 | 59.6 | - | - | - | - | |
| Total% | - | 11.7 | 29.2 | 0.8 | - | 7.8 | 20.4 | 30.1 | - | - | - | - | |
| PHF | | | 0.98 | | | 0.91 | | | 0.93 | | | | |

| PM | Riverford Road Southbound | | | SR-67 SB Off Ramp Westbound | | | Riverford Road Northbound | | | SR-67 SB On Ramp Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 16:00 | 0 | 55 | 138 | 3 | 0 | 16 | 75 | 179 | 0 | 0 | 0 | 0 | 466 |
| 16:15 | 0 | 51 | 170 | 6 | 0 | 14 | 61 | 167 | 0 | 0 | 0 | 0 | 469 |
| 16:30 | 0 | 63 | 124 | 1 | 0 | 21 | 84 | 149 | 0 | 0 | 0 | 0 | 442 |
| 16:45 | 0 | 55 | 156 | 4 | 0 | 21 | 65 | 167 | 0 | 0 | 0 | 0 | 468 |
| 17:00 | 0 | 61 | 197 | 3 | 0 | 18 | 86 | 156 | 0 | 0 | 0 | 0 | 521 |
| 17:15 | 0 | 64 | 152 | 3 | 0 | 21 | 62 | 185 | 0 | 0 | 0 | 0 | 487 |
| 17:30 | 0 | 69 | 151 | 4 | 0 | 11 | 67 | 145 | 0 | 0 | 0 | 0 | 447 |
| 17:45 | 0 | 41 | 141 | 6 | 0 | 17 | 50 | 142 | 0 | 0 | 0 | 0 | 397 |
| Total | 0 | 459 | 1229 | 30 | 0 | 139 | 550 | 1290 | 0 | 0 | 0 | 0 | 3697 |
| Approach% | - | 27.2 | 72.8 | 17.8 | - | 82.2 | 29.9 | 70.1 | - | - | - | - | |
| Total% | - | 12.8 | 34.2 | 0.8 | - | 3.9 | 15.3 | 35.9 | - | - | - | - | |

**PM Intersection Peak Hour:** **16:45 to 17:45**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | - | 249 | 656 | 14 | - | 71 | 280 | 653 | - | - | - | - | 1,923 |
| Approach% | - | 27.5 | 72.5 | 16.5 | - | 83.5 | 30.0 | 70.0 | - | - | - | - | |
| Total% | - | 13.3 | 35.1 | 0.7 | - | 3.8 | 15.0 | 34.9 | - | - | - | - | |
| PHF | | | 0.88 | | | 0.85 | | | 0.94 | | | | |

# Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

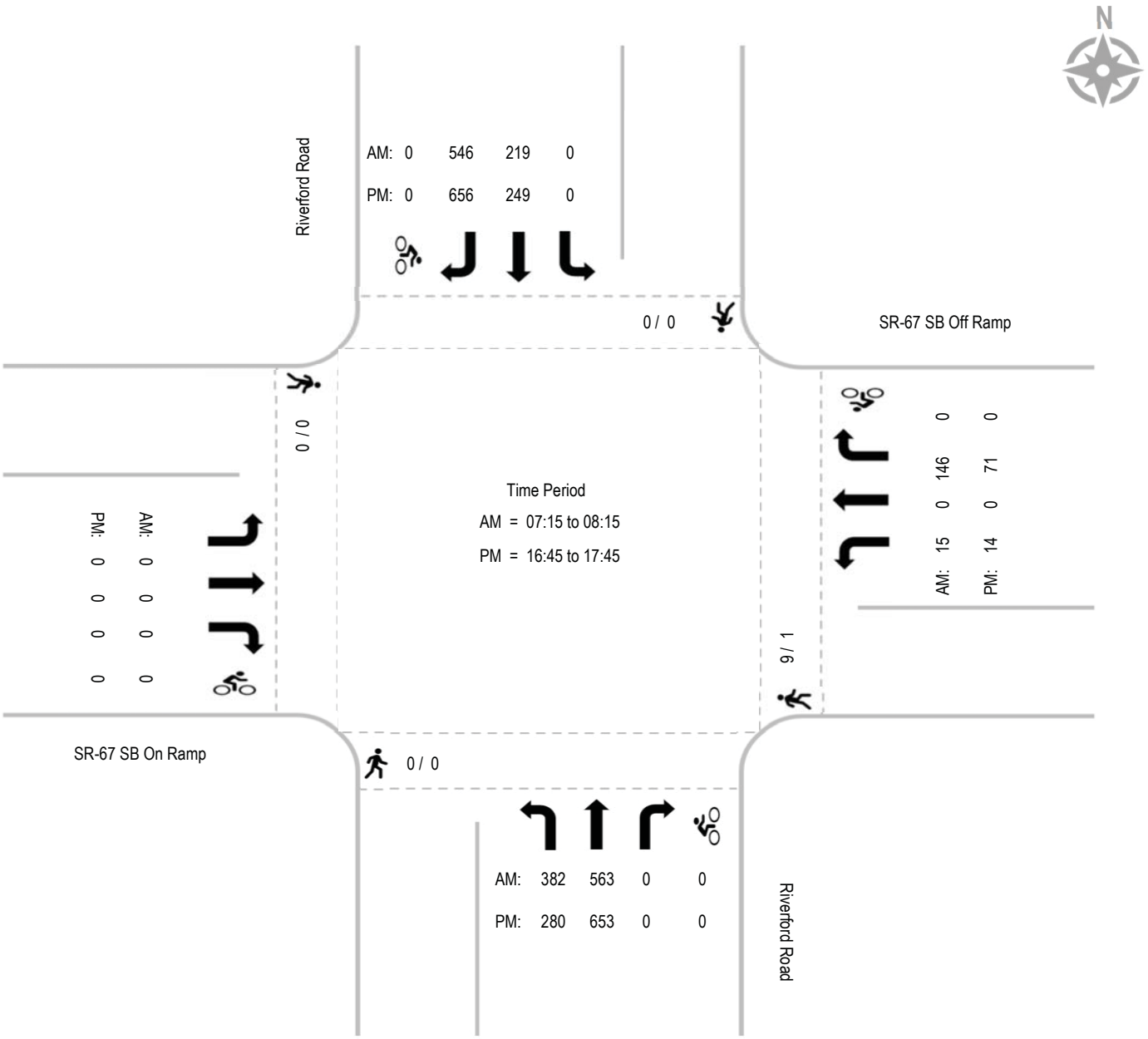
| | | | |
|---|---|---|---|
| Location: | #37 | File Name: | ITM-18-015-37 |
| Intersection: | Riverford Road / SR-67 SB Ramps | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Thursday, February 1, 2018 | | Fanita Ranch |

| AM | Riverford Road Southbound | | | | SR-67 SB Off Ramp Westbound | | | | Riverford Road Northbound | | | | SR-67 SB On Ramp Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 7:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 8:00 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 |
| 8:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:30 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 8:45 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| Ped Total | 0 | | | | 9 | | | | 0 | | | | 0 | | | | 9 | |
| Bike Total | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 |

| PM | Riverford Road Southbound | | | | SR-67 SB Off Ramp Westbound | | | | Riverford Road Northbound | | | | SR-67 SB On Ramp Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16:15 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 16:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped Total | 0 | | | | 1 | | | | 0 | | | | 0 | | | | 1 | |
| Bike Total | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 |

# Intersection Turning Movement - Peak Hour Summary

| | | | | |
|---|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #37 | File Name: | ITM-18-015-37 |
| | Intersection: | Riverford Road / SR-67 SB Ramps | Project: | LLG Ref. 3-15-2462 |
| | Date of Count: | Thursday, February 1, 2018 | | Fanita Ranch |



# Intersection Turning Movement - Peak Hour Vehicle Count

| | | | | | |
|---|---|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #38 | File Name: | ITM-18-015-38 |
| | Intersection: | Woodside Avenue / SR-67 NB Off-Ramp | Project: | LLG Ref. 3-15-2462 |
| | Date of Count: | Thursday, February 1, 2018 | | Fanita Ranch |

| AM | SR-67 NB Off-Ramp Southbound | | | Woodside Avenue Westbound | | | - Northbound | | | Woodside Avenue Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 7:00 | 104 | 0 | 21 | 0 | 24 | 0 | 0 | 0 | 0 | 0 | 53 | 0 | 202 |
| 7:15 | 131 | 0 | 15 | 0 | 18 | 0 | 0 | 0 | 0 | 0 | 50 | 0 | 214 |
| 7:30 | 123 | 0 | 17 | 0 | 25 | 0 | 0 | 0 | 0 | 0 | 71 | 0 | 236 |
| 7:45 | 159 | 0 | 26 | 0 | 39 | 0 | 0 | 0 | 0 | 0 | 69 | 0 | 293 |
| 8:00 | 124 | 0 | 33 | 0 | 36 | 0 | 0 | 0 | 0 | 0 | 61 | 0 | 254 |
| 8:15 | 105 | 0 | 33 | 0 | 40 | 0 | 0 | 0 | 0 | 0 | 93 | 0 | 271 |
| 8:30 | 117 | 0 | 33 | 0 | 44 | 0 | 0 | 0 | 0 | 0 | 61 | 0 | 255 |
| 8:45 | 95 | 0 | 23 | 0 | 31 | 0 | 0 | 0 | 0 | 0 | 55 | 0 | 204 |
| Total | 958 | 0 | 201 | 0 | 257 | 0 | 0 | 0 | 0 | 0 | 513 | 0 | 1929 |
| Approach% | 82.7 | - | 17.3 | - | 100.0 | - | - | - | - | - | 100.0 | - | |
| Total% | 49.7 | - | 10.4 | - | 13.3 | - | - | - | - | - | 26.6 | - | |

**AM Intersection Peak Hour:** **07:45 to 08:45**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 505 | - | 125 | - | 159 | - | - | - | - | - | 284 | - | 1,073 |
| Approach% | 80.2 | - | 19.8 | - | 100.0 | - | - | - | - | - | 100.0 | - | |
| Total% | 47.1 | - | 11.6 | - | 14.8 | - | - | - | - | - | 26.5 | - | |
| PHF | | | 0.85 | | | 0.90 | | | | | | 0.76 | |

| PM | SR-67 NB Off-Ramp Southbound | | | Woodside Avenue Westbound | | | - Northbound | | | Woodside Avenue Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 16:00 | 196 | 0 | 25 | 0 | 27 | 0 | 0 | 0 | 0 | 0 | 166 | 0 | 414 |
| 16:15 | 203 | 0 | 30 | 0 | 34 | 0 | 0 | 0 | 0 | 0 | 119 | 0 | 386 |
| 16:30 | 163 | 0 | 23 | 0 | 30 | 0 | 0 | 0 | 0 | 0 | 156 | 0 | 372 |
| 16:45 | 198 | 0 | 34 | 0 | 43 | 0 | 0 | 0 | 0 | 0 | 147 | 0 | 422 |
| 17:00 | 160 | 0 | 28 | 0 | 29 | 0 | 0 | 0 | 0 | 0 | 161 | 0 | 378 |
| 17:15 | 192 | 0 | 29 | 0 | 38 | 0 | 0 | 0 | 0 | 0 | 144 | 0 | 403 |
| 17:30 | 183 | 0 | 22 | 0 | 22 | 0 | 0 | 0 | 0 | 0 | 141 | 0 | 368 |
| 17:45 | 180 | 0 | 28 | 0 | 30 | 0 | 0 | 0 | 0 | 0 | 90 | 0 | 328 |
| Total | 1475 | 0 | 219 | 0 | 253 | 0 | 0 | 0 | 0 | 0 | 1124 | 0 | 3071 |
| Approach% | 87.1 | - | 12.9 | - | 100.0 | - | - | - | - | - | 100.0 | - | |
| Total% | 76.5 | - | 11.4 | - | 13.1 | - | - | - | - | - | 58.3 | - | |

**PM Intersection Peak Hour:** **16:00 to 17:00**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 760 | - | 112 | - | 134 | - | - | - | - | - | 588 | - | 1,594 |
| Approach% | 87.2 | - | 12.8 | - | 100.0 | - | - | - | - | - | 100.0 | - | |
| Total% | 70.8 | - | 10.4 | - | 12.5 | - | - | - | - | - | 54.8 | - | |
| PHF | | | 0.94 | | | 0.78 | | | | | | 0.89 | |

# Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

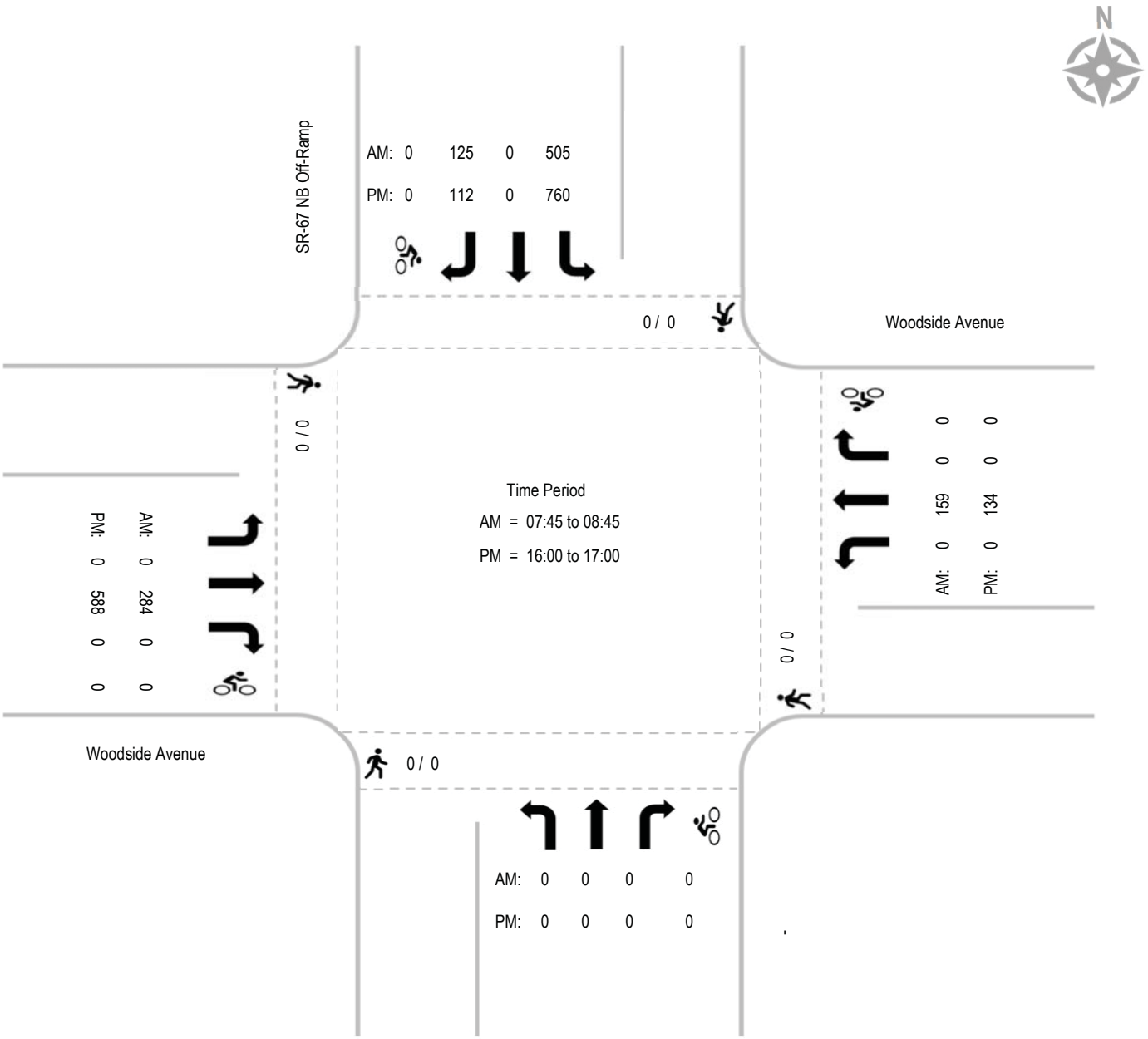
| | | | |
|---|---|---|---|
| Location: | #38 | File Name: | ITM-18-015-38 |
| Intersection: | Woodside Avenue / SR-67 NB Off-Ramp | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Thursday, February 1, 2018 | | Fanita Ranch |

| AM | SR-67 NB Off-Ramp Southbound | | | | Woodside Avenue Westbound | | | | - Northbound | | | | Woodside Avenue Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 7:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped Total | 0 | | | | 0 | | | | 0 | | | | 0 | | | | 0 | |
| Bike Total | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 |

| PM | SR-67 NB Off-Ramp Southbound | | | | Woodside Avenue Westbound | | | | - Northbound | | | | Woodside Avenue Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped Total | 0 | | | | 0 | | | | 0 | | | | 0 | | | | 0 | |
| Bike Total | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 |

# Intersection Turning Movement - Peak Hour Summary

| | | | | |
|---|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #38 | File Name: | ITM-18-015-38 |
| | Intersection: | Woodside Avenue / SR-67 NB Off-Ramp | Project: | LLG Ref. 3-15-2462 |
| | Date of Count: | Thursday, February 1, 2018 | | Fanita Ranch |



# Intersection Turning Movement - Peak Hour Vehicle Count

| | | | |
|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #39 | File Name: ITM-18-015-39 |
| | Intersection: | Riverford Road / Woodside Avenue | Project: LLG Ref. 3-15-2462 |
| | Date of Count: | Thursday, February 1, 2018 | Fanita Ranch |

| AM | Riverford Road Southbound | | | Woodside Avenue Westbound | | | - Northbound | | | Woodside Avenue Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 7:00 | 19 | 0 | 4 | 0 | 17 | 99 | 0 | 0 | 0 | 126 | 40 | 0 | 305 |
| 7:15 | 33 | 0 | 5 | 0 | 16 | 116 | 0 | 0 | 0 | 119 | 48 | 0 | 337 |
| 7:30 | 34 | 0 | 6 | 0 | 16 | 109 | 0 | 0 | 0 | 144 | 62 | 0 | 371 |
| 7:45 | 59 | 0 | 15 | 0 | 27 | 108 | 0 | 0 | 0 | 136 | 86 | 0 | 431 |
| 8:00 | 52 | 0 | 11 | 0 | 24 | 108 | 0 | 0 | 0 | 100 | 83 | 0 | 378 |
| 8:15 | 84 | 0 | 6 | 0 | 33 | 155 | 0 | 0 | 0 | 100 | 95 | 0 | 473 |
| 8:30 | 51 | 0 | 7 | 0 | 40 | 119 | 0 | 0 | 0 | 115 | 72 | 0 | 404 |
| 8:45 | 39 | 0 | 4 | 0 | 23 | 88 | 0 | 0 | 0 | 92 | 58 | 0 | 304 |
| Total | 371 | 0 | 58 | 0 | 196 | 902 | 0 | 0 | 0 | 932 | 544 | 0 | 3003 |
| Approach% | 86.5 | - | 13.5 | - | 17.9 | 82.1 | - | - | - | 63.1 | 36.9 | - | |
| Total% | 12.4 | - | 1.9 | - | 6.5 | 30.0 | - | - | - | 31.0 | 18.1 | - | |

**AM Intersection Peak Hour:** **07:45 to 08:45**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 246 | - | 39 | - | 124 | 490 | - | - | - | 451 | 336 | - | 1,686 |
| Approach% | 86.3 | - | 13.7 | - | 20.2 | 79.8 | - | - | - | 57.3 | 42.7 | - | |
| Total% | 14.6 | - | 2.3 | - | 7.4 | 29.1 | - | - | - | 26.7 | 19.9 | - | |
| PHF | | | 0.79 | | | 0.82 | | | | | | 0.89 | |

| PM | Riverford Road Southbound | | | Woodside Avenue Westbound | | | - Northbound | | | Woodside Avenue Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 16:00 | 54 | 0 | 8 | 0 | 22 | 91 | 0 | 0 | 0 | 144 | 203 | 0 | 522 |
| 16:15 | 46 | 0 | 8 | 0 | 28 | 71 | 0 | 0 | 0 | 178 | 165 | 0 | 496 |
| 16:30 | 60 | 0 | 4 | 0 | 17 | 73 | 0 | 0 | 0 | 152 | 165 | 0 | 471 |
| 16:45 | 31 | 0 | 14 | 0 | 37 | 70 | 0 | 0 | 0 | 163 | 180 | 0 | 495 |
| 17:00 | 63 | 0 | 7 | 0 | 21 | 81 | 0 | 0 | 0 | 167 | 173 | 0 | 512 |
| 17:15 | 53 | 0 | 12 | 0 | 25 | 80 | 0 | 0 | 0 | 154 | 162 | 0 | 486 |
| 17:30 | 60 | 0 | 8 | 0 | 15 | 71 | 0 | 0 | 0 | 152 | 181 | 0 | 487 |
| 17:45 | 48 | 0 | 13 | 0 | 22 | 60 | 0 | 0 | 0 | 120 | 143 | 0 | 406 |
| Total | 415 | 0 | 74 | 0 | 187 | 597 | 0 | 0 | 0 | 1230 | 1372 | 0 | 3875 |
| Approach% | 84.9 | - | 15.1 | - | 23.9 | 76.1 | - | - | - | 47.3 | 52.7 | - | |
| Total% | 13.8 | - | 2.5 | - | 6.2 | 19.9 | - | - | - | 41.0 | 45.7 | - | |

**PM Intersection Peak Hour:** **16:00 to 17:00**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 191 | - | 34 | - | 104 | 305 | - | - | - | 637 | 713 | - | 1,984 |
| Approach% | 84.9 | - | 15.1 | - | 25.4 | 74.6 | - | - | - | 47.2 | 52.8 | - | |
| Total% | 11.3 | - | 2.0 | - | 6.2 | 18.1 | - | - | - | 37.8 | 42.3 | - | |
| PHF | | | 0.88 | | | 0.90 | | | | | | 0.97 | |

# Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

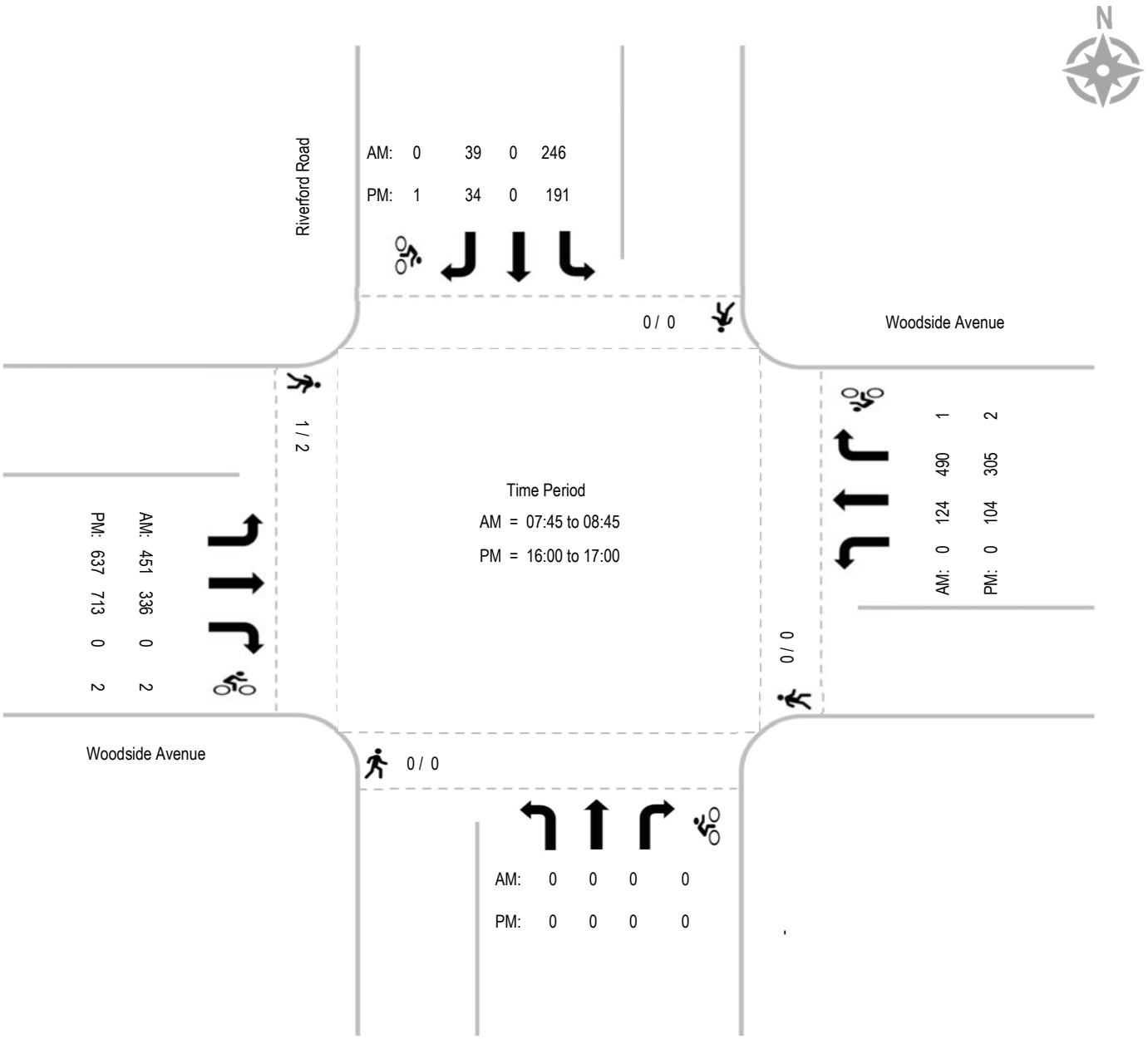
| | | | |
|---|---|---|---|
| Location: | #39 | File Name: | ITM-18-015-39 |
| Intersection: | Riverford Road / Woodside Avenue | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Thursday, February 1, 2018 | | Fanita Ranch |

| AM | Riverford Road Southbound | | | | Woodside Avenue Westbound | | | | - Northbound | | | | Woodside Avenue Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 7:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 7:45 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 |
| 8:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 8:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped Total | 0 | | | | 0 | | | | 0 | | | | 1 | | | | 1 | |
| Bike Total | | 0 | 0 | 0 | | 1 | 0 | 0 | | 0 | 0 | 0 | | 1 | 1 | 0 | | 3 |

| PM | Riverford Road Southbound | | | | Woodside Avenue Westbound | | | | - Northbound | | | | Woodside Avenue Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 2 |
| 16:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 17:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:30 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 |
| 17:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Ped Total | 0 | | | | 0 | | | | 0 | | | | 2 | | | | 2 | |
| Bike Total | | 1 | 0 | 0 | | 0 | 1 | 1 | | 0 | 0 | 0 | | 1 | 1 | 0 | | 5 |

# Intersection Turning Movement - Peak Hour Summary

| | | | | |
|---|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #39 | File Name: | ITM-18-015-39 |
| | Intersection: | Riverford Road / Woodside Avenue | Project: | LLG Ref. 3-15-2462 |
| | Date of Count: | Thursday, February 1, 2018 | | Fanita Ranch |



# Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers

| | | | |
|---|---|---|---|
| Location: | #40 | File Name: | ITM-18-015-40 |
| Intersection: | Mission Gorge Road / West Hills Parkway | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Wednesday, February 7, 2018 | | Fanita Ranch |

| AM | West Hills Parkway Southbound | | | Mission Gorge Road Westbound | | | Starpine Drive Northbound | | | Mission Gorge Road Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 7:00 | 19 | 1 | 68 | 1 | 309 | 142 | 3 | 2 | 3 | 59 | 68 | 4 | 679 |
| 7:15 | 25 | 0 | 68 | 3 | 232 | 104 | 0 | 2 | 1 | 47 | 88 | 0 | 570 |
| 7:30 | 37 | 1 | 71 | 2 | 223 | 138 | 1 | 0 | 3 | 59 | 106 | 1 | 642 |
| 7:45 | 24 | 1 | 74 | 4 | 266 | 156 | 0 | 2 | 2 | 67 | 110 | 0 | 706 |
| 8:00 | 20 | 0 | 78 | 1 | 224 | 151 | 2 | 1 | 3 | 43 | 83 | 0 | 606 |
| 8:15 | 37 | 2 | 67 | 12 | 162 | 126 | 4 | 1 | 7 | 62 | 53 | 1 | 534 |
| 8:30 | 32 | 3 | 44 | 3 | 143 | 125 | 3 | 4 | 4 | 53 | 81 | 1 | 496 |
| 8:45 | 15 | 2 | 47 | 2 | 110 | 82 | 0 | 0 | 2 | 39 | 71 | 0 | 370 |
| Total | 209 | 10 | 517 | 28 | 1669 | 1024 | 13 | 12 | 25 | 429 | 660 | 7 | 4603 |
| Approach% | 28.4 | 1.4 | 70.2 | 1.0 | 61.3 | 37.6 | 26.0 | 24.0 | 50.0 | 39.1 | 60.2 | 0.6 | |
| Total% | 4.5 | 0.2 | 11.2 | 0.6 | 36.3 | 22.2 | 0.3 | 0.3 | 0.5 | 9.3 | 14.3 | 0.2 | |

**AM Intersection Peak Hour:** **07:00 to 08:00**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 105 | 3 | 281 | 10 | 1,030 | 540 | 4 | 6 | 9 | 232 | 372 | 5 | 2,597 |
| Approach% | 27.0 | 0.8 | 72.2 | 0.6 | 65.2 | 34.2 | 21.1 | 31.6 | 47.4 | 38.1 | 61.1 | 0.8 | |
| Total% | 4.0 | 0.1 | 10.8 | 0.4 | 39.7 | 20.8 | 0.2 | 0.2 | 0.3 | 8.9 | 14.3 | 0.2 | |
| PHF | | | 0.89 | | | 0.87 | | | 0.59 | | | 0.86 | |

| PM | West Hills Parkway Southbound | | | Mission Gorge Road Westbound | | | Starpine Drive Northbound | | | Mission Gorge Road Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 16:00 | 32 | 3 | 61 | 2 | 77 | 26 | 3 | 2 | 3 | 81 | 151 | 4 | 445 |
| 16:15 | 32 | 5 | 65 | 6 | 56 | 24 | 5 | 4 | 7 | 129 | 138 | 4 | 475 |
| 16:30 | 39 | 3 | 79 | 2 | 69 | 21 | 1 | 2 | 8 | 97 | 158 | 4 | 483 |
| 16:45 | 53 | 5 | 73 | 3 | 72 | 29 | 3 | 4 | 8 | 105 | 169 | 1 | 525 |
| 17:00 | 40 | 4 | 79 | 4 | 83 | 34 | 3 | 2 | 7 | 98 | 209 | 4 | 567 |
| 17:15 | 48 | 4 | 74 | 2 | 76 | 32 | 1 | 3 | 10 | 116 | 173 | 3 | 542 |
| 17:30 | 49 | 4 | 57 | 3 | 70 | 36 | 3 | 2 | 3 | 98 | 205 | 2 | 532 |
| 17:45 | 39 | 5 | 71 | 6 | 75 | 15 | 4 | 5 | 6 | 73 | 133 | 5 | 437 |
| Total | 332 | 33 | 559 | 28 | 578 | 217 | 23 | 24 | 52 | 797 | 1336 | 27 | 4006 |
| Approach% | 35.9 | 3.6 | 60.5 | 3.4 | 70.2 | 26.4 | 23.2 | 24.2 | 52.5 | 36.9 | 61.9 | 1.3 | |
| Total% | 7.2 | 0.7 | 12.1 | 0.6 | 12.6 | 4.7 | 0.5 | 0.5 | 1.1 | 17.3 | 29.0 | 0.6 | |

**PM Intersection Peak Hour:** **16:45 to 17:45**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 190 | 17 | 283 | 12 | 301 | 131 | 10 | 11 | 28 | 417 | 756 | 10 | 2,166 |
| Approach% | 38.8 | 3.5 | 57.8 | 2.7 | 67.8 | 29.5 | 20.4 | 22.4 | 57.1 | 35.2 | 63.9 | 0.8 | |
| Total% | 7.3 | 0.7 | 10.9 | 0.5 | 11.6 | 5.0 | 0.4 | 0.4 | 1.1 | 16.1 | 29.1 | 0.4 | |
| PHF | | | 0.94 | | | 0.92 | | | 0.82 | | | 0.95 | |

# Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

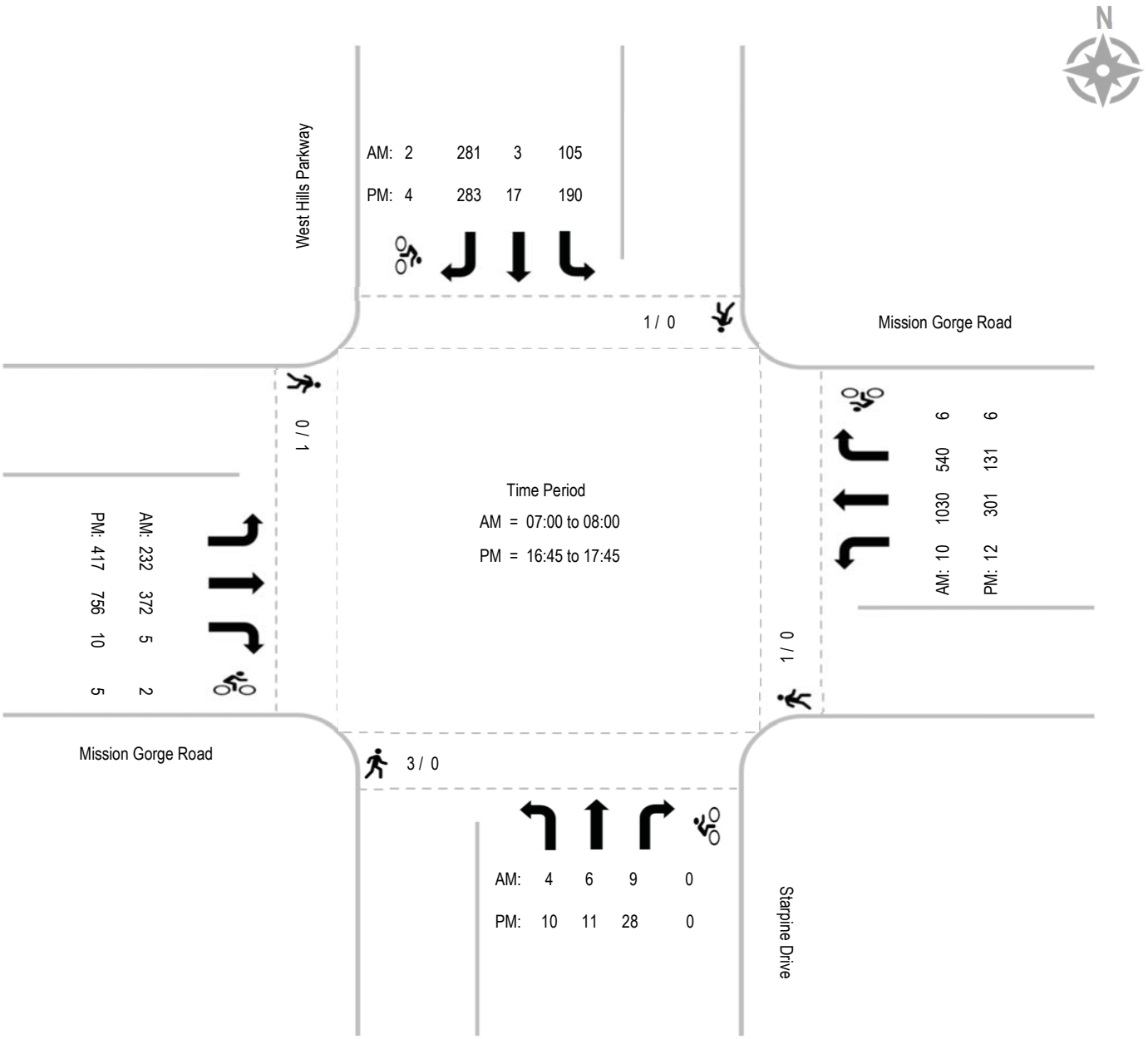
| | | | |
|---|---|---|---|
| Location: | #40 | File Name: | ITM-18-015-40 |
| Intersection: | Mission Gorge Road / West Hills Parkway | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Wednesday, February 7, 2018 | | Fanita Ranch |

| AM | West Hills Parkway Southbound | | | | Mission Gorge Road Westbound | | | | Starpine Drive Northbound | | | | Mission Gorge Road Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 7:00 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 2 |
| 7:15 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 7:30 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 7:45 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 8:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 8:15 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 8:30 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 3 |
| 8:45 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Ped Total | 1 | | | | 1 | | | | 3 | | | | 0 | | | | 5 | |
| Bike Total | | 2 | 0 | 0 | | 3 | 2 | 1 | | 0 | 0 | 0 | | 1 | 1 | 0 | | 10 |

| PM | West Hills Parkway Southbound | | | | Mission Gorge Road Westbound | | | | Starpine Drive Northbound | | | | Mission Gorge Road Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 16:15 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 16:30 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 16:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 17:00 | 0 | 1 | 0 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 6 |
| 17:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 |
| 17:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 17:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped Total | 0 | | | | 0 | | | | 0 | | | | 1 | | | | 1 | |
| Bike Total | | 2 | 0 | 2 | | 0 | 6 | 0 | | 0 | 0 | 0 | | 2 | 3 | 0 | | 15 |

# Intersection Turning Movement - Peak Hour Summary

| | | | | |
|---|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #40 | File Name: | ITM-18-015-40 |
| | Intersection: | Mission Gorge Road / West Hills Parkway | Project: | LLG Ref. 3-15-2462 |
| | Date of Count: | Wednesday, February 7, 2018 | | Fanita Ranch |



# Intersection Turning Movement - Peak Hour Vehicle Count

| | | | |
|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #41 | File Name: ITM-18-015-41 |
| | Intersection: | Mission Gorge Road / SR 52 EB Ramps | Project: LLG Ref. 3-15-2462 |
| | Date of Count: | Thursday, February 8, 2018 | Fanita Ranch |

| AM | SR 52 EB Off-Ramp Southbound | | | Mission Gorge Road Westbound | | | - Northbound | | | Mission Gorge Road Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 7:00 | 13 | 0 | 7 | 0 | 310 | 0 | 0 | 0 | 0 | 0 | 142 | 0 | 472 |
| 7:15 | 27 | 0 | 3 | 0 | 338 | 0 | 0 | 0 | 0 | 0 | 202 | 0 | 570 |
| 7:30 | 26 | 0 | 3 | 1 | 324 | 0 | 0 | 0 | 0 | 1 | 230 | 0 | 585 |
| 7:45 | 24 | 0 | 2 | 0 | 300 | 0 | 0 | 0 | 0 | 0 | 280 | 0 | 606 |
| 8:00 | 39 | 0 | 5 | 0 | 331 | 0 | 0 | 0 | 0 | 0 | 164 | 0 | 539 |
| 8:15 | 28 | 0 | 3 | 0 | 307 | 0 | 0 | 0 | 0 | 0 | 147 | 0 | 485 |
| 8:30 | 25 | 0 | 4 | 0 | 304 | 0 | 0 | 0 | 0 | 0 | 139 | 0 | 472 |
| 8:45 | 30 | 0 | 8 | 0 | 204 | 0 | 0 | 0 | 0 | 0 | 158 | 0 | 400 |
| Total | 212 | 0 | 35 | 1 | 2418 | 0 | 0 | 0 | 0 | 1 | 1462 | 0 | 4129 |
| Approach% | 85.8 | - | 14.2 | 0.0 | 100.0 | - | - | - | - | 0.1 | 99.9 | - | |
| Total% | 5.1 | - | 0.8 | 0.0 | 58.6 | - | - | - | - | 0.0 | 35.4 | - | |

**AM Intersection Peak Hour:** **07:15 to 08:15**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 116 | - | 13 | 1 | 1,293 | - | - | - | - | 1 | 876 | - | 2,300 |
| Approach% | 89.9 | - | 10.1 | 0.1 | 99.9 | - | - | - | - | 0.1 | 99.9 | - | |
| Total% | 5.0 | - | 0.6 | 0.0 | 56.2 | - | - | - | - | 0.0 | 38.1 | - | |
| PHF | | | 0.73 | | | 0.96 | | | | | | 0.78 | |

| PM | SR 52 EB Off-Ramp Southbound | | | Mission Gorge Road Westbound | | | - Northbound | | | Mission Gorge Road Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 16:00 | 76 | 0 | 5 | 0 | 182 | 0 | 0 | 0 | 0 | 0 | 192 | 0 | 455 |
| 16:15 | 65 | 0 | 6 | 0 | 157 | 0 | 0 | 0 | 0 | 0 | 204 | 0 | 432 |
| 16:30 | 63 | 0 | 8 | 0 | 174 | 0 | 0 | 0 | 0 | 0 | 226 | 0 | 471 |
| 16:45 | 64 | 0 | 11 | 0 | 140 | 0 | 0 | 0 | 0 | 0 | 228 | 0 | 443 |
| 17:00 | 84 | 0 | 9 | 0 | 165 | 0 | 0 | 0 | 0 | 0 | 227 | 0 | 485 |
| 17:15 | 67 | 0 | 9 | 0 | 161 | 0 | 0 | 0 | 0 | 0 | 262 | 0 | 499 |
| 17:30 | 66 | 0 | 14 | 1 | 137 | 0 | 0 | 0 | 0 | 0 | 253 | 0 | 471 |
| 17:45 | 64 | 0 | 9 | 1 | 138 | 0 | 0 | 0 | 0 | 0 | 308 | 0 | 520 |
| Total | 549 | 0 | 71 | 2 | 1254 | 0 | 0 | 0 | 0 | 0 | 1900 | 0 | 3776 |
| Approach% | 88.5 | - | 11.5 | 0.2 | 99.8 | - | - | - | - | - | 100.0 | - | |
| Total% | 13.3 | - | 1.7 | 0.0 | 30.4 | - | - | - | - | - | 46.0 | - | |

**PM Intersection Peak Hour:** **17:00 to 18:00**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 281 | - | 41 | 2 | 601 | - | - | - | - | - | 1,050 | - | 1,975 |
| Approach% | 87.3 | - | 12.7 | 0.3 | 99.7 | - | - | - | - | - | 100.0 | - | |
| Total% | 12.2 | - | 1.8 | 0.1 | 26.1 | - | - | - | - | - | 45.7 | - | |
| PHF | | | 0.87 | | | 0.91 | | | | | | 0.85 | |

# Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

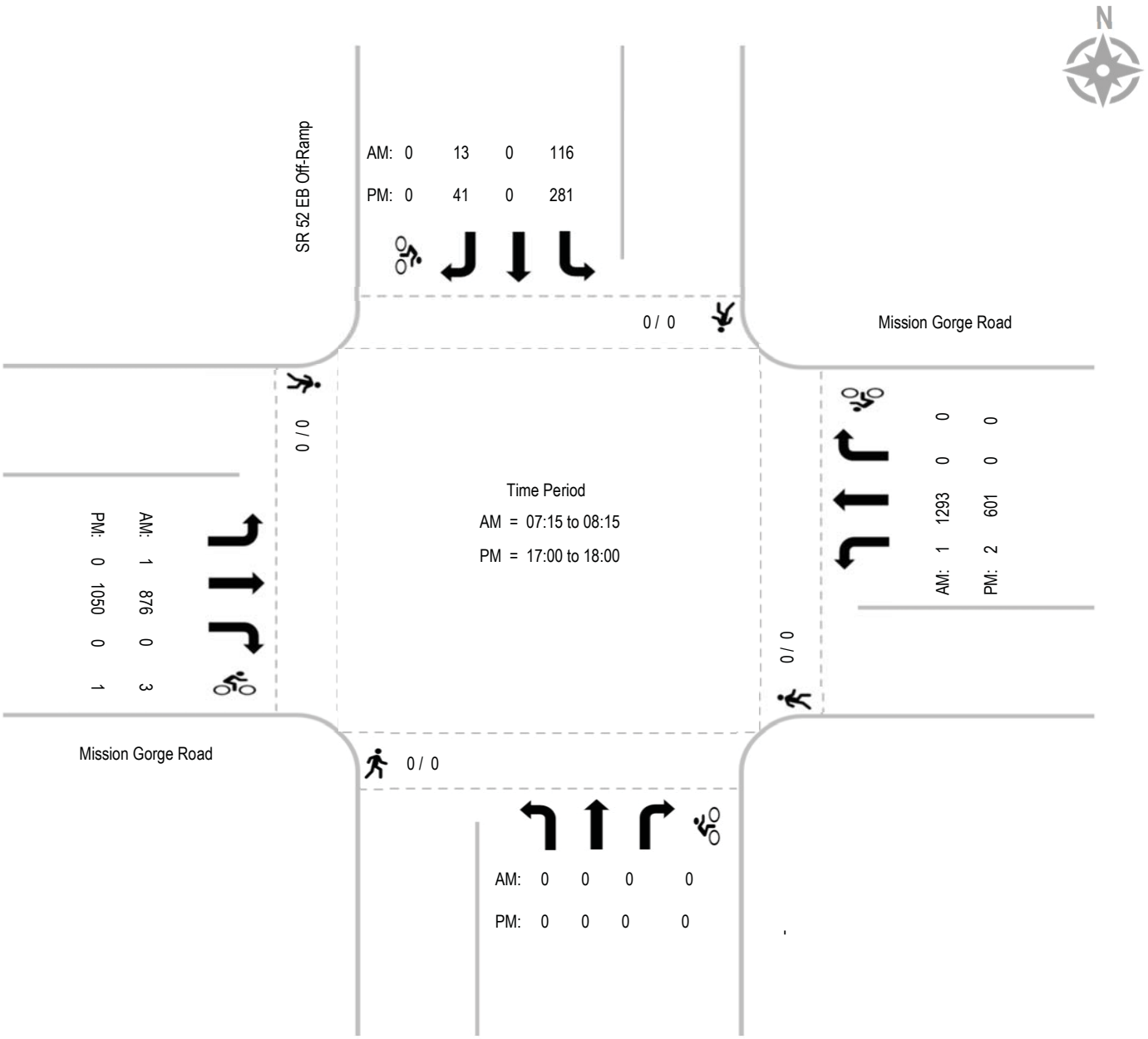
| | | | |
|---|---|---|---|
| Location: | #41 | File Name: | ITM-18-015-41 |
| Intersection: | Mission Gorge Road / SR 52 EB Ramps | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Thursday, February 8, 2018 | | Fanita Ranch |

| AM | SR 52 EB Off-Ramp Southbound | | | | Mission Gorge Road Westbound | | | | - Northbound | | | | Mission Gorge Road Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 7:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 7:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 7:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 8:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped Total | 0 | | | | 0 | | | | 0 | | | | 0 | | | | 0 | |
| Bike Total | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 3 | 0 | | 3 |

| PM | SR 52 EB Off-Ramp Southbound | | | | Mission Gorge Road Westbound | | | | - Northbound | | | | Mission Gorge Road Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 16:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped Total | 0 | | | | 0 | | | | 0 | | | | 0 | | | | 0 | |
| Bike Total | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 1 | 0 | | 1 |

# Intersection Turning Movement - Peak Hour Summary

| | | | | |
|---|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #41 | File Name: | ITM-18-015-41 |
| | Intersection: | Mission Gorge Road / SR 52 EB Ramps | Project: | LLG Ref. 3-15-2462 |
| | Date of Count: | Thursday, February 8, 2018 | | Fanita Ranch |



# Intersection Turning Movement - Peak Hour Vehicle Count

| | | | |
|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #42 | File Name: ITM-18-015-42 |
| | Intersection: | Mission Gorge Road / SR 52 WB Ramps | Project: LLG Ref. 3-15-2462 |
| | Date of Count: | Thursday, February 8, 2018 | Fanita Ranch |

| AM | SR 52 WB On-Ramp Southbound | | | Mission Gorge Road Westbound | | | - Northbound | | | Mission Gorge Road Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 7:00 | 0 | 0 | 0 | 0 | 354 | 214 | 0 | 0 | 0 | 17 | 148 | 0 | 733 |
| 7:15 | 0 | 0 | 0 | 0 | 344 | 223 | 0 | 0 | 0 | 13 | 217 | 0 | 797 |
| 7:30 | 0 | 0 | 0 | 0 | 282 | 196 | 0 | 0 | 0 | 16 | 252 | 0 | 746 |
| 7:45 | 0 | 0 | 0 | 0 | 267 | 153 | 0 | 0 | 0 | 13 | 264 | 0 | 697 |
| 8:00 | 0 | 0 | 0 | 0 | 251 | 124 | 0 | 0 | 0 | 7 | 157 | 0 | 539 |
| 8:15 | 0 | 0 | 0 | 0 | 249 | 145 | 0 | 0 | 0 | 1 | 189 | 0 | 584 |
| 8:30 | 0 | 0 | 0 | 0 | 168 | 134 | 0 | 0 | 0 | 8 | 161 | 0 | 471 |
| 8:45 | 0 | 0 | 0 | 0 | 144 | 95 | 0 | 0 | 0 | 1 | 158 | 0 | 398 |
| Total | 0 | 0 | 0 | 0 | 2059 | 1284 | 0 | 0 | 0 | 76 | 1546 | 0 | 4965 |
| Approach% | - | - | - | - | 61.6 | 38.4 | - | - | - | 4.7 | 95.3 | - | |
| Total% | - | - | - | - | 41.5 | 25.9 | - | - | - | 1.5 | 31.1 | - | |

**AM Intersection Peak Hour:** **07:00 to 08:00**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | - | - | - | - | 1,247 | 786 | - | - | - | 59 | 881 | - | 2,973 |
| Approach% | - | - | - | - | 61.3 | 38.7 | - | - | - | 6.3 | 93.7 | - | |
| Total% | - | - | - | - | 41.9 | 26.4 | - | - | - | 2.0 | 29.6 | - | |
| PHF | | | | | | 0.89 | | | | | | 0.85 | |

| PM | SR 52 WB On-Ramp Southbound | | | Mission Gorge Road Westbound | | | - Northbound | | | Mission Gorge Road Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 16:00 | 0 | 0 | 0 | 0 | 170 | 56 | 0 | 0 | 0 | 6 | 294 | 0 | 526 |
| 16:15 | 0 | 0 | 0 | 0 | 167 | 57 | 0 | 0 | 0 | 3 | 295 | 0 | 522 |
| 16:30 | 0 | 0 | 0 | 0 | 146 | 45 | 0 | 0 | 0 | 3 | 299 | 0 | 493 |
| 16:45 | 0 | 0 | 0 | 0 | 145 | 41 | 0 | 0 | 0 | 7 | 203 | 0 | 396 |
| 17:00 | 0 | 0 | 0 | 0 | 155 | 44 | 0 | 0 | 0 | 6 | 348 | 0 | 553 |
| 17:15 | 0 | 0 | 0 | 0 | 175 | 42 | 0 | 0 | 0 | 5 | 315 | 0 | 537 |
| 17:30 | 0 | 0 | 0 | 0 | 132 | 34 | 0 | 0 | 0 | 2 | 285 | 0 | 453 |
| 17:45 | 0 | 0 | 0 | 0 | 131 | 37 | 0 | 0 | 0 | 3 | 305 | 0 | 476 |
| Total | 0 | 0 | 0 | 0 | 1221 | 356 | 0 | 0 | 0 | 35 | 2344 | 0 | 3956 |
| Approach% | - | - | - | - | 77.4 | 22.6 | - | - | - | 1.5 | 98.5 | - | |
| Total% | - | - | - | - | 24.6 | 7.2 | - | - | - | 0.7 | 47.2 | - | |

**PM Intersection Peak Hour:** **17:00 to 18:00**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | - | - | - | - | 593 | 157 | - | - | - | 16 | 1,253 | - | 2,019 |
| Approach% | - | - | - | - | 79.1 | 20.9 | - | - | - | 1.3 | 98.7 | - | |
| Total% | - | - | - | - | 19.9 | 5.3 | - | - | - | 0.5 | 42.1 | - | |
| PHF | | | | | | 0.86 | | | | | | 0.90 | |

# Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

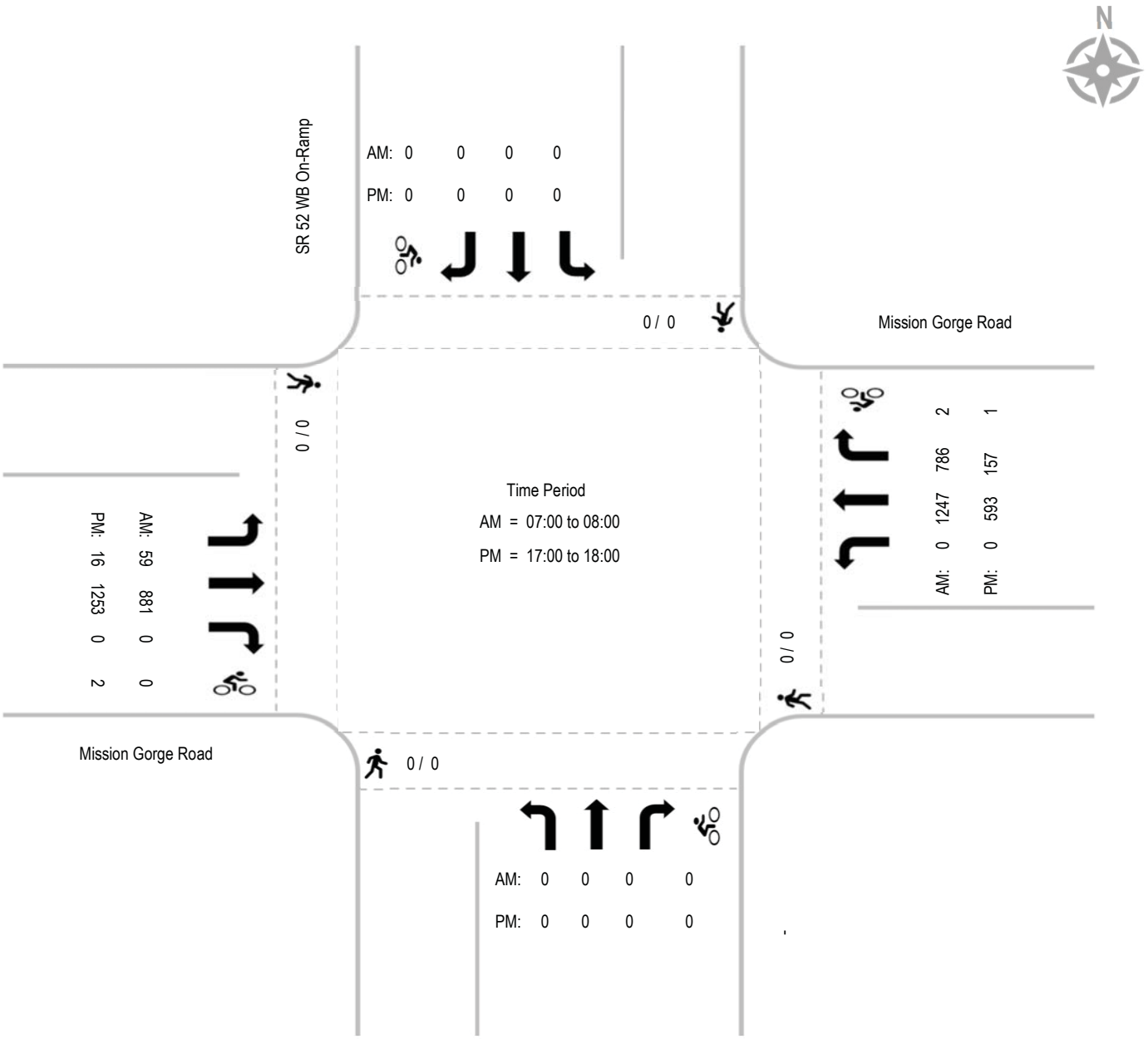
| | | | |
|---|---|---|---|
| Location: | #42 | File Name: | ITM-18-015-42 |
| Intersection: | Mission Gorge Road / SR 52 WB Ramps | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Thursday, February 8, 2018 | | Fanita Ranch |

| AM | SR 52 WB On-Ramp Southbound | | | | Mission Gorge Road Westbound | | | | - Northbound | | | | Mission Gorge Road Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 7:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 8:15 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 8:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped Total | 0 | | | | 0 | | | | 0 | | | | 0 | | | | 0 | |
| Bike Total | | 0 | 0 | 0 | | 0 | 2 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 2 |

| PM | SR 52 WB On-Ramp Southbound | | | | Mission Gorge Road Westbound | | | | - Northbound | | | | Mission Gorge Road Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 16:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 16:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:30 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 17:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped Total | 0 | | | | 0 | | | | 0 | | | | 0 | | | | 0 | |
| Bike Total | | 0 | 0 | 0 | | 0 | 1 | 0 | | 0 | 0 | 0 | | 0 | 2 | 0 | | 3 |

# Intersection Turning Movement - Peak Hour Summary

| | | | | |
|---|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #42 | File Name: | ITM-18-015-42 |
| | Intersection: | Mission Gorge Road / SR 52 WB Ramps | Project: | LLG Ref. 3-15-2462 |
| | Date of Count: | Thursday, February 8, 2018 | | Fanita Ranch |



# Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers

| | | | |
|---|---|---|---|
| Location: | #43 | File Name: | ITM-18-015-43 |
| Intersection: | Mission Gorge Road / SR-125 | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Thursday, February 8, 2018 | | Fanita Ranch |

| AM | - Southbound | | | Mission Gorge Road Westbound | | | SR-125 Northbound | | | Mission Gorge Road Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 7:00 | 0 | 0 | 0 | 147 | 366 | 0 | 118 | 0 | 125 | 0 | 102 | 40 | 898 |
| 7:15 | 0 | 0 | 0 | 182 | 305 | 0 | 150 | 0 | 188 | 0 | 144 | 35 | 1004 |
| 7:30 | 0 | 0 | 0 | 192 | 282 | 0 | 180 | 0 | 239 | 0 | 149 | 63 | 1105 |
| 7:45 | 0 | 0 | 0 | 217 | 293 | 0 | 172 | 0 | 191 | 0 | 221 | 94 | 1188 |
| 8:00 | 0 | 0 | 0 | 177 | 298 | 0 | 170 | 0 | 200 | 0 | 133 | 55 | 1033 |
| 8:15 | 0 | 0 | 0 | 161 | 307 | 0 | 151 | 0 | 152 | 0 | 129 | 49 | 949 |
| 8:30 | 0 | 0 | 0 | 158 | 297 | 0 | 128 | 0 | 151 | 0 | 130 | 42 | 906 |
| 8:45 | 0 | 0 | 0 | 166 | 224 | 0 | 81 | 0 | 156 | 0 | 131 | 42 | 800 |
| Total | 0 | 0 | 0 | 1400 | 2372 | 0 | 1150 | 0 | 1402 | 0 | 1139 | 420 | 7883 |
| Approach% | - | - | - | 37.1 | 62.9 | - | 45.1 | - | 54.9 | - | 73.1 | 26.9 | |
| Total% | - | - | - | 17.8 | 30.1 | - | 14.6 | - | 17.8 | - | 14.4 | 5.3 | |

**AM Intersection Peak Hour:** **07:15 to 08:15**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | - | - | - | 768 | 1,178 | - | 672 | - | 818 | - | 647 | 247 | 4,330 |
| Approach% | - | - | - | 39.5 | 60.5 | - | 45.1 | - | 54.9 | - | 72.4 | 27.6 | |
| Total% | - | - | - | 17.7 | 27.2 | - | 15.5 | - | 18.9 | - | 14.9 | 5.7 | |
| PHF | | | | | | 0.95 | | | 0.89 | | | 0.71 | |

| PM | - Southbound | | | Mission Gorge Road Westbound | | | SR-125 Northbound | | | Mission Gorge Road Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 16:00 | 0 | 0 | 0 | 162 | 170 | 0 | 47 | 0 | 192 | 0 | 293 | 38 | 902 |
| 16:15 | 0 | 0 | 0 | 186 | 167 | 0 | 40 | 0 | 213 | 0 | 233 | 38 | 877 |
| 16:30 | 0 | 0 | 0 | 188 | 163 | 0 | 43 | 0 | 214 | 0 | 222 | 35 | 865 |
| 16:45 | 0 | 0 | 0 | 151 | 168 | 0 | 36 | 0 | 213 | 0 | 277 | 46 | 891 |
| 17:00 | 0 | 0 | 0 | 221 | 159 | 0 | 41 | 0 | 246 | 0 | 237 | 42 | 946 |
| 17:15 | 0 | 0 | 0 | 180 | 185 | 0 | 36 | 0 | 189 | 0 | 301 | 60 | 951 |
| 17:30 | 0 | 0 | 0 | 164 | 141 | 0 | 34 | 0 | 226 | 0 | 239 | 43 | 847 |
| 17:45 | 0 | 0 | 0 | 170 | 163 | 0 | 29 | 0 | 170 | 0 | 249 | 35 | 816 |
| Total | 0 | 0 | 0 | 1422 | 1316 | 0 | 306 | 0 | 1663 | 0 | 2051 | 337 | 7095 |
| Approach% | - | - | - | 51.9 | 48.1 | - | 15.5 | - | 84.5 | - | 85.9 | 14.1 | |
| Total% | - | - | - | 18.0 | 16.7 | - | 3.9 | - | 21.1 | - | 26.0 | 4.3 | |

**PM Intersection Peak Hour:** **16:30 to 17:30**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | - | - | - | 740 | 675 | - | 156 | - | 862 | - | 1,037 | 183 | 3,653 |
| Approach% | - | - | - | 52.3 | 47.7 | - | 15.3 | - | 84.7 | - | 85.0 | 15.0 | |
| Total% | - | - | - | 17.1 | 15.6 | - | 3.6 | - | 19.9 | - | 23.9 | 4.2 | |
| PHF | | | | | | 0.93 | | | 0.89 | | | 0.84 | |

# Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

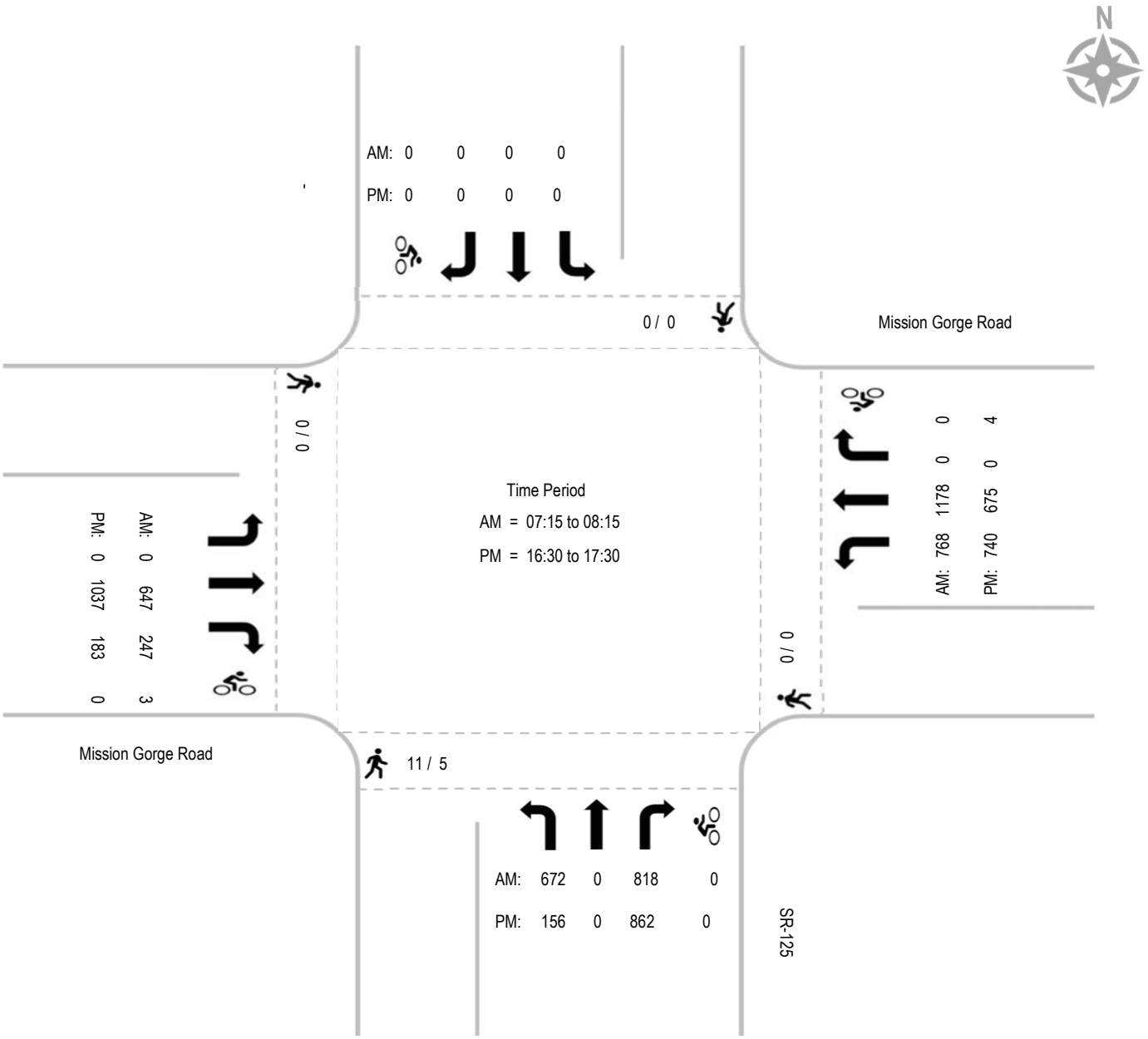
| | | | |
|---|---|---|---|
| Location: | #43 | File Name: | ITM-18-015-43 |
| Intersection: | Mission Gorge Road / SR-125 | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Thursday, February 8, 2018 | | Fanita Ranch |

| AM | - Southbound | | | | Mission Gorge Road Westbound | | | | SR-125 Northbound | | | | Mission Gorge Road Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 7:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 1 |
| 7:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 7:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 7:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 8:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 |
| 8:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 8:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| Ped Total | 0 | | | | 0 | | | | 11 | | | | 0 | | | | 11 | |
| Bike Total | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 3 | 0 | | 3 |

| PM | - Southbound | | | | Mission Gorge Road Westbound | | | | SR-125 Northbound | | | | Mission Gorge Road Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 |
| 16:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 16:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 17:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:45 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| Ped Total | 0 | | | | 0 | | | | 5 | | | | 0 | | | | 5 | |
| Bike Total | | 0 | 0 | 0 | | 0 | 4 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 4 |

# Intersection Turning Movement - Peak Hour Summary

| | | | | |
|---|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #43 | File Name: | ITM-18-015-43 |
| | Intersection: | Mission Gorge Road / SR-125 | Project: | LLG Ref. 3-15-2462 |
| | Date of Count: | Thursday, February 8, 2018 | | Fanita Ranch |



# Intersection Turning Movement - Peak Hour Vehicle Count

| | | | |
|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #44 | File Name: ITM-18-015-44 |
| | Intersection: | Mission Gorge Road / Fanita Drive | Project: LLG Ref. 3-15-2462 |
| | Date of Count: | Thursday, February 8, 2018 | Fanita Ranch |

| AM | - Southbound | | | Mission Gorge Road Westbound | | | Fanita Drive Northbound | | | Mission Gorge Road Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 7:00 | 0 | 0 | 0 | 64 | 312 | 0 | 214 | 0 | 61 | 1 | 170 | 76 | 898 |
| 7:15 | 0 | 0 | 0 | 60 | 325 | 0 | 186 | 0 | 70 | 1 | 252 | 110 | 1004 |
| 7:30 | 0 | 0 | 0 | 71 | 313 | 0 | 162 | 0 | 57 | 1 | 277 | 108 | 989 |
| 7:45 | 0 | 0 | 0 | 84 | 327 | 0 | 161 | 0 | 119 | 4 | 296 | 100 | 1091 |
| 8:00 | 0 | 0 | 0 | 76 | 261 | 0 | 169 | 0 | 91 | 11 | 219 | 57 | 884 |
| 8:15 | 0 | 0 | 0 | 82 | 255 | 0 | 212 | 0 | 77 | 6 | 209 | 60 | 901 |
| 8:30 | 0 | 0 | 0 | 75 | 285 | 0 | 175 | 0 | 72 | 6 | 217 | 55 | 885 |
| 8:45 | 0 | 0 | 0 | 55 | 221 | 0 | 114 | 0 | 66 | 6 | 263 | 40 | 765 |
| Total | 0 | 0 | 0 | 567 | 2299 | 0 | 1393 | 0 | 613 | 36 | 1903 | 606 | 7417 |
| Approach% | - | - | - | 19.8 | 80.2 | - | 69.4 | - | 30.6 | 1.4 | 74.8 | 23.8 | |
| Total% | - | - | - | 7.6 | 31.0 | - | 18.8 | - | 8.3 | 0.5 | 25.7 | 8.2 | |

**AM Intersection Peak Hour:** **07:00 to 08:00**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | - | - | - | 279 | 1,277 | - | 723 | - | 307 | 7 | 995 | 394 | 3,982 |
| Approach% | - | - | - | 17.9 | 82.1 | - | 70.2 | - | 29.8 | 0.5 | 71.3 | 28.2 | |
| Total% | - | - | - | 7.0 | 32.1 | - | 18.2 | - | 7.7 | 0.2 | 25.0 | 9.9 | |
| PHF | | | | | | 0.95 | | | 0.92 | | | 0.87 | |

| PM | - Southbound | | | Mission Gorge Road Westbound | | | Fanita Drive Northbound | | | Mission Gorge Road Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 16:00 | 0 | 0 | 0 | 75 | 287 | 0 | 68 | 0 | 86 | 0 | 361 | 83 | 960 |
| 16:15 | 0 | 0 | 0 | 64 | 268 | 0 | 70 | 0 | 93 | 0 | 344 | 98 | 937 |
| 16:30 | 0 | 0 | 0 | 68 | 244 | 0 | 81 | 0 | 84 | 1 | 384 | 93 | 955 |
| 16:45 | 0 | 0 | 0 | 67 | 234 | 0 | 80 | 0 | 93 | 2 | 359 | 107 | 942 |
| 17:00 | 0 | 0 | 0 | 71 | 333 | 0 | 94 | 0 | 75 | 1 | 390 | 101 | 1065 |
| 17:15 | 0 | 0 | 0 | 72 | 249 | 0 | 74 | 0 | 102 | 1 | 359 | 105 | 962 |
| 17:30 | 0 | 0 | 0 | 84 | 239 | 0 | 62 | 0 | 63 | 2 | 387 | 85 | 922 |
| 17:45 | 0 | 0 | 0 | 79 | 234 | 0 | 78 | 0 | 89 | 0 | 316 | 82 | 878 |
| Total | 0 | 0 | 0 | 580 | 2088 | 0 | 607 | 0 | 685 | 7 | 2900 | 754 | 7621 |
| Approach% | - | - | - | 21.7 | 78.3 | - | 47.0 | - | 53.0 | 0.2 | 79.2 | 20.6 | |
| Total% | - | - | - | 7.8 | 28.2 | - | 8.2 | - | 9.2 | 0.1 | 39.1 | 10.2 | |

**PM Intersection Peak Hour:** **16:30 to 17:30**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | - | - | - | 278 | 1,060 | - | 329 | - | 354 | 5 | 1,492 | 406 | 3,924 |
| Approach% | - | - | - | 20.8 | 79.2 | - | 48.2 | - | 51.8 | 0.3 | 78.4 | 21.3 | |
| Total% | - | - | - | 7.0 | 26.6 | - | 8.3 | - | 8.9 | 0.1 | 37.5 | 10.2 | |
| PHF | | | | | | 0.83 | | | 0.97 | | | 0.97 | |

# Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

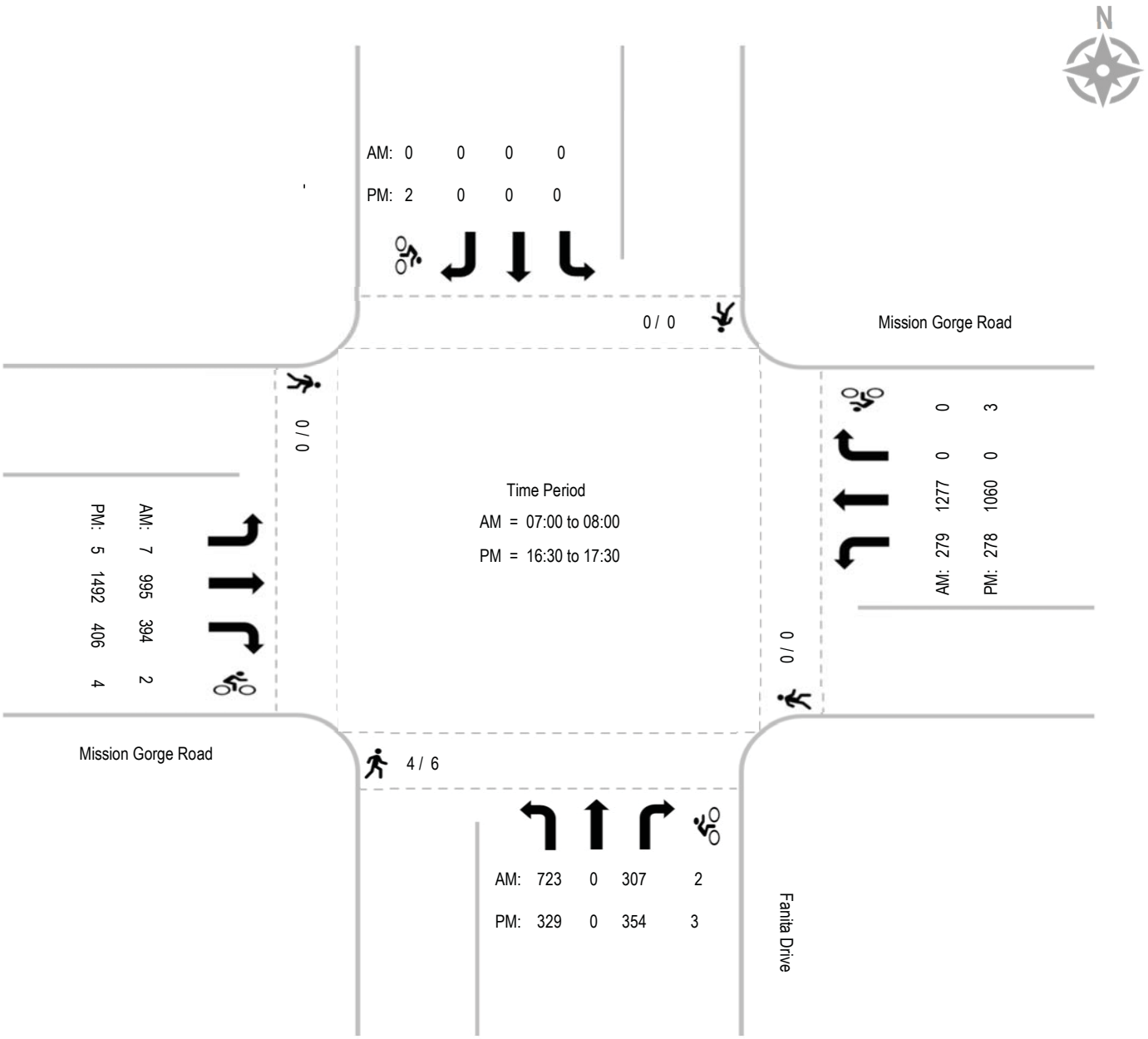
| | | | |
|---|---|---|---|
| Location: | #44 | File Name: | ITM-18-015-44 |
| Intersection: | Mission Gorge Road / Fanita Drive | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Thursday, February 8, 2018 | | Fanita Ranch |

| AM | - Southbound | | | | Mission Gorge Road Westbound | | | | Fanita Drive Northbound | | | | Mission Gorge Road Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 7:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 2 |
| 7:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 7:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 8:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 |
| 8:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| Ped Total | 0 | | | | 0 | | | | 4 | | | | 0 | | | | 4 | |
| Bike Total | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 1 | 1 | | 0 | 1 | 1 | | 4 |

| PM | - Southbound | | | | Mission Gorge Road Westbound | | | | Fanita Drive Northbound | | | | Mission Gorge Road Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 2 |
| 16:15 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 3 |
| 16:30 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 |
| 16:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:15 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 17:30 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 2 |
| 17:45 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| Ped Total | 0 | | | | 0 | | | | 6 | | | | 0 | | | | 6 | |
| Bike Total | | 0 | 2 | 0 | | 2 | 1 | 0 | | 1 | 2 | 0 | | 0 | 2 | 2 | | 12 |

# Intersection Turning Movement - Peak Hour Summary

| | | | | |
|---|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #44 | File Name: | ITM-18-015-44 |
| | Intersection: | Mission Gorge Road / Fanita Drive | Project: | LLG Ref. 3-15-2462 |
| | Date of Count: | Thursday, February 8, 2018 | | Fanita Ranch |



# Intersection Turning Movement - Peak Hour Vehicle Count

| | | | |
|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #45 | File Name: ITM-18-015-45 |
| | Intersection: | Mission Gorge Road / Carlton Hills Boulevard | Project: LLG Ref. 3-15-2462 |
| | Date of Count: | Wednesday, February 14, 2018 | Fanita Ranch |

| AM | Carlton Hills Boulevard Southbound | | | Mission Gorge Road Westbound | | | Carlton Hills Boulevard Northbound | | | Mission Gorge Road Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 7:00 | 63 | 5 | 197 | 4 | 181 | 100 | 13 | 6 | 3 | 119 | 116 | 7 | 814 |
| 7:15 | 72 | 1 | 187 | 2 | 172 | 93 | 13 | 8 | 2 | 132 | 157 | 6 | 845 |
| 7:30 | 69 | 1 | 228 | 4 | 159 | 113 | 7 | 12 | 3 | 157 | 162 | 4 | 919 |
| 7:45 | 87 | 3 | 242 | 2 | 189 | 127 | 7 | 4 | 2 | 186 | 189 | 9 | 1047 |
| 8:00 | 96 | 6 | 192 | 3 | 156 | 79 | 4 | 10 | 1 | 182 | 138 | 6 | 873 |
| 8:15 | 105 | 6 | 199 | 4 | 142 | 75 | 20 | 12 | 2 | 136 | 159 | 3 | 863 |
| 8:30 | 83 | 10 | 181 | 5 | 168 | 68 | 16 | 8 | 1 | 121 | 138 | 15 | 814 |
| 8:45 | 59 | 5 | 143 | 4 | 145 | 65 | 7 | 16 | 4 | 135 | 171 | 7 | 761 |
| Total | 634 | 37 | 1569 | 28 | 1312 | 720 | 87 | 76 | 18 | 1168 | 1230 | 57 | 6936 |
| Approach% | 28.3 | 1.7 | 70.0 | 1.4 | 63.7 | 35.0 | 48.1 | 42.0 | 9.9 | 47.6 | 50.1 | 2.3 | |
| Total% | 9.1 | 0.5 | 22.6 | 0.4 | 18.9 | 10.4 | 1.3 | 1.1 | 0.3 | 16.8 | 17.7 | 0.8 | |

**AM Intersection Peak Hour:** **07:30 to 08:30**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 357 | 16 | 861 | 13 | 646 | 394 | 38 | 38 | 8 | 661 | 648 | 22 | 3,702 |
| Approach% | 28.9 | 1.3 | 69.8 | 1.2 | 61.3 | 37.4 | 45.2 | 45.2 | 9.5 | 49.7 | 48.7 | 1.7 | |
| Total% | 9.6 | 0.4 | 23.3 | 0.4 | 17.5 | 10.6 | 1.0 | 1.0 | 0.2 | 17.9 | 17.5 | 0.6 | |
| PHF | | | 0.93 | | | 0.83 | | | 0.62 | | | 0.87 | |

| PM | Carlton Hills Boulevard Southbound | | | Mission Gorge Road Westbound | | | Carlton Hills Boulevard Northbound | | | Mission Gorge Road Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 16:00 | 104 | 8 | 118 | 6 | 230 | 114 | 16 | 17 | 4 | 151 | 323 | 12 | 1103 |
| 16:15 | 93 | 11 | 106 | 15 | 166 | 105 | 14 | 18 | 7 | 149 | 288 | 17 | 989 |
| 16:30 | 96 | 7 | 119 | 10 | 125 | 119 | 24 | 15 | 4 | 151 | 302 | 9 | 981 |
| 16:45 | 95 | 4 | 128 | 9 | 174 | 125 | 11 | 17 | 6 | 165 | 297 | 20 | 1051 |
| 17:00 | 89 | 13 | 115 | 10 | 210 | 128 | 13 | 26 | 6 | 134 | 259 | 11 | 1014 |
| 17:15 | 72 | 9 | 150 | 7 | 226 | 125 | 12 | 23 | 4 | 206 | 282 | 19 | 1135 |
| 17:30 | 80 | 5 | 117 | 7 | 211 | 93 | 22 | 13 | 6 | 153 | 269 | 17 | 993 |
| 17:45 | 81 | 9 | 103 | 9 | 186 | 85 | 14 | 25 | 2 | 153 | 279 | 16 | 962 |
| Total | 710 | 66 | 956 | 73 | 1528 | 894 | 126 | 154 | 39 | 1262 | 2299 | 121 | 8228 |
| Approach% | 41.0 | 3.8 | 55.2 | 2.9 | 61.2 | 35.8 | 39.5 | 48.3 | 12.2 | 34.3 | 62.4 | 3.3 | |
| Total% | 10.2 | 1.0 | 13.8 | 1.1 | 22.0 | 12.9 | 1.8 | 2.2 | 0.6 | 18.2 | 33.1 | 1.7 | |

**PM Intersection Peak Hour:** **16:45 to 17:45**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 336 | 31 | 510 | 33 | 821 | 471 | 58 | 79 | 22 | 658 | 1,107 | 67 | 4,193 |
| Approach% | 38.3 | 3.5 | 58.2 | 2.5 | 62.0 | 35.5 | 36.5 | 49.7 | 13.8 | 35.9 | 60.4 | 3.7 | |
| Total% | 9.1 | 0.8 | 13.8 | 0.9 | 22.2 | 12.7 | 1.6 | 2.1 | 0.6 | 17.8 | 29.9 | 1.8 | |
| PHF | | | 0.95 | | | 0.93 | | | 0.88 | | | 0.90 | |

# Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

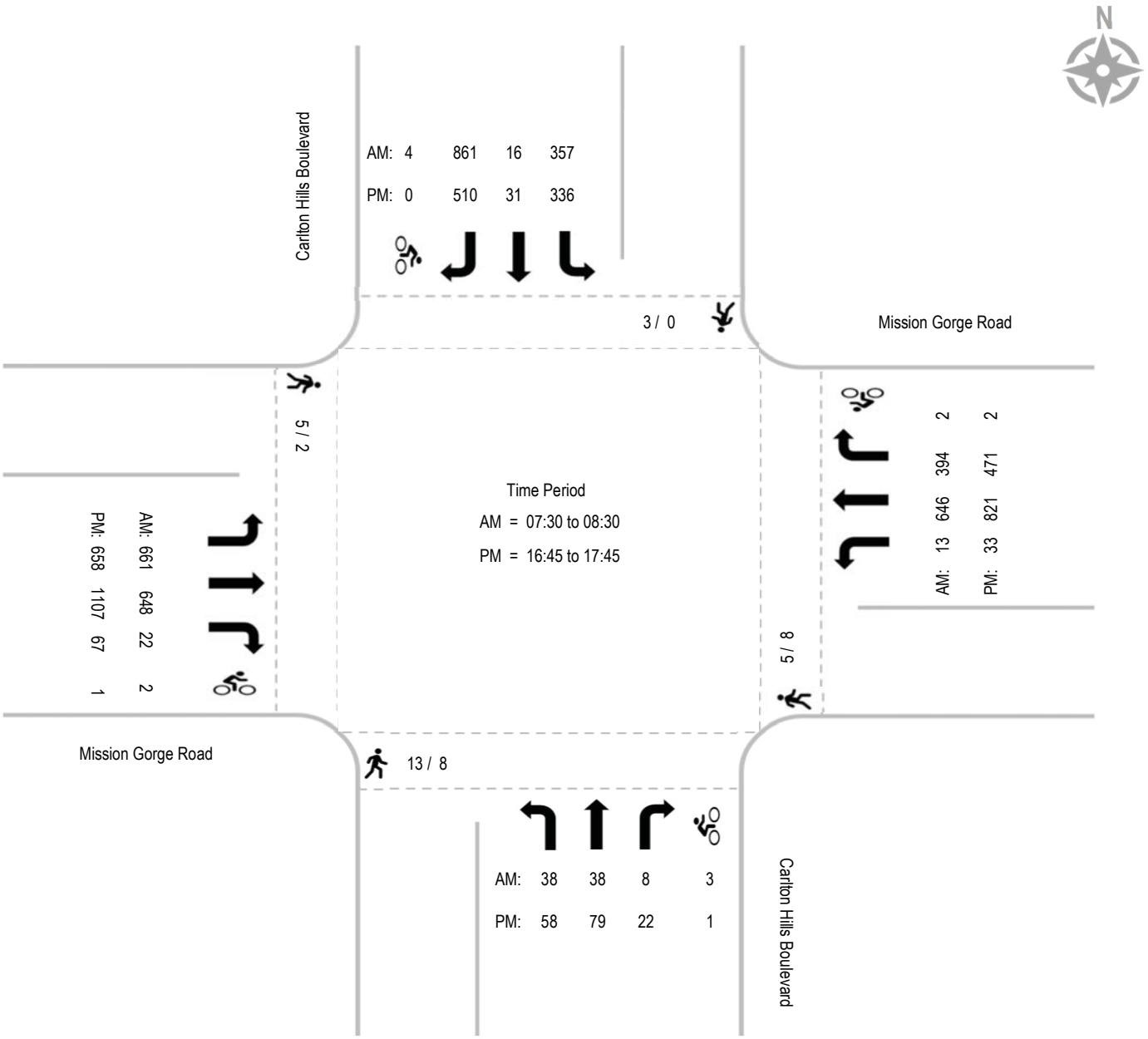
| | | | |
|---|---|---|---|
| Location: | #45 | File Name: | ITM-18-015-45 |
| Intersection: | Mission Gorge Road / Carlton Hills Boulevard | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Wednesday, February 14, 2018 | | Fanita Ranch |

| AM | Carlton Hills Boulevard Southbound | | | | Mission Gorge Road Westbound | | | | Carlton Hills Boulevard Northbound | | | | Mission Gorge Road Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 7:00 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 7:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 7:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 7:45 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 8:00 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 4 | 1 |
| 8:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 3 | 0 |
| 8:30 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 5 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 6 | 3 |
| 8:45 | 2 | 0 | 1 | 0 | 3 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 2 | 0 | 2 | 0 | 9 | 4 |
| Ped Total | 3 | | | | 5 | | | | 13 | | | | 5 | | | | 26 | |
| Bike Total | | 0 | 4 | 0 | | 0 | 2 | 0 | | 1 | 2 | 0 | | 0 | 2 | 0 | | 11 |

| PM | Carlton Hills Boulevard Southbound | | | | Mission Gorge Road Westbound | | | | Carlton Hills Boulevard Northbound | | | | Mission Gorge Road Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 |
| 16:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 16:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 16:45 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 5 | 0 |
| 17:00 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 17:15 | 0 | 0 | 0 | 0 | 4 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 1 |
| 17:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:45 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 3 | 1 |
| Ped Total | 0 | | | | 8 | | | | 8 | | | | 2 | | | | 18 | |
| Bike Total | | 0 | 0 | 0 | | 0 | 2 | 0 | | 1 | 0 | 0 | | 0 | 1 | 0 | | 4 |

# Intersection Turning Movement - Peak Hour Summary

| | | | | |
|---|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #45 | File Name: | ITM-18-015-45 |
| | Intersection: | Mission Gorge Road / Carlton Hills Boulevard | Project: | LLG Ref. 3-15-2462 |
| | Date of Count: | Wednesday, February 14, 2018 | | Fanita Ranch |



# Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers

| | | | |
|---|---|---|---|
| Location: | #46 | File Name: | ITM-18-015-46 |
| Intersection: | Mission Gorge Road / Town Center Parkway | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Wednesday, February 14, 2018 | | Fanita Ranch |

| AM | Town Center Parkway Southbound | | | Mission Gorge Road Westbound | | | Olive Lane Northbound | | | Mission Gorge Road Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 7:00 | 12 | 18 | 58 | 4 | 175 | 13 | 40 | 18 | 5 | 40 | 99 | 29 | 511 |
| 7:15 | 17 | 15 | 59 | 5 | 162 | 14 | 30 | 13 | 4 | 51 | 102 | 36 | 508 |
| 7:30 | 17 | 20 | 75 | 12 | 186 | 18 | 47 | 16 | 6 | 63 | 130 | 27 | 617 |
| 7:45 | 26 | 25 | 72 | 15 | 202 | 19 | 66 | 44 | 13 | 60 | 148 | 32 | 722 |
| 8:00 | 20 | 19 | 61 | 5 | 160 | 20 | 48 | 24 | 6 | 69 | 116 | 39 | 587 |
| 8:15 | 27 | 20 | 77 | 5 | 134 | 32 | 42 | 34 | 8 | 60 | 124 | 27 | 590 |
| 8:30 | 40 | 20 | 81 | 11 | 126 | 24 | 30 | 35 | 6 | 67 | 119 | 29 | 588 |
| 8:45 | 23 | 27 | 82 | 4 | 132 | 33 | 54 | 32 | 5 | 51 | 128 | 21 | 592 |
| Total | 182 | 164 | 565 | 61 | 1277 | 173 | 357 | 216 | 53 | 461 | 966 | 240 | 4715 |
| Approach% | 20.0 | 18.0 | 62.0 | 4.0 | 84.5 | 11.4 | 57.0 | 34.5 | 8.5 | 27.7 | 57.9 | 14.4 | |
| Total% | 3.9 | 3.5 | 12.0 | 1.3 | 27.1 | 3.7 | 7.6 | 4.6 | 1.1 | 9.8 | 20.5 | 5.1 | |

**AM Intersection Peak Hour:** **07:30 to 08:30**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 90 | 84 | 285 | 37 | 682 | 89 | 203 | 118 | 33 | 252 | 518 | 125 | 2,516 |
| Approach% | 19.6 | 18.3 | 62.1 | 4.6 | 84.4 | 11.0 | 57.3 | 33.3 | 9.3 | 28.2 | 57.9 | 14.0 | |
| Total% | 3.6 | 3.3 | 11.3 | 1.5 | 27.1 | 3.5 | 8.1 | 4.7 | 1.3 | 10.0 | 20.6 | 5.0 | |
| PHF | | | 0.93 | | | 0.86 | | | 0.72 | | | 0.93 | |

| PM | Town Center Parkway Southbound | | | Mission Gorge Road Westbound | | | Olive Lane Northbound | | | Mission Gorge Road Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 16:00 | 77 | 46 | 132 | 22 | 136 | 84 | 69 | 48 | 10 | 130 | 188 | 36 | 978 |
| 16:15 | 76 | 41 | 123 | 15 | 140 | 79 | 81 | 61 | 15 | 168 | 252 | 16 | 1067 |
| 16:30 | 83 | 48 | 127 | 17 | 114 | 71 | 91 | 43 | 9 | 132 | 230 | 29 | 994 |
| 16:45 | 75 | 44 | 121 | 14 | 157 | 83 | 79 | 63 | 14 | 154 | 260 | 22 | 1086 |
| 17:00 | 62 | 41 | 105 | 37 | 125 | 64 | 83 | 43 | 15 | 94 | 190 | 23 | 882 |
| 17:15 | 69 | 36 | 110 | 19 | 184 | 72 | 90 | 41 | 13 | 96 | 233 | 23 | 986 |
| 17:30 | 56 | 41 | 78 | 22 | 136 | 79 | 77 | 44 | 22 | 124 | 258 | 14 | 951 |
| 17:45 | 61 | 31 | 83 | 26 | 155 | 66 | 71 | 41 | 13 | 82 | 240 | 26 | 895 |
| Total | 559 | 328 | 879 | 172 | 1147 | 598 | 641 | 384 | 111 | 980 | 1851 | 189 | 7839 |
| Approach% | 31.7 | 18.6 | 49.8 | 9.0 | 59.8 | 31.2 | 56.4 | 33.8 | 9.8 | 32.5 | 61.3 | 6.3 | |
| Total% | 11.9 | 7.0 | 18.6 | 3.6 | 24.3 | 12.7 | 13.6 | 8.1 | 2.4 | 20.8 | 39.3 | 4.0 | |

**PM Intersection Peak Hour:** **16:00 to 17:00**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 311 | 179 | 503 | 68 | 547 | 317 | 320 | 215 | 48 | 584 | 930 | 103 | 4,125 |
| Approach% | 31.3 | 18.0 | 50.7 | 7.3 | 58.7 | 34.0 | 54.9 | 36.9 | 8.2 | 36.1 | 57.5 | 6.4 | |
| Total% | 12.4 | 7.1 | 20.0 | 2.7 | 21.7 | 12.6 | 12.7 | 8.5 | 1.9 | 23.2 | 37.0 | 4.1 | |
| PHF | | | 0.96 | | | 0.92 | | | 0.93 | | | 0.93 | |

# Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

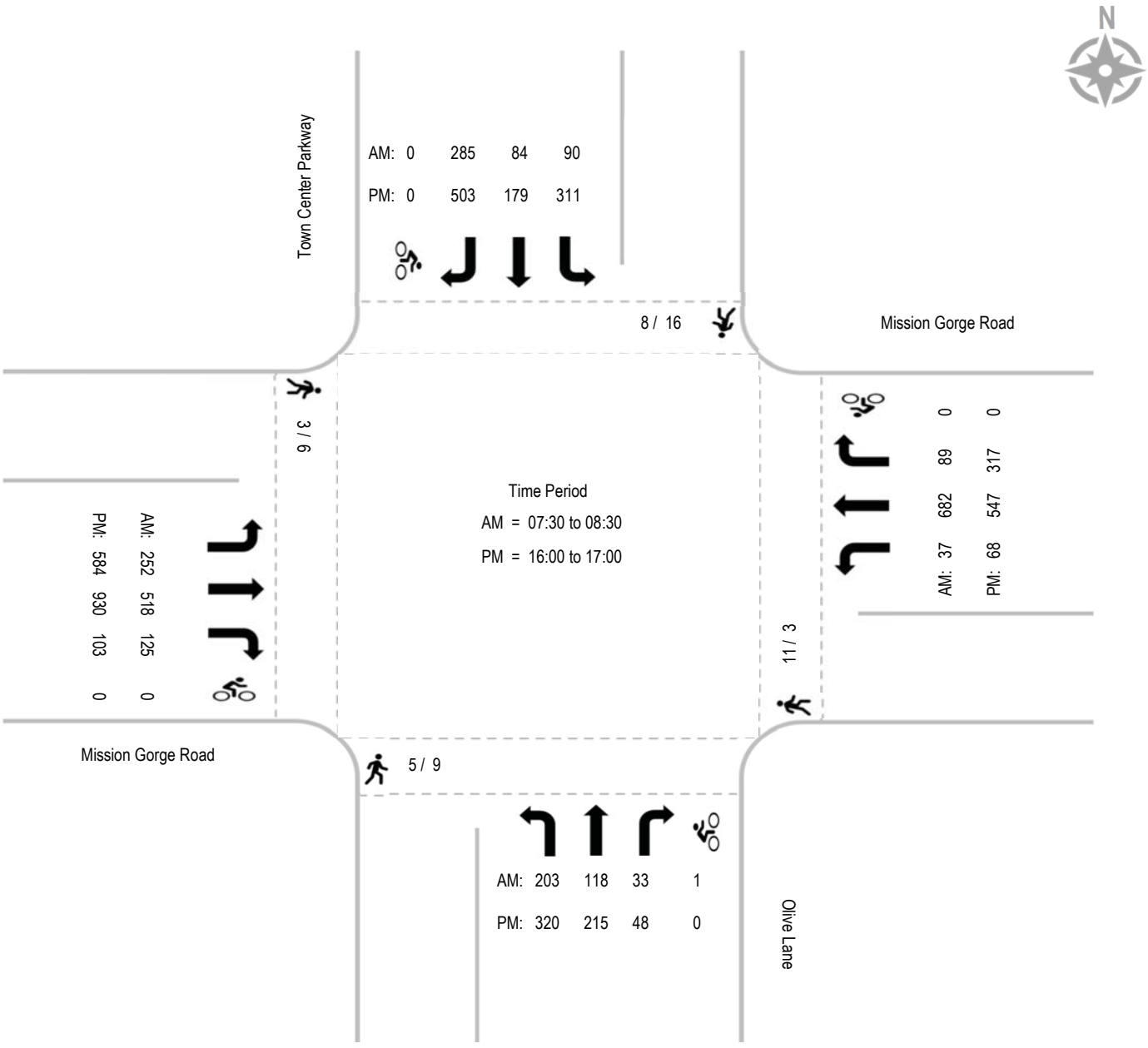
| | | | |
|---|---|---|---|
| Location: | #46 | File Name: | ITM-18-015-46 |
| Intersection: | Mission Gorge Road / Town Center Parkway | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Wednesday, February 14, 2018 | | Fanita Ranch |

| AM | Town Center Parkway Southbound | | | | Mission Gorge Road Westbound | | | | Olive Lane Northbound | | | | Mission Gorge Road Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 7:00 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 7:15 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 7:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 |
| 8:00 | 1 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 4 | 1 |
| 8:15 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 8:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 8:45 | 3 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 14 | 0 |
| Ped Total | 8 | | | | 11 | | | | 5 | | | | 3 | | | | 27 | |
| Bike Total | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 1 | 0 | | 0 | 0 | 0 | | 1 |

| PM | Town Center Parkway Southbound | | | | Mission Gorge Road Westbound | | | | Olive Lane Northbound | | | | Mission Gorge Road Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 16:00 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 |
| 16:15 | 4 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 7 | 0 |
| 16:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 16:45 | 4 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 10 | 0 |
| 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 17:15 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 |
| 17:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 |
| 17:45 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 |
| Ped Total | 16 | | | | 3 | | | | 9 | | | | 6 | | | | 34 | |
| Bike Total | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 |

# Intersection Turning Movement - Peak Hour Summary

| | | | | |
|---|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #46 | File Name: | ITM-18-015-46 |
| | Intersection: | Mission Gorge Road / Town Center Parkway | Project: | LLG Ref. 3-15-2462 |
| | Date of Count: | Wednesday, February 14, 2018 | | Fanita Ranch |



# Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers

| | | | |
|---|---|---|---|
| Location: | #47 | File Name: | 47ITM-18-015-47 |
| Intersection: | Mission Gorge Road / Cuyamaca Street | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Tuesday, February 6, 2018 | | Fanita Ranch |

| AM | Cuyamaca Street Southbound | | | Mission Gorge Road Westbound | | | Cuyamaca Street Northbound | | | Mission Gorge Road Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 7:00 | 15 | 99 | 10 | 28 | 103 | 14 | 141 | 66 | 20 | 6 | 51 | 44 | 597 |
| 7:15 | 13 | 133 | 11 | 37 | 120 | 19 | 170 | 73 | 11 | 15 | 55 | 75 | 732 |
| 7:30 | 22 | 91 | 16 | 35 | 113 | 17 | 205 | 103 | 18 | 28 | 87 | 74 | 809 |
| 7:45 | 24 | 139 | 15 | 39 | 114 | 31 | 202 | 105 | 26 | 28 | 115 | 95 | 933 |
| 8:00 | 28 | 96 | 16 | 31 | 127 | 46 | 159 | 102 | 33 | 34 | 73 | 65 | 810 |
| 8:15 | 26 | 123 | 21 | 29 | 105 | 34 | 102 | 184 | 32 | 31 | 93 | 44 | 824 |
| 8:30 | 40 | 131 | 21 | 38 | 108 | 29 | 106 | 111 | 24 | 24 | 64 | 47 | 743 |
| 8:45 | 31 | 92 | 27 | 54 | 83 | 33 | 93 | 166 | 23 | 24 | 60 | 40 | 726 |
| Total | 199 | 904 | 137 | 291 | 873 | 223 | 1178 | 910 | 187 | 190 | 598 | 484 | 6174 |
| Approach% | 16.0 | 72.9 | 11.0 | 21.0 | 62.9 | 16.1 | 51.8 | 40.0 | 8.2 | 14.9 | 47.0 | 38.1 | |
| Total% | 3.2 | 14.6 | 2.2 | 4.7 | 14.1 | 3.6 | 19.1 | 14.7 | 3.0 | 3.1 | 9.7 | 7.8 | |

**AM Intersection Peak Hour:** **07:30 to 08:30**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 100 | 449 | 68 | 134 | 459 | 128 | 668 | 494 | 109 | 121 | 368 | 278 | 3,376 |
| Approach% | 16.2 | 72.8 | 11.0 | 18.6 | 63.7 | 17.8 | 52.6 | 38.9 | 8.6 | 15.8 | 48.0 | 36.2 | |
| Total% | 3.0 | 13.3 | 2.0 | 4.0 | 13.6 | 3.8 | 19.8 | 14.6 | 3.2 | 3.6 | 10.9 | 8.2 | |
| PHF | | | 0.87 | | | 0.88 | | | 0.95 | | | 0.81 | |

| PM | Cuyamaca Street Southbound | | | Mission Gorge Road Westbound | | | Cuyamaca Street Northbound | | | Mission Gorge Road Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 16:00 | 63 | 199 | 31 | 70 | 134 | 44 | 140 | 176 | 51 | 53 | 118 | 70 | 1149 |
| 16:15 | 64 | 154 | 26 | 55 | 96 | 18 | 147 | 208 | 37 | 55 | 125 | 73 | 1058 |
| 16:30 | 65 | 204 | 47 | 58 | 102 | 42 | 117 | 188 | 32 | 71 | 143 | 52 | 1121 |
| 16:45 | 82 | 179 | 26 | 75 | 110 | 40 | 151 | 198 | 44 | 58 | 142 | 84 | 1189 |
| 17:00 | 66 | 203 | 29 | 61 | 111 | 33 | 127 | 212 | 39 | 67 | 165 | 96 | 1209 |
| 17:15 | 62 | 205 | 28 | 63 | 133 | 41 | 139 | 172 | 46 | 67 | 132 | 61 | 1149 |
| 17:30 | 86 | 200 | 20 | 65 | 95 | 37 | 101 | 186 | 54 | 63 | 134 | 73 | 1114 |
| 17:45 | 58 | 189 | 32 | 70 | 122 | 45 | 130 | 206 | 38 | 51 | 137 | 75 | 1153 |
| Total | 546 | 1533 | 239 | 517 | 903 | 300 | 1052 | 1546 | 341 | 485 | 1096 | 584 | 9142 |
| Approach% | 23.6 | 66.1 | 10.3 | 30.1 | 52.5 | 17.4 | 35.8 | 52.6 | 11.6 | 22.4 | 50.6 | 27.0 | |
| Total% | 8.8 | 24.8 | 3.9 | 8.4 | 14.6 | 4.9 | 17.0 | 25.0 | 5.5 | 7.9 | 17.8 | 9.5 | |

**PM Intersection Peak Hour:** **16:30 to 17:30**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 275 | 791 | 130 | 257 | 456 | 156 | 534 | 770 | 161 | 263 | 582 | 293 | 4,668 |
| Approach% | 23.0 | 66.1 | 10.9 | 29.6 | 52.5 | 18.0 | 36.5 | 52.6 | 11.0 | 23.1 | 51.1 | 25.7 | |
| Total% | 8.1 | 23.4 | 3.9 | 7.6 | 13.5 | 4.6 | 15.8 | 22.8 | 4.8 | 7.8 | 17.2 | 8.7 | |
| PHF | | | 0.95 | | | 0.92 | | | 0.93 | | | 0.87 | |

# Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

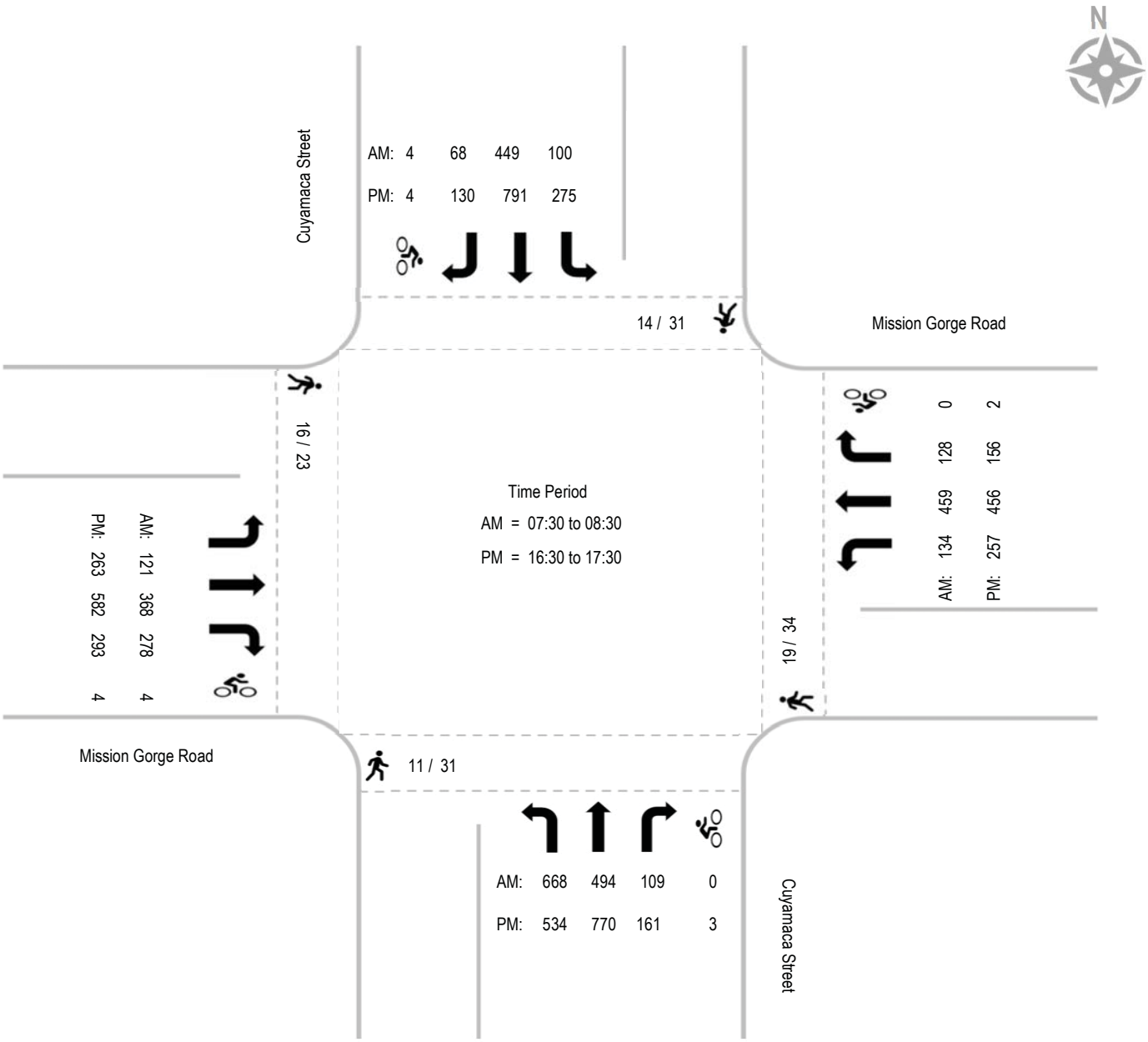
| | | | |
|---|---|---|---|
| Location: | #47 | File Name: | 47ITM-18-015-47 |
| Intersection: | Mission Gorge Road / Cuyamaca Street | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Tuesday, Tuesday, February 6, 2018 | | Fanita Ranch |

| AM | Cuyamaca Street Southbound | | | | Mission Gorge Road Westbound | | | | Cuyamaca Street Northbound | | | | Mission Gorge Road Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 7:00 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 8 | 0 |
| 7:15 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 |
| 7:30 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 3 | 1 |
| 7:45 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 1 | 0 | 5 | 2 |
| 8:00 | 3 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 8 | 0 |
| 8:15 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 3 | 1 |
| 8:30 | 6 | 0 | 0 | 0 | 8 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 5 | 0 | 2 | 0 | 21 | 2 |
| 8:45 | 3 | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 8 | 2 |
| Ped Total | 14 | | | | 19 | | | | 11 | | | | 16 | | | | 60 | |
| Bike Total | | 0 | 4 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 4 | 0 | | 8 |

| PM | Cuyamaca Street Southbound | | | | Mission Gorge Road Westbound | | | | Cuyamaca Street Northbound | | | | Mission Gorge Road Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 16:00 | 3 | 0 | 0 | 2 | 5 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 5 | 1 | 0 | 0 | 19 | 3 |
| 16:15 | 4 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 11 | 0 |
| 16:30 | 6 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 2 | 0 | 1 | 0 | 5 | 0 | 0 | 0 | 15 | 2 |
| 16:45 | 3 | 0 | 1 | 0 | 5 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 14 | 1 |
| 17:00 | 5 | 1 | 0 | 0 | 9 | 0 | 1 | 0 | 5 | 0 | 1 | 0 | 3 | 0 | 1 | 0 | 22 | 4 |
| 17:15 | 3 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 4 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 12 | 1 |
| 17:30 | 3 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 4 | 0 | 1 | 0 | 16 | 1 |
| 17:45 | 4 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 10 | 1 |
| Ped Total | 31 | | | | 34 | | | | 31 | | | | 23 | | | | 119 | |
| Bike Total | | 1 | 1 | 2 | | 0 | 2 | 0 | | 0 | 3 | 0 | | 1 | 3 | 0 | | 13 |

# Intersection Turning Movement - Peak Hour Summary

| | | | | |
|---|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #47 | File Name: | 47ITM-18-015-47 |
| | Intersection: | Mission Gorge Road / Cuyamaca Street | Project: | LLG Ref. 3-15-2462 |
| | Date of Count: | Tuesday, February 6, 2018 | | Fanita Ranch |



# Intersection Turning Movement - Peak Hour Vehicle Count

| | | | |
|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #48 | File Name: ITM-18-015-48 |
| | Intersection: | Mission Gorge Road / Riverview Parkway | Project: LLG Ref. 3-15-2462 |
| | Date of Count: | Thursday, February 1, 2018 | Fanita Ranch |

| AM | Riverview Parkway Southbound | | | Mission Gorge Road Westbound | | | Riverview Parkway Northbound | | | Mission Gorge Road Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 7:00 | 20 | 2 | 7 | 6 | 180 | 20 | 3 | 2 | 4 | 23 | 56 | 4 | 327 |
| 7:15 | 21 | 1 | 5 | 5 | 168 | 30 | 4 | 2 | 1 | 25 | 72 | 1 | 335 |
| 7:30 | 12 | 1 | 8 | 8 | 143 | 49 | 10 | 2 | 5 | 22 | 64 | 4 | 328 |
| 7:45 | 20 | 4 | 8 | 2 | 146 | 64 | 6 | 1 | 3 | 40 | 87 | 6 | 387 |
| 8:00 | 21 | 8 | 8 | 6 | 160 | 44 | 10 | 2 | 7 | 33 | 86 | 4 | 389 |
| 8:15 | 21 | 7 | 13 | 8 | 150 | 30 | 7 | 4 | 2 | 33 | 103 | 1 | 379 |
| 8:30 | 22 | 3 | 5 | 16 | 146 | 69 | 9 | 2 | 7 | 21 | 115 | 1 | 416 |
| 8:45 | 21 | 1 | 7 | 9 | 180 | 77 | 9 | 0 | 1 | 27 | 79 | 4 | 415 |
| Total | 158 | 27 | 61 | 60 | 1273 | 383 | 58 | 15 | 30 | 224 | 662 | 25 | 2976 |
| Approach% | 64.2 | 11.0 | 24.8 | 3.5 | 74.2 | 22.3 | 56.3 | 14.6 | 29.1 | 24.6 | 72.7 | 2.7 | |
| Total% | 5.3 | 0.9 | 2.0 | 2.0 | 42.8 | 12.9 | 1.9 | 0.5 | 1.0 | 7.5 | 22.2 | 0.8 | |
| **AM Intersection Peak Hour:** | **08:00 to 09:00** | | | | | | | | | | | | |
| Volume | 85 | 19 | 33 | 39 | 636 | 220 | 35 | 8 | 17 | 114 | 383 | 10 | 1,599 |
| Approach% | 62.0 | 13.9 | 24.1 | 4.4 | 71.1 | 24.6 | 58.3 | 13.3 | 28.3 | 22.5 | 75.5 | 2.0 | |
| Total% | 5.3 | 1.2 | 2.1 | 2.4 | 39.8 | 13.8 | 2.2 | 0.5 | 1.1 | 7.1 | 24.0 | 0.6 | |
| PHF | | | 0.84 | | | 0.84 | | | 0.79 | | | 0.93 | |

| PM | Riverview Parkway Southbound | | | Mission Gorge Road Westbound | | | Riverview Parkway Northbound | | | Mission Gorge Road Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 16:00 | 57 | 1 | 21 | 7 | 193 | 33 | 7 | 3 | 7 | 20 | 228 | 4 | 581 |
| 16:15 | 75 | 1 | 12 | 11 | 180 | 52 | 9 | 4 | 2 | 10 | 221 | 7 | 584 |
| 16:30 | 49 | 3 | 23 | 12 | 175 | 38 | 15 | 3 | 8 | 16 | 232 | 12 | 586 |
| 16:45 | 40 | 4 | 19 | 8 | 185 | 36 | 7 | 6 | 14 | 11 | 189 | 3 | 522 |
| 17:00 | 75 | 5 | 33 | 11 | 195 | 42 | 12 | 2 | 9 | 17 | 203 | 8 | 612 |
| 17:15 | 54 | 5 | 24 | 13 | 196 | 45 | 11 | 4 | 16 | 19 | 224 | 3 | 614 |
| 17:30 | 52 | 2 | 15 | 9 | 177 | 42 | 8 | 2 | 10 | 24 | 249 | 5 | 595 |
| 17:45 | 62 | 4 | 24 | 9 | 181 | 36 | 12 | 3 | 8 | 12 | 219 | 7 | 577 |
| Total | 464 | 25 | 171 | 80 | 1482 | 324 | 81 | 27 | 74 | 129 | 1765 | 49 | 4671 |
| Approach% | 70.3 | 3.8 | 25.9 | 4.2 | 78.6 | 17.2 | 44.5 | 14.8 | 40.7 | 6.6 | 90.8 | 2.5 | |
| Total% | 15.6 | 0.8 | 5.7 | 2.7 | 49.8 | 10.9 | 2.7 | 0.9 | 2.5 | 4.3 | 59.3 | 1.6 | |
| **PM Intersection Peak Hour:** | **17:00 to 18:00** | | | | | | | | | | | | |
| Volume | 243 | 16 | 96 | 42 | 749 | 165 | 43 | 11 | 43 | 72 | 895 | 23 | 2,398 |
| Approach% | 68.5 | 4.5 | 27.0 | 4.4 | 78.3 | 17.3 | 44.3 | 11.3 | 44.3 | 7.3 | 90.4 | 2.3 | |
| Total% | 15.2 | 1.0 | 6.0 | 2.6 | 46.8 | 10.3 | 2.7 | 0.7 | 2.7 | 4.5 | 56.0 | 1.4 | |
| PHF | | | 0.79 | | | 0.94 | | | 0.78 | | | 0.89 | |

# Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

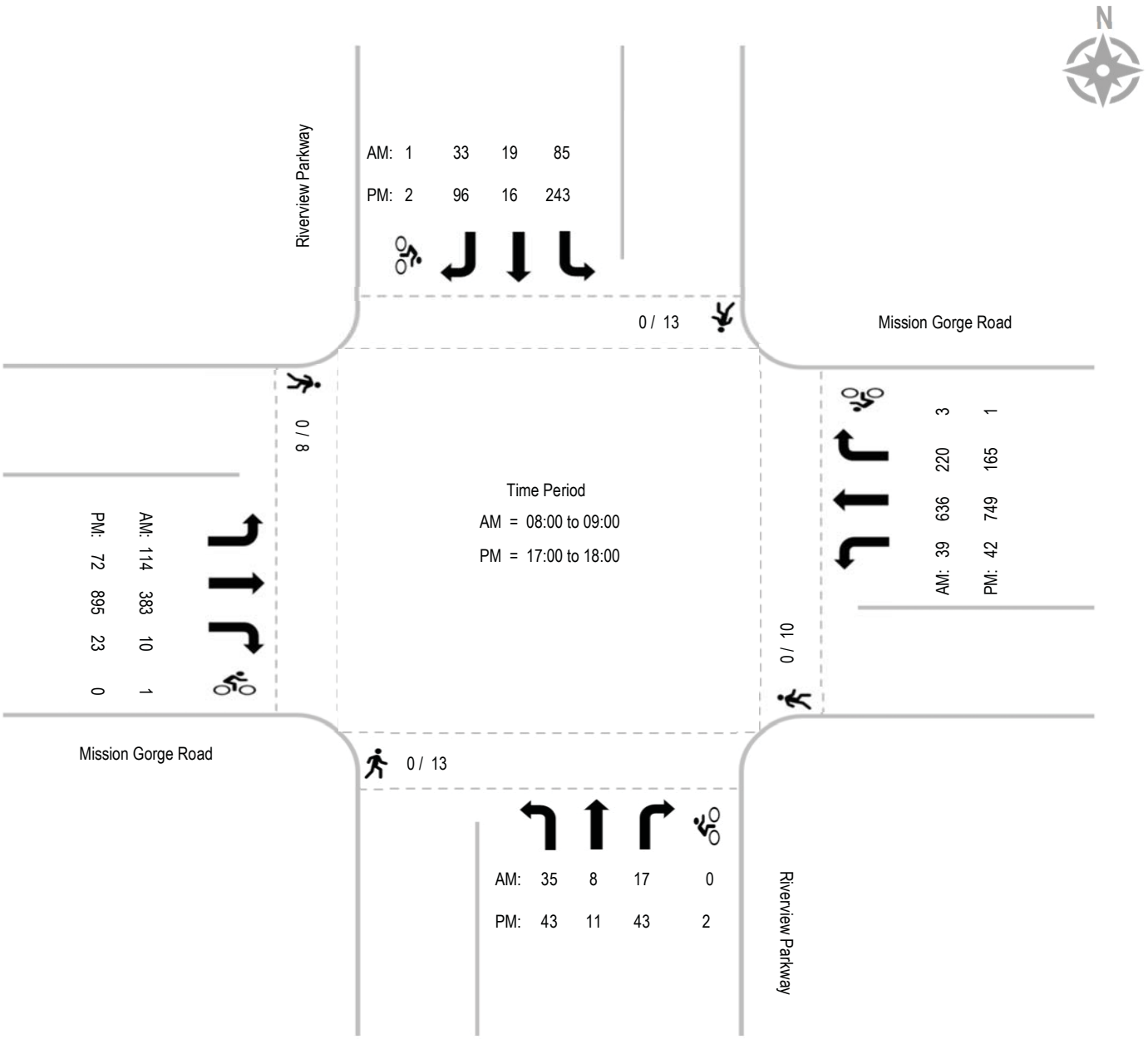
| | | | |
|---|---|---|---|
| Location: | #48 | File Name: | ITM-18-015-48 |
| Intersection: | Mission Gorge Road / Riverview Parkway | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Thursday, February 1, 2018 | | Fanita Ranch |

| AM | Riverview Parkway Southbound | | | | Mission Gorge Road Westbound | | | | Riverview Parkway Northbound | | | | Mission Gorge Road Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 7:00 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 7:15 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 7:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 8:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:30 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 8:45 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Ped Total | 0 | | | | 0 | | | | 0 | | | | 0 | | | | 0 | |
| Bike Total | | 0 | 0 | 1 | | 0 | 3 | 0 | | 0 | 0 | 0 | | 0 | 1 | 0 | | 5 |

| PM | Riverview Parkway Southbound | | | | Mission Gorge Road Westbound | | | | Riverview Parkway Northbound | | | | Mission Gorge Road Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 16:00 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 |
| 16:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 16:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 16:45 | 4 | 0 | 0 | 0 | 8 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 16 | 0 |
| 17:00 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 5 | 1 |
| 17:15 | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 3 | 0 | 1 | 0 | 3 | 0 | 0 | 0 | 10 | 1 |
| 17:30 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 |
| 17:45 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 2 |
| Ped Total | 13 | | | | 10 | | | | 13 | | | | 8 | | | | 44 | |
| Bike Total | | 0 | 2 | 0 | | 0 | 1 | 0 | | 0 | 2 | 0 | | 0 | 0 | 0 | | 5 |

# Intersection Turning Movement - Peak Hour Summary

| | | | | |
|---|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #48 | File Name: | ITM-18-015-48 |
| | Intersection: | Mission Gorge Road / Riverview Parkway | Project: | LLG Ref. 3-15-2462 |
| | Date of Count: | Thursday, February 1, 2018 | | Fanita Ranch |



# Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers

| | | | |
|---|---|---|---|
| Location: | #49 | File Name: | ITM-18-015-49 |
| Intersection: | Mission Gorge Road / Cottonwood Avenue | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Thursday, February 1, 2018 | | Fanita Ranch |

| AM | Cottonwood Avenue Southbound | | | Mission Gorge Road Westbound | | | Cottonwood Avenue Northbound | | | Mission Gorge Road Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 7:00 | 0 | 1 | 0 | 13 | 187 | 1 | 18 | 0 | 12 | 2 | 59 | 11 | 304 |
| 7:15 | 2 | 1 | 3 | 7 | 183 | 3 | 14 | 0 | 16 | 3 | 81 | 16 | 329 |
| 7:30 | 0 | 1 | 8 | 6 | 172 | 0 | 22 | 0 | 15 | 2 | 68 | 7 | 301 |
| 7:45 | 1 | 3 | 5 | 15 | 237 | 1 | 29 | 2 | 12 | 1 | 84 | 12 | 402 |
| 8:00 | 4 | 1 | 5 | 17 | 203 | 0 | 30 | 2 | 13 | 3 | 92 | 16 | 386 |
| 8:15 | 0 | 2 | 7 | 15 | 197 | 0 | 12 | 0 | 13 | 2 | 101 | 12 | 361 |
| 8:30 | 2 | 2 | 5 | 9 | 182 | 1 | 12 | 0 | 12 | 1 | 101 | 12 | 339 |
| 8:45 | 1 | 2 | 4 | 1 | 191 | 2 | 19 | 0 | 8 | 1 | 101 | 13 | 343 |
| Total | 10 | 13 | 37 | 83 | 1552 | 8 | 156 | 4 | 101 | 15 | 687 | 99 | 2765 |
| Approach% | 16.7 | 21.7 | 61.7 | 5.1 | 94.5 | 0.5 | 59.8 | 1.5 | 38.7 | 1.9 | 85.8 | 12.4 | |
| Total% | 0.4 | 0.5 | 1.3 | 3.0 | 56.1 | 0.3 | 5.6 | 0.1 | 3.7 | 0.5 | 24.8 | 3.6 | |

**AM Intersection Peak Hour:** **07:45 to 08:45**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 7 | 8 | 22 | 56 | 819 | 2 | 83 | 4 | 50 | 7 | 378 | 52 | 1,488 |
| Approach% | 18.9 | 21.6 | 59.5 | 6.4 | 93.4 | 0.2 | 60.6 | 2.9 | 36.5 | 1.6 | 86.5 | 11.9 | |
| Total% | 0.5 | 0.5 | 1.5 | 3.8 | 55.0 | 0.1 | 5.6 | 0.3 | 3.4 | 0.5 | 25.4 | 3.5 | |
| PHF | | | 0.93 | | | 0.87 | | | 0.76 | | | 0.95 | |

| PM | Cottonwood Avenue Southbound | | | Mission Gorge Road Westbound | | | Cottonwood Avenue Northbound | | | Mission Gorge Road Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 16:00 | 2 | 1 | 4 | 9 | 197 | 2 | 20 | 2 | 26 | 2 | 256 | 17 | 538 |
| 16:15 | 2 | 0 | 4 | 10 | 196 | 1 | 17 | 1 | 26 | 4 | 267 | 25 | 553 |
| 16:30 | 0 | 1 | 2 | 10 | 202 | 1 | 24 | 2 | 27 | 2 | 258 | 18 | 547 |
| 16:45 | 0 | 2 | 2 | 12 | 188 | 2 | 22 | 0 | 25 | 5 | 260 | 17 | 535 |
| 17:00 | 0 | 0 | 3 | 14 | 196 | 2 | 25 | 0 | 24 | 7 | 270 | 24 | 565 |
| 17:15 | 2 | 0 | 2 | 18 | 231 | 0 | 21 | 0 | 18 | 2 | 267 | 19 | 580 |
| 17:30 | 1 | 2 | 2 | 13 | 175 | 0 | 26 | 1 | 24 | 6 | 272 | 27 | 549 |
| 17:45 | 0 | 0 | 2 | 9 | 195 | 2 | 18 | 0 | 15 | 2 | 296 | 28 | 567 |
| Total | 7 | 6 | 21 | 95 | 1580 | 10 | 173 | 6 | 185 | 30 | 2146 | 175 | 4434 |
| Approach% | 20.6 | 17.6 | 61.8 | 5.6 | 93.8 | 0.6 | 47.5 | 1.6 | 50.8 | 1.3 | 91.3 | 7.4 | |
| Total% | 0.3 | 0.2 | 0.8 | 3.4 | 57.1 | 0.4 | 6.3 | 0.2 | 6.7 | 1.1 | 77.6 | 6.3 | |

**PM Intersection Peak Hour:** **17:00 to 18:00**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 3 | 2 | 9 | 54 | 797 | 4 | 90 | 1 | 81 | 17 | 1,105 | 98 | 2,261 |
| Approach% | 21.4 | 14.3 | 64.3 | 6.3 | 93.2 | 0.5 | 52.3 | 0.6 | 47.1 | 1.4 | 90.6 | 8.0 | |
| Total% | 0.2 | 0.1 | 0.6 | 3.6 | 53.6 | 0.3 | 6.0 | 0.1 | 5.4 | 1.1 | 74.3 | 6.6 | |
| PHF | | | 0.70 | | | 0.86 | | | 0.84 | | | 0.94 | |

# Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

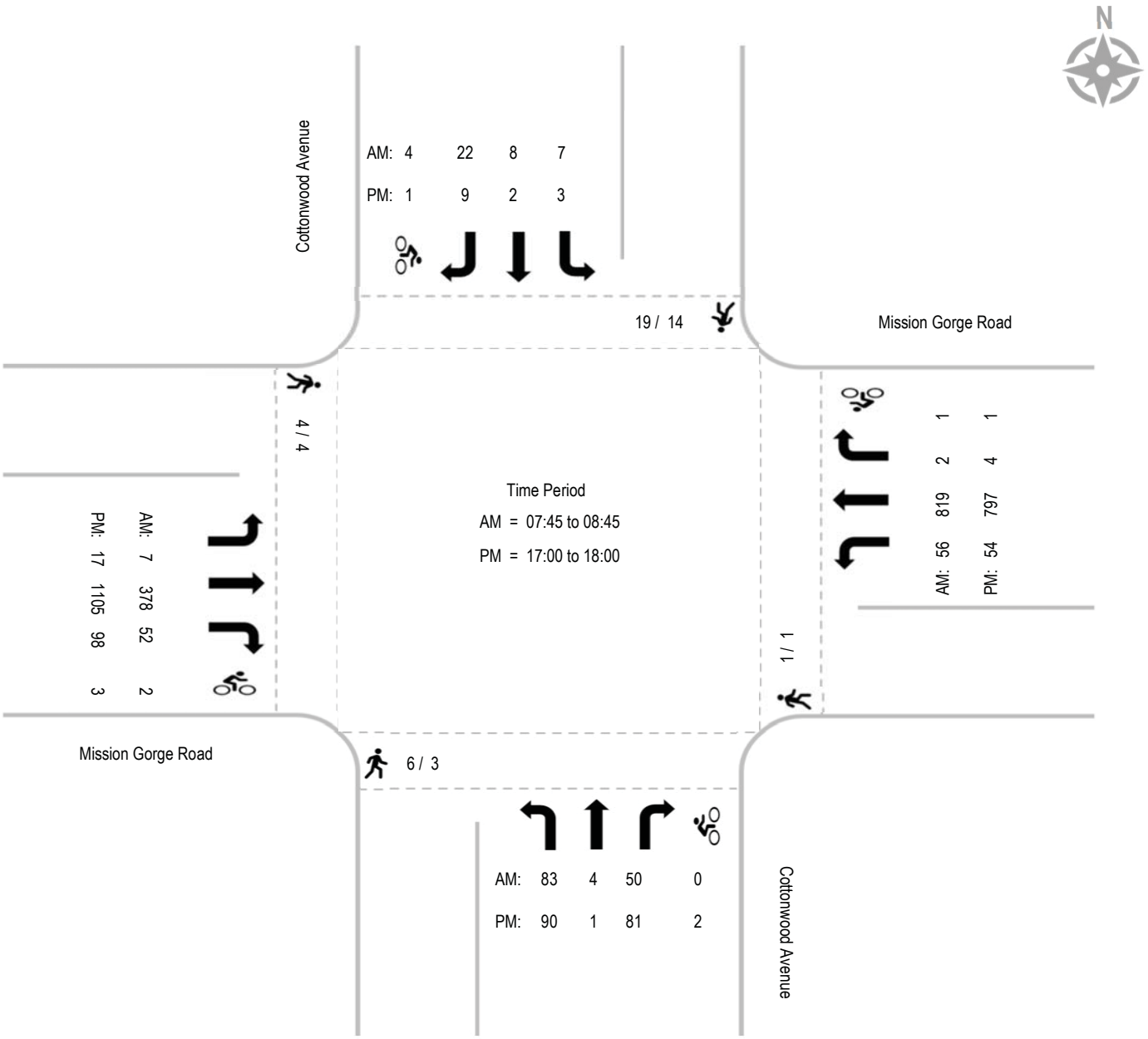
| | | | |
|---|---|---|---|
| Location: | #49 | File Name: | ITM-18-015-49 |
| Intersection: | Mission Gorge Road / Cottonwood Avenue | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Thursday, February 1, 2018 | | Fanita Ranch |

| AM | Cottonwood Avenue Southbound | | | | Mission Gorge Road Westbound | | | | Cottonwood Avenue Northbound | | | | Mission Gorge Road Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 7:00 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 1 |
| 7:15 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 3 | 0 |
| 7:30 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 7:45 | 3 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 3 | 2 |
| 8:00 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 8:15 | 7 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 10 | 3 |
| 8:30 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 |
| 8:45 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 |
| Ped Total | 19 | | | | 1 | | | | 6 | | | | 4 | | | | 30 | |
| Bike Total | | 0 | 1 | 3 | | 0 | 1 | 0 | | 0 | 0 | 0 | | 1 | 1 | 0 | | 7 |

| PM | Cottonwood Avenue Southbound | | | | Mission Gorge Road Westbound | | | | Cottonwood Avenue Northbound | | | | Mission Gorge Road Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 16:00 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 4 | 1 |
| 16:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 |
| 16:30 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 |
| 16:45 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 4 | 1 |
| 17:00 | 3 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 2 |
| 17:15 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 |
| 17:30 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 1 |
| 17:45 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| Ped Total | 14 | | | | 1 | | | | 3 | | | | 4 | | | | 22 | |
| Bike Total | | 0 | 1 | 0 | | 0 | 1 | 0 | | 0 | 2 | 0 | | 1 | 2 | 0 | | 7 |

# Intersection Turning Movement - Peak Hour Summary

| | | | | |
|---|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #49 | File Name: | ITM-18-015-49 |
| | Intersection: | Mission Gorge Road / Cottonwood Avenue | Project: | LLG Ref. 3-15-2462 |
| | Date of Count: | Thursday, February 1, 2018 | | Fanita Ranch |



# Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers

| | | | |
|---|---|---|---|
| Location: | #50 | File Name: | ITM-18-015-50 |
| Intersection: | Mission Gorge Road / Magnolia Avenue | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Thursday, February 1, 2018 | | Fanita Ranch |

| AM | Magnolia Avenue Southbound | | | Woodside Avenue Westbound | | | Magnolia Avenue Northbound | | | Mission Gorge Road Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 7:00 | 28 | 161 | 26 | 62 | 125 | 36 | 17 | 113 | 85 | 18 | 43 | 21 | 735 |
| 7:15 | 42 | 226 | 46 | 78 | 133 | 56 | 25 | 148 | 69 | 24 | 55 | 26 | 928 |
| 7:30 | 49 | 221 | 32 | 116 | 131 | 70 | 30 | 171 | 91 | 36 | 39 | 26 | 1012 |
| 7:45 | 72 | 311 | 88 | 77 | 123 | 65 | 69 | 242 | 111 | 26 | 53 | 20 | 1257 |
| 8:00 | 74 | 279 | 34 | 100 | 152 | 45 | 47 | 177 | 81 | 30 | 63 | 46 | 1128 |
| 8:15 | 71 | 175 | 34 | 69 | 134 | 24 | 45 | 124 | 71 | 21 | 59 | 24 | 851 |
| 8:30 | 31 | 137 | 27 | 91 | 121 | 27 | 41 | 68 | 73 | 30 | 65 | 35 | 746 |
| 8:45 | 46 | 140 | 38 | 78 | 135 | 25 | 44 | 89 | 78 | 24 | 57 | 37 | 791 |
| Total | 413 | 1650 | 325 | 671 | 1054 | 348 | 318 | 1132 | 659 | 209 | 434 | 235 | 7448 |
| Approach% | 17.3 | 69.1 | 13.6 | 32.4 | 50.8 | 16.8 | 15.1 | 53.7 | 31.2 | 23.8 | 49.4 | 26.8 | |
| Total% | 5.5 | 22.2 | 4.4 | 9.0 | 14.2 | 4.7 | 4.3 | 15.2 | 8.8 | 2.8 | 5.8 | 3.2 | |

**AM Intersection Peak Hour:** **07:15 to 08:15**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 237 | 1,037 | 200 | 371 | 539 | 236 | 171 | 738 | 352 | 116 | 210 | 118 | 4,325 |
| Approach% | 16.1 | 70.4 | 13.6 | 32.4 | 47.0 | 20.6 | 13.6 | 58.5 | 27.9 | 26.1 | 47.3 | 26.6 | |
| Total% | 5.5 | 24.0 | 4.6 | 8.6 | 12.5 | 5.5 | 4.0 | 17.1 | 8.1 | 2.7 | 4.9 | 2.7 | |
| PHF | | | 0.78 | | | 0.90 | | | 0.75 | | | 0.80 | |

| PM | Magnolia Avenue Southbound | | | Woodside Avenue Westbound | | | Magnolia Avenue Northbound | | | Mission Gorge Road Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 16:00 | 52 | 174 | 24 | 110 | 139 | 30 | 54 | 192 | 111 | 65 | 168 | 71 | 1190 |
| 16:15 | 34 | 136 | 26 | 92 | 127 | 38 | 57 | 162 | 90 | 46 | 156 | 86 | 1050 |
| 16:30 | 34 | 160 | 24 | 108 | 128 | 38 | 45 | 226 | 121 | 65 | 153 | 67 | 1169 |
| 16:45 | 37 | 119 | 44 | 84 | 138 | 55 | 57 | 209 | 100 | 57 | 164 | 64 | 1128 |
| 17:00 | 40 | 154 | 31 | 156 | 164 | 48 | 42 | 234 | 124 | 106 | 132 | 59 | 1290 |
| 17:15 | 44 | 126 | 41 | 96 | 126 | 26 | 61 | 147 | 77 | 60 | 180 | 68 | 1052 |
| 17:30 | 34 | 117 | 58 | 113 | 125 | 40 | 50 | 228 | 128 | 62 | 154 | 80 | 1189 |
| 17:45 | 36 | 117 | 32 | 88 | 129 | 57 | 56 | 223 | 103 | 62 | 178 | 62 | 1143 |
| Total | 311 | 1103 | 280 | 847 | 1076 | 332 | 422 | 1621 | 854 | 523 | 1285 | 557 | 9211 |
| Approach% | 18.4 | 65.1 | 16.5 | 37.6 | 47.7 | 14.7 | 14.6 | 56.0 | 29.5 | 22.1 | 54.3 | 23.6 | |
| Total% | 4.2 | 14.8 | 3.8 | 11.4 | 14.4 | 4.5 | 5.7 | 21.8 | 11.5 | 7.0 | 17.3 | 7.5 | |

**PM Intersection Peak Hour:** **17:00 to 18:00**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 154 | 514 | 162 | 453 | 544 | 171 | 209 | 832 | 432 | 290 | 644 | 269 | 4,674 |
| Approach% | 18.6 | 61.9 | 19.5 | 38.8 | 46.6 | 14.6 | 14.2 | 56.5 | 29.3 | 24.1 | 53.5 | 22.4 | |
| Total% | 3.6 | 11.9 | 3.7 | 10.5 | 12.6 | 4.0 | 4.8 | 19.2 | 10.0 | 6.7 | 14.9 | 6.2 | |
| PHF | | | 0.92 | | | 0.79 | | | 0.91 | | | 0.98 | |

# Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

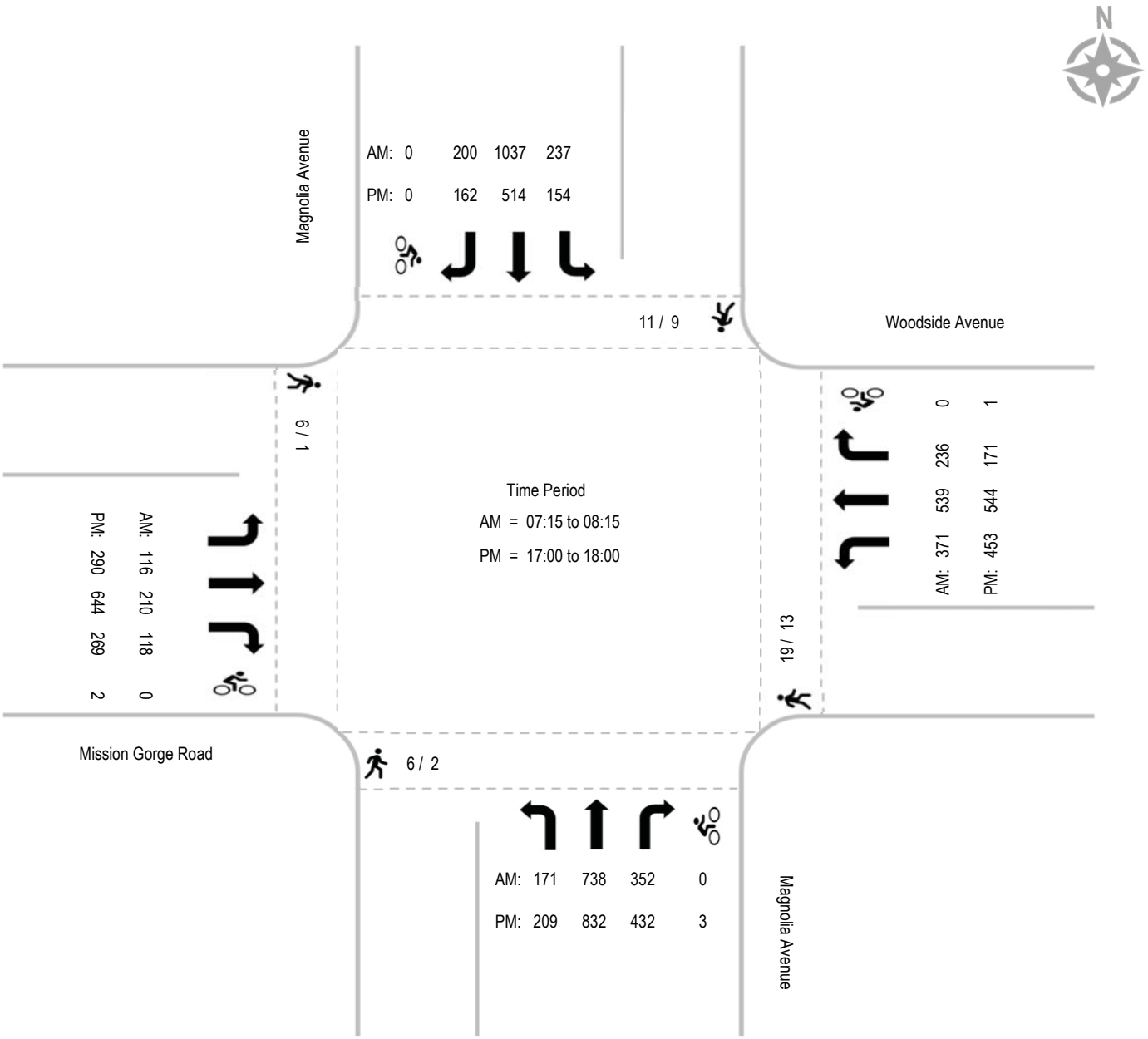
| | | | |
|---|---|---|---|
| Location: | #50 | File Name: | ITM-18-015-50 |
| Intersection: | Mission Gorge Road / Magnolia Avenue | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Thursday, February 1, 2018 | | Fanita Ranch |

| AM | Magnolia Avenue Southbound | | | | Woodside Avenue Westbound | | | | Magnolia Avenue Northbound | | | | Mission Gorge Road Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 7:00 | 1 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 |
| 7:15 | 3 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 0 |
| 7:30 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 |
| 7:45 | 2 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 0 |
| 8:00 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 5 | 0 |
| 8:15 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 6 | 0 |
| 8:30 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 3 | 0 |
| 8:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| Ped Total | 11 | | | | 19 | | | | 6 | | | | 6 | | | | 42 | |
| Bike Total | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 |

| PM | Magnolia Avenue Southbound | | | | Woodside Avenue Westbound | | | | Magnolia Avenue Northbound | | | | Mission Gorge Road Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16:15 | 1 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 0 |
| 16:30 | 3 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 4 | 2 |
| 16:45 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |
| 17:00 | 3 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 6 | 3 |
| 17:15 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 17:30 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 17:45 | 1 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 |
| Ped Total | 9 | | | | 13 | | | | 2 | | | | 1 | | | | 25 | |
| Bike Total | | 0 | 0 | 0 | | 0 | 1 | 0 | | 1 | 2 | 0 | | 0 | 2 | 0 | | 6 |

# Intersection Turning Movement - Peak Hour Summary

| | | | | |
|---|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #50 | File Name: | ITM-18-015-50 |
| | Intersection: | Mission Gorge Road / Magnolia Avenue | Project: | LLG Ref. 3-15-2462 |
| | Date of Count: | Thursday, February 1, 2018 | | Fanita Ranch |



# Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers

| | | | |
|---|---|---|---|
| Location: | #51 | File Name: | ITM-18-015-51 |
| Intersection: | Woodside Avenue North / SR-67 SB Off-Ramp | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Thursday, February 1, 2018 | | Fanita Ranch |

| AM | SR-67 SB Off-Ramp Southbound | | | Woodside Avenue Westbound | | | Woodside Avenue Northbound | | | Woodside Avenue North Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 7:00 | 0 | 92 | 4 | 63 | 0 | 0 | 75 | 0 | 64 | 0 | 0 | 30 | 328 |
| 7:15 | 1 | 107 | 5 | 77 | 2 | 0 | 72 | 0 | 68 | 0 | 0 | 44 | 376 |
| 7:30 | 2 | 141 | 8 | 94 | 0 | 0 | 71 | 0 | 84 | 0 | 1 | 37 | 438 |
| 7:45 | 4 | 134 | 17 | 80 | 6 | 0 | 102 | 0 | 91 | 0 | 1 | 26 | 461 |
| 8:00 | 2 | 132 | 6 | 95 | 2 | 0 | 79 | 0 | 96 | 0 | 1 | 31 | 444 |
| 8:15 | 1 | 119 | 5 | 63 | 1 | 0 | 42 | 0 | 125 | 0 | 3 | 38 | 397 |
| 8:30 | 3 | 124 | 3 | 68 | 1 | 0 | 47 | 0 | 112 | 0 | 2 | 26 | 386 |
| 8:45 | 2 | 127 | 6 | 50 | 1 | 0 | 60 | 0 | 83 | 0 | 4 | 27 | 360 |
| Total | 15 | 976 | 54 | 590 | 13 | 0 | 548 | 0 | 723 | 0 | 12 | 259 | 3190 |
| Approach% | 1.4 | 93.4 | 5.2 | 97.8 | 2.2 | - | 43.1 | - | 56.9 | - | 4.4 | 95.6 | |
| Total% | 0.5 | 30.6 | 1.7 | 18.5 | 0.4 | - | 17.2 | - | 22.7 | - | 0.4 | 8.1 | |

**AM Intersection Peak Hour:** **07:30 to 08:30**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 9 | 526 | 36 | 332 | 9 | - | 294 | - | 396 | - | 6 | 132 | 1,740 |
| Approach% | 1.6 | 92.1 | 6.3 | 97.4 | 2.6 | - | 42.6 | - | 57.4 | - | 4.3 | 95.7 | |
| Total% | 0.5 | 30.2 | 2.1 | 19.1 | 0.5 | - | 16.9 | - | 22.8 | - | 0.3 | 7.6 | |
| PHF | | | 0.92 | | | 0.88 | | | 0.89 | | | 0.84 | |

| PM | SR-67 SB Off-Ramp Southbound | | | Woodside Avenue Westbound | | | Woodside Avenue Northbound | | | Woodside Avenue North Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 16:00 | 2 | 113 | 4 | 51 | 1 | 0 | 57 | 0 | 225 | 0 | 15 | 87 | 555 |
| 16:15 | 3 | 131 | 1 | 62 | 0 | 0 | 45 | 0 | 224 | 0 | 7 | 56 | 529 |
| 16:30 | 3 | 124 | 3 | 68 | 1 | 0 | 47 | 0 | 112 | 0 | 2 | 26 | 386 |
| 16:45 | 2 | 127 | 6 | 50 | 1 | 0 | 60 | 0 | 83 | 0 | 4 | 27 | 360 |
| 17:00 | 2 | 113 | 4 | 51 | 1 | 0 | 57 | 0 | 225 | 0 | 15 | 87 | 555 |
| 17:15 | 3 | 131 | 1 | 62 | 0 | 0 | 45 | 0 | 224 | 0 | 7 | 56 | 529 |
| 17:30 | 1 | 110 | 1 | 54 | 0 | 0 | 34 | 0 | 211 | 0 | 6 | 47 | 464 |
| 17:45 | 4 | 131 | 1 | 48 | 0 | 0 | 40 | 0 | 211 | 0 | 2 | 47 | 484 |
| Total | 20 | 980 | 21 | 446 | 4 | 0 | 385 | 0 | 1515 | 0 | 58 | 433 | 3862 |
| Approach% | 2.0 | 96.0 | 2.1 | 99.1 | 0.9 | - | 20.3 | - | 79.7 | - | 11.8 | 88.2 | |
| Total% | 0.6 | 30.7 | 0.7 | 14.0 | 0.1 | - | 12.1 | - | 47.5 | - | 1.8 | 13.6 | |

**PM Intersection Peak Hour:** **17:00 to 18:00**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 10 | 485 | 7 | 215 | 1 | - | 176 | - | 871 | - | 30 | 237 | 2,032 |
| Approach% | 2.0 | 96.6 | 1.4 | 99.5 | 0.5 | - | 16.8 | - | 83.2 | - | 11.2 | 88.8 | |
| Total% | 0.6 | 27.9 | 0.4 | 12.4 | 0.1 | - | 10.1 | - | 50.1 | - | 1.7 | 13.6 | |
| PHF | | | 0.92 | | | 0.87 | | | 0.93 | | | 0.65 | |

# Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

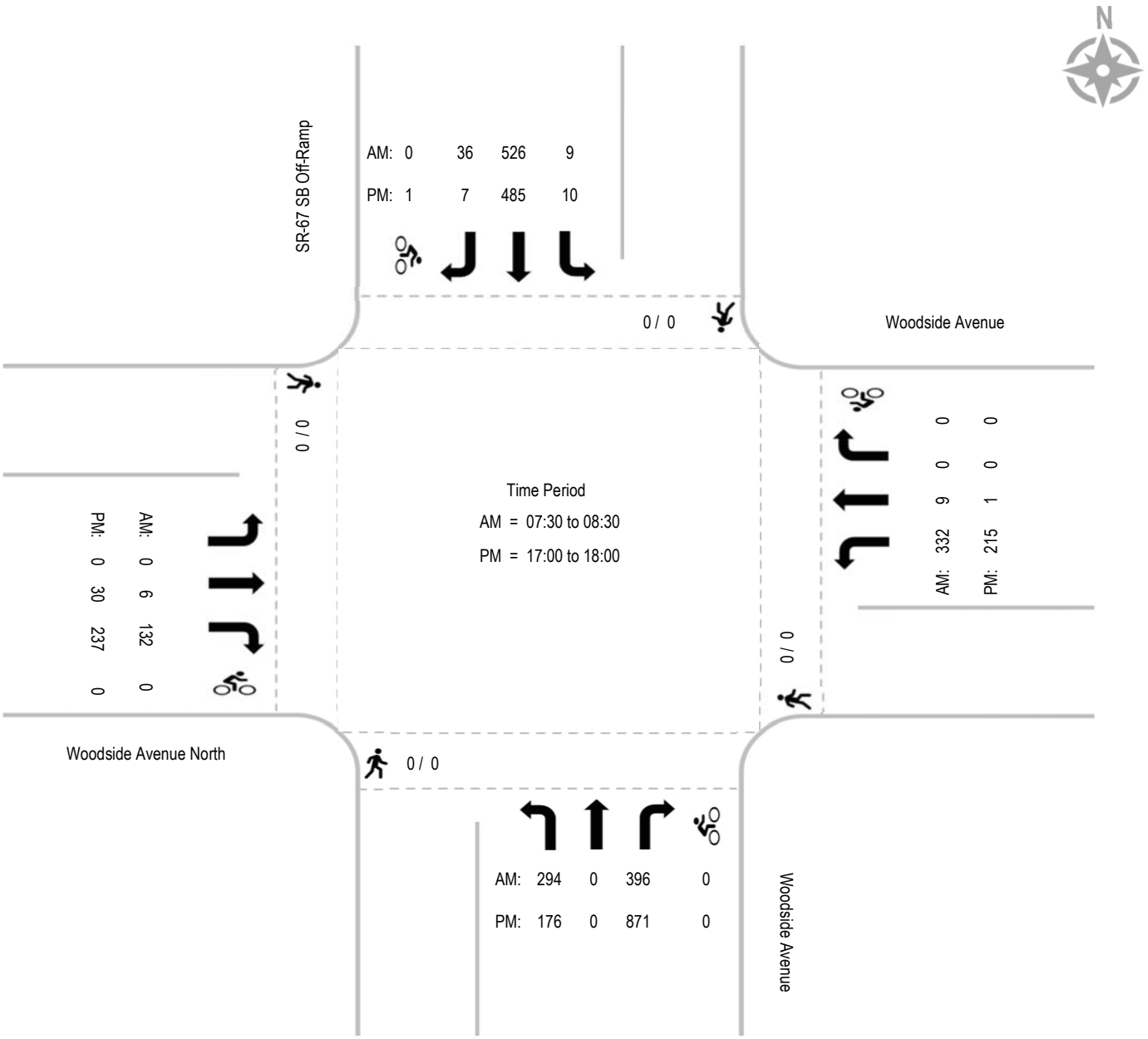
| | | | |
|---|---|---|---|
| Location: | #51 | File Name: | ITM-18-015-51 |
| Intersection: | Woodside Avenue North / SR-67 SB Off-Ramp | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Thursday, February 1, 2018 | | Fanita Ranch |

| AM | SR-67 SB Off-Ramp Southbound | | | | Woodside Avenue Westbound | | | | Woodside Avenue Northbound | | | | Woodside Avenue North Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 7:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped Total | 0 | | | | 0 | | | | 0 | | | | 0 | | | | 0 | |
| Bike Total | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 |

| PM | SR-67 SB Off-Ramp Southbound | | | | Woodside Avenue Westbound | | | | Woodside Avenue Northbound | | | | Woodside Avenue North Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:00 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 17:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped Total | 0 | | | | 0 | | | | 0 | | | | 0 | | | | 0 | |
| Bike Total | | 1 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 1 |

# Intersection Turning Movement - Peak Hour Summary

| | | | | |
|---|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #51 | File Name: | ITM-18-015-51 |
| | Intersection: | Woodside Avenue North / SR-67 SB Off-Ramp | Project: | LLG Ref. 3-15-2462 |
| | Date of Count: | Thursday, February 1, 2018 | | Fanita Ranch |



# Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers

| | | | |
|---|---|---|---|
| Location: | #52 | File Name: | ITM-18-015-52 |
| Intersection: | Woodside Avenue / SR-67 NB On-Ramp | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Thursday, February 1, 2018 | | Fanita Ranch |

| AM | Woodside Avenue Southbound | | | Davidann Road Westbound | | | Woodside Avenue Northbound | | | SR-67 NB On-Ramp Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 7:00 | 0 | 51 | 1 | 12 | 1 | 1 | 39 | 29 | 4 | 0 | 0 | 0 | 138 |
| 7:15 | 1 | 74 | 2 | 12 | 0 | 0 | 40 | 26 | 3 | 0 | 0 | 0 | 158 |
| 7:30 | 0 | 76 | 0 | 19 | 0 | 1 | 31 | 47 | 9 | 0 | 0 | 0 | 183 |
| 7:45 | 1 | 70 | 2 | 12 | 3 | 1 | 39 | 41 | 6 | 0 | 0 | 0 | 175 |
| 8:00 | 1 | 83 | 0 | 7 | 1 | 0 | 52 | 46 | 2 | 0 | 0 | 0 | 192 |
| 8:15 | 0 | 47 | 0 | 7 | 0 | 1 | 50 | 61 | 3 | 0 | 0 | 0 | 169 |
| 8:30 | 0 | 53 | 0 | 12 | 1 | 0 | 53 | 52 | 6 | 0 | 0 | 0 | 177 |
| 8:45 | 1 | 41 | 0 | 7 | 1 | 0 | 48 | 35 | 5 | 0 | 0 | 0 | 138 |
| Total | 4 | 495 | 5 | 88 | 7 | 4 | 352 | 337 | 38 | 0 | 0 | 0 | 1330 |
| Approach% | 0.8 | 98.2 | 1.0 | 88.9 | 7.1 | 4.0 | 48.4 | 46.4 | 5.2 | - | - | - | |
| Total% | 0.3 | 37.2 | 0.4 | 6.6 | 0.5 | 0.3 | 26.5 | 25.3 | 2.9 | - | - | - | |

**AM Intersection Peak Hour:** **07:30 to 08:30**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 2 | 276 | 2 | 45 | 4 | 3 | 172 | 195 | 20 | - | - | - | 719 |
| Approach% | 0.7 | 98.6 | 0.7 | 86.5 | 7.7 | 5.8 | 44.4 | 50.4 | 5.2 | - | - | - | |
| Total% | 0.3 | 38.4 | 0.3 | 6.3 | 0.6 | 0.4 | 23.9 | 27.1 | 2.8 | - | - | - | |
| PHF | | | 0.83 | | | 0.65 | | | 0.85 | | | | |

| PM | Woodside Avenue Southbound | | | Davidann Road Westbound | | | Woodside Avenue Northbound | | | SR-67 NB On-Ramp Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 16:00 | 0 | 48 | 1 | 8 | 0 | 2 | 87 | 151 | 10 | 0 | 0 | 0 | 307 |
| 16:15 | 0 | 41 | 1 | 8 | 1 | 1 | 85 | 130 | 18 | 0 | 0 | 0 | 285 |
| 16:30 | 0 | 44 | 0 | 5 | 0 | 2 | 92 | 141 | 14 | 0 | 0 | 0 | 298 |
| 16:45 | 0 | 42 | 0 | 4 | 0 | 2 | 79 | 124 | 10 | 0 | 0 | 0 | 261 |
| 17:00 | 1 | 56 | 1 | 10 | 0 | 3 | 103 | 160 | 16 | 0 | 0 | 0 | 350 |
| 17:15 | 0 | 48 | 1 | 3 | 0 | 0 | 68 | 125 | 8 | 0 | 0 | 0 | 253 |
| 17:30 | 1 | 44 | 1 | 8 | 1 | 1 | 75 | 133 | 14 | 0 | 0 | 0 | 278 |
| 17:45 | 3 | 39 | 2 | 6 | 2 | 2 | 77 | 111 | 16 | 0 | 0 | 0 | 258 |
| Total | 5 | 362 | 7 | 52 | 4 | 13 | 666 | 1075 | 106 | 0 | 0 | 0 | 2290 |
| Approach% | 1.3 | 96.8 | 1.9 | 75.4 | 5.8 | 18.8 | 36.1 | 58.2 | 5.7 | - | - | - | |
| Total% | 0.4 | 27.2 | 0.5 | 3.9 | 0.3 | 1.0 | 50.1 | 80.8 | 8.0 | - | - | - | |

**PM Intersection Peak Hour:** **16:15 to 17:15**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 1 | 183 | 2 | 27 | 1 | 8 | 359 | 555 | 58 | - | - | - | 1,194 |
| Approach% | 0.5 | 98.4 | 1.1 | 75.0 | 2.8 | 22.2 | 36.9 | 57.1 | 6.0 | - | - | - | |
| Total% | 0.1 | 25.5 | 0.3 | 3.8 | 0.1 | 1.1 | 49.9 | 77.2 | 8.1 | - | - | - | |
| PHF | | | 0.80 | | | 0.69 | | | 0.87 | | | | |

# Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

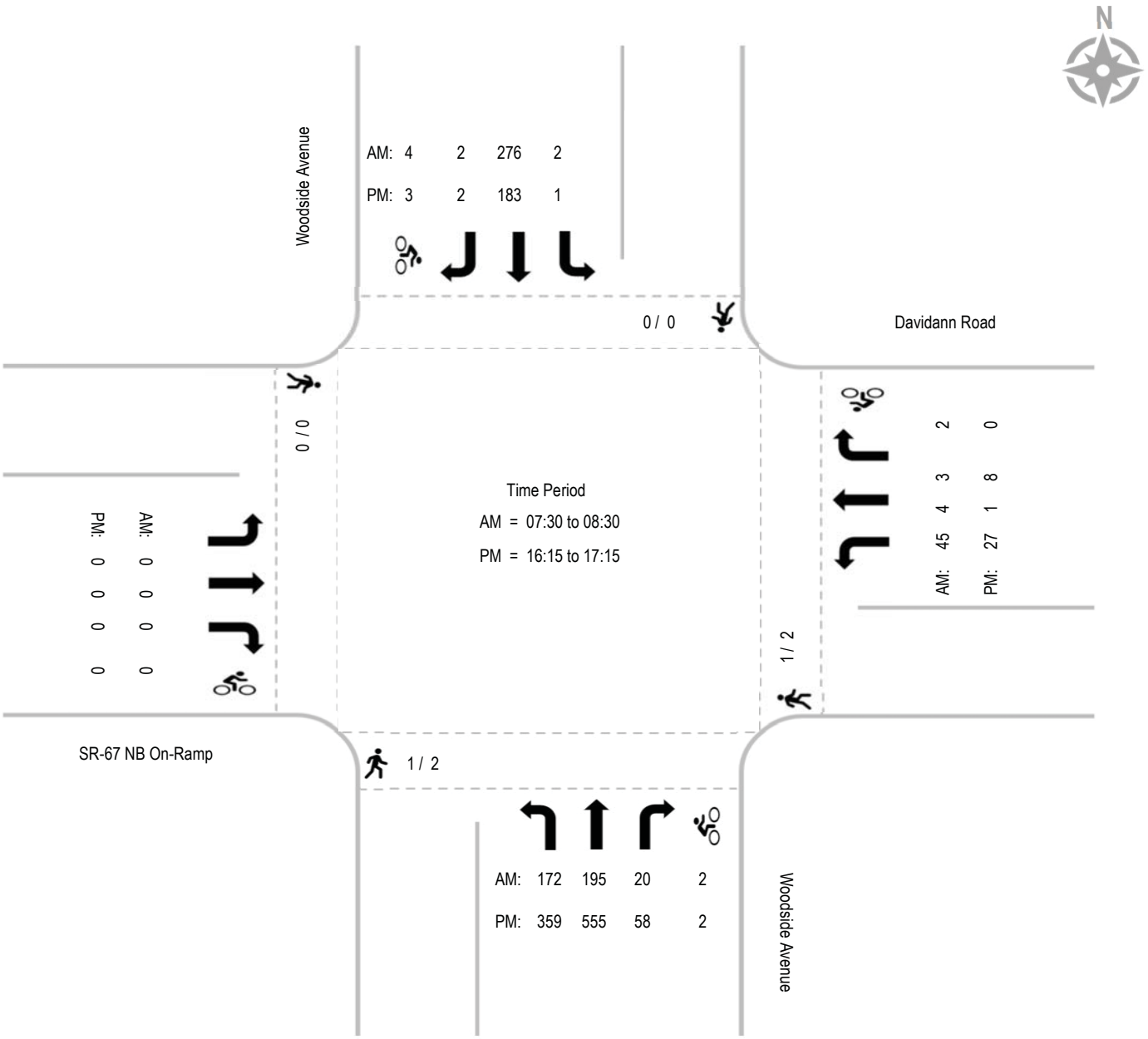
| | | | |
|---|---|---|---|
| Location: | #52 | File Name: | ITM-18-015-52 |
| Intersection: | Woodside Avenue / SR-67 NB On-Ramp | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Thursday, February 1, 2018 | | Fanita Ranch |

| AM | Woodside Avenue Southbound | | | | Davidann Road Westbound | | | | Woodside Avenue Northbound | | | | SR-67 NB On-Ramp Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 7:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:15 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 3 |
| 7:30 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 7:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 8:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:15 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 8:30 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 8:45 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| Ped Total | 0 | | | | 1 | | | | 1 | | | | 0 | | | | 2 | |
| Bike Total | | 0 | 4 | 0 | | 2 | 0 | 0 | | 0 | 1 | 1 | | 0 | 0 | 0 | | 8 |

| PM | Woodside Avenue Southbound | | | | Davidann Road Westbound | | | | Woodside Avenue Northbound | | | | SR-67 NB On-Ramp Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 16:00 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 16:15 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 |
| 16:30 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 16:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 17:15 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 17:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped Total | 0 | | | | 2 | | | | 2 | | | | 0 | | | | 4 | |
| Bike Total | | 0 | 3 | 0 | | 0 | 0 | 0 | | 0 | 2 | 0 | | 0 | 0 | 0 | | 5 |

# Intersection Turning Movement - Peak Hour Summary

| | | | | |
|---|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #52 | File Name: | ITM-18-015-52 |
| | Intersection: | Woodside Avenue / SR-67 NB On-Ramp | Project: | LLG Ref. 3-15-2462 |
| | Date of Count: | Thursday, February 1, 2018 | | Fanita Ranch |



# Intersection Turning Movement - Peak Hour Vehicle Count

| | | | |
|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #53 | File Name: ITM-18-015-53 |
| | Intersection: | Fanita Drive / SR 52 WB Off-Ramp | Project: LLG Ref. 3-15-2462 |
| | Date of Count: | Thursday, February 8, 2018 | Fanita Ranch |

| AM | Fanita Drive Southbound | | | SR 52 WB Off-Ramp Westbound | | | Fanita Drive Northbound | | | - Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 7:00 | 0 | 140 | 0 | 23 | 0 | 154 | 0 | 140 | 0 | 0 | 0 | 0 | 457 |
| 7:15 | 0 | 195 | 0 | 16 | 0 | 115 | 0 | 173 | 0 | 0 | 0 | 0 | 499 |
| 7:30 | 0 | 175 | 0 | 26 | 0 | 133 | 0 | 133 | 0 | 0 | 0 | 0 | 467 |
| 7:45 | 0 | 184 | 0 | 29 | 0 | 106 | 0 | 137 | 0 | 0 | 0 | 0 | 456 |
| 8:00 | 0 | 104 | 0 | 58 | 0 | 109 | 4 | 123 | 0 | 0 | 0 | 0 | 398 |
| 8:15 | 0 | 144 | 0 | 28 | 0 | 185 | 0 | 93 | 0 | 0 | 0 | 0 | 450 |
| 8:30 | 0 | 122 | 0 | 16 | 0 | 167 | 0 | 97 | 0 | 0 | 0 | 0 | 402 |
| 8:45 | 0 | 101 | 0 | 13 | 0 | 102 | 0 | 89 | 0 | 0 | 0 | 0 | 305 |
| Total | 0 | 1165 | 0 | 209 | 0 | 1071 | 4 | 985 | 0 | 0 | 0 | 0 | 3434 |
| Approach% | - | 100.0 | - | 16.3 | - | 83.7 | 0.4 | 99.6 | - | - | - | - | |
| Total% | - | 33.9 | - | 6.1 | - | 31.2 | 0.1 | 28.7 | - | - | - | - | |

**AM Intersection Peak Hour:** **07:00 to 08:00**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | - | 694 | - | 94 | - | 508 | - | 583 | - | - | - | - | 1,879 |
| Approach% | - | 100.0 | - | 15.6 | - | 84.4 | - | 100.0 | - | - | - | - | |
| Total% | - | 36.9 | - | 5.0 | - | 27.0 | - | 31.0 | - | - | - | - | |
| PHF | | | 0.89 | | | 0.85 | | | 0.84 | | | | |

| PM | Fanita Drive Southbound | | | SR 52 WB Off-Ramp Westbound | | | Fanita Drive Northbound | | | - Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 16:00 | 0 | 181 | 0 | 30 | 0 | 92 | 0 | 87 | 0 | 0 | 0 | 0 | 390 |
| 16:15 | 0 | 149 | 0 | 31 | 0 | 76 | 0 | 85 | 0 | 0 | 0 | 0 | 341 |
| 16:30 | 0 | 164 | 0 | 36 | 0 | 111 | 0 | 70 | 0 | 0 | 0 | 0 | 381 |
| 16:45 | 0 | 190 | 0 | 37 | 0 | 76 | 0 | 73 | 0 | 0 | 0 | 0 | 376 |
| 17:00 | 0 | 175 | 0 | 39 | 0 | 95 | 0 | 99 | 0 | 0 | 0 | 0 | 408 |
| 17:15 | 1 | 192 | 0 | 35 | 0 | 88 | 0 | 79 | 0 | 0 | 0 | 0 | 395 |
| 17:30 | 0 | 155 | 0 | 27 | 0 | 78 | 0 | 63 | 0 | 0 | 0 | 0 | 323 |
| 17:45 | 0 | 176 | 0 | 17 | 0 | 80 | 0 | 82 | 0 | 0 | 0 | 0 | 355 |
| Total | 1 | 1382 | 0 | 252 | 0 | 696 | 0 | 638 | 0 | 0 | 0 | 0 | 2969 |
| Approach% | 0.1 | 99.9 | - | 26.6 | - | 73.4 | - | 100.0 | - | - | - | - | |
| Total% | 0.0 | 40.2 | - | 7.3 | - | 20.3 | - | 18.6 | - | - | - | - | |

**PM Intersection Peak Hour:** **16:30 to 17:30**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 1 | 721 | - | 147 | - | 370 | - | 321 | - | - | - | - | 1,560 |
| Approach% | 0.1 | 99.9 | - | 28.4 | - | 71.6 | - | 100.0 | - | - | - | - | |
| Total% | 0.1 | 38.4 | - | 7.8 | - | 19.7 | - | 17.1 | - | - | - | - | |
| PHF | | | 0.94 | | | 0.88 | | | 0.81 | | | | |

# Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

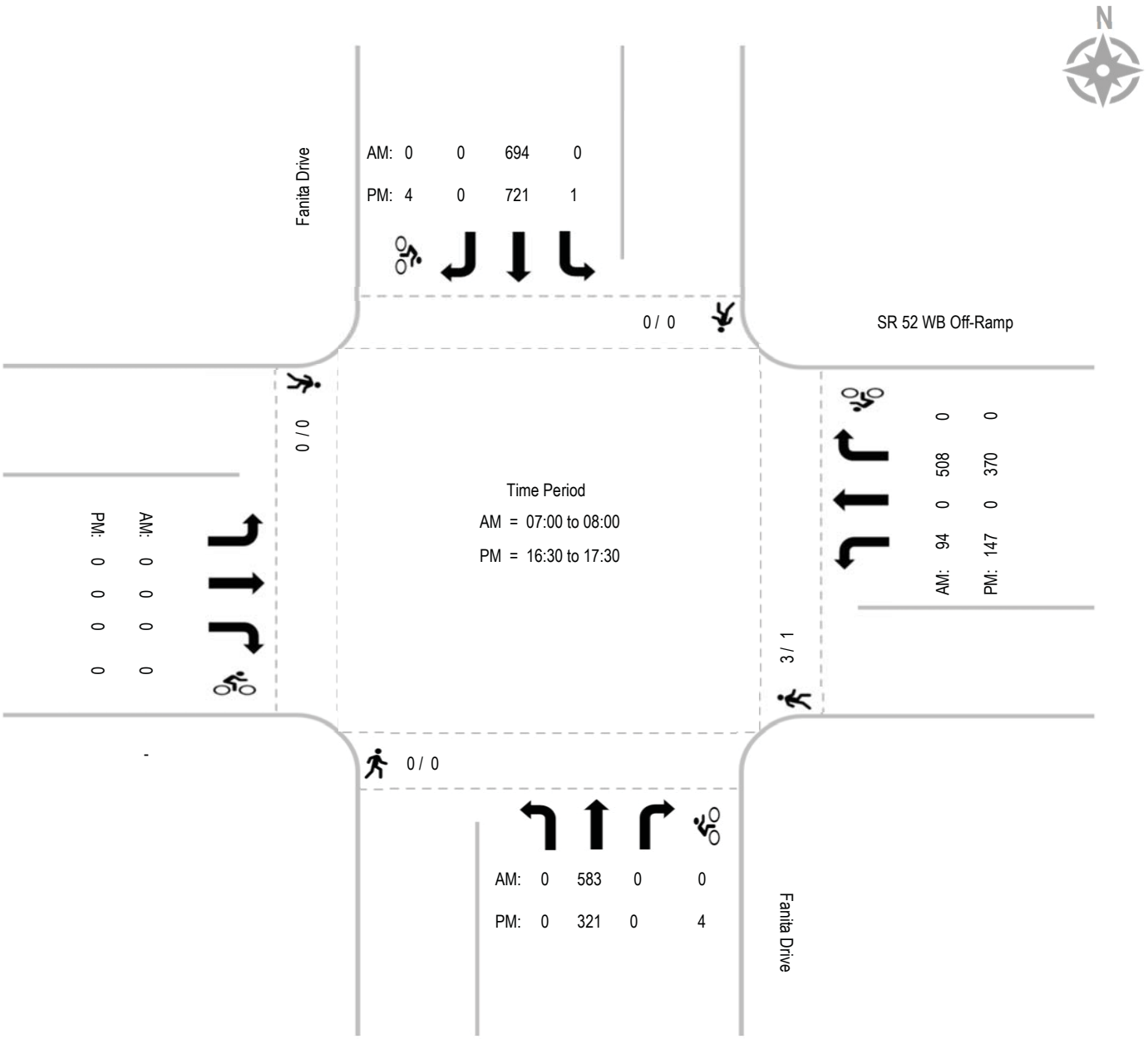
| | | | |
|---|---|---|---|
| Location: | #53 | File Name: | ITM-18-015-53 |
| Intersection: | Fanita Drive / SR 52 WB Off-Ramp | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Thursday, February 8, 2018 | | Fanita Ranch |

| AM | Fanita Drive Southbound | | | | SR 52 WB Off-Ramp Westbound | | | | Fanita Drive Northbound | | | | - Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 7:00 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 7:15 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 7:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 8:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped Total | 0 | | | | 3 | | | | 0 | | | | 0 | | | | 3 | |
| Bike Total | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 |

| PM | Fanita Drive Southbound | | | | SR 52 WB Off-Ramp Westbound | | | | Fanita Drive Northbound | | | | - Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 16:00 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 16:15 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 16:30 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 16:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:30 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 17:45 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| Ped Total | 0 | | | | 1 | | | | 0 | | | | 0 | | | | 1 | |
| Bike Total | | 0 | 4 | 0 | | 0 | 0 | 0 | | 0 | 4 | 0 | | 0 | 0 | 0 | | 8 |

# Intersection Turning Movement - Peak Hour Summary

| | | | | |
|---|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #53 | File Name: | ITM-18-015-53 |
| | Intersection: | Fanita Drive / SR 52 WB Off-Ramp | Project: | LLG Ref. 3-15-2462 |
| | Date of Count: | Thursday, February 8, 2018 | | Fanita Ranch |



# Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers

| | | | |
|---|---|---|---|
| Location: | #54 | File Name: | ITM-18-015-54 |
| Intersection: | Fanita Drive / SR 52 EB On-Ramp | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Thursday, February 8, 2018 | | Fanita Ranch |

| AM | Fanita Drive Southbound | | | SR 52 EB On-Ramp Westbound | | | Fanita Drive Northbound | | | - Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 7:00 | 92 | 73 | 0 | 0 | 0 | 0 | 0 | 129 | 74 | 0 | 0 | 0 | 368 |
| 7:15 | 117 | 93 | 0 | 0 | 0 | 0 | 0 | 125 | 36 | 0 | 0 | 0 | 371 |
| 7:30 | 101 | 95 | 0 | 0 | 0 | 0 | 0 | 138 | 41 | 0 | 0 | 0 | 375 |
| 7:45 | 106 | 97 | 0 | 0 | 0 | 0 | 0 | 171 | 45 | 0 | 0 | 0 | 419 |
| 8:00 | 78 | 84 | 0 | 0 | 0 | 0 | 0 | 112 | 23 | 0 | 0 | 0 | 297 |
| 8:15 | 81 | 86 | 0 | 0 | 0 | 0 | 0 | 90 | 27 | 0 | 0 | 0 | 284 |
| 8:30 | 80 | 55 | 0 | 0 | 0 | 0 | 0 | 92 | 15 | 0 | 0 | 0 | 242 |
| 8:45 | 56 | 59 | 0 | 0 | 0 | 0 | 0 | 84 | 15 | 0 | 0 | 0 | 214 |
| Total | 711 | 642 | 0 | 0 | 0 | 0 | 0 | 941 | 276 | 0 | 0 | 0 | 2570 |
| Approach% | 52.5 | 47.5 | - | - | - | - | - | 77.3 | 22.7 | - | - | - | |
| Total% | 27.7 | 25.0 | - | - | - | - | - | 36.6 | 10.7 | - | - | - | |

**AM Intersection Peak Hour:** **07:00 to 08:00**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 416 | 358 | - | - | - | - | - | 563 | 196 | - | - | - | 1,533 |
| Approach% | 53.7 | 46.3 | - | - | - | - | - | 74.2 | 25.8 | - | - | - | |
| Total% | 27.1 | 23.4 | - | - | - | - | - | 36.7 | 12.8 | - | - | - | |
| PHF | | | 0.92 | | | | | | 0.88 | | | | |

| PM | Fanita Drive Southbound | | | SR 52 EB On-Ramp Westbound | | | Fanita Drive Northbound | | | - Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 16:00 | 86 | 115 | 0 | 0 | 0 | 0 | 0 | 84 | 16 | 0 | 0 | 0 | 301 |
| 16:15 | 84 | 114 | 0 | 0 | 0 | 0 | 0 | 76 | 15 | 0 | 0 | 0 | 289 |
| 16:30 | 76 | 125 | 0 | 0 | 0 | 0 | 0 | 78 | 29 | 0 | 0 | 0 | 308 |
| 16:45 | 97 | 140 | 0 | 0 | 0 | 0 | 0 | 71 | 19 | 0 | 0 | 0 | 327 |
| 17:00 | 89 | 118 | 0 | 0 | 0 | 0 | 0 | 104 | 15 | 0 | 0 | 0 | 326 |
| 17:15 | 88 | 130 | 0 | 0 | 0 | 0 | 0 | 68 | 22 | 0 | 0 | 0 | 308 |
| 17:30 | 79 | 117 | 0 | 0 | 0 | 0 | 0 | 58 | 28 | 0 | 0 | 0 | 282 |
| 17:45 | 87 | 109 | 0 | 0 | 0 | 0 | 0 | 77 | 17 | 0 | 0 | 0 | 290 |
| Total | 686 | 968 | 0 | 0 | 0 | 0 | 0 | 616 | 161 | 0 | 0 | 0 | 2431 |
| Approach% | 41.5 | 58.5 | - | - | - | - | - | 79.3 | 20.7 | - | - | - | |
| Total% | 26.7 | 37.7 | - | - | - | - | - | 24.0 | 6.3 | - | - | - | |

**PM Intersection Peak Hour:** **16:30 to 17:30**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 350 | 513 | - | - | - | - | - | 321 | 85 | - | - | - | 1,269 |
| Approach% | 40.6 | 59.4 | - | - | - | - | - | 79.1 | 20.9 | - | - | - | |
| Total% | 22.8 | 33.5 | - | - | - | - | - | 20.9 | 5.5 | - | - | - | |
| PHF | | | 0.91 | | | | | | 0.85 | | | | |

# Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

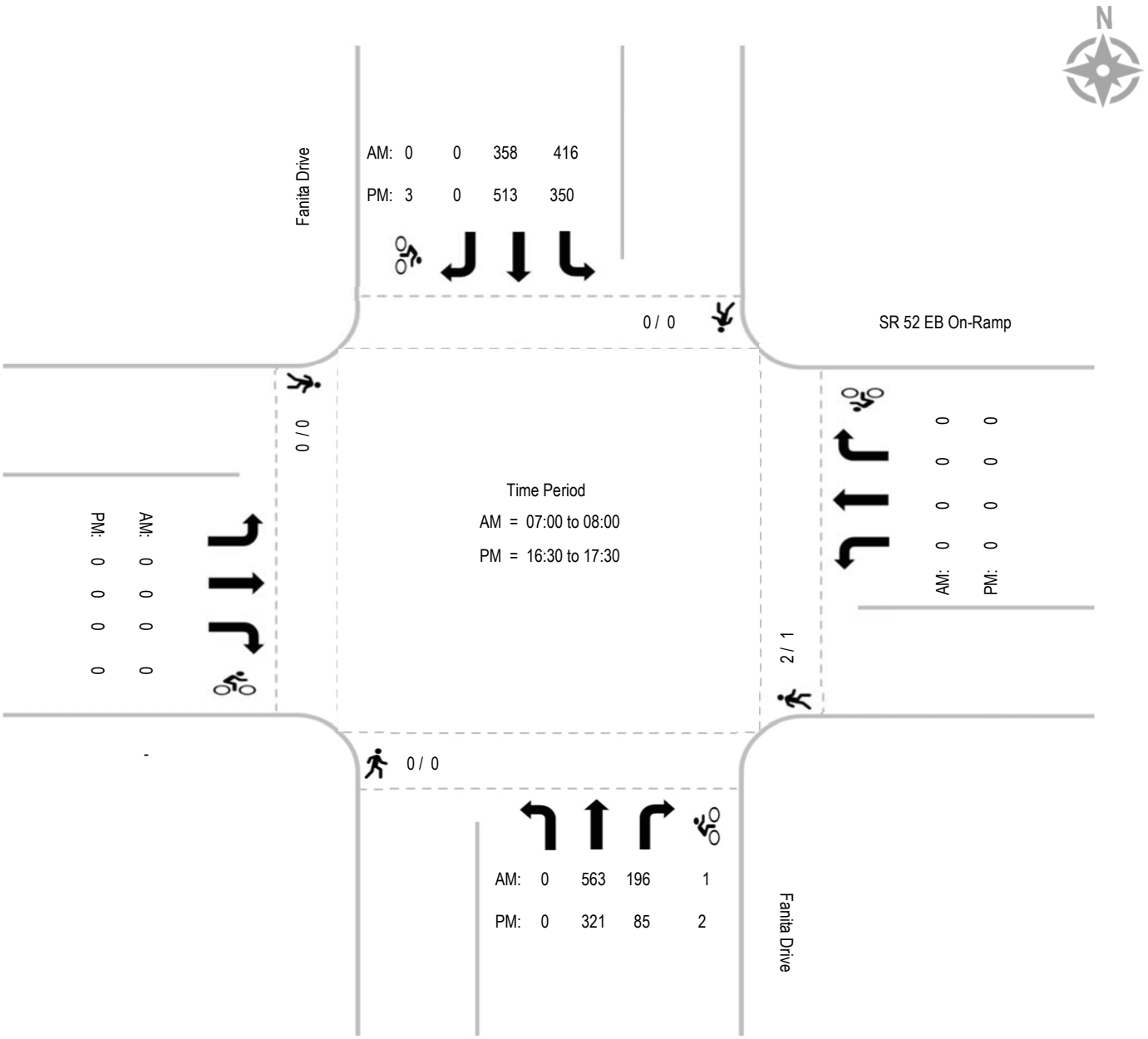
| | | | |
|---|---|---|---|
| Location: | #54 | File Name: | ITM-18-015-54 |
| Intersection: | Fanita Drive / SR 52 EB On-Ramp | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Thursday, February 8, 2018 | | Fanita Ranch |

| AM | Fanita Drive Southbound | | | | SR 52 EB On-Ramp Westbound | | | | Fanita Drive Northbound | | | | - Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 7:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 7:45 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 8:00 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 8:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped Total | 0 | | | | 2 | | | | 0 | | | | 0 | | | | 2 | |
| Bike Total | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 1 | 0 | | 0 | 0 | 0 | | 1 |

| PM | Fanita Drive Southbound | | | | SR 52 EB On-Ramp Westbound | | | | Fanita Drive Northbound | | | | - Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 16:00 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 16:15 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 16:30 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 16:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:15 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 17:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Ped Total | 0 | | | | 1 | | | | 0 | | | | 0 | | | | 1 | |
| Bike Total | | 0 | 3 | 0 | | 0 | 0 | 0 | | 0 | 2 | 0 | | 0 | 0 | 0 | | 5 |

# Intersection Turning Movement - Peak Hour Summary

| | | | | |
|---|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #54 | File Name: | ITM-18-015-54 |
| | Intersection: | Fanita Drive / SR 52 EB On-Ramp | Project: | LLG Ref. 3-15-2462 |
| | Date of Count: | Thursday, February 8, 2018 | | Fanita Ranch |



# Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers

| | | | |
|---|---|---|---|
| Location: | #55 | File Name: | ITM-18-015-55 |
| Intersection: | Buena Vista Avenue / Cuyamaca Street | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Tuesday, February 6, 2018 | | Fanita Ranch |

| AM | Cuyamaca Street Southbound | | | Buena Vista Avenue Westbound | | | Cuyamaca Street Northbound | | | Buena Vista Avenue Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 7:00 | 2 | 176 | 12 | 42 | 2 | 8 | 22 | 244 | 22 | 1 | 0 | 1 | 532 |
| 7:15 | 5 | 253 | 6 | 33 | 0 | 15 | 11 | 296 | 30 | 1 | 0 | 4 | 654 |
| 7:30 | 7 | 250 | 3 | 54 | 0 | 13 | 7 | 329 | 31 | 1 | 0 | 3 | 698 |
| 7:45 | 11 | 283 | 9 | 33 | 0 | 10 | 16 | 348 | 37 | 5 | 2 | 2 | 756 |
| 8:00 | 6 | 190 | 9 | 31 | 1 | 14 | 9 | 290 | 54 | 3 | 0 | 3 | 610 |
| 8:15 | 5 | 180 | 2 | 26 | 0 | 15 | 13 | 318 | 33 | 2 | 1 | 2 | 597 |
| 8:30 | 8 | 227 | 2 | 35 | 2 | 11 | 15 | 274 | 30 | 1 | 0 | 1 | 606 |
| 8:45 | 8 | 197 | 3 | 33 | 3 | 14 | 7 | 321 | 34 | 4 | 1 | 3 | 628 |
| Total | 52 | 1756 | 46 | 287 | 8 | 100 | 100 | 2420 | 271 | 18 | 4 | 19 | 5081 |
| Approach% | 2.8 | 94.7 | 2.5 | 72.7 | 2.0 | 25.3 | 3.6 | 86.7 | 9.7 | 43.9 | 9.8 | 46.3 | |
| Total% | 1.0 | 34.6 | 0.9 | 5.6 | 0.2 | 2.0 | 2.0 | 47.6 | 5.3 | 0.4 | 0.1 | 0.4 | |

**AM Intersection Peak Hour:** **07:15 to 08:15**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 29 | 976 | 27 | 151 | 1 | 52 | 43 | 1,263 | 152 | 10 | 2 | 12 | 2,718 |
| Approach% | 2.8 | 94.6 | 2.6 | 74.0 | 0.5 | 25.5 | 2.9 | 86.6 | 10.4 | 41.7 | 8.3 | 50.0 | |
| Total% | 1.1 | 35.9 | 1.0 | 5.6 | 0.0 | 1.9 | 1.6 | 46.5 | 5.6 | 0.4 | 0.1 | 0.4 | |
| PHF | | | 0.85 | | | 0.76 | | | 0.91 | | | 0.67 | |

| PM | Cuyamaca Street Southbound | | | Buena Vista Avenue Westbound | | | Cuyamaca Street Northbound | | | Buena Vista Avenue Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 16:00 | 15 | 334 | 3 | 44 | 2 | 17 | 4 | 404 | 47 | 9 | 1 | 4 | 884 |
| 16:15 | 14 | 293 | 1 | 37 | 1 | 22 | 6 | 405 | 71 | 3 | 0 | 11 | 864 |
| 16:30 | 9 | 375 | 1 | 45 | 1 | 8 | 5 | 449 | 41 | 5 | 2 | 15 | 956 |
| 16:45 | 8 | 351 | 8 | 38 | 3 | 15 | 8 | 411 | 49 | 10 | 1 | 4 | 906 |
| 17:00 | 23 | 414 | 0 | 64 | 0 | 6 | 3 | 364 | 65 | 7 | 1 | 14 | 961 |
| 17:15 | 10 | 407 | 6 | 32 | 0 | 12 | 4 | 419 | 53 | 6 | 0 | 14 | 963 |
| 17:30 | 10 | 421 | 0 | 42 | 1 | 14 | 5 | 382 | 60 | 3 | 1 | 16 | 955 |
| 17:45 | 22 | 350 | 1 | 28 | 0 | 9 | 2 | 402 | 43 | 3 | 1 | 4 | 865 |
| Total | 111 | 2945 | 20 | 330 | 8 | 103 | 37 | 3236 | 429 | 46 | 7 | 82 | 7354 |
| Approach% | 3.6 | 95.7 | 0.7 | 74.8 | 1.8 | 23.4 | 1.0 | 87.4 | 11.6 | 34.1 | 5.2 | 60.7 | |
| Total% | 2.2 | 58.0 | 0.4 | 6.5 | 0.2 | 2.0 | 0.7 | 63.7 | 8.4 | 0.9 | 0.1 | 1.6 | |

**PM Intersection Peak Hour:** **16:30 to 17:30**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 50 | 1,547 | 15 | 179 | 4 | 41 | 20 | 1,643 | 208 | 28 | 4 | 47 | 3,786 |
| Approach% | 3.1 | 96.0 | 0.9 | 79.9 | 1.8 | 18.3 | 1.1 | 87.8 | 11.1 | 35.4 | 5.1 | 59.5 | |
| Total% | 1.8 | 56.9 | 0.6 | 6.6 | 0.1 | 1.5 | 0.7 | 60.4 | 7.7 | 1.0 | 0.1 | 1.7 | |
| PHF | | | 0.92 | | | 0.80 | | | 0.94 | | | 0.90 | |

# Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

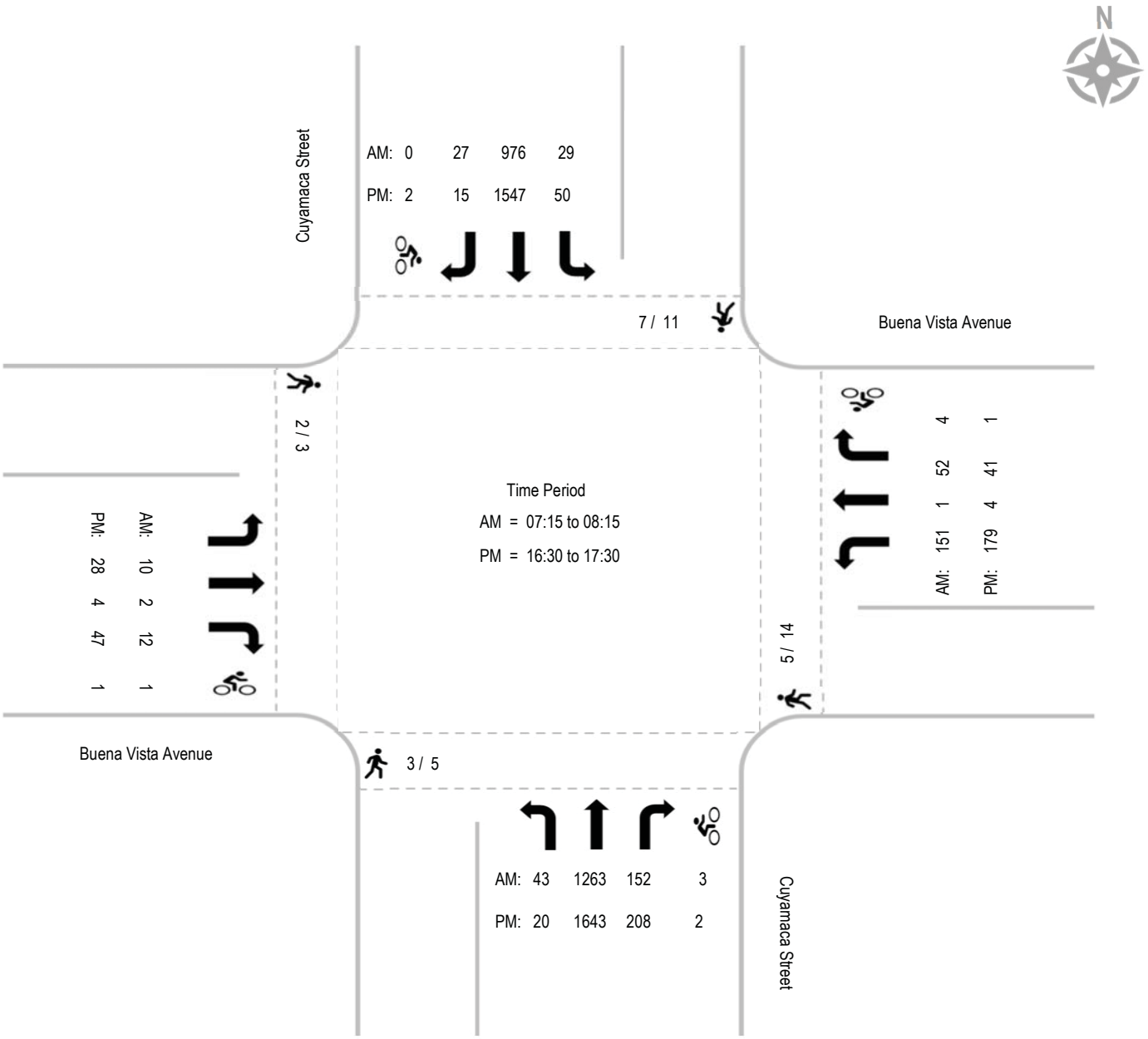
| | | | |
|---|---|---|---|
| Location: | #55 | File Name: | ITM-18-015-55 |
| Intersection: | Buena Vista Avenue / Cuyamaca Street | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Tuesday, February 6, 2018 | | Fanita Ranch |

| AM | Cuyamaca Street Southbound | | | | Buena Vista Avenue Westbound | | | | Cuyamaca Street Northbound | | | | Buena Vista Avenue Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 7:00 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 1 |
| 7:15 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 2 |
| 7:30 | 0 | 0 | 0 | 0 | 1 | 0 | 3 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 5 |
| 7:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 8:00 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 3 | 0 |
| 8:15 | 3 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 |
| 8:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 |
| Ped Total | 7 | | | | 5 | | | | 3 | | | | 2 | | | | 17 | |
| Bike Total | | 0 | 0 | 0 | | 0 | 4 | 0 | | 0 | 2 | 1 | | 0 | 1 | 0 | | 8 |

| PM | Cuyamaca Street Southbound | | | | Buena Vista Avenue Westbound | | | | Cuyamaca Street Northbound | | | | Buena Vista Avenue Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 16:00 | 1 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 5 | 1 |
| 16:15 | 0 | 0 | 0 | 0 | 3 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 1 |
| 16:30 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 3 | 4 |
| 16:45 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 3 | 0 |
| 17:00 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 |
| 17:15 | 4 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 0 |
| 17:30 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 17:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| Ped Total | 11 | | | | 14 | | | | 5 | | | | 3 | | | | 33 | |
| Bike Total | | 1 | 1 | 0 | | 0 | 1 | 0 | | 0 | 2 | 0 | | 0 | 1 | 0 | | 6 |

# Intersection Turning Movement - Peak Hour Summary

| | | | | |
|---|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #55 | File Name: | ITM-18-015-55 |
| | Intersection: | Buena Vista Avenue / Cuyamaca Street | Project: | LLG Ref. 3-15-2462 |
| | Date of Count: | Tuesday, February 6, 2018 | | Fanita Ranch |



# Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers

| | | | |
|---|---|---|---|
| Location: | #56 | File Name: | ITM-18-015-56 |
| Intersection: | Cuyamaca Street / SR 52 WB Ramps | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Tuesday, February 6, 2018 | | Fanita Ranch |

| AM | Cuyamaca Street Southbound | | | SR 52 WB Ramps Westbound | | | Cuyamaca Street Northbound | | | SR 52 WB Ramps Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 7:00 | 0 | 169 | 68 | 0 | 0 | 157 | 0 | 152 | 41 | 0 | 0 | 0 | 587 |
| 7:15 | 0 | 246 | 80 | 0 | 0 | 184 | 0 | 161 | 37 | 0 | 0 | 0 | 708 |
| 7:30 | 0 | 239 | 74 | 0 | 0 | 207 | 0 | 210 | 56 | 0 | 0 | 0 | 786 |
| 7:45 | 0 | 283 | 71 | 0 | 0 | 208 | 0 | 197 | 60 | 0 | 0 | 0 | 819 |
| 8:00 | 0 | 201 | 62 | 0 | 0 | 179 | 0 | 193 | 32 | 0 | 0 | 0 | 667 |
| 8:15 | 0 | 189 | 58 | 0 | 0 | 187 | 0 | 183 | 38 | 0 | 0 | 0 | 655 |
| 8:30 | 0 | 164 | 85 | 0 | 0 | 124 | 0 | 156 | 47 | 0 | 0 | 0 | 576 |
| 8:45 | 0 | 152 | 67 | 0 | 0 | 134 | 0 | 172 | 48 | 0 | 0 | 0 | 573 |
| Total | 0 | 1643 | 565 | 0 | 0 | 1380 | 0 | 1424 | 359 | 0 | 0 | 0 | 5371 |
| Approach% | - | 74.4 | 25.6 | - | - | 100.0 | - | 79.9 | 20.1 | - | - | - | |
| Total% | - | 30.6 | 10.5 | - | - | 25.7 | - | 26.5 | 6.7 | - | - | - | |

**AM Intersection Peak Hour:** **07:15 to 08:15**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | - | 969 | 287 | - | - | 778 | - | 761 | 185 | - | - | - | 2,980 |
| Approach% | - | 77.1 | 22.9 | - | - | 100.0 | - | 80.4 | 19.6 | - | - | - | |
| Total% | - | 32.5 | 9.6 | - | - | 26.1 | - | 25.5 | 6.2 | - | - | - | |
| PHF | | | 0.89 | | | 0.94 | | | 0.89 | | | | |

| PM | Cuyamaca Street Southbound | | | SR 52 WB Ramps Westbound | | | Cuyamaca Street Northbound | | | SR 52 WB Ramps Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 16:00 | 0 | 308 | 146 | 0 | 0 | 154 | 0 | 274 | 107 | 0 | 0 | 0 | 989 |
| 16:15 | 0 | 270 | 125 | 0 | 0 | 156 | 0 | 255 | 84 | 0 | 0 | 0 | 890 |
| 16:30 | 0 | 271 | 151 | 0 | 0 | 120 | 0 | 255 | 90 | 0 | 0 | 0 | 887 |
| 16:45 | 0 | 261 | 107 | 0 | 0 | 173 | 0 | 243 | 43 | 0 | 0 | 0 | 827 |
| 17:00 | 0 | 243 | 144 | 0 | 0 | 154 | 0 | 274 | 107 | 0 | 0 | 0 | 922 |
| 17:15 | 0 | 270 | 125 | 0 | 0 | 156 | 0 | 255 | 84 | 0 | 0 | 0 | 890 |
| 17:30 | 0 | 271 | 151 | 0 | 0 | 120 | 0 | 253 | 90 | 0 | 0 | 0 | 885 |
| 17:45 | 0 | 161 | 107 | 0 | 0 | 173 | 0 | 243 | 43 | 0 | 0 | 0 | 727 |
| Total | 0 | 2055 | 1056 | 0 | 0 | 1206 | 0 | 2052 | 648 | 0 | 0 | 0 | 7017 |
| Approach% | - | 66.1 | 33.9 | - | - | 100.0 | - | 76.0 | 24.0 | - | - | - | |
| Total% | - | 38.3 | 19.7 | - | - | 22.5 | - | 38.2 | 12.1 | - | - | - | |

**PM Intersection Peak Hour:** **16:00 to 17:00**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | - | 1,110 | 529 | - | - | 603 | - | 1,027 | 324 | - | - | - | 3,593 |
| Approach% | - | 67.7 | 32.3 | - | - | 100.0 | - | 76.0 | 24.0 | - | - | - | |
| Total% | - | 37.2 | 17.8 | - | - | 20.2 | - | 34.5 | 10.9 | - | - | - | |
| PHF | | | 0.90 | | | 0.87 | | | 0.89 | | | | |

# Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

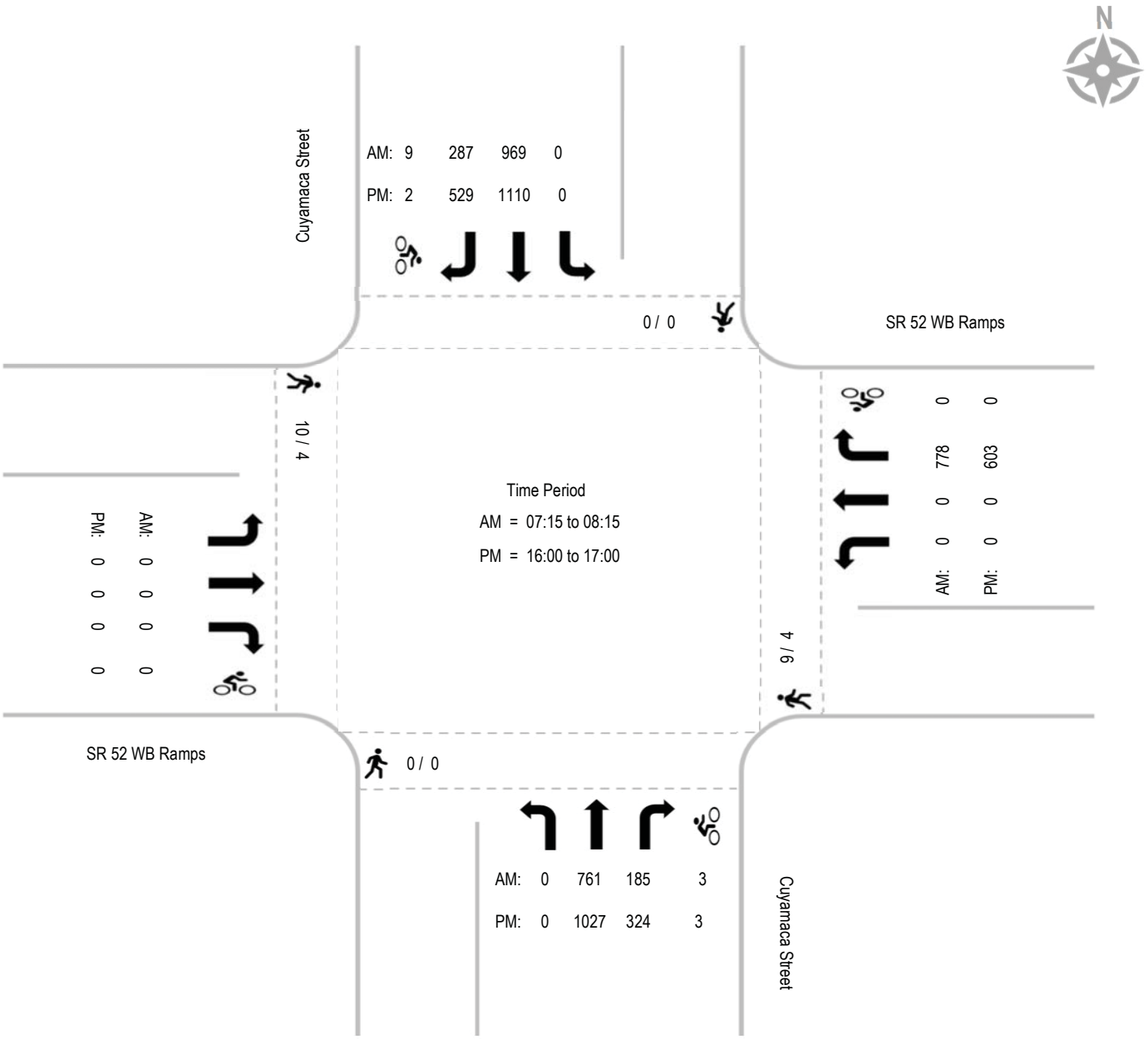
| | | | |
|---|---|---|---|
| Location: | #56 | File Name: | ITM-18-015-56 |
| Intersection: | Cuyamaca Street / SR 52 WB Ramps | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Tuesday, February 6, 2018 | | Fanita Ranch |

| AM | Cuyamaca Street Southbound | | | | SR 52 WB Ramps Westbound | | | | Cuyamaca Street Northbound | | | | SR 52 WB Ramps Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 7:00 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 7:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 0 |
| 7:30 | 0 | 0 | 3 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 3 | 4 |
| 7:45 | 0 | 0 | 4 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 4 | 4 |
| 8:00 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 3 | 0 |
| 8:15 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 |
| 8:30 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 3 | 1 |
| 8:45 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 3 | 1 |
| Ped Total | 0 | | | | 9 | | | | 0 | | | | 10 | | | | 19 | |
| Bike Total | | 0 | 9 | 0 | | 0 | 0 | 0 | | 0 | 3 | 0 | | 0 | 0 | 0 | | 12 |

| PM | Cuyamaca Street Southbound | | | | SR 52 WB Ramps Westbound | | | | Cuyamaca Street Northbound | | | | SR 52 WB Ramps Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 16:00 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 1 |
| 16:15 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 2 |
| 16:30 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 16:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:00 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 2 | 1 |
| 17:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 17:30 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 17:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Ped Total | 0 | | | | 4 | | | | 0 | | | | 4 | | | | 8 | |
| Bike Total | | 0 | 2 | 0 | | 0 | 0 | 0 | | 0 | 3 | 0 | | 0 | 0 | 0 | | 5 |

# Intersection Turning Movement - Peak Hour Summary

| | | | | |
|---|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #56 | File Name: | ITM-18-015-56 |
| | Intersection: | Cuyamaca Street / SR 52 WB Ramps | Project: | LLG Ref. 3-15-2462 |
| | Date of Count: | Tuesday, February 6, 2018 | | Fanita Ranch |



# Intersection Turning Movement - Peak Hour Vehicle Count

| | | | |
|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #57 | File Name: ITM-18-015-57 |
| | Intersection: | Cuyamaca Street / SR 52 EB Ramps | Project: LLG Ref. 3-15-2462 |
| | Date of Count: | Tuesday, February 6, 2018 | Fanita Ranch |

| AM | Cuyamaca Street Southbound | | | SR 52 EB On Ramp Westbound | | | Cuyamaca Street Northbound | | | SR 52 EB Off Ramp Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 7:00 | 53 | 124 | 0 | 0 | 0 | 0 | 0 | 135 | 19 | 53 | 0 | 84 | 468 |
| 7:15 | 77 | 169 | 0 | 0 | 0 | 0 | 0 | 161 | 17 | 50 | 0 | 80 | 554 |
| 7:30 | 49 | 185 | 0 | 0 | 0 | 0 | 0 | 197 | 19 | 45 | 0 | 114 | 609 |
| 7:45 | 87 | 188 | 0 | 0 | 0 | 0 | 0 | 178 | 26 | 59 | 1 | 117 | 656 |
| 8:00 | 67 | 127 | 0 | 0 | 0 | 0 | 0 | 130 | 22 | 93 | 1 | 160 | 600 |
| 8:15 | 75 | 106 | 0 | 0 | 0 | 0 | 0 | 108 | 31 | 94 | 0 | 82 | 496 |
| 8:30 | 77 | 105 | 0 | 0 | 0 | 0 | 0 | 124 | 23 | 98 | 0 | 88 | 515 |
| 8:45 | 55 | 102 | 0 | 0 | 0 | 0 | 0 | 90 | 34 | 112 | 1 | 92 | 486 |
| Total | 540 | 1106 | 0 | 0 | 0 | 0 | 0 | 1123 | 191 | 604 | 3 | 817 | 4384 |
| Approach% | 32.8 | 67.2 | - | - | - | - | - | 85.5 | 14.5 | 42.4 | 0.2 | 57.4 | |
| Total% | 12.3 | 25.2 | - | - | - | - | - | 25.6 | 4.4 | 13.8 | 0.1 | 18.6 | |
| **AM Intersection Peak Hour:** | **07:15 to 08:15** | | | | | | | | | | | | |
| Volume | 280 | 669 | - | - | - | - | - | 666 | 84 | 247 | 2 | 471 | 2,419 |
| Approach% | 29.5 | 70.5 | - | - | - | - | - | 88.8 | 11.2 | 34.3 | 0.3 | 65.4 | |
| Total% | 11.6 | 27.7 | - | - | - | - | - | 27.5 | 3.5 | 10.2 | 0.1 | 19.5 | |
| PHF | | | 0.86 | | | | | | 0.87 | | | 0.71 | |

| PM | Cuyamaca Street Southbound | | | SR 52 EB On Ramp Westbound | | | Cuyamaca Street Northbound | | | SR 52 EB Off Ramp Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 16:00 | 117 | 125 | 0 | 0 | 0 | 0 | 0 | 198 | 42 | 156 | 0 | 99 | 737 |
| 16:15 | 96 | 108 | 0 | 0 | 0 | 0 | 0 | 210 | 54 | 147 | 1 | 93 | 709 |
| 16:30 | 129 | 125 | 0 | 0 | 0 | 0 | 0 | 201 | 54 | 153 | 1 | 106 | 769 |
| 16:45 | 143 | 153 | 0 | 0 | 0 | 0 | 0 | 203 | 51 | 149 | 1 | 78 | 778 |
| 17:00 | 176 | 134 | 0 | 0 | 0 | 0 | 0 | 227 | 59 | 148 | 2 | 69 | 815 |
| 17:15 | 145 | 129 | 0 | 0 | 0 | 0 | 0 | 198 | 47 | 149 | 1 | 90 | 759 |
| 17:30 | 141 | 139 | 0 | 0 | 0 | 0 | 0 | 161 | 42 | 150 | 0 | 77 | 710 |
| 17:45 | 129 | 123 | 0 | 0 | 0 | 0 | 0 | 117 | 42 | 142 | 1 | 83 | 637 |
| Total | 1076 | 1036 | 0 | 0 | 0 | 0 | 0 | 1515 | 391 | 1194 | 7 | 695 | 5914 |
| Approach% | 50.9 | 49.1 | - | - | - | - | - | 79.5 | 20.5 | 63.0 | 0.4 | 36.7 | |
| Total% | 24.5 | 23.6 | - | - | - | - | - | 34.6 | 8.9 | 27.2 | 0.2 | 15.9 | |
| **PM Intersection Peak Hour:** | **16:30 to 17:30** | | | | | | | | | | | | |
| Volume | 593 | 541 | - | - | - | - | - | 829 | 211 | 599 | 5 | 343 | 3,121 |
| Approach% | 52.3 | 47.7 | - | - | - | - | - | 79.7 | 20.3 | 63.3 | 0.5 | 36.2 | |
| Total% | 24.5 | 22.4 | - | - | - | - | - | 34.3 | 8.7 | 24.8 | 0.2 | 14.2 | |
| PHF | | | 0.91 | | | | | | 0.91 | | | 0.91 | |

# Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

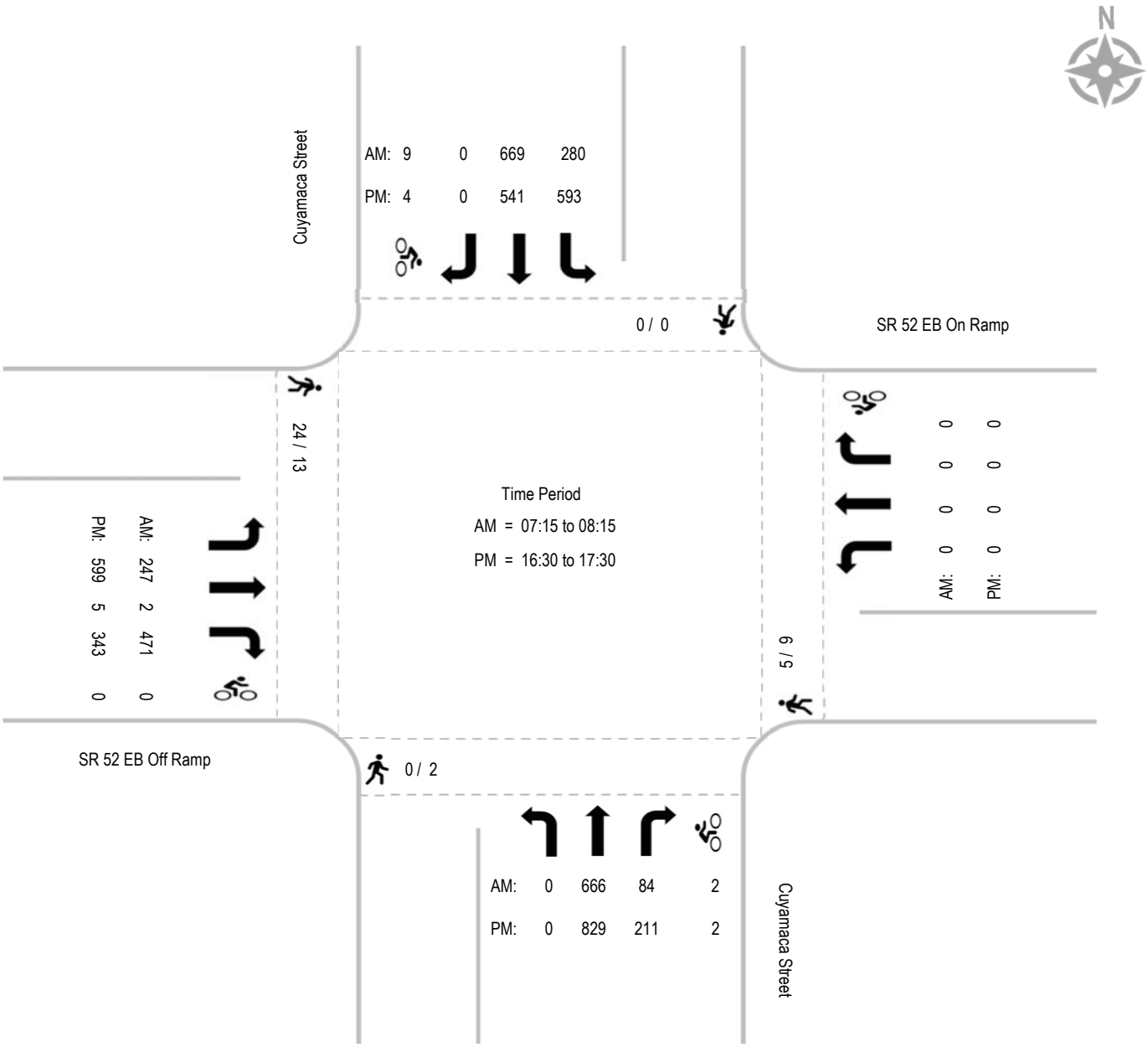
| | | | |
|---|---|---|---|
| Location: | #57 | File Name: | ITM-18-015-57 |
| Intersection: | Cuyamaca Street / SR 52 EB Ramps | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Tuesday, February 6, 2018 | | Fanita Ranch |

| AM | Cuyamaca Street Southbound | | | | SR 52 EB On Ramp Westbound | | | | Cuyamaca Street Northbound | | | | SR 52 EB Off Ramp Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 7:00 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 7:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 0 |
| 7:30 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 11 | 0 | 0 | 0 | 11 | 4 |
| 7:45 | 0 | 0 | 3 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 3 |
| 8:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 3 | 0 |
| 8:15 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 |
| 8:30 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 6 | 0 | 0 | 0 | 7 | 1 |
| 8:45 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 1 |
| Ped Total | 0 | | | | 5 | | | | 0 | | | | 24 | | | | 29 | |
| Bike Total | | 1 | 8 | 0 | | 0 | 0 | 0 | | 1 | 1 | 0 | | 0 | 0 | 0 | | 11 |

| PM | Cuyamaca Street Southbound | | | | SR 52 EB On Ramp Westbound | | | | Cuyamaca Street Northbound | | | | SR 52 EB Off Ramp Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 16:00 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 3 | 1 |
| 16:15 | 0 | 0 | 1 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 1 |
| 16:30 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 5 | 1 |
| 16:45 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 1 |
| 17:00 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 3 | 1 |
| 17:15 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 4 | 0 |
| 17:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 3 | 0 |
| 17:45 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| Ped Total | 0 | | | | 9 | | | | 2 | | | | 13 | | | | 24 | |
| Bike Total | | 0 | 4 | 0 | | 0 | 0 | 0 | | 0 | 2 | 0 | | 0 | 0 | 0 | | 6 |

# Intersection Turning Movement - Peak Hour Summary

| | | | | |
|---|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #57 | File Name: | ITM-18-015-57 |
| | Intersection: | Cuyamaca Street / SR 52 EB Ramps | Project: | LLG Ref. 3-15-2462 |
| | Date of Count: | Tuesday, February 6, 2018 | | Fanita Ranch |



# Intersection Turning Movement - Peak Hour Vehicle Count

| | | | |
|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #58 | File Name: ITM-18-015-58 |
| | Intersection: | Magnolia Avenue / SR 52 WB Ramps / SR-67 SB Ramps | Project: LLG Ref. 3-15-2462 |
| | Date of Count: | Tuesday, February 6, 2018 | Fanita Ranch |

| AM | Magnolia Avenue Southbound | | | SR-67 SB On Ramp Westbound | | | Magnolia Avenue Northbound | | | SR 52 WB On Ramp Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 7:00 | 120 | 135 | 53 | 0 | 0 | 0 | 61 | 257 | 28 | 0 | 0 | 0 | 654 |
| 7:15 | 124 | 114 | 57 | 0 | 0 | 0 | 70 | 256 | 34 | 0 | 0 | 0 | 655 |
| 7:30 | 150 | 117 | 70 | 0 | 0 | 0 | 64 | 253 | 33 | 0 | 0 | 0 | 687 |
| 7:45 | 130 | 188 | 58 | 0 | 0 | 0 | 67 | 340 | 35 | 0 | 0 | 0 | 818 |
| 8:00 | 129 | 139 | 52 | 0 | 0 | 0 | 57 | 262 | 29 | 0 | 0 | 0 | 668 |
| 8:15 | 137 | 108 | 57 | 0 | 0 | 0 | 81 | 251 | 37 | 0 | 0 | 0 | 671 |
| 8:30 | 109 | 91 | 47 | 0 | 0 | 0 | 60 | 203 | 31 | 0 | 0 | 0 | 541 |
| 8:45 | 108 | 93 | 46 | 0 | 0 | 0 | 52 | 221 | 30 | 0 | 0 | 0 | 550 |
| Total | 1007 | 985 | 440 | 0 | 0 | 0 | 512 | 2043 | 257 | 0 | 0 | 0 | 5244 |
| Approach% | 41.4 | 40.5 | 18.1 | - | - | - | 18.2 | 72.7 | 9.1 | - | - | - | |
| Total% | 19.2 | 18.8 | 8.4 | - | - | - | 9.8 | 39.0 | 4.9 | - | - | - | |

**AM Intersection Peak Hour:** **07:30 to 08:30**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 546 | 552 | 237 | - | - | - | 269 | 1,106 | 134 | - | - | - | 2,844 |
| Approach% | 40.9 | 41.3 | 17.8 | - | - | - | 17.8 | 73.3 | 8.9 | - | - | - | |
| Total% | 19.2 | 19.4 | 8.3 | - | - | - | 9.5 | 38.9 | 4.7 | - | - | - | |
| PHF | | | 0.89 | | | | | | 0.85 | | | | |

| PM | Magnolia Avenue Southbound | | | SR-67 SB On Ramp Westbound | | | Magnolia Avenue Northbound | | | SR 52 WB On Ramp Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 16:00 | 157 | 157 | 87 | 0 | 0 | 0 | 51 | 375 | 34 | 0 | 0 | 0 | 861 |
| 16:15 | 122 | 142 | 66 | 0 | 0 | 0 | 62 | 369 | 36 | 0 | 0 | 0 | 797 |
| 16:30 | 171 | 144 | 78 | 0 | 0 | 0 | 47 | 333 | 30 | 0 | 0 | 0 | 803 |
| 16:45 | 122 | 128 | 59 | 0 | 0 | 0 | 45 | 385 | 30 | 0 | 0 | 0 | 769 |
| 17:00 | 141 | 154 | 115 | 0 | 0 | 0 | 64 | 356 | 38 | 0 | 0 | 0 | 868 |
| 17:15 | 111 | 132 | 84 | 0 | 0 | 0 | 57 | 357 | 42 | 0 | 0 | 0 | 783 |
| 17:30 | 134 | 125 | 67 | 0 | 0 | 0 | 56 | 316 | 28 | 0 | 0 | 0 | 726 |
| 17:45 | 105 | 121 | 49 | 0 | 0 | 0 | 42 | 306 | 34 | 0 | 0 | 0 | 657 |
| Total | 1063 | 1103 | 605 | 0 | 0 | 0 | 424 | 2797 | 272 | 0 | 0 | 0 | 6264 |
| Approach% | 38.4 | 39.8 | 21.8 | - | - | - | 12.1 | 80.1 | 7.8 | - | - | - | |
| Total% | 20.3 | 21.0 | 11.5 | - | - | - | 8.1 | 53.3 | 5.2 | - | - | - | |

**PM Intersection Peak Hour:** **16:15 to 17:15**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 556 | 568 | 318 | - | - | - | 218 | 1,443 | 134 | - | - | - | 3,237 |
| Approach% | 38.6 | 39.4 | 22.1 | - | - | - | 12.1 | 80.4 | 7.5 | - | - | - | |
| Total% | 19.5 | 20.0 | 11.2 | - | - | - | 7.7 | 50.7 | 4.7 | - | - | - | |
| PHF | | | 0.88 | | | | | | 0.96 | | | | |

# Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

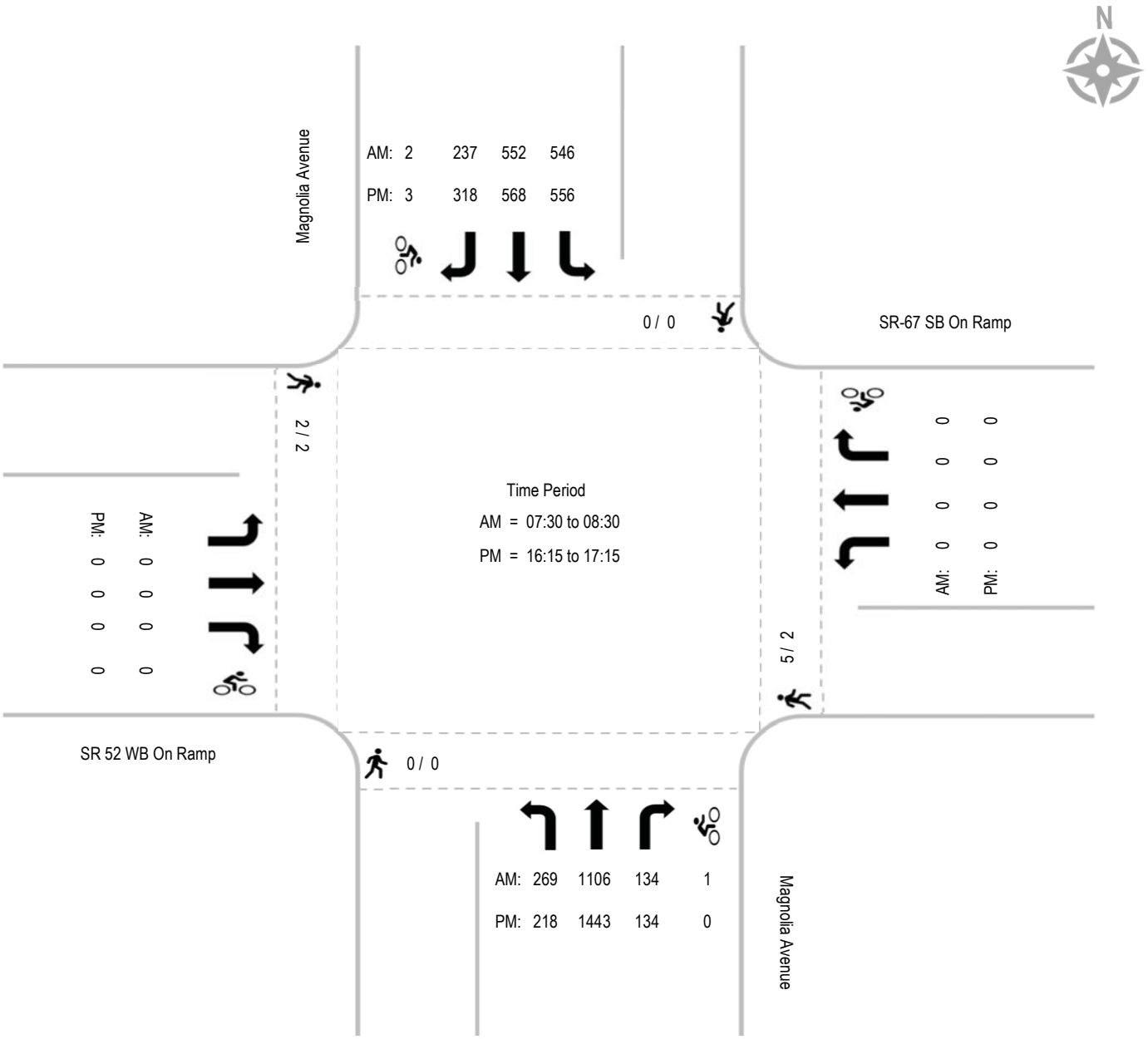
| | | | |
|---|---|---|---|
| Location: | #58 | File Name: | ITM-18-015-58 |
| Intersection: | Magnolia Avenue / SR 52 WB Ramps / SR-67 SB Ramps | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Tuesday, February 6, 2018 | | Fanita Ranch |

| AM | Magnolia Avenue Southbound | | | | SR-67 SB On Ramp Westbound | | | | Magnolia Avenue Northbound | | | | SR 52 WB On Ramp Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 7:00 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 7:15 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 7:30 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 2 | 1 |
| 7:45 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 8:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:15 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 8:30 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 |
| 8:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped Total | 0 | | | | 5 | | | | 0 | | | | 2 | | | | 7 | |
| Bike Total | | 0 | 2 | 0 | | 0 | 0 | 0 | | 0 | 1 | 0 | | 0 | 0 | 0 | | 3 |

| PM | Magnolia Avenue Southbound | | | | SR-67 SB On Ramp Westbound | | | | Magnolia Avenue Northbound | | | | SR 52 WB On Ramp Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 16:00 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 16:15 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 3 | 0 |
| 16:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:15 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 17:30 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 17:45 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Ped Total | 0 | | | | 2 | | | | 0 | | | | 2 | | | | 4 | |
| Bike Total | | 0 | 3 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 3 |

# Intersection Turning Movement - Peak Hour Summary

| | | | | |
|---|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #58 | File Name: | ITM-18-015-58 |
| | Intersection: | Magnolia Avenue / SR 52 WB Ramps / SR-67 SB Ramps | Project: | LLG Ref. 3-15-2462 |
| | Date of Count: | Tuesday, February 6, 2018 | | Fanita Ranch |



# Intersection Turning Movement - Peak Hour Vehicle Count

| | | | |
|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #59 | File Name: ITM-18-015-59 |
| | Intersection: | Magnolia Avenue / SR 52 EB Ramps | Project: LLG Ref. 3-15-2462 |
| | Date of Count: | Tuesday, February 6, 2018 | Fanita Ranch |

| AM | Magnolia Avenue Southbound | | | - Westbound | | | Magnolia Avenue Northbound | | | SR 52 EB Off Ramp Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 7:00 | 0 | 131 | 0 | 0 | 0 | 0 | 0 | 302 | 0 | 49 | 0 | 35 | 517 |
| 7:15 | 0 | 104 | 0 | 0 | 0 | 0 | 0 | 310 | 0 | 55 | 0 | 36 | 505 |
| 7:30 | 0 | 86 | 0 | 0 | 0 | 0 | 0 | 236 | 1 | 33 | 0 | 35 | 391 |
| 7:45 | 0 | 159 | 0 | 0 | 0 | 0 | 0 | 272 | 0 | 49 | 0 | 53 | 533 |
| 8:00 | 0 | 142 | 0 | 0 | 0 | 0 | 0 | 297 | 0 | 55 | 0 | 58 | 552 |
| 8:15 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 303 | 0 | 52 | 0 | 38 | 493 |
| 8:30 | 0 | 98 | 0 | 0 | 0 | 0 | 0 | 247 | 0 | 49 | 0 | 43 | 437 |
| 8:45 | 0 | 83 | 0 | 0 | 0 | 0 | 0 | 237 | 0 | 41 | 0 | 46 | 407 |
| Total | 0 | 903 | 0 | 0 | 0 | 0 | 0 | 2204 | 1 | 383 | 0 | 344 | 3835 |
| Approach% | - | 100.0 | - | - | - | - | - | 100.0 | 0.0 | 52.7 | - | 47.3 | |
| Total% | - | 23.5 | - | - | - | - | - | 57.5 | 0.0 | 10.0 | - | 9.0 | |

**AM Intersection Peak Hour:** **07:45 to 08:45**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | - | 499 | - | - | - | - | - | 1,119 | - | 205 | - | 192 | 2,015 |
| Approach% | - | 100.0 | - | - | - | - | - | 100.0 | - | 51.6 | - | 48.4 | |
| Total% | - | 24.8 | - | - | - | - | - | 55.5 | - | 10.2 | - | 9.5 | |
| PHF | | | 0.78 | | | | | | 0.92 | | | 0.88 | |

| PM | Magnolia Avenue Southbound | | | - Westbound | | | Magnolia Avenue Northbound | | | SR 52 EB Off Ramp Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 16:00 | 0 | 154 | 0 | 0 | 0 | 0 | 0 | 322 | 0 | 137 | 0 | 120 | 733 |
| 16:15 | 0 | 127 | 0 | 0 | 0 | 0 | 0 | 348 | 0 | 100 | 0 | 99 | 674 |
| 16:30 | 0 | 133 | 0 | 0 | 0 | 0 | 0 | 312 | 0 | 114 | 0 | 104 | 663 |
| 16:45 | 0 | 125 | 0 | 0 | 0 | 0 | 0 | 345 | 0 | 124 | 0 | 135 | 729 |
| 17:00 | 0 | 153 | 0 | 0 | 0 | 0 | 0 | 345 | 0 | 118 | 0 | 120 | 736 |
| 17:15 | 0 | 134 | 0 | 0 | 0 | 0 | 0 | 334 | 0 | 97 | 0 | 105 | 670 |
| 17:30 | 0 | 128 | 0 | 0 | 0 | 0 | 0 | 298 | 0 | 111 | 0 | 99 | 636 |
| 17:45 | 0 | 103 | 0 | 0 | 0 | 0 | 0 | 301 | 0 | 87 | 0 | 98 | 589 |
| Total | 0 | 1057 | 0 | 0 | 0 | 0 | 0 | 2605 | 0 | 888 | 0 | 880 | 5430 |
| Approach% | - | 100.0 | - | - | - | - | - | 100.0 | - | 50.2 | - | 49.8 | |
| Total% | - | 27.6 | - | - | - | - | - | 67.9 | - | 23.2 | - | 22.9 | |

**PM Intersection Peak Hour:** **16:15 to 17:15**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | - | 538 | - | - | - | - | - | 1,350 | - | 456 | - | 458 | 2,802 |
| Approach% | - | 100.0 | - | - | - | - | - | 100.0 | - | 49.9 | - | 50.1 | |
| Total% | - | 26.7 | - | - | - | - | - | 67.0 | - | 22.6 | - | 22.7 | |
| PHF | | | 0.88 | | | | | | 0.97 | | | 0.88 | |

# Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

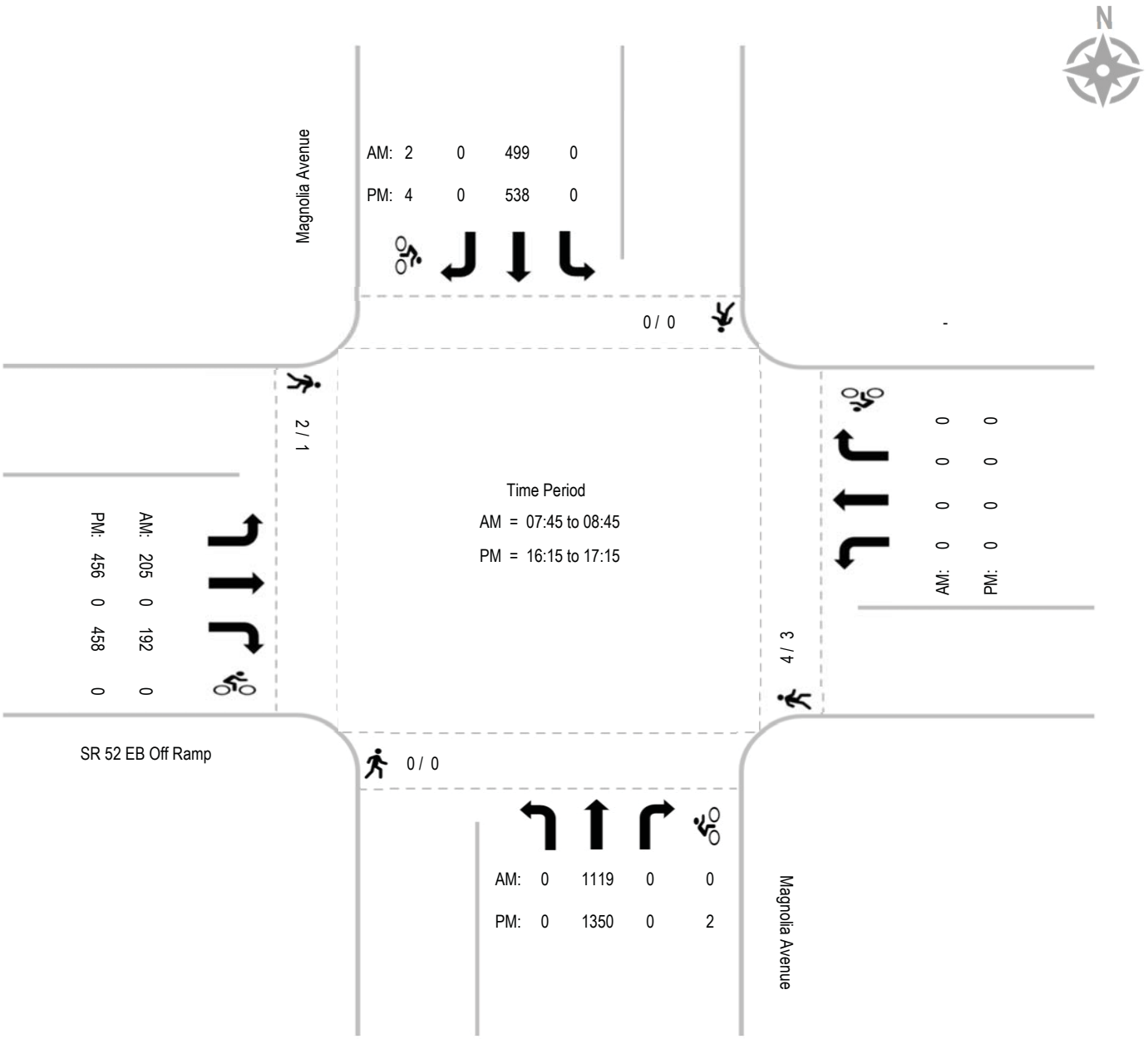
| | | | |
|---|---|---|---|
| Location: | #59 | File Name: | ITM-18-015-59 |
| Intersection: | Magnolia Avenue / SR 52 EB Ramps | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Tuesday, February 6, 2018 | | Fanita Ranch |

| AM | Magnolia Avenue Southbound | | | | - Westbound | | | | Magnolia Avenue Northbound | | | | SR 52 EB Off Ramp Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 7:00 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 |
| 7:15 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 7:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:15 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 8:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 8:45 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Ped Total | 0 | | | | 4 | | | | 0 | | | | 2 | | | | 6 | |
| Bike Total | | 0 | 2 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 2 |

| PM | Magnolia Avenue Southbound | | | | - Westbound | | | | Magnolia Avenue Northbound | | | | SR 52 EB Off Ramp Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 16:00 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 16:15 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 1 |
| 16:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 17:15 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 17:30 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 17:45 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| Ped Total | 0 | | | | 3 | | | | 0 | | | | 1 | | | | 4 | |
| Bike Total | | 0 | 4 | 0 | | 0 | 0 | 0 | | 0 | 2 | 0 | | 0 | 0 | 0 | | 6 |

# Intersection Turning Movement - Peak Hour Summary

| | | | | | |
|---|---|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #59 | File Name: | ITM-18-015-59 |
| | Intersection: | Magnolia Avenue / SR 52 EB Ramps | Project: | LLG Ref. 3-15-2462 |
| | Date of Count: | Tuesday, February 6, 2018 | | Fanita Ranch |



# Intersection Turning Movement - Peak Hour Vehicle Count

| | | | |
|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #60 | File Name: ITM-18-015-60 |
| | Intersection: | Prospect Avenue / Fanita Drive | Project: LLG Ref. 3-15-2462 |
| | Date of Count: | Thursday, February 8, 2018 | Fanita Ranch |

| AM | Fanita Drive Southbound | | | Prospect Avenue Westbound | | | Fanita Drive Northbound | | | Prospect Avenue Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 7:00 | 29 | 21 | 21 | 14 | 29 | 55 | 12 | 69 | 7 | 22 | 6 | 7 | 292 |
| 7:15 | 43 | 31 | 23 | 18 | 36 | 61 | 31 | 64 | 19 | 29 | 15 | 12 | 382 |
| 7:30 | 56 | 27 | 32 | 20 | 69 | 64 | 15 | 71 | 21 | 49 | 15 | 20 | 459 |
| 7:45 | 27 | 54 | 17 | 19 | 32 | 85 | 12 | 95 | 12 | 46 | 19 | 12 | 430 |
| 8:00 | 18 | 42 | 15 | 7 | 14 | 42 | 6 | 53 | 8 | 15 | 4 | 6 | 230 |
| 8:15 | 23 | 44 | 27 | 11 | 23 | 42 | 0 | 53 | 10 | 23 | 13 | 4 | 273 |
| 8:30 | 22 | 32 | 17 | 20 | 12 | 37 | 3 | 55 | 7 | 8 | 9 | 3 | 225 |
| 8:45 | 20 | 28 | 15 | 18 | 18 | 46 | 3 | 42 | 14 | 29 | 13 | 6 | 252 |
| Total | 238 | 279 | 167 | 127 | 233 | 432 | 82 | 502 | 98 | 221 | 94 | 70 | 2543 |
| Approach% | 34.8 | 40.8 | 24.4 | 16.0 | 29.4 | 54.5 | 12.0 | 73.6 | 14.4 | 57.4 | 24.4 | 18.2 | |
| Total% | 9.4 | 11.0 | 6.6 | 5.0 | 9.2 | 17.0 | 3.2 | 19.7 | 3.9 | 8.7 | 3.7 | 2.8 | |

**AM Intersection Peak Hour:** **07:00 to 08:00**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 155 | 133 | 93 | 71 | 166 | 265 | 70 | 299 | 59 | 146 | 55 | 51 | 1,563 |
| Approach% | 40.7 | 34.9 | 24.4 | 14.1 | 33.1 | 52.8 | 16.4 | 69.9 | 13.8 | 57.9 | 21.8 | 20.2 | |
| Total% | 9.9 | 8.5 | 6.0 | 4.5 | 10.6 | 17.0 | 4.5 | 19.1 | 3.8 | 9.3 | 3.5 | 3.3 | |
| PHF | | | 0.83 | | | 0.82 | | | 0.90 | | | 0.75 | |

| PM | Fanita Drive Southbound | | | Prospect Avenue Westbound | | | Fanita Drive Northbound | | | Prospect Avenue Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 16:00 | 41 | 46 | 24 | 12 | 15 | 36 | 6 | 45 | 15 | 16 | 17 | 8 | 281 |
| 16:15 | 46 | 41 | 23 | 12 | 19 | 38 | 5 | 51 | 21 | 13 | 18 | 13 | 300 |
| 16:30 | 32 | 58 | 20 | 14 | 18 | 34 | 9 | 56 | 24 | 14 | 14 | 8 | 301 |
| 16:45 | 47 | 63 | 30 | 23 | 18 | 39 | 11 | 40 | 11 | 17 | 28 | 13 | 340 |
| 17:00 | 51 | 49 | 20 | 31 | 27 | 41 | 11 | 62 | 26 | 28 | 25 | 4 | 375 |
| 17:15 | 43 | 60 | 37 | 24 | 26 | 30 | 9 | 45 | 25 | 21 | 24 | 14 | 358 |
| 17:30 | 48 | 50 | 17 | 20 | 30 | 32 | 9 | 42 | 23 | 22 | 11 | 6 | 310 |
| 17:45 | 38 | 47 | 25 | 25 | 23 | 41 | 3 | 38 | 14 | 32 | 17 | 6 | 309 |
| Total | 346 | 414 | 196 | 161 | 176 | 291 | 63 | 379 | 159 | 163 | 154 | 72 | 2574 |
| Approach% | 36.2 | 43.3 | 20.5 | 25.6 | 28.0 | 46.3 | 10.5 | 63.1 | 26.5 | 41.9 | 39.6 | 18.5 | |
| Total% | 13.6 | 16.3 | 7.7 | 6.3 | 6.9 | 11.4 | 2.5 | 14.9 | 6.3 | 6.4 | 6.1 | 2.8 | |

**PM Intersection Peak Hour:** **16:45 to 17:45**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 189 | 222 | 104 | 98 | 101 | 142 | 40 | 189 | 85 | 88 | 88 | 37 | 1,383 |
| Approach% | 36.7 | 43.1 | 20.2 | 28.7 | 29.6 | 41.6 | 12.7 | 60.2 | 27.1 | 41.3 | 41.3 | 17.4 | |
| Total% | 12.1 | 14.2 | 6.7 | 6.3 | 6.5 | 9.1 | 2.6 | 12.1 | 5.4 | 5.6 | 5.6 | 2.4 | |
| PHF | | | 0.92 | | | 0.86 | | | 0.79 | | | 0.90 | |

# Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

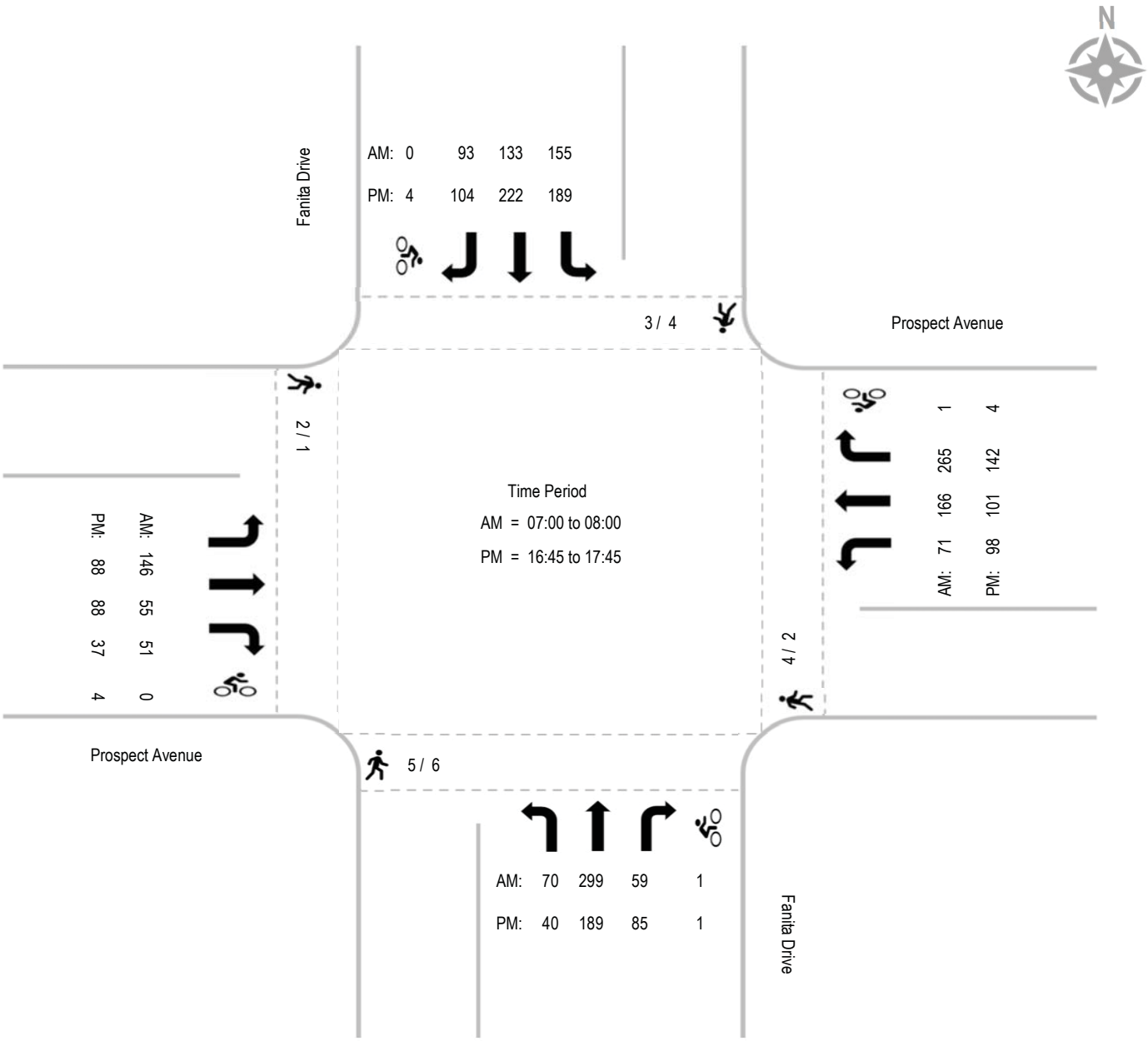
| | | | |
|---|---|---|---|
| Location: | #60 | File Name: | ITM-18-015-60 |
| Intersection: | Prospect Avenue / Fanita Drive | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Thursday, February 8, 2018 | | Fanita Ranch |

| AM | Fanita Drive Southbound | | | | Prospect Avenue Westbound | | | | Fanita Drive Northbound | | | | Prospect Avenue Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 7:00 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 7:15 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 |
| 7:30 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 2 | 2 |
| 7:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 8:00 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 8:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:30 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 8:45 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| Ped Total | 3 | | | | 4 | | | | 5 | | | | 2 | | | | 14 | |
| Bike Total | | 0 | 0 | 0 | | 0 | 1 | 0 | | 0 | 1 | 0 | | 0 | 0 | 0 | | 2 |

| PM | Fanita Drive Southbound | | | | Prospect Avenue Westbound | | | | Fanita Drive Northbound | | | | Prospect Avenue Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 16:00 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 16:15 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 16:30 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 2 |
| 16:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 1 |
| 17:00 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 4 | 1 |
| 17:15 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 2 |
| 17:30 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 2 |
| 17:45 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Ped Total | 4 | | | | 2 | | | | 6 | | | | 1 | | | | 13 | |
| Bike Total | | 0 | 1 | 3 | | 1 | 3 | 0 | | 0 | 0 | 1 | | 0 | 2 | 2 | | 13 |

# Intersection Turning Movement - Peak Hour Summary

| | | | | |
|---|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #60 | File Name: | ITM-18-015-60 |
| | Intersection: | Prospect Avenue / Fanita Drive | Project: | LLG Ref. 3-15-2462 |
| | Date of Count: | Thursday, February 8, 2018 | | Fanita Ranch |



# Intersection Turning Movement - Peak Hour Vehicle Count

| | | | |
|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #61 | File Name: ITM-18-015-61 |
| | Intersection: | Prospect Avenue / Cuyamaca Street | Project: LLG Ref. 3-15-2462 |
| | Date of Count: | Tuesday, February 6, 2018 | Fanita Ranch |

| AM | Cuyamaca Street Southbound | | | Prospect Avenue Westbound | | | Cuyamaca Street Northbound | | | Prospect Avenue Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 7:00 | 39 | 184 | 9 | 20 | 2 | 78 | 15 | 108 | 7 | 4 | 9 | 4 | 479 |
| 7:15 | 45 | 206 | 2 | 40 | 0 | 89 | 2 | 109 | 12 | 0 | 1 | 0 | 506 |
| 7:30 | 63 | 259 | 3 | 41 | 0 | 87 | 1 | 127 | 23 | 0 | 1 | 5 | 610 |
| 7:45 | 68 | 212 | 3 | 34 | 1 | 91 | 4 | 171 | 19 | 2 | 5 | 6 | 616 |
| 8:00 | 58 | 186 | 40 | 31 | 46 | 28 | 23 | 106 | 12 | 17 | 45 | 36 | 628 |
| 8:15 | 29 | 124 | 28 | 22 | 50 | 28 | 39 | 76 | 15 | 20 | 24 | 28 | 483 |
| 8:30 | 22 | 138 | 25 | 26 | 39 | 35 | 32 | 80 | 21 | 20 | 17 | 32 | 487 |
| 8:45 | 49 | 129 | 19 | 14 | 38 | 29 | 19 | 83 | 15 | 15 | 24 | 47 | 481 |
| Total | 373 | 1438 | 129 | 228 | 176 | 465 | 135 | 860 | 124 | 78 | 126 | 158 | 4290 |
| Approach% | 19.2 | 74.1 | 6.6 | 26.2 | 20.3 | 53.5 | 12.1 | 76.9 | 11.1 | 21.5 | 34.8 | 43.6 | |
| Total% | 8.7 | 33.5 | 3.0 | 5.3 | 4.1 | 10.8 | 3.1 | 20.0 | 2.9 | 1.8 | 2.9 | 3.7 | |
| **AM Intersection Peak Hour:** | **07:15 to 08:15** | | | | | | | | | | | | |
| Volume | 234 | 863 | 48 | 146 | 47 | 295 | 30 | 513 | 66 | 19 | 52 | 47 | 2,360 |
| Approach% | 20.4 | 75.4 | 4.2 | 29.9 | 9.6 | 60.5 | 4.9 | 84.2 | 10.8 | 16.1 | 44.1 | 39.8 | |
| Total% | 9.9 | 36.6 | 2.0 | 6.2 | 2.0 | 12.5 | 1.3 | 21.7 | 2.8 | 0.8 | 2.2 | 2.0 | |
| PHF | | | 0.88 | | | 0.95 | | | 0.78 | | | 0.30 | |

| PM | Cuyamaca Street Southbound | | | Prospect Avenue Westbound | | | Cuyamaca Street Northbound | | | Prospect Avenue Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 16:00 | 28 | 43 | 48 | 36 | 178 | 31 | 43 | 47 | 39 | 48 | 142 | 33 | 716 |
| 16:15 | 21 | 36 | 46 | 35 | 163 | 14 | 19 | 38 | 23 | 38 | 128 | 38 | 599 |
| 16:30 | 18 | 44 | 57 | 60 | 179 | 19 | 27 | 51 | 50 | 53 | 132 | 42 | 732 |
| 16:45 | 21 | 39 | 64 | 37 | 162 | 18 | 24 | 44 | 34 | 50 | 135 | 29 | 657 |
| 17:00 | 19 | 51 | 47 | 46 | 193 | 17 | 33 | 37 | 33 | 37 | 131 | 45 | 689 |
| 17:15 | 9 | 33 | 38 | 29 | 168 | 20 | 32 | 35 | 52 | 39 | 144 | 42 | 641 |
| 17:30 | 12 | 41 | 45 | 33 | 136 | 15 | 26 | 40 | 37 | 41 | 152 | 36 | 614 |
| 17:45 | 10 | 41 | 35 | 32 | 93 | 7 | 20 | 36 | 26 | 53 | 128 | 31 | 512 |
| Total | 138 | 328 | 380 | 308 | 1272 | 141 | 224 | 328 | 294 | 359 | 1092 | 296 | 5160 |
| Approach% | 16.3 | 38.8 | 44.9 | 17.9 | 73.9 | 8.2 | 26.5 | 38.8 | 34.8 | 20.5 | 62.5 | 16.9 | |
| Total% | 3.2 | 7.6 | 8.9 | 7.2 | 29.7 | 3.3 | 5.2 | 7.6 | 6.9 | 8.4 | 25.5 | 6.9 | |
| **PM Intersection Peak Hour:** | **16:30 to 17:30** | | | | | | | | | | | | |
| Volume | 67 | 167 | 206 | 172 | 702 | 74 | 116 | 167 | 169 | 179 | 542 | 158 | 2,719 |
| Approach% | 15.2 | 38.0 | 46.8 | 18.1 | 74.1 | 7.8 | 25.7 | 36.9 | 37.4 | 20.4 | 61.7 | 18.0 | |
| Total% | 2.8 | 7.1 | 8.7 | 7.3 | 29.7 | 3.1 | 4.9 | 7.1 | 7.2 | 7.6 | 23.0 | 6.7 | |
| PHF | | | 0.89 | | | 0.92 | | | 0.88 | | | 0.97 | |

# Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

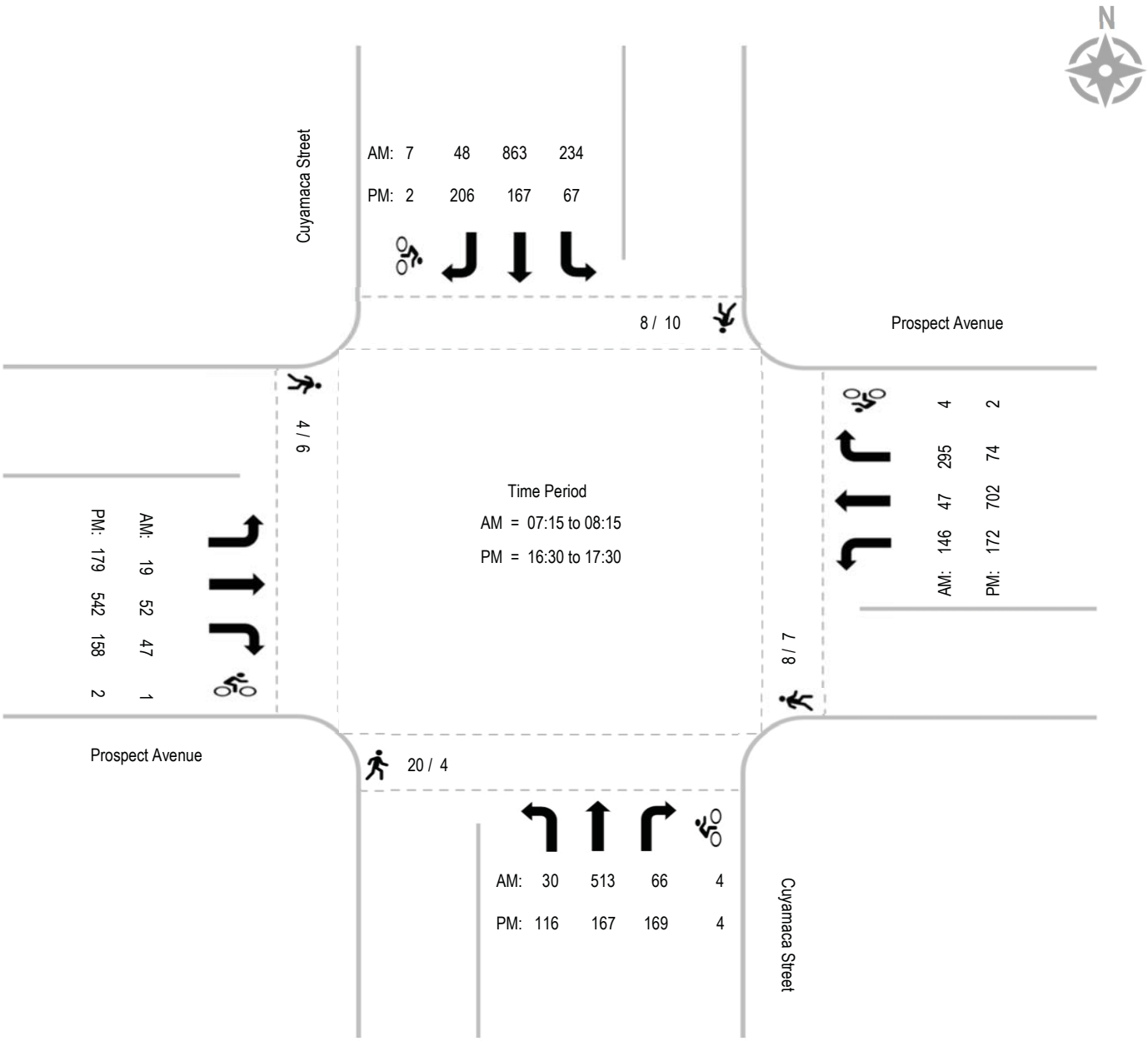
| | | | |
|---|---|---|---|
| Location: | #61 | File Name: | ITM-18-015-61 |
| Intersection: | Prospect Avenue / Cuyamaca Street | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Tuesday, February 6, 2018 | | Fanita Ranch |

| AM | Cuyamaca Street Southbound | | | | Prospect Avenue Westbound | | | | Cuyamaca Street Northbound | | | | Prospect Avenue Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 7:00 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 5 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 8 | 2 |
| 7:15 | 2 | 0 | 2 | 0 | 3 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 2 |
| 7:30 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 7:45 | 0 | 0 | 2 | 0 | 3 | 0 | 1 | 0 | 6 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 11 | 4 |
| 8:00 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 4 | 4 |
| 8:15 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 1 |
| 8:30 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 1 |
| 8:45 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 |
| Ped Total | 8 | | | | 8 | | | | 20 | | | | 4 | | | | 40 | |
| Bike Total | | 0 | 7 | 0 | | 0 | 3 | 1 | | 0 | 2 | 2 | | 0 | 1 | 0 | | 16 |

| PM | Cuyamaca Street Southbound | | | | Prospect Avenue Westbound | | | | Cuyamaca Street Northbound | | | | Prospect Avenue Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 16:00 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 5 | 2 |
| 16:15 | 4 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 0 |
| 16:30 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 4 | 1 |
| 16:45 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 17:00 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 |
| 17:15 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 3 | 0 | 0 | 1 | 6 | 1 |
| 17:30 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 3 | 3 |
| 17:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped Total | 10 | | | | 7 | | | | 4 | | | | 6 | | | | 27 | |
| Bike Total | | 0 | 2 | 0 | | 1 | 0 | 1 | | 0 | 3 | 1 | | 0 | 0 | 2 | | 10 |

# Intersection Turning Movement - Peak Hour Summary

| | | | | |
|---|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #61 | File Name: | ITM-18-015-61 |
| | Intersection: | Prospect Avenue / Cuyamaca Street | Project: | LLG Ref. 3-15-2462 |
| | Date of Count: | Tuesday, February 6, 2018 | | Fanita Ranch |



# Intersection Turning Movement - Peak Hour Vehicle Count

| | | | |
|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #62 | File Name: ITM-18-015-62 |
| | Intersection: | Prospect Avenue / Cottonwood Avenue | Project: LLG Ref. 3-15-2462 |
| | Date of Count: | Thursday, February 1, 2018 | Fanita Ranch |

| AM | Cottonwood Avenue Southbound | | | Prospect Avenue Westbound | | | - Northbound | | | Prospect Avenue Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 7:00 | 10 | 0 | 10 | 0 | 88 | 9 | 0 | 0 | 0 | 9 | 32 | 0 | 158 |
| 7:15 | 8 | 0 | 19 | 0 | 83 | 23 | 0 | 0 | 0 | 7 | 28 | 0 | 168 |
| 7:30 | 14 | 0 | 41 | 0 | 124 | 28 | 0 | 0 | 0 | 14 | 35 | 0 | 256 |
| 7:45 | 19 | 0 | 27 | 0 | 118 | 30 | 0 | 0 | 0 | 24 | 59 | 0 | 277 |
| 8:00 | 18 | 0 | 17 | 0 | 89 | 19 | 0 | 0 | 0 | 10 | 38 | 0 | 191 |
| 8:15 | 11 | 0 | 29 | 0 | 68 | 25 | 0 | 0 | 0 | 11 | 35 | 0 | 179 |
| 8:30 | 12 | 0 | 12 | 0 | 63 | 16 | 0 | 0 | 0 | 12 | 42 | 0 | 157 |
| 8:45 | 13 | 0 | 15 | 0 | 65 | 22 | 0 | 0 | 0 | 19 | 30 | 0 | 164 |
| Total | 105 | 0 | 170 | 0 | 698 | 172 | 0 | 0 | 0 | 106 | 299 | 0 | 1550 |
| Approach% | 38.2 | - | 61.8 | - | 80.2 | 19.8 | - | - | - | 26.2 | 73.8 | - | |
| Total% | 6.8 | - | 11.0 | - | 45.0 | 11.1 | - | - | - | 6.8 | 19.3 | - | |

**AM Intersection Peak Hour:** **07:30 to 08:30**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 62 | - | 114 | - | 399 | 102 | - | - | - | 59 | 167 | - | 903 |
| Approach% | 35.2 | - | 64.8 | - | 79.6 | 20.4 | - | - | - | 26.1 | 73.9 | - | |
| Total% | 6.9 | - | 12.6 | - | 44.2 | 11.3 | - | - | - | 6.5 | 18.5 | - | |
| PHF | | | 0.80 | | | 0.82 | | | | | | 0.68 | |

| PM | Cottonwood Avenue Southbound | | | Prospect Avenue Westbound | | | - Northbound | | | Prospect Avenue Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 16:00 | 35 | 0 | 10 | 0 | 56 | 18 | 0 | 0 | 0 | 23 | 67 | 0 | 209 |
| 16:15 | 17 | 0 | 12 | 0 | 62 | 28 | 0 | 0 | 0 | 17 | 81 | 0 | 217 |
| 16:30 | 15 | 0 | 12 | 0 | 55 | 24 | 0 | 0 | 0 | 21 | 104 | 0 | 231 |
| 16:45 | 21 | 0 | 8 | 0 | 62 | 25 | 0 | 0 | 0 | 21 | 68 | 0 | 205 |
| 17:00 | 22 | 0 | 12 | 0 | 68 | 18 | 0 | 0 | 0 | 32 | 80 | 0 | 232 |
| 17:15 | 10 | 0 | 13 | 0 | 72 | 27 | 0 | 0 | 0 | 12 | 69 | 0 | 203 |
| 17:30 | 23 | 0 | 13 | 0 | 48 | 32 | 0 | 0 | 0 | 23 | 79 | 0 | 218 |
| 17:45 | 23 | 0 | 10 | 0 | 50 | 19 | 0 | 0 | 0 | 14 | 63 | 0 | 179 |
| Total | 166 | 0 | 90 | 0 | 473 | 191 | 0 | 0 | 0 | 163 | 611 | 0 | 1694 |
| Approach% | 64.8 | - | 35.2 | - | 71.2 | 28.8 | - | - | - | 21.1 | 78.9 | - | |
| Total% | 10.7 | - | 5.8 | - | 30.5 | 12.3 | - | - | - | 10.5 | 39.4 | - | |

**PM Intersection Peak Hour:** **16:15 to 17:15**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 75 | - | 44 | - | 247 | 95 | - | - | - | 91 | 333 | - | 885 |
| Approach% | 63.0 | - | 37.0 | - | 72.2 | 27.8 | - | - | - | 21.5 | 78.5 | - | |
| Total% | 8.3 | - | 4.9 | - | 27.4 | 10.5 | - | - | - | 10.1 | 36.9 | - | |
| PHF | | | 0.88 | | | 0.95 | | | | | | 0.85 | |

# Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

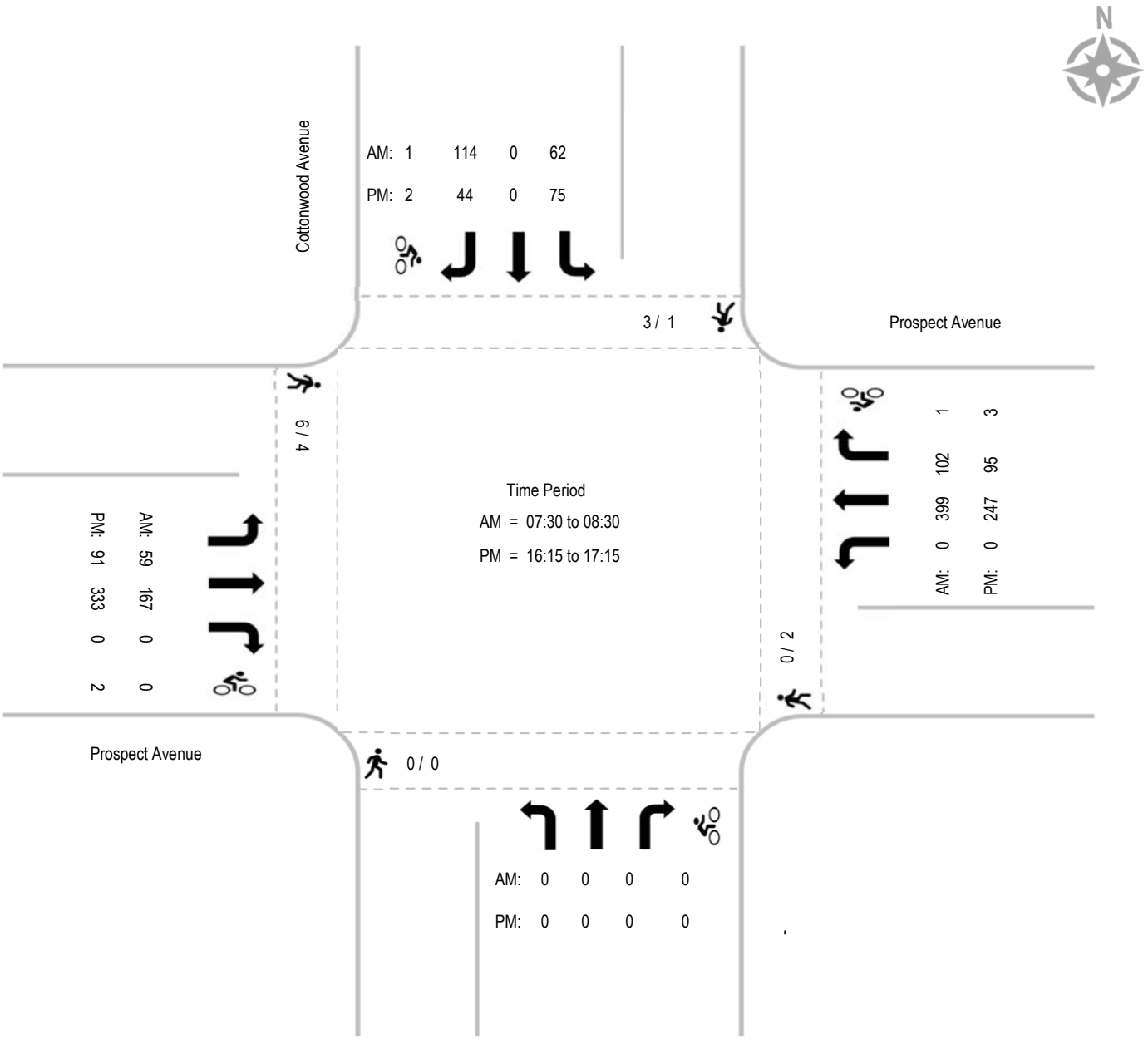
| | | | |
|---|---|---|---|
| Location: | #62 | File Name: | ITM-18-015-62 |
| Intersection: | Prospect Avenue / Cottonwood Avenue | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Thursday, February 1, 2018 | | Fanita Ranch |

| AM | Cottonwood Avenue Southbound | | | | Prospect Avenue Westbound | | | | - Northbound | | | | Prospect Avenue Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 7:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7:15 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 7:30 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 |
| 7:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 8:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 8:15 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 8:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 4 | 0 |
| Ped Total | 3 | | | | 0 | | | | 0 | | | | 6 | | | | 9 | |
| Bike Total | | 0 | 0 | 1 | | 0 | 1 | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | | 2 |

| PM | Cottonwood Avenue Southbound | | | | Prospect Avenue Westbound | | | | - Northbound | | | | Prospect Avenue Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 16:15 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 16:30 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 16:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:00 | 0 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 4 |
| 17:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:30 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 1 |
| 17:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 0 |
| Ped Total | 1 | | | | 2 | | | | 0 | | | | 4 | | | | 7 | |
| Bike Total | | 2 | 0 | 0 | | 0 | 2 | 1 | | 0 | 0 | 0 | | 2 | 0 | 0 | | 7 |

# Intersection Turning Movement - Peak Hour Summary

| | | | | |
|---|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #62 | File Name: | ITM-18-015-62 |
| | Intersection: | Prospect Avenue / Cottonwood Avenue | Project: | LLG Ref. 3-15-2462 |
| | Date of Count: | Thursday, February 1, 2018 | | Fanita Ranch |



# Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers

| | | | |
|---|---|---|---|
| Location: | #R63 | File Name: | ITM-18-015-R63 |
| Intersection: | Magnolia Avenue / Prospect Avenue | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Tuesday, February 6, 2018 | | Fanita Ranch |

| AM | Magnolia Avenue Southbound | | | Prospect Avenue Westbound | | | Magnolia Avenue Northbound | | | Prospect Avenue Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 7:00 | 43 | 73 | 30 | 17 | 71 | 256 | 4 | 28 | 8 | 10 | 11 | 10 | 561 |
| 7:15 | 80 | 57 | 29 | 23 | 103 | 266 | 1 | 37 | 3 | 16 | 14 | 8 | 637 |
| 7:30 | 59 | 63 | 24 | 35 | 121 | 286 | 8 | 14 | 9 | 24 | 20 | 15 | 678 |
| 7:45 | 91 | 118 | 32 | 30 | 117 | 326 | 4 | 47 | 11 | 16 | 17 | 20 | 829 |
| 8:00 | 107 | 85 | 35 | 46 | 84 | 254 | 6 | 52 | 14 | 10 | 34 | 18 | 745 |
| 8:15 | 59 | 75 | 20 | 36 | 84 | 262 | 10 | 51 | 7 | 15 | 20 | 14 | 653 |
| 8:30 | 60 | 66 | 14 | 25 | 73 | 194 | 11 | 37 | 9 | 22 | 26 | 17 | 554 |
| 8:45 | 46 | 66 | 14 | 21 | 95 | 191 | 9 | 46 | 5 | 17 | 26 | 19 | 555 |
| Total | 545 | 603 | 198 | 233 | 748 | 2035 | 53 | 312 | 66 | 130 | 168 | 121 | 5212 |
| Approach% | 40.5 | 44.8 | 14.7 | 7.7 | 24.8 | 67.5 | 12.3 | 72.4 | 15.3 | 31.0 | 40.1 | 28.9 | |
| Total% | 10.5 | 11.6 | 3.8 | 4.5 | 14.4 | 39.0 | 1.0 | 6.0 | 1.3 | 2.5 | 3.2 | 2.3 | |
| **AM Intersection Peak Hour:** | **07:30 to 08:30** | | | | | | | | | | | | |
| Volume | 316 | 341 | 111 | 147 | 406 | 1,128 | 28 | 164 | 41 | 65 | 91 | 67 | 2,905 |
| Approach% | 41.1 | 44.4 | 14.5 | 8.7 | 24.2 | 67.1 | 12.0 | 70.4 | 17.6 | 29.1 | 40.8 | 30.0 | |
| Total% | 10.9 | 11.7 | 3.8 | 5.1 | 14.0 | 38.8 | 1.0 | 5.6 | 1.4 | 2.2 | 3.1 | 2.3 | |
| PHF | | | 0.80 | | | 0.89 | | | 0.81 | | | 0.90 | |

| PM | Magnolia Avenue Southbound | | | Prospect Avenue Westbound | | | Magnolia Avenue Northbound | | | Prospect Avenue Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 16:00 | 145 | 95 | 19 | 24 | 80 | 199 | 10 | 92 | 17 | 54 | 68 | 18 | 821 |
| 16:15 | 140 | 98 | 18 | 15 | 77 | 204 | 6 | 117 | 29 | 25 | 77 | 20 | 826 |
| 16:30 | 146 | 75 | 17 | 6 | 59 | 199 | 12 | 94 | 22 | 33 | 66 | 24 | 753 |
| 16:45 | 173 | 95 | 18 | 17 | 58 | 243 | 8 | 86 | 20 | 32 | 69 | 23 | 842 |
| 17:00 | 152 | 76 | 23 | 10 | 61 | 206 | 4 | 97 | 24 | 59 | 81 | 15 | 808 |
| 17:15 | 192 | 93 | 9 | 10 | 66 | 224 | 4 | 98 | 19 | 37 | 66 | 15 | 833 |
| 17:30 | 135 | 66 | 14 | 18 | 70 | 227 | 6 | 75 | 20 | 22 | 62 | 17 | 732 |
| 17:45 | 158 | 71 | 10 | 13 | 51 | 181 | 6 | 76 | 20 | 29 | 57 | 13 | 685 |
| Total | 1241 | 669 | 128 | 113 | 522 | 1683 | 56 | 735 | 171 | 291 | 546 | 145 | 6300 |
| Approach% | 60.9 | 32.8 | 6.3 | 4.9 | 22.5 | 72.6 | 5.8 | 76.4 | 17.8 | 29.6 | 55.6 | 14.8 | |
| Total% | 23.8 | 12.8 | 2.5 | 2.2 | 10.0 | 32.3 | 1.1 | 14.1 | 3.3 | 5.6 | 10.5 | 2.8 | |
| **PM Intersection Peak Hour:** | **16:00 to 17:00** | | | | | | | | | | | | |
| Volume | 604 | 363 | 72 | 62 | 274 | 845 | 36 | 389 | 88 | 144 | 280 | 85 | 3,242 |
| Approach% | 58.1 | 34.9 | 6.9 | 5.2 | 23.2 | 71.5 | 7.0 | 75.8 | 17.2 | 28.3 | 55.0 | 16.7 | |
| Total% | 20.8 | 12.5 | 2.5 | 2.1 | 9.4 | 29.1 | 1.2 | 13.4 | 3.0 | 5.0 | 9.6 | 2.9 | |
| PHF | | | 0.91 | | | 0.93 | | | 0.84 | | | 0.91 | |

# Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

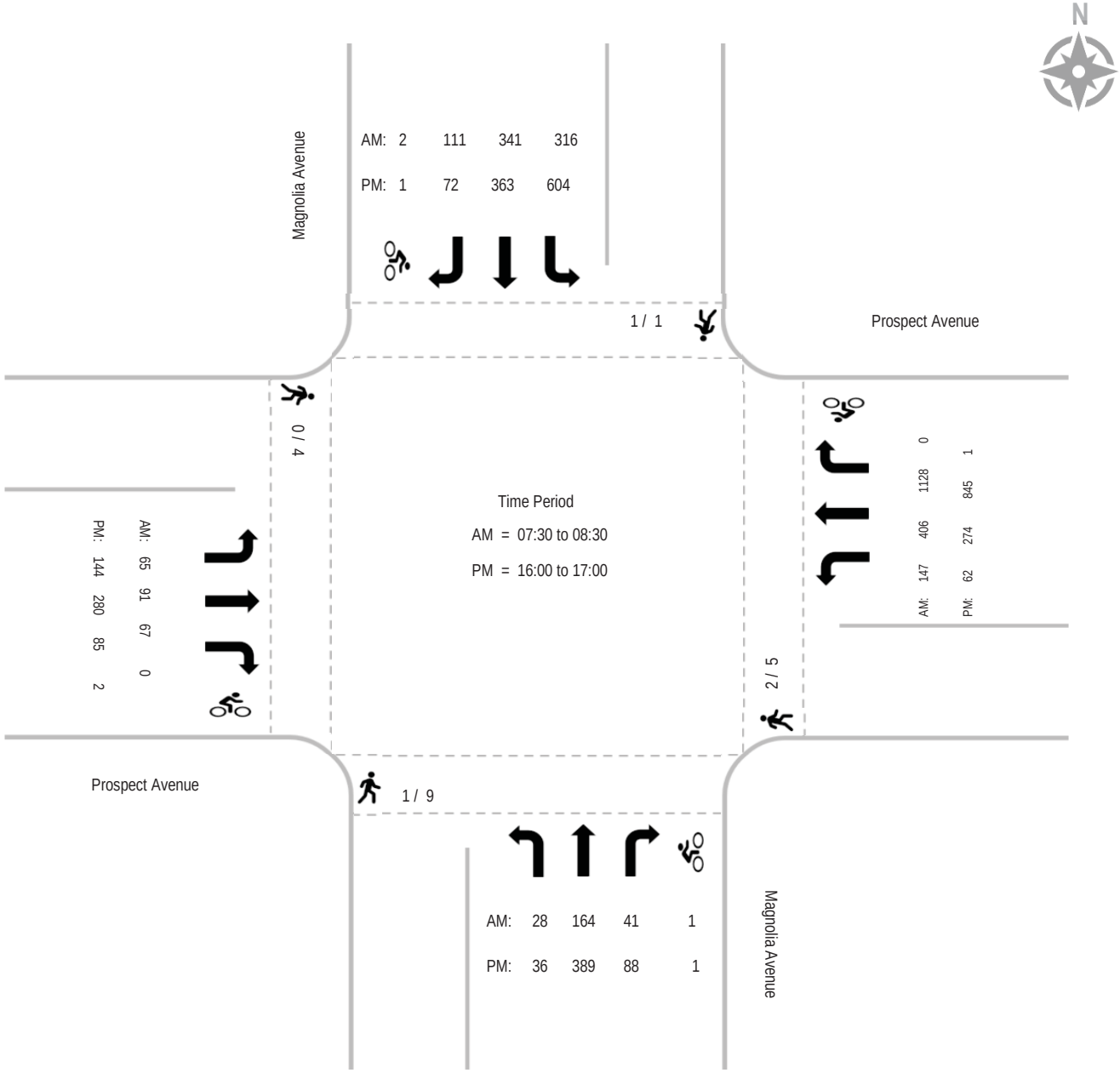
| | | | |
|---|---|---|---|
| Location: | #R63 | File Name: | ITM-18-015-R63 |
| Intersection: | Magnolia Avenue / Prospect Avenue | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Tuesday, Tuesday, February 6, 2018 | | Fanita Ranch |

| AM | Magnolia Avenue Southbound | | | | Prospect Avenue Westbound | | | | Magnolia Avenue Northbound | | | | Prospect Avenue Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 7:00 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 7:15 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 2 |
| 7:30 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 7:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:30 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 8:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped Total | 1 | | | | 2 | | | | 1 | | | | 0 | | | | 4 | |
| Bike Total | | 0 | 2 | 0 | | 0 | 0 | 0 | | 0 | 1 | 0 | | 0 | 0 | 0 | | 3 |

| PM | Magnolia Avenue Southbound | | | | Prospect Avenue Westbound | | | | Magnolia Avenue Northbound | | | | Prospect Avenue Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 16:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16:15 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 5 | 0 |
| 16:30 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 3 | 1 |
| 16:45 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 |
| 17:00 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 2 | 3 |
| 17:15 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 3 | 0 |
| 17:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 17:45 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 1 |
| Ped Total | 1 | | | | 5 | | | | 9 | | | | 4 | | | | 19 | |
| Bike Total | | 0 | 1 | 0 | | 0 | 1 | 0 | | 0 | 1 | 0 | | 0 | 2 | 0 | | 5 |

# Intersection Turning Movement - Peak Hour Summary

| | | | | |
|---|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #R63 | File Name: | ITM-18-015-R63 |
| | Intersection: | Magnolia Avenue / Prospect Avenue | Project: | LLG Ref. 3-15-2462 |
| | Date of Count: | Tuesday, February 6, 2018 | | Fanita Ranch |



# Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers

| | | | |
|---|---|---|---|
| Location: | #64 | File Name: | ITM-18-015-64 |
| Intersection: | Prospect Avenue & SR-67 NB Off-Ramp | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Tuesday, February 6, 2018 | | Fanita Ranch |

| AM | Southbound | | | Prospect Avenue Westbound | | | SR-67 NB Off-Ramp Northbound | | | Prospect Avenue Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 7:00 | 0 | 0 | 0 | 0 | 222 | 0 | 131 | 0 | 11 | 0 | 68 | 0 | 432 |
| 7:15 | 0 | 0 | 0 | 0 | 221 | 0 | 171 | 0 | 2 | 0 | 96 | 0 | 490 |
| 7:30 | 0 | 0 | 0 | 0 | 242 | 0 | 207 | 0 | 5 | 0 | 102 | 0 | 556 |
| 7:45 | 0 | 0 | 0 | 0 | 263 | 0 | 218 | 0 | 17 | 0 | 124 | 0 | 622 |
| 8:00 | 0 | 0 | 0 | 0 | 201 | 0 | 184 | 0 | 5 | 0 | 153 | 0 | 543 |
| 8:15 | 0 | 0 | 0 | 0 | 253 | 0 | 136 | 0 | 14 | 0 | 100 | 0 | 503 |
| 8:30 | 0 | 0 | 0 | 0 | 185 | 0 | 104 | 0 | 12 | 0 | 101 | 0 | 402 |
| 8:45 | 0 | 0 | 0 | 0 | 163 | 0 | 144 | 0 | 18 | 0 | 89 | 0 | 414 |
| Total | 0 | 0 | 0 | 0 | 1750 | 0 | 1295 | 0 | 84 | 0 | 833 | 0 | 3962 |
| Approach% | - | - | - | - | 100.0 | - | 93.9 | - | 6.1 | - | 100.0 | - | |
| Total% | - | - | - | - | 44.2 | - | 32.7 | - | 2.1 | - | 21.0 | - | |

**AM Intersection Peak Hour:** **07:30 to 08:30**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | - | - | - | - | 959 | - | 745 | - | 41 | - | 479 | - | 2,224 |
| Approach% | - | - | - | - | 100.0 | - | 94.8 | - | 5.2 | - | 100.0 | - | |
| Total% | - | - | - | - | 43.1 | - | 33.5 | - | 1.8 | - | 21.5 | - | |
| PHF | | | #DIV/0! | | | 0.91 | | | 0.84 | | | 0.78 | |

| PM | Southbound | | | Prospect Avenue Westbound | | | SR-67 NB Off-Ramp Northbound | | | Prospect Avenue Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 16:00 | 0 | 0 | 0 | 0 | 134 | 0 | 161 | 0 | 40 | 0 | 234 | 0 | 569 |
| 16:15 | 0 | 0 | 0 | 0 | 147 | 0 | 161 | 0 | 38 | 0 | 244 | 0 | 590 |
| 16:30 | 0 | 0 | 0 | 0 | 128 | 0 | 140 | 0 | 31 | 0 | 237 | 0 | 536 |
| 16:45 | 0 | 0 | 0 | 0 | 141 | 0 | 188 | 0 | 24 | 0 | 271 | 0 | 624 |
| 17:00 | 0 | 0 | 0 | 0 | 160 | 0 | 127 | 0 | 48 | 0 | 260 | 0 | 595 |
| 17:15 | 0 | 0 | 0 | 0 | 153 | 0 | 160 | 0 | 36 | 0 | 271 | 0 | 620 |
| 17:30 | 0 | 0 | 0 | 0 | 149 | 0 | 163 | 0 | 34 | 0 | 228 | 0 | 574 |
| 17:45 | 0 | 0 | 0 | 0 | 131 | 0 | 124 | 0 | 23 | 0 | 226 | 0 | 504 |
| Total | 0 | 0 | 0 | 0 | 1143 | 0 | 1224 | 0 | 274 | 0 | 1971 | 0 | 4612 |
| Approach% | - | - | - | - | 100.0 | - | 81.7 | - | 18.3 | - | 100.0 | - | |
| Total% | - | - | - | - | 28.8 | - | 30.9 | - | 6.9 | - | 49.7 | - | |

**PM Intersection Peak Hour:** **16:45 to 17:45**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | - | - | - | - | 603 | - | 638 | - | 142 | - | 1,030 | - | 2,413 |
| Approach% | - | - | - | - | 100.0 | - | 81.8 | - | 18.2 | - | 100.0 | - | |
| Total% | - | - | - | - | 27.1 | - | 28.7 | - | 6.4 | - | 46.3 | - | |
| PHF | | | #DIV/0! | | | 0.94 | | | 0.92 | | | 0.95 | |

# Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

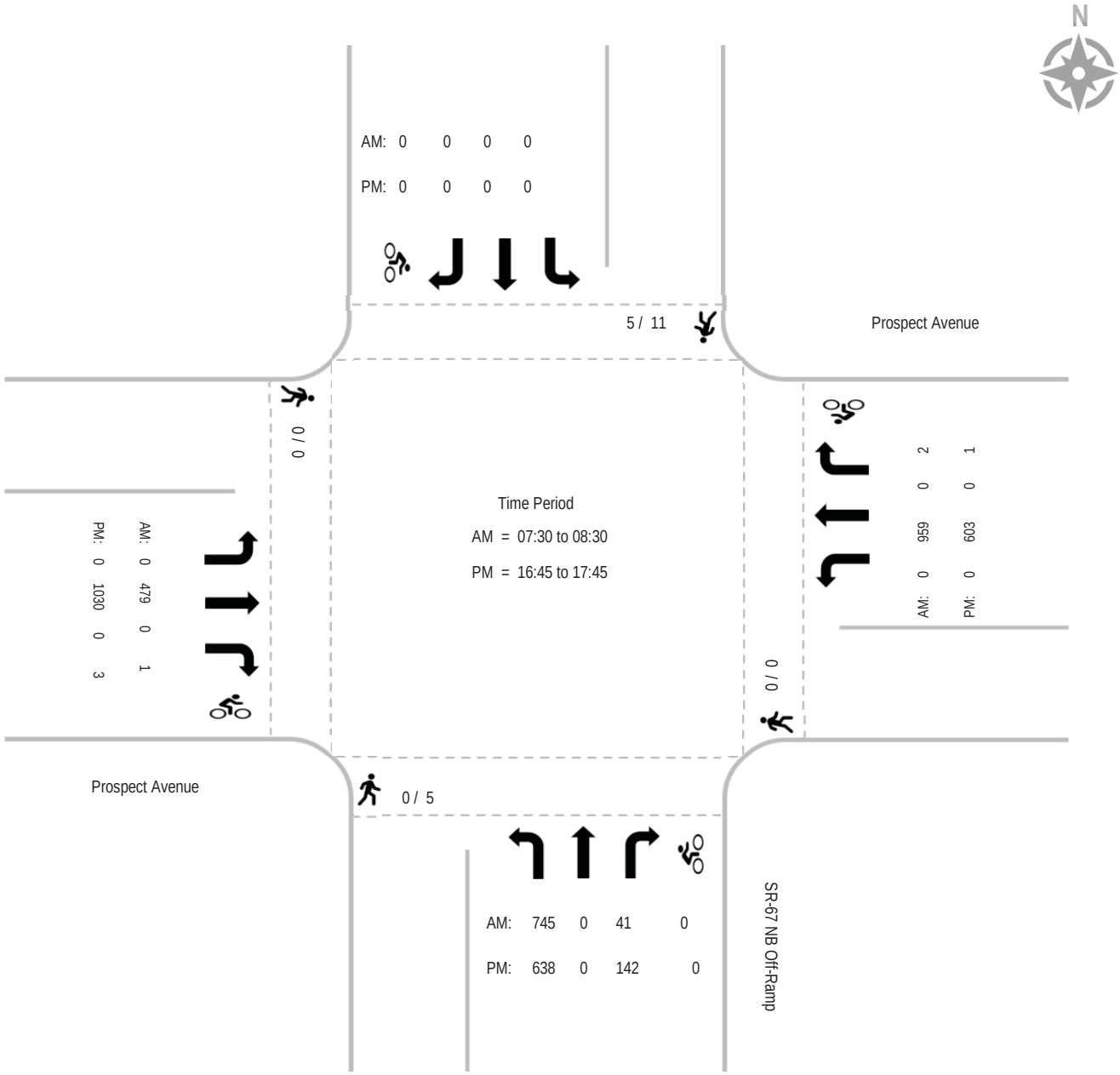
| | | | |
|---|---|---|---|
| Location: | #64 | File Name: | ITM-18-015-64 |
| Intersection: | Prospect Avenue & SR-67 NB Off-Ramp | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Tuesday, February 6, 2018 | | Fanita Ranch |

| AM | Southbound | | | | Prospect Avenue Westbound | | | | SR-67 NB Off-Ramp Northbound | | | | Prospect Avenue Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 7:00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 7:15 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 2 |
| 7:30 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 7:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:15 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 8:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:45 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| Ped Total | 5 | | | | 0 | | | | 0 | | | | 0 | | | | 5 | |
| Bike Total | | 0 | 0 | 0 | | 0 | 2 | 0 | | 0 | 0 | 0 | | 0 | 1 | 0 | | 3 |

| PM | Southbound | | | | Prospect Avenue Westbound | | | | SR-67 NB Off-Ramp Northbound | | | | Prospect Avenue Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 16:00 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 16:15 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 3 | 2 |
| 16:30 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 |
| 16:45 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 |
| 17:00 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 17:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 17:30 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 17:45 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 1 |
| Ped Total | 11 | | | | 0 | | | | 5 | | | | 0 | | | | 16 | |
| Bike Total | | 0 | 0 | 0 | | 0 | 1 | 0 | | 0 | 0 | 0 | | 0 | 3 | 0 | | 4 |

# Intersection Turning Movement - Peak Hour Summary

| | | | | |
|---|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #64 | File Name: | ITM-18-015-64 |
| | Intersection: | Prospect Avenue & SR-67 NB Off-Ramp | Project: | LLG Ref. 3-15-2462 |
| | Date of Count: | Tuesday, February 6, 2018 | | Fanita Ranch |



# Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers

| | | | |
|---|---|---|---|
| Location: | #65 | File Name: | ITM-18-015-65 |
| Intersection: | Prospect Avenue / Graves Avenue | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Tuesday, February 6, 2018 | | Fanita Ranch |

| AM | Graves Avenue Southbound | | | Prospect Avenue Westbound | | | Graves Avenue Northbound | | | Prospect Avenue Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 7:00 | 0 | 7 | 75 | 1 | 0 | 0 | 162 | 3 | 3 | 19 | 6 | 47 | 323 |
| 7:15 | 0 | 9 | 88 | 0 | 1 | 0 | 125 | 0 | 0 | 19 | 2 | 76 | 320 |
| 7:30 | 0 | 13 | 85 | 0 | 0 | 0 | 148 | 1 | 2 | 17 | 3 | 79 | 348 |
| 7:45 | 0 | 12 | 77 | 1 | 2 | 0 | 190 | 1 | 3 | 38 | 5 | 94 | 423 |
| 8:00 | 0 | 20 | 64 | 0 | 1 | 0 | 127 | 8 | 0 | 25 | 1 | 119 | 365 |
| 8:15 | 1 | 18 | 85 | 2 | 2 | 1 | 156 | 8 | 1 | 26 | 2 | 77 | 379 |
| 8:30 | 0 | 11 | 54 | 0 | 0 | 0 | 129 | 9 | 0 | 27 | 2 | 74 | 306 |
| 8:45 | 0 | 6 | 47 | 0 | 1 | 0 | 117 | 3 | 0 | 30 | 1 | 62 | 267 |
| Total | 1 | 96 | 575 | 4 | 7 | 1 | 1154 | 33 | 9 | 201 | 22 | 628 | 2731 |
| Approach% | 0.1 | 14.3 | 85.6 | 33.3 | 58.3 | 8.3 | 96.5 | 2.8 | 0.8 | 23.6 | 2.6 | 73.8 | |
| Total% | 0.0 | 3.5 | 21.1 | 0.1 | 0.3 | 0.0 | 42.3 | 1.2 | 0.3 | 7.4 | 0.8 | 23.0 | |

**AM Intersection Peak Hour:** **07:30 to 08:30**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | 1 | 63 | 311 | 3 | 5 | 1 | 621 | 18 | 6 | 106 | 11 | 369 | 1,515 |
| Approach% | 0.3 | 16.8 | 82.9 | 33.3 | 55.6 | 11.1 | 96.3 | 2.8 | 0.9 | 21.8 | 2.3 | 75.9 | |
| Total% | 0.1 | 4.2 | 20.5 | 0.2 | 0.3 | 0.1 | 41.0 | 1.2 | 0.4 | 7.0 | 0.7 | 24.4 | |
| PHF | | | 0.90 | | | 0.45 | | | 0.83 | | | 0.84 | |

| PM | Graves Avenue Southbound | | | Prospect Avenue Westbound | | | Graves Avenue Northbound | | | Prospect Avenue Eastbound | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Total |
| 16:00 | 0 | 5 | 47 | 2 | 1 | 1 | 95 | 4 | 3 | 65 | 1 | 204 | 428 |
| 16:15 | 0 | 4 | 37 | 1 | 1 | 1 | 116 | 6 | 4 | 81 | 3 | 196 | 450 |
| 16:30 | 0 | 14 | 41 | 1 | 3 | 0 | 81 | 5 | 1 | 64 | 1 | 178 | 389 |
| 16:45 | 0 | 11 | 52 | 0 | 1 | 0 | 102 | 8 | 0 | 59 | 1 | 205 | 439 |
| 17:00 | 0 | 6 | 41 | 1 | 5 | 0 | 116 | 9 | 1 | 79 | 4 | 190 | 452 |
| 17:15 | 0 | 12 | 43 | 1 | 0 | 0 | 109 | 7 | 0 | 90 | 4 | 201 | 467 |
| 17:30 | 0 | 13 | 44 | 0 | 1 | 0 | 113 | 6 | 0 | 82 | 1 | 157 | 417 |
| 17:45 | 0 | 7 | 43 | 1 | 1 | 0 | 93 | 6 | 1 | 82 | 0 | 174 | 408 |
| Total | 0 | 72 | 348 | 7 | 13 | 2 | 825 | 51 | 10 | 602 | 15 | 1505 | 3450 |
| Approach% | - | 17.1 | 82.9 | 31.8 | 59.1 | 9.1 | 93.1 | 5.8 | 1.1 | 28.4 | 0.7 | 70.9 | |
| Total% | - | 2.6 | 12.7 | 0.3 | 0.5 | 0.1 | 30.2 | 1.9 | 0.4 | 22.0 | 0.5 | 55.1 | |

**PM Intersection Peak Hour:** **16:45 to 17:45**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Volume | - | 42 | 180 | 2 | 7 | - | 440 | 30 | 1 | 310 | 10 | 753 | 1,775 |
| Approach% | - | 18.9 | 81.1 | 22.2 | 77.8 | - | 93.4 | 6.4 | 0.2 | 28.9 | 0.9 | 70.2 | |
| Total% | - | 2.8 | 11.9 | 0.1 | 0.5 | - | 29.0 | 2.0 | 0.1 | 20.5 | 0.7 | 49.7 | |
| PHF | | | 0.88 | | | 0.38 | | | 0.93 | | | 0.91 | |

# Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

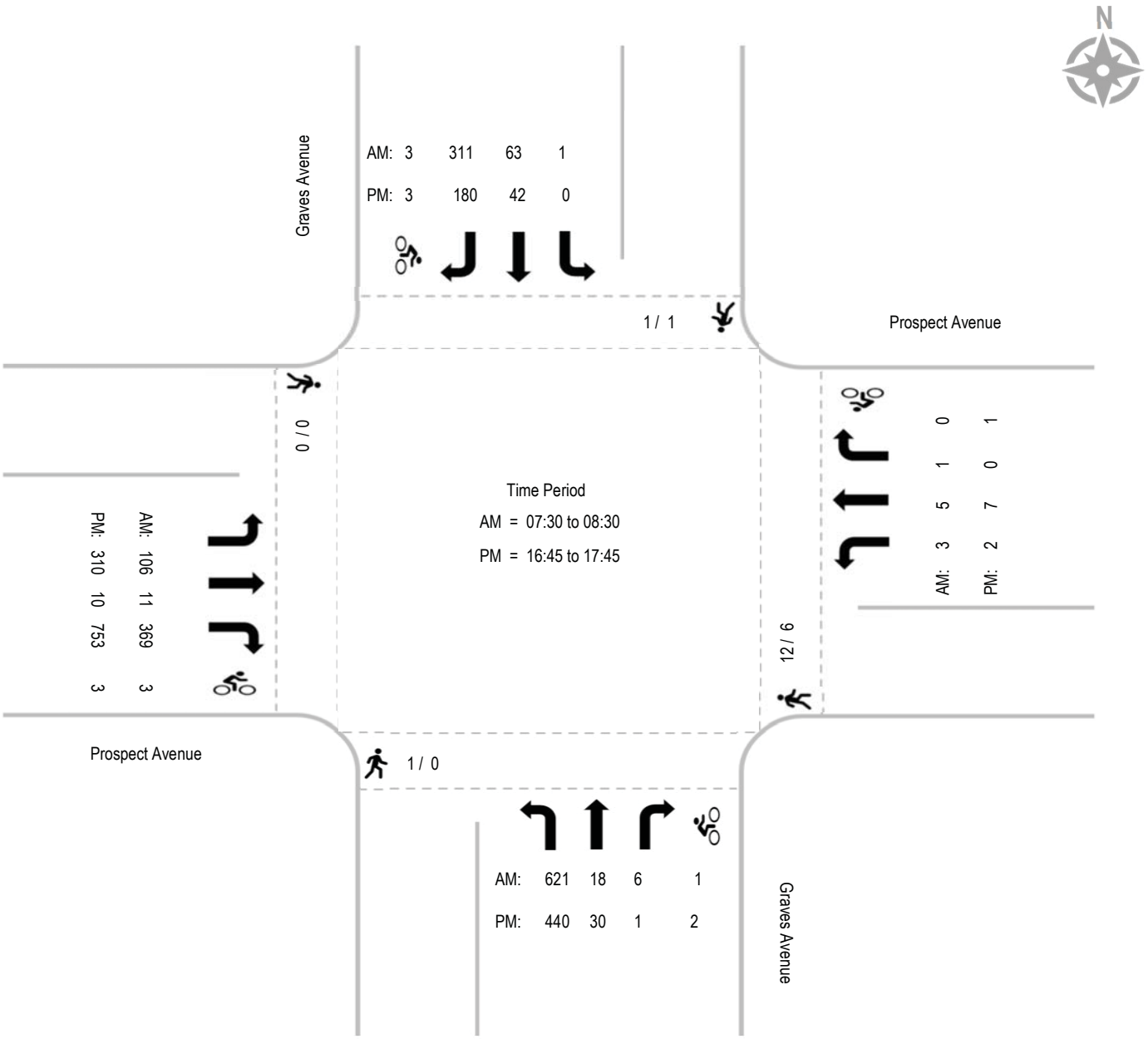
| | | | |
|---|---|---|---|
| Location: | #65 | File Name: | ITM-18-015-65 |
| Intersection: | Prospect Avenue / Graves Avenue | Project: | LLG Ref. 3-15-2462 |
| Date of Count: | Tuesday, February 6, 2018 | | Fanita Ranch |

| AM | Graves Avenue Southbound | | | | Prospect Avenue Westbound | | | | Graves Avenue Northbound | | | | Prospect Avenue Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 7:00 | 0 | 0 | 0 | 1 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 3 | 2 |
| 7:15 | 1 | 0 | 0 | 1 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 4 | 2 |
| 7:30 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 |
| 7:45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 8:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8:15 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 8:30 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 |
| 8:45 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| Ped Total | 1 | | | | 12 | | | | 1 | | | | 0 | | | | 14 | |
| Bike Total | | 0 | 0 | 3 | | 0 | 0 | 0 | | 0 | 1 | 0 | | 3 | 0 | 0 | | 7 |

| PM | Graves Avenue Southbound | | | | Prospect Avenue Westbound | | | | Graves Avenue Northbound | | | | Prospect Avenue Eastbound | | | | Totals | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | B-Left | B-Thru | B-Right | Ped | Bicycle |
| 16:00 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 16:15 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 3 |
| 16:30 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 16:45 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 2 | 4 |
| 17:00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 17:15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17:45 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Ped Total | 1 | | | | 6 | | | | 0 | | | | 0 | | | | 7 | |
| Bike Total | | 0 | 1 | 2 | | 0 | 0 | 1 | | 0 | 1 | 1 | | 3 | 0 | 0 | | 9 |

# Intersection Turning Movement - Peak Hour Summary

| | | | | |
|---|---|---|---|---|
| LINSCOTT LAW & GREENSPAN engineers | Location: | #65 | File Name: | ITM-18-015-65 |
| | Intersection: | Prospect Avenue / Graves Avenue | Project: | LLG Ref. 3-15-2462 |
| | Date of Count: | Tuesday, February 6, 2018 | | Fanita Ranch |



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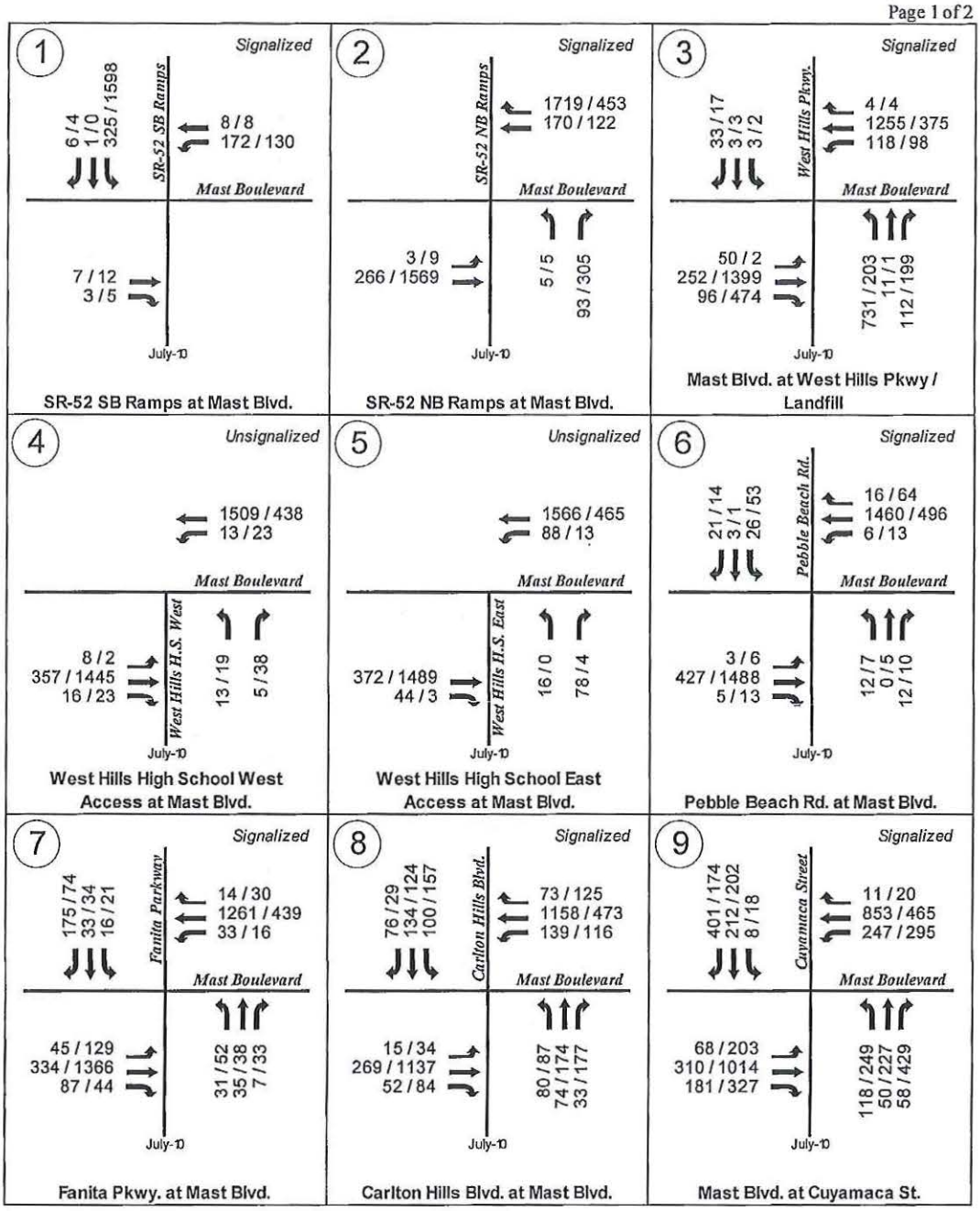


**FIGURE 5-4**

**Existing AM / PM Peak Hour Traffic Volumes**

# Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

## Average Daily Traffic

Location: **Princess Joann Road, between Cuyamaca Street and Magnolia Avenue**

Date: **Tuesday, January 30, 2018** Total Daily Volume: **528** Description: **Total Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 6 | 1 | 0 | 6 | 7 | 11 | 49 | 38 | 12 | 25 | 26 | 24 | 41 | 26 | 45 | 50 | 33 | 44 | 22 | 33 | 17 | 7 | 4 |
| 0 | 1 | 0 | 0 | 1 | 3 | 2 | 7 | 8 | 4 | 4 | 6 | 6 | 13 | 6 | 13 | 7 | 5 | 7 | 10 | 2 | 9 | 2 | 3 |
| 0 | 3 | 1 | 0 | 1 | 1 | 4 | 12 | 4 | 3 | 3 | 8 | 3 | 11 | 5 | 9 | 10 | 4 | 4 | 3 | 5 | 3 | 1 | 1 |
| 1 | 1 | 0 | 0 | 4 | 2 | 3 | 18 | 5 | 3 | 6 | 4 | 11 | 8 | 7 | 14 | 21 | 10 | 23 | 5 | 6 | 2 | 2 | 0 |
| 0 | 1 | 0 | 0 | 0 | 1 | 2 | 12 | 21 | 2 | 12 | 8 | 4 | 9 | 8 | 9 | 12 | 14 | 10 | 4 | 20 | 3 | 2 | 0 |

Date: **Tuesday, January 30, 2018** Total Daily Volume: **247** Description: **Eastbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 0 | 0 | 4 | 7 | 9 | 21 | 13 | 4 | 17 | 12 | 11 | 23 | 12 | 21 | 19 | 18 | 7 | 10 | 24 | 8 | 3 | 1 |
| 0 | 1 | 0 | 0 | 0 | 3 | 2 | 3 | 5 | 0 | 2 | 3 | 3 | 6 | 4 | 5 | 2 | 2 | 3 | 4 | 1 | 6 | 1 | 1 |
| 0 | 0 | 0 | 0 | 1 | 1 | 3 | 8 | 2 | 2 | 2 | 4 | 0 | 5 | 2 | 6 | 4 | 2 | 0 | 2 | 0 | 0 | 0 | 0 |
| 1 | 1 | 0 | 0 | 3 | 2 | 3 | 8 | 0 | 2 | 2 | 2 | 6 | 6 | 3 | 7 | 5 | 5 | 4 | 3 | 5 | 2 | 1 | 0 |
| 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 6 | 0 | 11 | 3 | 2 | 6 | 3 | 3 | 8 | 9 | 0 | 1 | 18 | 0 | 1 | 0 |

Date: **Tuesday, January 30, 2018** Total Daily Volume: **281** Description: **Westbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 4 | 1 | 0 | 2 | 0 | 2 | 28 | 25 | 8 | 8 | 14 | 13 | 18 | 14 | 24 | 31 | 15 | 37 | 12 | 9 | 9 | 4 | 3 |
| 0 | 0 | 0 | 0 | 1 | 0 | 0 | 4 | 3 | 4 | 2 | 3 | 3 | 7 | 2 | 8 | 5 | 3 | 4 | 6 | 1 | 3 | 1 | 2 |
| 0 | 3 | 1 | 0 | 0 | 0 | 1 | 4 | 2 | 1 | 1 | 4 | 3 | 6 | 3 | 3 | 6 | 2 | 4 | 1 | 5 | 3 | 1 | 1 |
| 0 | 0 | 0 | 0 | 1 | 0 | 0 | 10 | 5 | 1 | 4 | 2 | 5 | 2 | 4 | 7 | 16 | 5 | 19 | 2 | 1 | 0 | 1 | 0 |
| 0 | 1 | 0 | 0 | 0 | 0 | 1 | 10 | 15 | 2 | 1 | 5 | 2 | 3 | 5 | 6 | 4 | 5 | 10 | 3 | 2 | 3 | 1 | 0 |

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# Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

## Average Daily Traffic

Location: **Woodglen Vista Drive, between Cuyamaca Street and Magnolia Avenue**

Date: **Tuesday, January 30, 2018** Total Daily Volume: **1697** Description: **Total Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6 | 5 | 2 | 0 | 9 | 20 | 67 | 208 | 82 | 59 | 76 | 55 | 93 | 132 | 136 | 154 | 170 | 156 | 82 | 66 | 55 | 38 | 20 | 6 |
| 3 | 1 | 0 | 0 | 0 | 6 | 8 | 24 | 27 | 12 | 13 | 12 | 22 | 31 | 48 | 41 | 46 | 44 | 22 | 14 | 12 | 11 | 3 | 1 |
| 1 | 1 | 1 | 0 | 3 | 6 | 18 | 40 | 25 | 25 | 18 | 17 | 18 | 33 | 30 | 27 | 46 | 40 | 25 | 15 | 18 | 14 | 1 | 1 |
| 2 | 3 | 1 | 0 | 4 | 4 | 16 | 102 | 18 | 13 | 21 | 11 | 29 | 38 | 30 | 38 | 34 | 34 | 26 | 14 | 11 | 10 | 6 | 4 |
| 0 | 0 | 0 | 0 | 2 | 4 | 25 | 42 | 12 | 9 | 24 | 15 | 24 | 30 | 28 | 48 | 44 | 38 | 9 | 23 | 14 | 3 | 10 | 0 |

Date: **Tuesday, January 30, 2018** Total Daily Volume: **906** Description: **Eastbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | 3 | 1 | 0 | 6 | 14 | 37 | 121 | 38 | 32 | 39 | 30 | 52 | 79 | 62 | 75 | 92 | 87 | 31 | 33 | 33 | 23 | 8 | 5 |
| 2 | 0 | 0 | 0 | 0 | 5 | 5 | 13 | 12 | 4 | 6 | 7 | 12 | 17 | 21 | 20 | 28 | 29 | 8 | 5 | 8 | 6 | 1 | 1 |
| 1 | 1 | 0 | 0 | 2 | 5 | 8 | 30 | 8 | 16 | 10 | 8 | 11 | 24 | 10 | 13 | 23 | 22 | 14 | 9 | 14 | 8 | 1 | 1 |
| 2 | 2 | 1 | 0 | 3 | 2 | 7 | 64 | 10 | 6 | 9 | 9 | 15 | 21 | 12 | 22 | 17 | 16 | 6 | 9 | 4 | 7 | 1 | 3 |
| 0 | 0 | 0 | 0 | 1 | 2 | 17 | 14 | 8 | 6 | 14 | 6 | 14 | 17 | 19 | 20 | 24 | 20 | 3 | 10 | 7 | 2 | 5 | 0 |

Date: **Tuesday, January 30, 2018** Total Daily Volume: **791** Description: **Westbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 1 | 0 | 3 | 6 | 30 | 87 | 44 | 27 | 37 | 25 | 41 | 53 | 74 | 79 | 78 | 69 | 51 | 33 | 22 | 15 | 12 | 1 |
| 1 | 1 | 0 | 0 | 0 | 1 | 3 | 11 | 15 | 8 | 7 | 5 | 10 | 14 | 27 | 21 | 18 | 15 | 14 | 9 | 4 | 5 | 2 | 0 |
| 0 | 0 | 1 | 0 | 1 | 1 | 10 | 10 | 17 | 9 | 8 | 9 | 7 | 9 | 20 | 14 | 23 | 18 | 11 | 6 | 4 | 6 | 0 | 0 |
| 0 | 1 | 0 | 0 | 1 | 2 | 9 | 38 | 8 | 7 | 12 | 2 | 14 | 17 | 18 | 16 | 17 | 18 | 20 | 5 | 7 | 3 | 5 | 1 |
| 0 | 0 | 0 | 0 | 1 | 2 | 8 | 28 | 4 | 3 | 10 | 9 | 10 | 13 | 9 | 28 | 20 | 18 | 6 | 13 | 7 | 1 | 5 | 0 |

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# Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

## Average Daily Traffic

Location: **El Nopal, between Cuyamaca Street and Magnolia Avenue**

Date: **Tuesday, January 30, 2018** Total Daily Volume: **3779** Description: **Total Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12 | 11 | 2 | 5 | 25 | 72 | 195 | 452 | 264 | 149 | 146 | 176 | 190 | 223 | 354 | 299 | 293 | 316 | 209 | 138 | 124 | 70 | 37 | 17 |
| 1 | 6 | 1 | 1 | 7 | 13 | 28 | 78 | 108 | 41 | 37 | 43 | 30 | 52 | 128 | 97 | 75 | 87 | 57 | 38 | 32 | 22 | 12 | 4 |
| 8 | 1 | 0 | 3 | 6 | 12 | 47 | 103 | 67 | 32 | 36 | 51 | 47 | 47 | 71 | 75 | 61 | 91 | 59 | 32 | 29 | 24 | 12 | 4 |
| 0 | 2 | 1 | 1 | 3 | 26 | 46 | 142 | 51 | 30 | 41 | 41 | 59 | 70 | 72 | 68 | 79 | 69 | 49 | 42 | 31 | 11 | 5 | 4 |
| 3 | 2 | 0 | 0 | 9 | 21 | 74 | 129 | 38 | 46 | 32 | 41 | 54 | 54 | 83 | 59 | 78 | 69 | 44 | 26 | 32 | 13 | 8 | 5 |

Date: **Tuesday, January 30, 2018** Total Daily Volume: **1734** Description: **Eastbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6 | 7 | 2 | 2 | 22 | 51 | 111 | 204 | 128 | 75 | 69 | 84 | 90 | 105 | 162 | 127 | 119 | 118 | 90 | 53 | 60 | 29 | 14 | 6 |
| 1 | 5 | 1 | 1 | 6 | 9 | 18 | 44 | 55 | 22 | 19 | 24 | 11 | 24 | 44 | 41 | 29 | 35 | 25 | 15 | 16 | 12 | 4 | 1 |
| 3 | 0 | 0 | 1 | 5 | 9 | 24 | 46 | 27 | 12 | 17 | 22 | 20 | 23 | 38 | 28 | 22 | 30 | 23 | 18 | 13 | 8 | 6 | 2 |
| 0 | 2 | 1 | 0 | 3 | 19 | 28 | 55 | 23 | 13 | 16 | 18 | 29 | 27 | 31 | 34 | 36 | 25 | 18 | 14 | 12 | 4 | 1 | 1 |
| 2 | 0 | 0 | 0 | 8 | 14 | 41 | 59 | 23 | 28 | 17 | 20 | 30 | 31 | 49 | 24 | 32 | 28 | 24 | 6 | 19 | 5 | 3 | 2 |

Date: **Tuesday, January 30, 2018** Total Daily Volume: **2045** Description: **Westbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6 | 4 | 0 | 3 | 3 | 21 | 84 | 248 | 136 | 74 | 77 | 92 | 100 | 118 | 192 | 172 | 174 | 198 | 119 | 85 | 64 | 41 | 23 | 11 |
| 0 | 1 | 0 | 0 | 1 | 4 | 10 | 34 | 53 | 19 | 18 | 19 | 19 | 28 | 84 | 56 | 46 | 52 | 32 | 23 | 16 | 10 | 8 | 3 |
| 5 | 1 | 0 | 2 | 1 | 3 | 23 | 57 | 40 | 20 | 19 | 29 | 27 | 24 | 33 | 47 | 39 | 61 | 36 | 14 | 16 | 16 | 6 | 2 |
| 0 | 0 | 0 | 1 | 0 | 7 | 18 | 87 | 28 | 17 | 25 | 23 | 30 | 43 | 41 | 34 | 43 | 44 | 31 | 28 | 19 | 7 | 4 | 3 |
| 1 | 2 | 0 | 0 | 1 | 7 | 33 | 70 | 15 | 18 | 15 | 21 | 24 | 23 | 34 | 35 | 46 | 41 | 20 | 20 | 13 | 8 | 5 | 3 |

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# Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

## Average Daily Traffic

Location: **El Nopal, between Magnolia Avenue and Los Ranchitos Road**

Date: **Tuesday, January 30, 2018** Total Daily Volume: **8873** Description: **Total Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 25 | 18 | 15 | 23 | 55 | 186 | 440 | 829 | 602 | 360 | 357 | 382 | 417 | 510 | 667 | 786 | 766 | 854 | 563 | 363 | 305 | 178 | 130 | 42 |
| 8 | 4 | 2 | 5 | 14 | 26 | 92 | 169 | 186 | 96 | 81 | 95 | 86 | 110 | 194 | 219 | 178 | 235 | 173 | 109 | 75 | 64 | 47 | 20 |
| 9 | 6 | 5 | 7 | 10 | 40 | 115 | 212 | 164 | 92 | 72 | 106 | 101 | 109 | 151 | 187 | 194 | 204 | 139 | 103 | 86 | 42 | 33 | 5 |
| 5 | 5 | 3 | 4 | 17 | 55 | 95 | 284 | 135 | 77 | 108 | 95 | 112 | 161 | 162 | 188 | 197 | 201 | 147 | 87 | 68 | 39 | 21 | 6 |
| 3 | 3 | 5 | 7 | 14 | 65 | 138 | 164 | 117 | 95 | 96 | 86 | 118 | 130 | 160 | 192 | 197 | 214 | 104 | 64 | 76 | 33 | 29 | 11 |

Date: **Tuesday, January 30, 2018** Total Daily Volume: **3913** Description: **Eastbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12 | 6 | 5 | 9 | 20 | 64 | 128 | 265 | 229 | 133 | 150 | 167 | 197 | 226 | 321 | 375 | 384 | 382 | 274 | 192 | 175 | 97 | 79 | 23 |
| 3 | 2 | 1 | 3 | 5 | 11 | 21 | 59 | 68 | 32 | 32 | 51 | 37 | 49 | 101 | 99 | 95 | 96 | 86 | 63 | 44 | 40 | 30 | 12 |
| 4 | 0 | 0 | 2 | 5 | 10 | 36 | 69 | 59 | 33 | 37 | 38 | 42 | 46 | 67 | 86 | 80 | 91 | 65 | 58 | 45 | 19 | 20 | 3 |
| 3 | 3 | 3 | 4 | 7 | 20 | 29 | 86 | 47 | 32 | 43 | 37 | 59 | 72 | 69 | 97 | 106 | 87 | 74 | 41 | 33 | 20 | 11 | 3 |
| 2 | 1 | 1 | 0 | 3 | 23 | 42 | 51 | 55 | 36 | 38 | 41 | 59 | 59 | 84 | 93 | 103 | 108 | 49 | 30 | 53 | 18 | 18 | 5 |

Date: **Tuesday, January 30, 2018** Total Daily Volume: **4960** Description: **Westbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 13 | 12 | 10 | 14 | 35 | 122 | 312 | 564 | 373 | 227 | 207 | 215 | 220 | 284 | 346 | 411 | 382 | 472 | 289 | 171 | 130 | 81 | 51 | 19 |
| 5 | 2 | 1 | 2 | 9 | 15 | 71 | 110 | 118 | 64 | 49 | 44 | 49 | 61 | 93 | 120 | 83 | 139 | 87 | 46 | 31 | 24 | 17 | 8 |
| 5 | 6 | 5 | 5 | 5 | 30 | 79 | 143 | 105 | 59 | 35 | 68 | 59 | 63 | 84 | 101 | 114 | 113 | 74 | 45 | 41 | 23 | 13 | 2 |
| 2 | 2 | 0 | 0 | 10 | 35 | 66 | 198 | 88 | 45 | 65 | 58 | 53 | 89 | 93 | 91 | 91 | 114 | 73 | 46 | 35 | 19 | 10 | 3 |
| 1 | 2 | 4 | 7 | 11 | 42 | 96 | 113 | 62 | 59 | 58 | 45 | 59 | 71 | 76 | 99 | 94 | 106 | 55 | 34 | 23 | 15 | 11 | 6 |

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# Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

## Average Daily Traffic

Location: **El Nopal, between Los Ranchitos Road and Riverford Road**

Date: **Thursday, February 1, 2018** Total Daily Volume: **9805** Description: **Total Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 53 | 22 | 26 | 33 | 73 | 238 | 496 | 930 | 719 | 400 | 370 | 446 | 478 | 549 | 717 | 761 | 841 | 872 | 654 | 407 | 327 | 208 | 105 | 80 |
| 20 | 7 | 5 | 6 | 15 | 45 | 85 | 174 | 252 | 107 | 99 | 113 | 101 | 123 | 214 | 191 | 216 | 213 | 178 | 103 | 75 | 71 | 31 | 22 |
| 9 | 4 | 9 | 5 | 11 | 49 | 117 | 223 | 181 | 110 | 97 | 109 | 139 | 105 | 166 | 202 | 184 | 233 | 183 | 108 | 108 | 57 | 30 | 17 |
| 6 | 7 | 8 | 8 | 13 | 67 | 144 | 264 | 154 | 88 | 80 | 121 | 125 | 145 | 153 | 184 | 218 | 234 | 155 | 102 | 78 | 39 | 25 | 23 |
| 18 | 4 | 4 | 14 | 34 | 77 | 150 | 269 | 132 | 95 | 94 | 103 | 113 | 176 | 184 | 184 | 223 | 192 | 138 | 94 | 66 | 41 | 19 | 18 |

Date: **Thursday, February 1, 2018** Total Daily Volume: **4919** Description: **Eastbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 17 | 8 | 13 | 24 | 58 | 165 | 275 | 497 | 395 | 213 | 205 | 238 | 245 | 262 | 408 | 364 | 348 | 368 | 283 | 186 | 181 | 97 | 38 | 31 |
| 6 | 2 | 3 | 3 | 12 | 34 | 49 | 104 | 122 | 50 | 57 | 58 | 49 | 55 | 125 | 100 | 82 | 81 | 70 | 47 | 43 | 33 | 11 | 10 |
| 3 | 2 | 2 | 4 | 8 | 37 | 66 | 121 | 113 | 60 | 61 | 59 | 74 | 57 | 110 | 101 | 83 | 100 | 87 | 48 | 63 | 23 | 15 | 8 |
| 2 | 3 | 5 | 7 | 11 | 45 | 84 | 129 | 88 | 47 | 33 | 64 | 68 | 72 | 81 | 82 | 93 | 112 | 66 | 48 | 34 | 21 | 8 | 7 |
| 6 | 1 | 3 | 10 | 27 | 49 | 76 | 143 | 72 | 56 | 54 | 57 | 54 | 78 | 92 | 81 | 90 | 75 | 60 | 43 | 41 | 20 | 4 | 6 |

Date: **Thursday, February 1, 2018** Total Daily Volume: **4886** Description: **Westbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 36 | 14 | 13 | 9 | 15 | 73 | 221 | 433 | 324 | 187 | 165 | 208 | 233 | 287 | 309 | 397 | 493 | 504 | 371 | 221 | 146 | 111 | 67 | 49 |
| 14 | 5 | 2 | 3 | 3 | 11 | 36 | 70 | 130 | 57 | 42 | 55 | 52 | 68 | 89 | 91 | 134 | 132 | 108 | 56 | 32 | 38 | 20 | 12 |
| 6 | 2 | 7 | 1 | 3 | 12 | 51 | 102 | 68 | 50 | 36 | 50 | 65 | 48 | 56 | 101 | 101 | 133 | 96 | 60 | 45 | 34 | 15 | 9 |
| 4 | 4 | 3 | 1 | 2 | 22 | 60 | 135 | 66 | 41 | 47 | 57 | 57 | 73 | 72 | 102 | 125 | 122 | 89 | 54 | 44 | 18 | 17 | 16 |
| 12 | 3 | 1 | 4 | 7 | 28 | 74 | 126 | 60 | 39 | 40 | 46 | 59 | 98 | 92 | 103 | 133 | 117 | 78 | 51 | 25 | 21 | 15 | 12 |

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# Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

## Average Daily Traffic

Location: **Mast Boulevard, between SR 52 and West Hills Parkway**

Date: **Wednesday, January 31, 2018** Total Daily Volume: **26436** Description: **Total Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 95 | 50 | 52 | 97 | 233 | 1108 | 2266 | 2442 | 2134 | 1376 | 1172 | 1252 | 1377 | 1459 | 1807 | 1861 | 1887 | 1896 | 1453 | 926 | 617 | 440 | 278 | 158 |
| 19 | 12 | 10 | 14 | 27 | 139 | 452 | 591 | 562 | 376 | 287 | 322 | 320 | 319 | 372 | 484 | 489 | 517 | 418 | 282 | 173 | 99 | 89 | 51 |
| 27 | 11 | 12 | 20 | 42 | 226 | 512 | 614 | 617 | 338 | 286 | 308 | 385 | 343 | 414 | 445 | 458 | 512 | 384 | 233 | 152 | 128 | 78 | 34 |
| 25 | 8 | 13 | 32 | 65 | 373 | 683 | 634 | 588 | 343 | 295 | 322 | 356 | 365 | 463 | 477 | 481 | 418 | 326 | 216 | 158 | 110 | 67 | 38 |
| 24 | 19 | 17 | 31 | 99 | 370 | 619 | 603 | 367 | 319 | 304 | 300 | 316 | 432 | 558 | 455 | 459 | 449 | 325 | 195 | 134 | 103 | 44 | 35 |

Date: **Wednesday, January 31, 2018** Total Daily Volume: **12726** Description: **Eastbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 77 | 38 | 34 | 22 | 40 | 121 | 277 | 291 | 324 | 471 | 497 | 596 | 703 | 859 | 1128 | 1246 | 1403 | 1418 | 1222 | 763 | 489 | 356 | 227 | 124 |
| 17 | 11 | 5 | 5 | 1 | 11 | 69 | 56 | 72 | 97 | 109 | 147 | 164 | 172 | 203 | 319 | 354 | 384 | 349 | 235 | 130 | 83 | 78 | 37 |
| 20 | 10 | 6 | 3 | 9 | 29 | 64 | 64 | 81 | 112 | 121 | 134 | 204 | 206 | 256 | 295 | 348 | 390 | 331 | 200 | 125 | 105 | 60 | 30 |
| 22 | 6 | 10 | 7 | 13 | 43 | 68 | 86 | 84 | 128 | 126 | 148 | 182 | 225 | 298 | 318 | 348 | 304 | 268 | 183 | 127 | 85 | 52 | 33 |
| 18 | 11 | 13 | 7 | 17 | 38 | 76 | 85 | 87 | 134 | 141 | 167 | 153 | 256 | 371 | 314 | 353 | 340 | 274 | 145 | 107 | 83 | 37 | 24 |

Date: **Wednesday, January 31, 2018** Total Daily Volume: **13710** Description: **Westbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 18 | 12 | 18 | 75 | 193 | 987 | 1989 | 2151 | 1810 | 905 | 675 | 656 | 674 | 600 | 679 | 615 | 484 | 478 | 231 | 163 | 128 | 84 | 51 | 34 |
| 2 | 1 | 5 | 9 | 26 | 128 | 383 | 535 | 490 | 279 | 178 | 175 | 156 | 147 | 169 | 165 | 135 | 133 | 69 | 47 | 43 | 16 | 11 | 14 |
| 7 | 1 | 6 | 17 | 33 | 197 | 448 | 550 | 536 | 226 | 165 | 174 | 181 | 137 | 158 | 150 | 110 | 122 | 53 | 33 | 27 | 23 | 18 | 4 |
| 3 | 2 | 3 | 25 | 52 | 330 | 615 | 548 | 504 | 215 | 169 | 174 | 174 | 140 | 165 | 159 | 133 | 114 | 58 | 33 | 31 | 25 | 15 | 5 |
| 6 | 8 | 4 | 24 | 82 | 332 | 543 | 518 | 280 | 185 | 163 | 133 | 163 | 176 | 187 | 141 | 106 | 109 | 51 | 50 | 27 | 20 | 7 | 11 |

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# Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

## Average Daily Traffic

Location: **Mast Boulevard, between West Hills Parkway and Medina Drive**

Date: **Wednesday, January 31, 2018** Total Daily Volume: **19542** Description: **Total Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 65 | 34 | 44 | 93 | 244 | 843 | 1776 | 1713 | 1373 | 821 | 722 | 763 | 870 | 1040 | 1400 | 1492 | 1486 | 1539 | 1213 | 762 | 585 | 324 | 211 | 129 |
| 14 | 7 | 7 | 17 | 31 | 102 | 377 | 462 | 495 | 235 | 195 | 199 | 176 | 195 | 294 | 446 | 366 | 418 | 345 | 236 | 165 | 81 | 69 | 34 |
| 22 | 7 | 10 | 22 | 50 | 167 | 447 | 424 | 312 | 199 | 208 | 176 | 258 | 218 | 254 | 350 | 357 | 409 | 327 | 170 | 164 | 91 | 63 | 33 |
| 16 | 10 | 14 | 24 | 87 | 290 | 491 | 350 | 316 | 223 | 163 | 195 | 228 | 220 | 319 | 357 | 389 | 356 | 284 | 170 | 136 | 81 | 45 | 43 |
| 13 | 10 | 13 | 30 | 76 | 284 | 461 | 477 | 250 | 164 | 156 | 193 | 208 | 407 | 533 | 339 | 374 | 356 | 257 | 186 | 120 | 71 | 34 | 19 |

Date: **Wednesday, January 31, 2018** Total Daily Volume: **9604** Description: **Eastbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 54 | 23 | 22 | 18 | 14 | 60 | 261 | 399 | 393 | 261 | 295 | 356 | 456 | 591 | 872 | 1009 | 1083 | 1156 | 917 | 521 | 380 | 222 | 157 | 84 |
| 10 | 6 | 5 | 4 | 1 | 7 | 22 | 103 | 187 | 59 | 60 | 84 | 86 | 104 | 171 | 303 | 256 | 316 | 263 | 171 | 106 | 48 | 56 | 19 |
| 17 | 6 | 4 | 4 | 5 | 13 | 44 | 91 | 59 | 60 | 98 | 80 | 138 | 127 | 159 | 239 | 275 | 315 | 242 | 120 | 108 | 66 | 47 | 24 |
| 15 | 5 | 7 | 6 | 6 | 13 | 93 | 82 | 72 | 77 | 61 | 90 | 121 | 120 | 173 | 236 | 277 | 256 | 208 | 117 | 95 | 57 | 30 | 27 |
| 12 | 6 | 6 | 4 | 2 | 27 | 102 | 123 | 75 | 65 | 76 | 102 | 111 | 240 | 369 | 231 | 275 | 269 | 204 | 113 | 71 | 51 | 24 | 14 |

Date: **Wednesday, January 31, 2018** Total Daily Volume: **9938** Description: **Westbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11 | 11 | 22 | 75 | 230 | 783 | 1515 | 1314 | 980 | 560 | 427 | 407 | 414 | 449 | 528 | 483 | 403 | 383 | 296 | 241 | 205 | 102 | 54 | 45 |
| 4 | 1 | 2 | 13 | 30 | 95 | 355 | 359 | 308 | 176 | 135 | 115 | 90 | 91 | 123 | 143 | 110 | 102 | 82 | 65 | 59 | 33 | 13 | 15 |
| 5 | 1 | 6 | 18 | 45 | 154 | 403 | 333 | 253 | 139 | 110 | 96 | 120 | 91 | 95 | 111 | 82 | 94 | 85 | 50 | 56 | 25 | 16 | 9 |
| 1 | 5 | 7 | 18 | 81 | 277 | 398 | 268 | 244 | 146 | 102 | 105 | 107 | 100 | 146 | 121 | 112 | 100 | 76 | 53 | 41 | 24 | 15 | 16 |
| 1 | 4 | 7 | 26 | 74 | 257 | 359 | 354 | 175 | 99 | 80 | 91 | 97 | 167 | 164 | 108 | 99 | 87 | 53 | 73 | 49 | 20 | 10 | 5 |

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# Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

## Average Daily Traffic

Location: **Mast Boulevard, between Pebble Beach Drive and Fanita Parkway**

Date: **Wednesday, January 31, 2018** Total Daily Volume: **19593** Description: **Total Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 60 | 38 | 42 | 98 | 243 | 844 | 1832 | 1823 | 1578 | 815 | 714 | 804 | 890 | 995 | 1312 | 1361 | 1443 | 1469 | 1207 | 772 | 560 | 344 | 220 | 129 |
| 9 | 8 | 8 | 22 | 29 | 107 | 391 | 524 | 635 | 230 | 193 | 208 | 190 | 207 | 275 | 405 | 368 | 418 | 349 | 236 | 149 | 84 | 73 | 35 |
| 22 | 6 | 9 | 21 | 48 | 162 | 450 | 396 | 367 | 203 | 186 | 176 | 254 | 227 | 277 | 315 | 348 | 382 | 335 | 185 | 170 | 101 | 59 | 38 |
| 18 | 11 | 10 | 24 | 95 | 315 | 502 | 421 | 339 | 206 | 175 | 198 | 246 | 198 | 284 | 333 | 365 | 353 | 276 | 173 | 135 | 79 | 49 | 38 |
| 11 | 13 | 15 | 31 | 71 | 260 | 489 | 482 | 237 | 176 | 160 | 222 | 200 | 363 | 476 | 308 | 362 | 316 | 247 | 178 | 106 | 80 | 39 | 18 |

Date: **Wednesday, January 31, 2018** Total Daily Volume: **9273** Description: **Eastbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 43 | 23 | 20 | 23 | 20 | 56 | 187 | 459 | 498 | 259 | 290 | 369 | 480 | 583 | 785 | 946 | 1030 | 1040 | 851 | 499 | 373 | 216 | 144 | 79 |
| 4 | 6 | 4 | 3 | 5 | 6 | 20 | 116 | 243 | 61 | 64 | 91 | 85 | 120 | 170 | 290 | 261 | 308 | 248 | 148 | 106 | 44 | 50 | 17 |
| 14 | 4 | 4 | 6 | 5 | 12 | 31 | 100 | 90 | 57 | 85 | 80 | 161 | 126 | 162 | 213 | 249 | 271 | 230 | 118 | 107 | 67 | 41 | 25 |
| 15 | 6 | 4 | 8 | 8 | 11 | 59 | 117 | 93 | 68 | 66 | 96 | 126 | 91 | 131 | 217 | 255 | 230 | 188 | 112 | 90 | 49 | 30 | 24 |
| 10 | 7 | 8 | 6 | 2 | 27 | 77 | 126 | 72 | 73 | 75 | 102 | 108 | 246 | 322 | 226 | 265 | 231 | 185 | 121 | 70 | 56 | 23 | 13 |

Date: **Wednesday, January 31, 2018** Total Daily Volume: **10320** Description: **Westbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 17 | 15 | 22 | 75 | 223 | 788 | 1645 | 1364 | 1080 | 556 | 424 | 435 | 410 | 412 | 527 | 415 | 413 | 429 | 356 | 273 | 187 | 128 | 76 | 50 |
| 5 | 2 | 4 | 19 | 24 | 101 | 371 | 408 | 392 | 169 | 129 | 117 | 105 | 87 | 105 | 115 | 107 | 110 | 101 | 88 | 43 | 40 | 23 | 18 |
| 8 | 2 | 5 | 15 | 43 | 150 | 419 | 296 | 277 | 146 | 101 | 96 | 93 | 101 | 115 | 102 | 99 | 111 | 105 | 67 | 63 | 34 | 18 | 13 |
| 3 | 5 | 6 | 16 | 87 | 304 | 443 | 304 | 246 | 138 | 109 | 102 | 120 | 107 | 153 | 116 | 110 | 123 | 88 | 61 | 45 | 30 | 19 | 14 |
| 1 | 6 | 7 | 25 | 69 | 233 | 412 | 356 | 165 | 103 | 85 | 120 | 92 | 117 | 154 | 82 | 97 | 85 | 62 | 57 | 36 | 24 | 16 | 5 |

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# Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

## Average Daily Traffic

Location: **Mast Boulevard, between Fanita Parkway and Carlton Hills Boulevard**

Date: **Wednesday, January 31, 2018** Total Daily Volume: **16796** Description: **Total Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 48 | 29 | 38 | 69 | 190 | 662 | 1531 | 1612 | 1289 | 682 | 624 | 695 | 755 | 845 | 1133 | 1208 | 1244 | 1308 | 1053 | 697 | 492 | 299 | 181 | 112 |
| 6 | 7 | 7 | 13 | 25 | 80 | 309 | 441 | 487 | 190 | 165 | 178 | 176 | 170 | 252 | 354 | 316 | 357 | 295 | 217 | 135 | 75 | 54 | 30 |
| 16 | 6 | 6 | 11 | 40 | 138 | 388 | 332 | 313 | 165 | 171 | 159 | 204 | 192 | 236 | 290 | 309 | 352 | 290 | 167 | 143 | 90 | 51 | 32 |
| 15 | 8 | 11 | 21 | 73 | 241 | 413 | 388 | 297 | 167 | 152 | 184 | 208 | 176 | 259 | 289 | 314 | 308 | 257 | 151 | 123 | 68 | 39 | 35 |
| 11 | 8 | 14 | 24 | 52 | 203 | 421 | 451 | 192 | 160 | 136 | 174 | 167 | 307 | 386 | 275 | 305 | 291 | 211 | 162 | 91 | 66 | 37 | 15 |

Date: **Wednesday, January 31, 2018** Total Daily Volume: **7999** Description: **Eastbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 35 | 16 | 20 | 19 | 28 | 45 | 168 | 379 | 404 | 223 | 267 | 326 | 407 | 497 | 684 | 833 | 877 | 932 | 745 | 427 | 307 | 171 | 118 | 71 |
| 3 | 4 | 3 | 3 | 5 | 3 | 23 | 93 | 178 | 60 | 64 | 79 | 77 | 99 | 155 | 249 | 221 | 270 | 211 | 135 | 90 | 33 | 35 | 16 |
| 8 | 4 | 3 | 4 | 8 | 12 | 30 | 86 | 83 | 47 | 76 | 78 | 136 | 113 | 139 | 190 | 233 | 246 | 196 | 102 | 86 | 56 | 36 | 22 |
| 14 | 5 | 6 | 6 | 10 | 11 | 52 | 95 | 90 | 52 | 64 | 84 | 103 | 74 | 131 | 197 | 211 | 199 | 181 | 92 | 80 | 37 | 28 | 22 |
| 10 | 3 | 8 | 6 | 5 | 19 | 63 | 105 | 53 | 64 | 63 | 85 | 91 | 211 | 259 | 197 | 212 | 217 | 157 | 98 | 51 | 45 | 19 | 11 |

Date: **Wednesday, January 31, 2018** Total Daily Volume: **8797** Description: **Westbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 13 | 13 | 18 | 50 | 162 | 617 | 1363 | 1233 | 885 | 459 | 357 | 369 | 348 | 348 | 449 | 375 | 367 | 376 | 308 | 270 | 185 | 128 | 63 | 41 |
| 3 | 3 | 4 | 10 | 20 | 77 | 286 | 348 | 309 | 130 | 101 | 99 | 99 | 71 | 97 | 105 | 95 | 87 | 84 | 82 | 45 | 42 | 19 | 14 |
| 8 | 2 | 3 | 7 | 32 | 126 | 358 | 246 | 230 | 118 | 95 | 81 | 68 | 79 | 97 | 100 | 76 | 106 | 94 | 65 | 57 | 34 | 15 | 10 |
| 1 | 3 | 5 | 15 | 63 | 230 | 361 | 293 | 207 | 115 | 88 | 100 | 105 | 102 | 128 | 92 | 103 | 109 | 76 | 59 | 43 | 31 | 11 | 13 |
| 1 | 5 | 6 | 18 | 47 | 184 | 358 | 346 | 139 | 96 | 73 | 89 | 76 | 96 | 127 | 78 | 93 | 74 | 54 | 64 | 40 | 21 | 18 | 4 |

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# Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

## Average Daily Traffic

Location: **Mast Boulevard, between Carlton Hills Boulevard and Halberns Boulevard**

Date: **Wednesday, January 31, 2018** Total Daily Volume: **19217** Description: **Total Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 54 | 16 | 32 | 79 | 182 | 670 | 1535 | 1806 | 1461 | 820 | 744 | 850 | 859 | 965 | 1293 | 1440 | 1473 | 1526 | 1255 | 829 | 620 | 376 | 216 | 116 |
| 14 | 4 | 7 | 15 | 27 | 90 | 316 | 443 | 460 | 220 | 185 | 213 | 209 | 211 | 315 | 407 | 362 | 429 | 348 | 266 | 178 | 101 | 78 | 28 |
| 14 | 1 | 9 | 10 | 33 | 136 | 372 | 386 | 382 | 216 | 208 | 206 | 218 | 218 | 287 | 349 | 365 | 421 | 347 | 201 | 182 | 99 | 59 | 35 |
| 11 | 4 | 5 | 29 | 61 | 226 | 415 | 468 | 351 | 189 | 178 | 224 | 232 | 233 | 315 | 333 | 387 | 363 | 307 | 170 | 139 | 91 | 41 | 39 |
| 15 | 7 | 11 | 25 | 61 | 218 | 432 | 509 | 268 | 195 | 173 | 207 | 200 | 303 | 376 | 351 | 359 | 313 | 253 | 192 | 121 | 85 | 38 | 14 |

Date: **Wednesday, January 31, 2018** Total Daily Volume: **9203** Description: **Eastbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 37 | 9 | 16 | 25 | 29 | 69 | 176 | 455 | 477 | 306 | 322 | 423 | 470 | 540 | 738 | 945 | 993 | 1020 | 835 | 514 | 393 | 212 | 125 | 74 |
| 9 | 2 | 3 | 3 | 5 | 10 | 31 | 96 | 148 | 89 | 72 | 96 | 107 | 118 | 174 | 266 | 241 | 298 | 230 | 176 | 111 | 51 | 43 | 19 |
| 9 | 1 | 5 | 5 | 7 | 12 | 31 | 103 | 97 | 71 | 89 | 119 | 140 | 125 | 161 | 230 | 243 | 281 | 226 | 128 | 117 | 59 | 42 | 22 |
| 9 | 2 | 0 | 10 | 8 | 18 | 50 | 113 | 126 | 69 | 78 | 110 | 117 | 121 | 172 | 201 | 274 | 230 | 205 | 103 | 93 | 48 | 25 | 24 |
| 10 | 4 | 8 | 7 | 9 | 29 | 64 | 143 | 106 | 77 | 83 | 98 | 106 | 176 | 231 | 248 | 235 | 211 | 174 | 107 | 72 | 54 | 15 | 9 |

Date: **Wednesday, January 31, 2018** Total Daily Volume: **10014** Description: **Westbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 17 | 7 | 16 | 54 | 153 | 601 | 1359 | 1351 | 984 | 514 | 422 | 427 | 389 | 425 | 555 | 495 | 480 | 506 | 420 | 315 | 227 | 164 | 91 | 42 |
| 5 | 2 | 4 | 12 | 22 | 80 | 285 | 347 | 312 | 131 | 113 | 117 | 102 | 93 | 141 | 141 | 121 | 131 | 118 | 90 | 67 | 50 | 35 | 9 |
| 5 | 0 | 4 | 5 | 26 | 124 | 341 | 283 | 285 | 145 | 119 | 87 | 78 | 93 | 126 | 119 | 122 | 140 | 121 | 73 | 65 | 40 | 17 | 13 |
| 2 | 2 | 5 | 19 | 53 | 208 | 365 | 355 | 225 | 120 | 100 | 114 | 115 | 112 | 143 | 132 | 113 | 133 | 102 | 67 | 46 | 43 | 16 | 15 |
| 5 | 3 | 3 | 18 | 52 | 189 | 368 | 366 | 162 | 118 | 90 | 109 | 94 | 127 | 145 | 103 | 124 | 102 | 79 | 85 | 49 | 31 | 23 | 5 |

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# Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

## Average Daily Traffic

Location: **Mast Boulevard, between Halberns Boulevard and Cuyamaca Street**

Date: **Thursday, February 1, 2018** Total Daily Volume: **20197** Description: **Total Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 72 | 43 | 26 | 64 | 172 | 645 | 1522 | 1761 | 1460 | 876 | 822 | 844 | 955 | 1087 | 1335 | 1514 | 1501 | 1732 | 1398 | 939 | 649 | 440 | 218 | 122 |
| 25 | 11 | 2 | 5 | 26 | 97 | 310 | 409 | 446 | 214 | 214 | 179 | 243 | 268 | 294 | 383 | 359 | 438 | 410 | 309 | 182 | 121 | 61 | 28 |
| 20 | 13 | 4 | 17 | 26 | 117 | 397 | 400 | 402 | 252 | 238 | 205 | 226 | 244 | 331 | 351 | 401 | 455 | 366 | 235 | 168 | 122 | 66 | 37 |
| 12 | 8 | 10 | 23 | 47 | 198 | 409 | 456 | 340 | 204 | 171 | 231 | 245 | 275 | 348 | 397 | 384 | 409 | 319 | 206 | 157 | 100 | 47 | 35 |
| 15 | 11 | 10 | 19 | 73 | 233 | 406 | 496 | 272 | 206 | 199 | 229 | 241 | 300 | 362 | 383 | 357 | 430 | 303 | 189 | 142 | 97 | 44 | 22 |

Date: **Thursday, February 1, 2018** Total Daily Volume: **10143** Description: **Eastbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 45 | 21 | 14 | 25 | 39 | 101 | 238 | 534 | 495 | 388 | 376 | 452 | 519 | 624 | 770 | 995 | 1004 | 1138 | 922 | 576 | 380 | 276 | 136 | 75 |
| 15 | 5 | 2 | 3 | 5 | 13 | 38 | 109 | 159 | 95 | 95 | 102 | 127 | 162 | 165 | 246 | 231 | 284 | 275 | 179 | 96 | 79 | 40 | 17 |
| 15 | 7 | 3 | 8 | 8 | 12 | 47 | 141 | 129 | 109 | 88 | 115 | 127 | 141 | 171 | 234 | 278 | 301 | 245 | 162 | 87 | 79 | 36 | 26 |
| 8 | 4 | 6 | 8 | 7 | 21 | 61 | 138 | 110 | 89 | 88 | 119 | 133 | 127 | 206 | 251 | 263 | 264 | 212 | 120 | 106 | 57 | 29 | 19 |
| 7 | 5 | 3 | 6 | 19 | 55 | 92 | 146 | 97 | 95 | 105 | 116 | 132 | 194 | 228 | 264 | 232 | 289 | 190 | 115 | 91 | 61 | 31 | 13 |

Date: **Thursday, February 1, 2018** Total Daily Volume: **10054** Description: **Westbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 27 | 22 | 12 | 39 | 133 | 544 | 1284 | 1227 | 965 | 488 | 446 | 392 | 436 | 463 | 565 | 519 | 497 | 594 | 476 | 363 | 269 | 164 | 82 | 47 |
| 10 | 6 | 0 | 2 | 21 | 84 | 272 | 300 | 287 | 119 | 119 | 77 | 116 | 106 | 129 | 137 | 128 | 154 | 135 | 130 | 86 | 42 | 21 | 11 |
| 5 | 6 | 1 | 9 | 18 | 105 | 350 | 259 | 273 | 143 | 150 | 90 | 99 | 103 | 160 | 117 | 123 | 154 | 121 | 73 | 81 | 43 | 30 | 11 |
| 4 | 4 | 4 | 15 | 40 | 177 | 348 | 318 | 230 | 115 | 83 | 112 | 112 | 148 | 142 | 146 | 121 | 145 | 107 | 86 | 51 | 43 | 18 | 16 |
| 8 | 6 | 7 | 13 | 54 | 178 | 314 | 350 | 175 | 111 | 94 | 113 | 109 | 106 | 134 | 119 | 125 | 141 | 113 | 74 | 51 | 36 | 13 | 9 |

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# Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

## Average Daily Traffic

Location: **Mast Boulevard, between Cuyamaca Street and Magnolia Avenue**

Date: **Thursday, February 1, 2018** Total Daily Volume: **18491** Description: **Total Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 93 | 35 | 27 | 54 | 127 | 456 | 1061 | 1378 | 1202 | 800 | 812 | 932 | 949 | 1049 | 1229 | 1410 | 1506 | 1648 | 1324 | 956 | 673 | 430 | 210 | 130 |
| 34 | 8 | 7 | 4 | 25 | 62 | 212 | 303 | 398 | 211 | 212 | 217 | 241 | 260 | 295 | 360 | 384 | 397 | 362 | 280 | 181 | 125 | 78 | 32 |
| 24 | 8 | 8 | 10 | 24 | 83 | 267 | 328 | 314 | 199 | 215 | 242 | 231 | 252 | 339 | 344 | 364 | 447 | 366 | 270 | 197 | 113 | 58 | 35 |
| 15 | 10 | 9 | 17 | 32 | 146 | 289 | 355 | 250 | 201 | 187 | 194 | 257 | 282 | 285 | 367 | 376 | 382 | 312 | 211 | 155 | 99 | 39 | 33 |
| 20 | 9 | 3 | 23 | 46 | 165 | 293 | 392 | 240 | 189 | 198 | 279 | 220 | 255 | 310 | 339 | 382 | 422 | 284 | 195 | 140 | 93 | 35 | 30 |

Date: **Thursday, February 1, 2018** Total Daily Volume: **9460** Description: **Eastbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 52 | 16 | 15 | 17 | 39 | 90 | 238 | 495 | 459 | 364 | 407 | 459 | 493 | 635 | 651 | 846 | 935 | 992 | 836 | 547 | 396 | 283 | 125 | 70 |
| 20 | 4 | 4 | 3 | 5 | 13 | 52 | 95 | 151 | 98 | 89 | 112 | 124 | 167 | 132 | 221 | 245 | 239 | 231 | 160 | 106 | 87 | 50 | 19 |
| 12 | 3 | 4 | 4 | 7 | 17 | 47 | 136 | 107 | 87 | 98 | 107 | 109 | 155 | 166 | 213 | 228 | 269 | 221 | 147 | 102 | 74 | 28 | 19 |
| 11 | 4 | 6 | 4 | 10 | 23 | 63 | 128 | 100 | 84 | 105 | 99 | 148 | 158 | 168 | 200 | 246 | 223 | 198 | 123 | 100 | 69 | 22 | 15 |
| 9 | 5 | 1 | 6 | 17 | 37 | 76 | 136 | 101 | 95 | 115 | 141 | 112 | 155 | 185 | 212 | 216 | 261 | 186 | 117 | 88 | 53 | 25 | 17 |

Date: **Thursday, February 1, 2018** Total Daily Volume: **9031** Description: **Westbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 41 | 19 | 12 | 37 | 88 | 366 | 823 | 883 | 743 | 436 | 405 | 473 | 456 | 414 | 578 | 564 | 571 | 656 | 488 | 409 | 277 | 147 | 85 | 60 |
| 14 | 4 | 3 | 1 | 20 | 49 | 160 | 208 | 247 | 113 | 123 | 105 | 117 | 93 | 163 | 139 | 139 | 158 | 131 | 120 | 75 | 38 | 28 | 13 |
| 12 | 5 | 4 | 6 | 17 | 66 | 220 | 192 | 207 | 112 | 117 | 135 | 122 | 97 | 173 | 131 | 136 | 178 | 145 | 123 | 95 | 39 | 30 | 16 |
| 4 | 6 | 3 | 13 | 22 | 123 | 226 | 227 | 150 | 117 | 82 | 95 | 109 | 124 | 117 | 167 | 130 | 159 | 114 | 88 | 55 | 30 | 17 | 18 |
| 11 | 4 | 2 | 17 | 29 | 128 | 217 | 256 | 139 | 94 | 83 | 138 | 108 | 100 | 125 | 127 | 166 | 161 | 98 | 78 | 52 | 40 | 10 | 13 |

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# Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

## Average Daily Traffic

Location: **Mast Boulevard, between Magnolia Avenue and Los Ranchitos Road**

Date: **Thursday, February 1, 2018** Total Daily Volume: **7707** Description: **Total Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 38 | 22 | 15 | 32 | 49 | 157 | 339 | 657 | 477 | 283 | 315 | 377 | 349 | 465 | 567 | 515 | 635 | 706 | 590 | 467 | 295 | 195 | 113 | 49 |
| 12 | 9 | 2 | 3 | 13 | 27 | 63 | 97 | 172 | 77 | 69 | 98 | 79 | 103 | 163 | 135 | 149 | 171 | 164 | 146 | 82 | 53 | 32 | 14 |
| 12 | 4 | 3 | 16 | 9 | 28 | 90 | 142 | 113 | 61 | 75 | 105 | 90 | 103 | 143 | 127 | 128 | 209 | 134 | 133 | 77 | 56 | 26 | 10 |
| 3 | 6 | 8 | 9 | 7 | 52 | 101 | 215 | 99 | 66 | 92 | 89 | 84 | 112 | 116 | 120 | 188 | 176 | 142 | 93 | 68 | 48 | 14 | 12 |
| 11 | 3 | 2 | 4 | 20 | 50 | 85 | 203 | 93 | 79 | 79 | 85 | 96 | 147 | 145 | 133 | 170 | 150 | 150 | 95 | 68 | 38 | 41 | 13 |

Date: **Thursday, February 1, 2018** Total Daily Volume: **4284** Description: **Eastbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 20 | 14 | 9 | 15 | 10 | 29 | 90 | 239 | 189 | 132 | 172 | 201 | 210 | 299 | 304 | 327 | 428 | 424 | 383 | 309 | 215 | 145 | 84 | 36 |
| 5 | 6 | 1 | 1 | 3 | 6 | 16 | 46 | 56 | 40 | 31 | 65 | 49 | 76 | 65 | 101 | 98 | 101 | 100 | 97 | 59 | 41 | 20 | 11 |
| 8 | 3 | 2 | 11 | 3 | 4 | 28 | 58 | 52 | 26 | 43 | 47 | 47 | 74 | 84 | 78 | 92 | 119 | 84 | 92 | 55 | 36 | 21 | 7 |
| 2 | 3 | 5 | 2 | 1 | 7 | 23 | 84 | 45 | 29 | 48 | 43 | 50 | 59 | 63 | 67 | 130 | 111 | 97 | 64 | 55 | 37 | 8 | 6 |
| 5 | 2 | 1 | 1 | 3 | 12 | 23 | 51 | 36 | 37 | 50 | 46 | 64 | 90 | 92 | 81 | 108 | 93 | 102 | 56 | 46 | 31 | 35 | 12 |

Date: **Thursday, February 1, 2018** Total Daily Volume: **3423** Description: **Westbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 18 | 8 | 6 | 17 | 39 | 128 | 249 | 418 | 288 | 151 | 143 | 176 | 139 | 166 | 263 | 188 | 207 | 282 | 207 | 158 | 80 | 50 | 29 | 13 |
| 7 | 3 | 1 | 2 | 10 | 21 | 47 | 51 | 116 | 37 | 38 | 33 | 30 | 27 | 98 | 34 | 51 | 70 | 64 | 49 | 23 | 12 | 12 | 3 |
| 4 | 1 | 1 | 5 | 6 | 24 | 62 | 84 | 61 | 35 | 32 | 58 | 43 | 29 | 59 | 49 | 36 | 90 | 50 | 41 | 22 | 20 | 5 | 3 |
| 1 | 3 | 3 | 7 | 6 | 45 | 78 | 131 | 54 | 37 | 44 | 46 | 34 | 53 | 53 | 53 | 58 | 65 | 45 | 29 | 13 | 11 | 6 | 6 |
| 6 | 1 | 1 | 3 | 17 | 38 | 62 | 152 | 57 | 42 | 29 | 39 | 32 | 57 | 53 | 52 | 62 | 57 | 48 | 39 | 22 | 7 | 6 | 1 |

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# Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

## Average Daily Traffic

Location: **Mast Boulevard, between Los Ranchitos Road and Riverford Road**

Date: **Thursday, February 1, 2018** Total Daily Volume: **1812** Description: **Total Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6 | 4 | 4 | 14 | 14 | 42 | 68 | 112 | 118 | 89 | 95 | 103 | 102 | 88 | 131 | 128 | 147 | 124 | 204 | 75 | 80 | 35 | 18 | 11 |
| 3 | 0 | 0 | 7 | 1 | 10 | 5 | 28 | 28 | 31 | 26 | 24 | 36 | 23 | 34 | 36 | 31 | 35 | 28 | 14 | 35 | 8 | 6 | 2 |
| 0 | 0 | 0 | 1 | 3 | 14 | 14 | 20 | 29 | 26 | 26 | 20 | 21 | 26 | 35 | 21 | 33 | 34 | 80 | 22 | 31 | 10 | 6 | 0 |
| 0 | 2 | 1 | 2 | 8 | 9 | 21 | 24 | 32 | 13 | 21 | 27 | 27 | 18 | 33 | 39 | 34 | 27 | 56 | 17 | 10 | 9 | 3 | 4 |
| 3 | 2 | 3 | 4 | 2 | 9 | 28 | 40 | 29 | 19 | 22 | 32 | 18 | 21 | 29 | 32 | 49 | 28 | 40 | 22 | 4 | 8 | 3 | 5 |

Date: **Thursday, February 1, 2018** Total Daily Volume: **926** Description: **Eastbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 3 | 0 | 11 | 13 | 39 | 43 | 76 | 76 | 46 | 54 | 47 | 52 | 44 | 64 | 51 | 55 | 55 | 90 | 22 | 53 | 17 | 5 | 8 |
| 1 | 0 | 0 | 6 | 1 | 10 | 3 | 21 | 18 | 12 | 12 | 12 | 22 | 14 | 21 | 17 | 16 | 8 | 10 | 4 | 30 | 5 | 0 | 1 |
| 0 | 0 | 0 | 1 | 2 | 12 | 7 | 15 | 16 | 15 | 19 | 6 | 9 | 11 | 15 | 7 | 12 | 18 | 28 | 7 | 20 | 5 | 2 | 0 |
| 0 | 1 | 0 | 1 | 8 | 9 | 18 | 17 | 21 | 8 | 13 | 10 | 14 | 6 | 17 | 11 | 16 | 16 | 33 | 5 | 3 | 3 | 2 | 3 |
| 1 | 2 | 0 | 3 | 2 | 8 | 15 | 23 | 21 | 11 | 10 | 19 | 7 | 13 | 11 | 16 | 11 | 13 | 19 | 6 | 0 | 4 | 1 | 4 |

Date: **Thursday, February 1, 2018** Total Daily Volume: **886** Description: **Westbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4 | 1 | 4 | 3 | 1 | 3 | 25 | 36 | 42 | 43 | 41 | 56 | 50 | 44 | 67 | 77 | 92 | 69 | 114 | 53 | 27 | 18 | 13 | 3 |
| 2 | 0 | 0 | 1 | 0 | 0 | 2 | 7 | 10 | 19 | 14 | 12 | 14 | 9 | 13 | 19 | 15 | 27 | 18 | 10 | 5 | 3 | 6 | 1 |
| 0 | 0 | 0 | 0 | 1 | 2 | 7 | 5 | 13 | 11 | 7 | 14 | 12 | 15 | 20 | 14 | 21 | 16 | 52 | 15 | 11 | 5 | 4 | 0 |
| 0 | 1 | 1 | 1 | 0 | 0 | 3 | 7 | 11 | 5 | 8 | 17 | 13 | 12 | 16 | 28 | 18 | 11 | 23 | 12 | 7 | 6 | 1 | 1 |
| 2 | 0 | 3 | 1 | 0 | 1 | 13 | 17 | 8 | 8 | 12 | 13 | 11 | 8 | 18 | 16 | 38 | 15 | 21 | 16 | 4 | 4 | 2 | 1 |

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# Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

## Average Daily Traffic

Location: **Carlton Oaks Drive, between West Hills Parkway and Pebble Beach Drive**

Date: **Wednesday, January 31, 2018** Total Daily Volume: **7357** Description: **Total Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 20 | 12 | 10 | 14 | 36 | 119 | 450 | 836 | 778 | 302 | 292 | 332 | 335 | 388 | 627 | 516 | 525 | 612 | 445 | 264 | 222 | 117 | 75 | 30 |
| 3 | 3 | 1 | 2 | 4 | 15 | 67 | 195 | 295 | 98 | 70 | 74 | 90 | 113 | 135 | 135 | 124 | 168 | 109 | 81 | 73 | 33 | 27 | 6 |
| 8 | 4 | 2 | 3 | 5 | 19 | 80 | 197 | 225 | 75 | 72 | 83 | 78 | 65 | 142 | 129 | 127 | 160 | 131 | 70 | 62 | 26 | 17 | 10 |
| 5 | 2 | 4 | 2 | 13 | 37 | 116 | 202 | 145 | 65 | 79 | 82 | 73 | 92 | 136 | 118 | 130 | 159 | 113 | 45 | 41 | 36 | 15 | 10 |
| 4 | 3 | 3 | 7 | 14 | 48 | 187 | 242 | 113 | 64 | 71 | 93 | 94 | 118 | 214 | 134 | 144 | 125 | 92 | 68 | 46 | 22 | 16 | 4 |

Date: **Wednesday, January 31, 2018** Total Daily Volume: **3321** Description: **Eastbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7 | 6 | 7 | 6 | 17 | 38 | 95 | 220 | 264 | 142 | 147 | 173 | 167 | 198 | 328 | 296 | 306 | 329 | 243 | 118 | 118 | 49 | 35 | 12 |
| 2 | 2 | 1 | 1 | 2 | 8 | 22 | 46 | 79 | 46 | 34 | 45 | 48 | 56 | 64 | 81 | 76 | 78 | 52 | 42 | 35 | 13 | 12 | 3 |
| 2 | 1 | 0 | 1 | 1 | 7 | 17 | 46 | 72 | 40 | 41 | 34 | 33 | 32 | 70 | 78 | 70 | 88 | 77 | 25 | 28 | 11 | 8 | 4 |
| 2 | 1 | 3 | 0 | 7 | 13 | 20 | 58 | 77 | 29 | 33 | 39 | 35 | 49 | 68 | 64 | 66 | 91 | 56 | 21 | 28 | 12 | 7 | 5 |
| 1 | 2 | 3 | 4 | 7 | 10 | 36 | 70 | 36 | 27 | 39 | 55 | 51 | 61 | 126 | 73 | 94 | 72 | 58 | 30 | 27 | 13 | 8 | 0 |

Date: **Wednesday, January 31, 2018** Total Daily Volume: **4036** Description: **Westbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 13 | 6 | 3 | 8 | 19 | 81 | 355 | 616 | 514 | 160 | 145 | 159 | 168 | 190 | 299 | 220 | 219 | 283 | 202 | 146 | 104 | 68 | 40 | 18 |
| 1 | 1 | 0 | 1 | 2 | 7 | 45 | 149 | 216 | 52 | 36 | 29 | 42 | 57 | 71 | 54 | 48 | 90 | 57 | 39 | 38 | 20 | 15 | 3 |
| 6 | 3 | 2 | 2 | 4 | 12 | 63 | 151 | 153 | 35 | 31 | 49 | 45 | 33 | 72 | 51 | 57 | 72 | 54 | 45 | 34 | 15 | 9 | 6 |
| 3 | 1 | 1 | 2 | 6 | 24 | 96 | 144 | 68 | 36 | 46 | 43 | 38 | 43 | 68 | 54 | 64 | 68 | 57 | 24 | 13 | 24 | 8 | 5 |
| 3 | 1 | 0 | 3 | 7 | 38 | 151 | 172 | 77 | 37 | 32 | 38 | 43 | 57 | 88 | 61 | 50 | 53 | 34 | 38 | 19 | 9 | 8 | 4 |

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# Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

## Average Daily Traffic

Location: **Carlton Oaks Drive, between Fanita Parkway and Carlton Hills Boulevard**

Date: **Wednesday, January 31, 2018** Total Daily Volume: **10556** Description: **Total Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 23 | 12 | 13 | 28 | 51 | 163 | 593 | 1295 | 1093 | 467 | 464 | 567 | 544 | 598 | 902 | 774 | 737 | 760 | 558 | 338 | 280 | 161 | 103 | 32 |
| 4 | 6 | 1 | 4 | 8 | 18 | 88 | 349 | 413 | 126 | 110 | 156 | 137 | 156 | 203 | 219 | 191 | 206 | 154 | 101 | 81 | 51 | 34 | 10 |
| 9 | 3 | 3 | 5 | 4 | 32 | 101 | 260 | 319 | 121 | 122 | 123 | 138 | 109 | 180 | 171 | 179 | 194 | 176 | 92 | 81 | 40 | 25 | 9 |
| 4 | 1 | 4 | 9 | 16 | 42 | 139 | 306 | 212 | 111 | 115 | 144 | 131 | 118 | 226 | 189 | 158 | 199 | 127 | 64 | 55 | 42 | 21 | 9 |
| 6 | 2 | 5 | 10 | 23 | 71 | 265 | 380 | 149 | 109 | 117 | 144 | 138 | 215 | 293 | 195 | 209 | 161 | 101 | 81 | 63 | 28 | 23 | 4 |

Date: **Wednesday, January 31, 2018** Total Daily Volume: **5167** Description: **Eastbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10 | 8 | 9 | 13 | 26 | 66 | 169 | 454 | 489 | 232 | 260 | 305 | 300 | 309 | 473 | 444 | 438 | 430 | 293 | 167 | 140 | 65 | 54 | 13 |
| 2 | 5 | 1 | 1 | 4 | 10 | 32 | 114 | 166 | 62 | 60 | 102 | 73 | 82 | 102 | 148 | 119 | 113 | 74 | 54 | 35 | 21 | 18 | 4 |
| 3 | 1 | 1 | 2 | 1 | 15 | 29 | 92 | 149 | 64 | 70 | 60 | 77 | 49 | 84 | 101 | 105 | 114 | 101 | 33 | 36 | 18 | 13 | 3 |
| 2 | 1 | 3 | 3 | 8 | 17 | 38 | 112 | 118 | 51 | 57 | 66 | 73 | 55 | 110 | 94 | 88 | 118 | 56 | 39 | 35 | 13 | 11 | 4 |
| 3 | 1 | 4 | 7 | 13 | 24 | 70 | 136 | 56 | 55 | 73 | 77 | 77 | 123 | 177 | 101 | 126 | 85 | 62 | 41 | 34 | 13 | 12 | 2 |

Date: **Wednesday, January 31, 2018** Total Daily Volume: **5389** Description: **Westbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 13 | 4 | 4 | 15 | 25 | 97 | 424 | 841 | 604 | 235 | 204 | 262 | 244 | 289 | 429 | 330 | 299 | 330 | 265 | 171 | 140 | 96 | 49 | 19 |
| 2 | 1 | 0 | 3 | 4 | 8 | 56 | 235 | 247 | 64 | 50 | 54 | 64 | 74 | 101 | 71 | 72 | 93 | 80 | 47 | 46 | 30 | 16 | 6 |
| 6 | 2 | 2 | 3 | 3 | 17 | 72 | 168 | 170 | 57 | 52 | 63 | 61 | 60 | 96 | 70 | 74 | 80 | 75 | 59 | 45 | 22 | 12 | 6 |
| 2 | 0 | 1 | 6 | 8 | 25 | 101 | 194 | 94 | 60 | 58 | 78 | 58 | 63 | 116 | 95 | 70 | 81 | 71 | 25 | 20 | 29 | 10 | 5 |
| 3 | 1 | 1 | 3 | 10 | 47 | 195 | 244 | 93 | 54 | 44 | 67 | 61 | 92 | 116 | 94 | 83 | 76 | 39 | 40 | 29 | 15 | 11 | 2 |

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# Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

## Average Daily Traffic

Location: **Mission Gorge Road, between Western City Limits and West Hills Parkway**

Date: **Thursday, February 8, 2018** Total Daily Volume: **16512** Description: **Total Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 44 | 28 | 28 | 43 | 97 | 274 | 992 | 1563 | 1222 | 851 | 827 | 854 | 870 | 874 | 1048 | 1231 | 1472 | 1598 | 1034 | 634 | 413 | 282 | 138 | 95 |
| 14 | 10 | 6 | 7 | 17 | 41 | 146 | 385 | 355 | 232 | 189 | 210 | 195 | 225 | 248 | 263 | 359 | 393 | 302 | 205 | 112 | 83 | 44 | 27 |
| 15 | 7 | 3 | 6 | 15 | 65 | 197 | 386 | 303 | 204 | 217 | 226 | 209 | 219 | 237 | 296 | 363 | 427 | 307 | 157 | 103 | 77 | 39 | 27 |
| 7 | 7 | 10 | 14 | 26 | 59 | 265 | 391 | 301 | 201 | 201 | 208 | 237 | 184 | 272 | 327 | 362 | 394 | 209 | 136 | 104 | 66 | 31 | 24 |
| 8 | 4 | 9 | 16 | 39 | 109 | 384 | 401 | 263 | 214 | 220 | 210 | 229 | 246 | 291 | 345 | 388 | 384 | 216 | 136 | 94 | 56 | 24 | 17 |

Date: **Thursday, February 8, 2018** Total Daily Volume: **8259** Description: **Eastbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 20 | 12 | 20 | 16 | 52 | 115 | 273 | 502 | 503 | 447 | 453 | 434 | 445 | 432 | 559 | 754 | 960 | 1002 | 554 | 298 | 183 | 125 | 49 | 51 |
| 5 | 5 | 5 | 3 | 7 | 16 | 52 | 80 | 132 | 111 | 97 | 103 | 93 | 107 | 113 | 150 | 218 | 251 | 179 | 90 | 50 | 39 | 20 | 16 |
| 10 | 3 | 3 | 1 | 8 | 31 | 56 | 125 | 120 | 105 | 116 | 124 | 106 | 105 | 126 | 181 | 241 | 259 | 160 | 79 | 52 | 38 | 9 | 12 |
| 3 | 3 | 7 | 5 | 12 | 20 | 61 | 154 | 129 | 113 | 122 | 101 | 124 | 95 | 155 | 208 | 238 | 240 | 111 | 67 | 38 | 24 | 10 | 16 |
| 2 | 1 | 5 | 7 | 25 | 48 | 104 | 143 | 122 | 118 | 118 | 106 | 122 | 125 | 165 | 215 | 263 | 252 | 104 | 62 | 43 | 24 | 10 | 7 |

Date: **Thursday, February 8, 2018** Total Daily Volume: **8253** Description: **Westbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 | 16 | 8 | 27 | 45 | 159 | 719 | 1061 | 719 | 404 | 374 | 420 | 425 | 442 | 489 | 477 | 512 | 596 | 480 | 336 | 230 | 157 | 89 | 44 |
| 9 | 5 | 1 | 4 | 10 | 25 | 94 | 305 | 223 | 121 | 92 | 107 | 102 | 118 | 135 | 113 | 141 | 142 | 123 | 115 | 62 | 44 | 24 | 11 |
| 5 | 4 | 0 | 5 | 7 | 34 | 141 | 261 | 183 | 99 | 101 | 102 | 103 | 114 | 111 | 115 | 122 | 168 | 147 | 78 | 51 | 39 | 30 | 15 |
| 4 | 4 | 3 | 9 | 14 | 39 | 204 | 237 | 172 | 88 | 79 | 107 | 113 | 89 | 117 | 119 | 124 | 154 | 98 | 69 | 66 | 42 | 21 | 8 |
| 6 | 3 | 4 | 9 | 14 | 61 | 280 | 258 | 141 | 96 | 102 | 104 | 107 | 121 | 126 | 130 | 125 | 132 | 112 | 74 | 51 | 32 | 14 | 10 |

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# Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

## Average Daily Traffic

Location: **Mission Gorge Road, between West Hills Parkway and Mesa Road**

Date: **Thursday, February 8, 2018** Total Daily Volume: **17000** Description: **Total Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 32 | 33 | 35 | 46 | 104 | 264 | 1583 | 2205 | 1706 | 809 | 808 | 793 | 839 | 837 | 958 | 1055 | 1203 | 1295 | 907 | 583 | 405 | 255 | 133 | 112 |
| 14 | 11 | 7 | 11 | 18 | 44 | 162 | 508 | 507 | 216 | 196 | 219 | 201 | 218 | 252 | 236 | 277 | 314 | 274 | 188 | 110 | 68 | 49 | 34 |
| 10 | 9 | 7 | 9 | 21 | 59 | 302 | 516 | 454 | 209 | 204 | 199 | 212 | 200 | 226 | 272 | 299 | 366 | 242 | 147 | 95 | 68 | 31 | 32 |
| 5 | 7 | 14 | 13 | 15 | 58 | 497 | 532 | 425 | 204 | 189 | 191 | 219 | 196 | 230 | 266 | 312 | 315 | 180 | 128 | 97 | 65 | 33 | 27 |
| 3 | 6 | 7 | 13 | 50 | 103 | 622 | 649 | 320 | 180 | 219 | 184 | 207 | 223 | 250 | 281 | 315 | 300 | 211 | 120 | 103 | 54 | 20 | 19 |

Date: **Thursday, February 8, 2018** Total Daily Volume: **7395** Description: **Eastbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 17 | 18 | 22 | 20 | 60 | 103 | 225 | 502 | 398 | 391 | 444 | 408 | 453 | 440 | 528 | 635 | 719 | 829 | 507 | 278 | 174 | 111 | 56 | 57 |
| 8 | 2 | 5 | 5 | 13 | 19 | 31 | 91 | 106 | 87 | 108 | 111 | 105 | 114 | 129 | 143 | 144 | 207 | 156 | 94 | 38 | 35 | 23 | 19 |
| 7 | 7 | 4 | 5 | 10 | 29 | 42 | 129 | 105 | 101 | 115 | 109 | 112 | 106 | 125 | 170 | 181 | 216 | 137 | 67 | 52 | 36 | 14 | 13 |
| 2 | 6 | 8 | 5 | 9 | 22 | 65 | 145 | 89 | 105 | 105 | 94 | 125 | 106 | 124 | 154 | 187 | 202 | 106 | 62 | 40 | 21 | 10 | 16 |
| 0 | 3 | 5 | 5 | 28 | 33 | 87 | 137 | 98 | 98 | 116 | 94 | 111 | 114 | 150 | 168 | 207 | 204 | 108 | 55 | 44 | 19 | 9 | 9 |

Date: **Thursday, February 8, 2018** Total Daily Volume: **9605** Description: **Westbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 15 | 15 | 13 | 26 | 44 | 161 | 1358 | 1703 | 1308 | 418 | 364 | 385 | 386 | 397 | 430 | 420 | 484 | 466 | 400 | 305 | 231 | 144 | 77 | 55 |
| 6 | 9 | 2 | 6 | 5 | 25 | 131 | 417 | 401 | 129 | 88 | 108 | 96 | 104 | 123 | 93 | 133 | 107 | 118 | 94 | 72 | 33 | 26 | 15 |
| 3 | 2 | 3 | 4 | 11 | 30 | 260 | 387 | 349 | 108 | 89 | 90 | 100 | 94 | 101 | 102 | 118 | 150 | 105 | 80 | 43 | 32 | 17 | 19 |
| 3 | 1 | 6 | 8 | 6 | 36 | 432 | 387 | 336 | 99 | 84 | 97 | 94 | 90 | 106 | 112 | 125 | 113 | 74 | 66 | 57 | 44 | 23 | 11 |
| 3 | 3 | 2 | 8 | 22 | 70 | 535 | 512 | 222 | 82 | 103 | 90 | 96 | 109 | 100 | 113 | 108 | 96 | 103 | 65 | 59 | 35 | 11 | 10 |

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# Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

## Average Daily Traffic

Location: **Mission Gorge Road, between SR-125 and Fanita Drive**

Date: **Thursday, February 8, 2018** Total Daily Volume: **45437** Description: **Total Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 169 | 100 | 98 | 138 | 321 | 1010 | 2705 | 3663 | 3091 | 2314 | 2333 | 2607 | 2818 | 2972 | 3118 | 3231 | 3336 | 3402 | 2790 | 1888 | 1484 | 943 | 537 | 369 |
| 64 | 37 | 23 | 23 | 57 | 160 | 518 | 775 | 795 | 582 | 574 | 654 | 657 | 742 | 776 | 815 | 817 | 908 | 758 | 570 | 411 | 258 | 158 | 98 |
| 43 | 24 | 21 | 28 | 57 | 208 | 637 | 1061 | 791 | 572 | 580 | 682 | 695 | 717 | 743 | 771 | 829 | 878 | 729 | 520 | 370 | 273 | 136 | 102 |
| 33 | 20 | 28 | 36 | 83 | 278 | 722 | 894 | 790 | 572 | 554 | 597 | 741 | 716 | 822 | 850 | 848 | 812 | 639 | 420 | 381 | 219 | 138 | 82 |
| 29 | 19 | 26 | 51 | 124 | 364 | 828 | 933 | 715 | 588 | 625 | 674 | 725 | 797 | 777 | 795 | 842 | 804 | 664 | 378 | 322 | 193 | 105 | 87 |

Date: **Thursday, February 8, 2018** Total Daily Volume: **23442** Description: **Eastbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 91 | 62 | 54 | 60 | 132 | 335 | 768 | 1514 | 1322 | 1166 | 1251 | 1428 | 1610 | 1638 | 1799 | 1904 | 1974 | 2030 | 1647 | 1009 | 730 | 453 | 241 | 224 |
| 39 | 19 | 14 | 14 | 25 | 49 | 132 | 257 | 340 | 277 | 310 | 380 | 367 | 386 | 424 | 499 | 473 | 518 | 464 | 324 | 196 | 120 | 64 | 57 |
| 19 | 19 | 10 | 8 | 26 | 69 | 151 | 410 | 316 | 266 | 291 | 372 | 393 | 385 | 450 | 453 | 486 | 527 | 418 | 272 | 197 | 138 | 63 | 62 |
| 21 | 13 | 19 | 14 | 27 | 97 | 202 | 412 | 329 | 314 | 287 | 318 | 420 | 406 | 476 | 514 | 498 | 521 | 378 | 222 | 188 | 100 | 58 | 42 |
| 12 | 11 | 11 | 24 | 54 | 120 | 283 | 435 | 337 | 309 | 363 | 358 | 430 | 461 | 449 | 438 | 517 | 464 | 387 | 191 | 149 | 95 | 56 | 63 |

Date: **Thursday, February 8, 2018** Total Daily Volume: **21995** Description: **Westbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 78 | 38 | 44 | 78 | 189 | 675 | 1937 | 2149 | 1769 | 1148 | 1082 | 1179 | 1208 | 1334 | 1319 | 1327 | 1362 | 1372 | 1143 | 879 | 754 | 490 | 296 | 145 |
| 25 | 18 | 9 | 9 | 32 | 111 | 386 | 518 | 455 | 305 | 264 | 274 | 290 | 356 | 352 | 316 | 344 | 390 | 294 | 246 | 215 | 138 | 94 | 41 |
| 24 | 5 | 11 | 20 | 31 | 139 | 486 | 651 | 475 | 306 | 289 | 310 | 302 | 332 | 293 | 318 | 343 | 351 | 311 | 248 | 173 | 135 | 73 | 40 |
| 12 | 7 | 9 | 22 | 56 | 181 | 520 | 482 | 461 | 258 | 267 | 279 | 321 | 310 | 346 | 336 | 350 | 291 | 261 | 198 | 193 | 119 | 80 | 40 |
| 17 | 8 | 15 | 27 | 70 | 244 | 545 | 498 | 378 | 279 | 262 | 316 | 295 | 336 | 328 | 357 | 325 | 340 | 277 | 187 | 173 | 98 | 49 | 24 |

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# Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

## Average Daily Traffic

Location: **Mission Gorge Road, between Fanita Drive and Carlton Hills Boulevard**

Date: **Thursday, February 8, 2018** Total Daily Volume: **41102** Description: **Total Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 176 | 99 | 93 | 108 | 244 | 754 | 1806 | 2808 | 2581 | 2203 | 2224 | 2607 | 2733 | 2778 | 2927 | 2982 | 3089 | 3125 | 2625 | 1891 | 1493 | 914 | 501 | 341 |
| 63 | 32 | 19 | 20 | 46 | 105 | 299 | 605 | 697 | 536 | 560 | 641 | 659 | 698 | 762 | 797 | 789 | 830 | 693 | 567 | 411 | 272 | 156 | 92 |
| 48 | 30 | 24 | 18 | 38 | 156 | 368 | 725 | 640 | 555 | 548 | 688 | 663 | 678 | 702 | 726 | 758 | 792 | 682 | 501 | 359 | 266 | 130 | 90 |
| 34 | 22 | 25 | 30 | 64 | 217 | 471 | 693 | 617 | 563 | 547 | 610 | 715 | 659 | 706 | 743 | 783 | 774 | 644 | 437 | 399 | 204 | 129 | 80 |
| 31 | 15 | 25 | 40 | 96 | 276 | 668 | 785 | 627 | 549 | 569 | 668 | 696 | 743 | 757 | 716 | 759 | 729 | 606 | 386 | 324 | 172 | 86 | 79 |

Date: **Thursday, February 8, 2018** Total Daily Volume: **21100** Description: **Eastbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 89 | 56 | 49 | 64 | 110 | 301 | 676 | 1259 | 1235 | 1178 | 1174 | 1420 | 1459 | 1423 | 1585 | 1646 | 1736 | 1763 | 1401 | 948 | 690 | 415 | 218 | 205 |
| 36 | 14 | 11 | 12 | 24 | 35 | 109 | 234 | 334 | 282 | 308 | 369 | 359 | 325 | 401 | 428 | 437 | 461 | 380 | 299 | 189 | 124 | 64 | 53 |
| 18 | 23 | 10 | 9 | 15 | 60 | 116 | 304 | 288 | 284 | 277 | 373 | 350 | 343 | 402 | 401 | 413 | 441 | 357 | 249 | 182 | 121 | 58 | 54 |
| 19 | 12 | 17 | 19 | 20 | 85 | 170 | 340 | 291 | 310 | 280 | 323 | 370 | 349 | 373 | 421 | 448 | 464 | 359 | 215 | 187 | 85 | 47 | 45 |
| 16 | 7 | 11 | 24 | 51 | 121 | 281 | 381 | 322 | 302 | 309 | 355 | 380 | 406 | 409 | 396 | 438 | 397 | 305 | 185 | 132 | 85 | 49 | 53 |

Date: **Thursday, February 8, 2018** Total Daily Volume: **20002** Description: **Westbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 87 | 43 | 44 | 44 | 134 | 453 | 1130 | 1549 | 1346 | 1025 | 1050 | 1187 | 1274 | 1355 | 1342 | 1336 | 1353 | 1362 | 1224 | 943 | 803 | 499 | 283 | 136 |
| 27 | 18 | 8 | 8 | 22 | 70 | 190 | 371 | 363 | 254 | 252 | 272 | 300 | 373 | 361 | 369 | 352 | 369 | 313 | 268 | 222 | 148 | 92 | 39 |
| 30 | 7 | 14 | 9 | 23 | 96 | 252 | 421 | 352 | 271 | 271 | 315 | 313 | 335 | 300 | 325 | 345 | 351 | 325 | 252 | 177 | 145 | 72 | 36 |
| 15 | 10 | 8 | 11 | 44 | 132 | 301 | 353 | 326 | 253 | 267 | 287 | 345 | 310 | 333 | 322 | 335 | 310 | 285 | 222 | 212 | 119 | 82 | 35 |
| 15 | 8 | 14 | 16 | 45 | 155 | 387 | 404 | 305 | 247 | 260 | 313 | 316 | 337 | 348 | 320 | 321 | 332 | 301 | 201 | 192 | 87 | 37 | 26 |

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# Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

## Average Daily Traffic

Location: **Mission Gorge Road, between Carlton Hills Boulevard and Town Center Drive**

Date: **Thursday, February 8, 2018** Total Daily Volume: **37964** Description: **Total Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 158 | 57 | 60 | 82 | 169 | 540 | 1425 | 2277 | 2097 | 1940 | 2109 | 2665 | 2899 | 2712 | 2813 | 2902 | 2843 | 2976 | 2572 | 1911 | 1320 | 792 | 379 | 266 |
| 64 | 14 | 15 | 17 | 37 | 70 | 223 | 512 | 555 | 464 | 532 | 649 | 652 | 688 | 697 | 750 | 702 | 793 | 648 | 594 | 365 | 251 | 125 | 63 |
| 38 | 22 | 18 | 12 | 28 | 102 | 320 | 554 | 536 | 505 | 509 | 710 | 719 | 676 | 675 | 741 | 711 | 730 | 666 | 492 | 336 | 229 | 82 | 65 |
| 30 | 13 | 16 | 25 | 34 | 160 | 355 | 541 | 510 | 476 | 502 | 617 | 764 | 656 | 729 | 703 | 735 | 765 | 644 | 433 | 352 | 169 | 106 | 66 |
| 26 | 8 | 11 | 28 | 70 | 208 | 527 | 670 | 496 | 495 | 566 | 689 | 764 | 692 | 712 | 708 | 695 | 688 | 614 | 392 | 267 | 143 | 66 | 72 |

Date: **Thursday, February 8, 2018** Total Daily Volume: **20016** Description: **Eastbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 69 | 32 | 41 | 57 | 121 | 304 | 548 | 1096 | 1104 | 1096 | 1164 | 1511 | 1622 | 1413 | 1551 | 1654 | 1504 | 1699 | 1336 | 893 | 591 | 329 | 147 | 134 |
| 31 | 9 | 8 | 9 | 25 | 38 | 95 | 220 | 277 | 259 | 316 | 381 | 357 | 367 | 391 | 464 | 359 | 438 | 341 | 289 | 159 | 108 | 42 | 27 |
| 11 | 12 | 13 | 7 | 18 | 62 | 124 | 277 | 252 | 275 | 246 | 383 | 406 | 335 | 388 | 426 | 374 | 396 | 343 | 230 | 167 | 98 | 34 | 31 |
| 18 | 6 | 12 | 19 | 25 | 83 | 139 | 259 | 292 | 259 | 281 | 345 | 422 | 343 | 388 | 387 | 377 | 478 | 346 | 193 | 156 | 59 | 42 | 32 |
| 9 | 5 | 8 | 22 | 53 | 121 | 190 | 340 | 283 | 303 | 321 | 402 | 437 | 368 | 384 | 377 | 394 | 387 | 306 | 181 | 109 | 64 | 29 | 44 |

Date: **Thursday, February 8, 2018** Total Daily Volume: **17948** Description: **Westbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 89 | 25 | 19 | 25 | 48 | 236 | 877 | 1181 | 993 | 844 | 945 | 1154 | 1277 | 1299 | 1262 | 1248 | 1339 | 1277 | 1236 | 1018 | 729 | 463 | 232 | 132 |
| 33 | 5 | 7 | 8 | 12 | 32 | 128 | 292 | 278 | 205 | 216 | 268 | 295 | 321 | 306 | 286 | 343 | 355 | 307 | 305 | 206 | 143 | 83 | 36 |
| 27 | 10 | 5 | 5 | 10 | 40 | 196 | 277 | 284 | 230 | 263 | 327 | 313 | 341 | 287 | 315 | 337 | 334 | 323 | 262 | 169 | 131 | 48 | 34 |
| 12 | 7 | 4 | 6 | 9 | 77 | 216 | 282 | 218 | 217 | 221 | 272 | 342 | 313 | 341 | 316 | 358 | 287 | 298 | 240 | 196 | 110 | 64 | 34 |
| 17 | 3 | 3 | 6 | 17 | 87 | 337 | 330 | 213 | 192 | 245 | 287 | 327 | 324 | 328 | 331 | 301 | 301 | 308 | 211 | 158 | 79 | 37 | 28 |

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# Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

## Average Daily Traffic

Location: **Mission Gorge Road, between Town Center Parkway and Cuyamaca Street**

Date: **Thursday, February 8, 2018** Total Daily Volume: **28631** Description: **Total Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 116 | 74 | 37 | 42 | 78 | 251 | 884 | 1388 | 1312 | 1367 | 1712 | 2165 | 2449 | 2296 | 2170 | 2176 | 2259 | 2224 | 2046 | 1523 | 1037 | 584 | 271 | 170 |
| 41 | 14 | 9 | 9 | 14 | 35 | 126 | 290 | 355 | 291 | 417 | 546 | 603 | 591 | 497 | 526 | 574 | 539 | 502 | 471 | 298 | 216 | 88 | 48 |
| 31 | 32 | 9 | 4 | 14 | 43 | 198 | 337 | 348 | 361 | 419 | 514 | 573 | 590 | 553 | 560 | 587 | 562 | 529 | 379 | 271 | 131 | 60 | 40 |
| 24 | 15 | 10 | 12 | 14 | 70 | 215 | 351 | 309 | 349 | 414 | 515 | 648 | 562 | 569 | 508 | 564 | 546 | 505 | 357 | 248 | 127 | 65 | 52 |
| 20 | 13 | 9 | 17 | 36 | 103 | 345 | 410 | 300 | 366 | 462 | 590 | 625 | 553 | 551 | 582 | 534 | 577 | 510 | 316 | 220 | 110 | 58 | 30 |

Date: **Thursday, February 8, 2018** Total Daily Volume: **14107** Description: **Eastbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 51 | 39 | 14 | 25 | 47 | 107 | 242 | 543 | 575 | 651 | 820 | 1060 | 1188 | 1168 | 1122 | 1152 | 1175 | 1162 | 1078 | 809 | 553 | 301 | 144 | 81 |
| 21 | 9 | 4 | 6 | 10 | 18 | 34 | 99 | 143 | 144 | 204 | 259 | 294 | 304 | 255 | 298 | 293 | 267 | 275 | 261 | 152 | 107 | 46 | 25 |
| 15 | 13 | 4 | 2 | 9 | 18 | 53 | 146 | 142 | 174 | 178 | 270 | 278 | 299 | 274 | 314 | 297 | 308 | 275 | 197 | 142 | 72 | 37 | 16 |
| 10 | 8 | 3 | 7 | 10 | 25 | 63 | 132 | 159 | 153 | 201 | 243 | 310 | 296 | 290 | 272 | 299 | 298 | 260 | 185 | 138 | 65 | 31 | 27 |
| 5 | 9 | 3 | 10 | 18 | 46 | 92 | 166 | 131 | 180 | 237 | 288 | 306 | 269 | 303 | 268 | 286 | 289 | 268 | 166 | 121 | 57 | 30 | 13 |

Date: **Thursday, February 8, 2018** Total Daily Volume: **14524** Description: **Westbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 65 | 35 | 23 | 17 | 31 | 144 | 642 | 845 | 737 | 716 | 892 | 1105 | 1261 | 1128 | 1048 | 1024 | 1084 | 1062 | 968 | 714 | 484 | 283 | 127 | 89 |
| 20 | 5 | 5 | 3 | 4 | 17 | 92 | 191 | 212 | 147 | 213 | 287 | 309 | 287 | 242 | 228 | 281 | 272 | 227 | 210 | 146 | 109 | 42 | 23 |
| 16 | 19 | 5 | 2 | 5 | 25 | 145 | 191 | 206 | 187 | 241 | 244 | 295 | 291 | 279 | 246 | 290 | 254 | 254 | 182 | 129 | 59 | 23 | 24 |
| 14 | 7 | 7 | 5 | 4 | 45 | 152 | 219 | 150 | 196 | 213 | 272 | 338 | 266 | 279 | 236 | 265 | 248 | 245 | 172 | 110 | 62 | 34 | 25 |
| 15 | 4 | 6 | 7 | 18 | 57 | 253 | 244 | 169 | 186 | 225 | 302 | 319 | 284 | 248 | 314 | 248 | 288 | 242 | 150 | 99 | 53 | 28 | 17 |

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# Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

## Average Daily Traffic

Location: **Mission Gorge Road, between Cuyamaca Street and Riverview Parkway**

Date: **Thursday, February 8, 2018** Total Daily Volume: **23144** Description: **Total Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 109 | 70 | 39 | 46 | 124 | 294 | 721 | 1073 | 1189 | 1176 | 1376 | 1587 | 1847 | 1735 | 1663 | 1804 | 1906 | 1896 | 1637 | 1151 | 772 | 469 | 277 | 183 |
| 34 | 15 | 10 | 9 | 23 | 42 | 115 | 245 | 306 | 275 | 316 | 390 | 487 | 446 | 391 | 416 | 503 | 489 | 400 | 324 | 220 | 173 | 96 | 39 |
| 36 | 26 | 11 | 10 | 23 | 51 | 162 | 257 | 317 | 296 | 364 | 374 | 422 | 434 | 406 | 459 | 471 | 493 | 410 | 288 | 189 | 109 | 62 | 54 |
| 18 | 15 | 8 | 12 | 25 | 76 | 191 | 250 | 289 | 284 | 342 | 391 | 497 | 416 | 409 | 456 | 500 | 463 | 430 | 292 | 186 | 103 | 59 | 49 |
| 21 | 14 | 10 | 15 | 53 | 125 | 253 | 321 | 277 | 321 | 354 | 432 | 441 | 439 | 457 | 473 | 432 | 451 | 397 | 247 | 177 | 84 | 60 | 41 |

Date: **Thursday, February 8, 2018** Total Daily Volume: **11866** Description: **Eastbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 51 | 41 | 15 | 24 | 73 | 132 | 239 | 427 | 548 | 508 | 651 | 744 | 961 | 954 | 865 | 977 | 1033 | 977 | 928 | 709 | 437 | 288 | 184 | 100 |
| 17 | 7 | 3 | 4 | 9 | 25 | 35 | 84 | 141 | 114 | 144 | 190 | 231 | 240 | 212 | 247 | 265 | 258 | 235 | 204 | 131 | 107 | 65 | 22 |
| 17 | 14 | 3 | 4 | 17 | 21 | 58 | 104 | 142 | 145 | 174 | 170 | 211 | 223 | 206 | 255 | 279 | 226 | 228 | 172 | 111 | 66 | 41 | 29 |
| 8 | 10 | 4 | 8 | 16 | 28 | 53 | 98 | 141 | 114 | 153 | 178 | 259 | 239 | 201 | 255 | 268 | 248 | 234 | 187 | 101 | 68 | 37 | 27 |
| 9 | 10 | 5 | 8 | 31 | 58 | 93 | 141 | 124 | 135 | 180 | 206 | 260 | 252 | 246 | 220 | 221 | 245 | 231 | 146 | 94 | 47 | 41 | 22 |

Date: **Thursday, February 8, 2018** Total Daily Volume: **11278** Description: **Westbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 58 | 29 | 24 | 22 | 51 | 162 | 482 | 646 | 641 | 668 | 725 | 843 | 886 | 781 | 798 | 827 | 873 | 919 | 709 | 442 | 335 | 181 | 93 | 83 |
| 17 | 8 | 7 | 5 | 14 | 17 | 80 | 161 | 165 | 161 | 172 | 200 | 256 | 206 | 179 | 169 | 238 | 231 | 165 | 120 | 89 | 66 | 31 | 17 |
| 19 | 12 | 8 | 6 | 6 | 30 | 104 | 153 | 175 | 151 | 190 | 204 | 211 | 211 | 200 | 204 | 192 | 267 | 182 | 116 | 78 | 43 | 21 | 25 |
| 10 | 5 | 4 | 4 | 9 | 48 | 138 | 152 | 148 | 170 | 189 | 213 | 238 | 177 | 208 | 201 | 232 | 215 | 196 | 105 | 85 | 35 | 22 | 22 |
| 12 | 4 | 5 | 7 | 22 | 67 | 160 | 180 | 153 | 186 | 174 | 226 | 181 | 187 | 211 | 253 | 211 | 206 | 166 | 101 | 83 | 37 | 19 | 19 |

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# Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

## Average Daily Traffic

Location: **Mission Gorge Road, between Riverview Parkway and Cottonwood Avenue**

Date: **Thursday, February 8, 2018** Total Daily Volume: **25548** Description: **Total Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 117 | 81 | 45 | 52 | 94 | 256 | 752 | 1212 | 1324 | 1374 | 1530 | 1758 | 2065 | 1885 | 1867 | 1938 | 2113 | 2101 | 1846 | 1232 | 869 | 518 | 298 | 221 |
| 33 | 20 | 8 | 9 | 21 | 42 | 120 | 253 | 331 | 333 | 353 | 389 | 530 | 493 | 443 | 429 | 540 | 550 | 489 | 377 | 262 | 184 | 98 | 52 |
| 40 | 26 | 15 | 13 | 11 | 49 | 167 | 272 | 366 | 340 | 370 | 425 | 492 | 460 | 483 | 481 | 505 | 543 | 467 | 319 | 205 | 122 | 64 | 76 |
| 21 | 22 | 9 | 12 | 25 | 72 | 193 | 291 | 306 | 353 | 370 | 453 | 528 | 431 | 436 | 499 | 541 | 528 | 458 | 293 | 200 | 126 | 62 | 50 |
| 23 | 13 | 13 | 18 | 37 | 93 | 272 | 396 | 321 | 348 | 437 | 491 | 515 | 501 | 505 | 529 | 527 | 480 | 432 | 243 | 202 | 86 | 74 | 43 |

Date: **Thursday, February 8, 2018** Total Daily Volume: **13417** Description: **Eastbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 77 | 48 | 16 | 21 | 31 | 86 | 215 | 361 | 497 | 584 | 758 | 848 | 1118 | 1085 | 1052 | 1112 | 1221 | 1119 | 1134 | 797 | 549 | 347 | 206 | 135 |
| 23 | 8 | 3 | 3 | 7 | 19 | 34 | 67 | 116 | 147 | 165 | 189 | 259 | 289 | 262 | 266 | 311 | 309 | 309 | 243 | 175 | 123 | 70 | 32 |
| 25 | 14 | 3 | 4 | 6 | 17 | 54 | 85 | 124 | 165 | 176 | 202 | 254 | 255 | 260 | 297 | 311 | 261 | 270 | 206 | 131 | 81 | 45 | 47 |
| 14 | 16 | 4 | 7 | 7 | 20 | 51 | 85 | 129 | 140 | 173 | 228 | 289 | 268 | 244 | 284 | 310 | 284 | 279 | 202 | 134 | 86 | 39 | 30 |
| 15 | 10 | 6 | 7 | 11 | 30 | 76 | 124 | 128 | 132 | 244 | 229 | 316 | 273 | 286 | 265 | 289 | 265 | 276 | 146 | 109 | 57 | 52 | 26 |

Date: **Thursday, February 8, 2018** Total Daily Volume: **12131** Description: **Westbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 40 | 33 | 29 | 31 | 63 | 170 | 537 | 851 | 827 | 790 | 772 | 910 | 947 | 800 | 815 | 826 | 892 | 982 | 712 | 435 | 320 | 171 | 92 | 86 |
| 10 | 12 | 5 | 6 | 14 | 23 | 86 | 186 | 215 | 186 | 188 | 200 | 271 | 204 | 181 | 163 | 229 | 241 | 180 | 134 | 87 | 61 | 28 | 20 |
| 15 | 12 | 12 | 9 | 5 | 32 | 113 | 187 | 242 | 175 | 194 | 223 | 238 | 205 | 223 | 184 | 194 | 282 | 197 | 113 | 74 | 41 | 19 | 29 |
| 7 | 6 | 5 | 5 | 18 | 52 | 142 | 206 | 177 | 213 | 197 | 225 | 239 | 163 | 192 | 215 | 231 | 244 | 179 | 91 | 66 | 40 | 23 | 20 |
| 8 | 3 | 7 | 11 | 26 | 63 | 196 | 272 | 193 | 216 | 193 | 262 | 199 | 228 | 219 | 264 | 238 | 215 | 156 | 97 | 93 | 29 | 22 | 17 |

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# Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

## Average Daily Traffic

Location: **Mission Gorge Road, between Cottonwood Avenue and Magnolia Avenue**

Date: **Thursday, February 8, 2018** Total Daily Volume: **24961** Description: **Total Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 116 | 84 | 46 | 55 | 98 | 298 | 730 | 1189 | 1254 | 1272 | 1454 | 1660 | 1960 | 1808 | 1909 | 1950 | 2135 | 2104 | 1739 | 1219 | 850 | 514 | 302 | 215 |
| 36 | 21 | 12 | 6 | 17 | 42 | 119 | 239 | 301 | 309 | 304 | 374 | 557 | 464 | 453 | 422 | 542 | 553 | 471 | 347 | 239 | 169 | 99 | 50 |
| 33 | 20 | 13 | 17 | 23 | 64 | 154 | 270 | 374 | 321 | 361 | 404 | 454 | 447 | 500 | 475 | 529 | 562 | 460 | 328 | 220 | 126 | 73 | 63 |
| 16 | 27 | 6 | 14 | 21 | 76 | 199 | 298 | 286 | 305 | 379 | 416 | 484 | 446 | 491 | 510 | 512 | 497 | 416 | 284 | 200 | 129 | 58 | 60 |
| 31 | 16 | 15 | 18 | 37 | 116 | 258 | 382 | 293 | 337 | 410 | 466 | 465 | 451 | 465 | 543 | 552 | 492 | 392 | 260 | 191 | 90 | 72 | 42 |

Date: **Thursday, February 8, 2018** Total Daily Volume: **13260** Description: **Eastbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 72 | 47 | 21 | 25 | 31 | 109 | 195 | 369 | 466 | 505 | 700 | 811 | 1078 | 1037 | 1125 | 1115 | 1289 | 1185 | 1042 | 794 | 562 | 350 | 197 | 135 |
| 24 | 7 | 5 | 1 | 4 | 22 | 33 | 76 | 101 | 119 | 139 | 181 | 282 | 271 | 279 | 267 | 345 | 312 | 313 | 225 | 159 | 114 | 64 | 34 |
| 19 | 11 | 5 | 8 | 12 | 22 | 51 | 86 | 129 | 140 | 178 | 201 | 239 | 249 | 285 | 280 | 334 | 300 | 253 | 211 | 144 | 88 | 49 | 40 |
| 8 | 17 | 4 | 8 | 5 | 29 | 49 | 94 | 123 | 115 | 173 | 213 | 272 | 262 | 301 | 300 | 296 | 290 | 234 | 192 | 134 | 88 | 35 | 36 |
| 21 | 12 | 7 | 8 | 10 | 36 | 62 | 113 | 113 | 131 | 210 | 216 | 285 | 255 | 260 | 268 | 314 | 283 | 242 | 166 | 125 | 60 | 49 | 25 |

Date: **Thursday, February 8, 2018** Total Daily Volume: **11701** Description: **Westbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 44 | 37 | 25 | 30 | 67 | 189 | 535 | 820 | 788 | 767 | 754 | 849 | 882 | 771 | 784 | 835 | 846 | 919 | 697 | 425 | 288 | 164 | 105 | 80 |
| 12 | 14 | 7 | 5 | 13 | 20 | 86 | 163 | 200 | 190 | 165 | 193 | 275 | 193 | 174 | 155 | 197 | 241 | 158 | 122 | 80 | 55 | 35 | 16 |
| 14 | 9 | 8 | 9 | 11 | 42 | 103 | 184 | 245 | 181 | 183 | 203 | 215 | 198 | 215 | 195 | 195 | 262 | 207 | 117 | 76 | 38 | 24 | 23 |
| 8 | 10 | 2 | 6 | 16 | 47 | 150 | 204 | 163 | 190 | 206 | 203 | 212 | 184 | 190 | 210 | 216 | 207 | 182 | 92 | 66 | 41 | 23 | 24 |
| 10 | 4 | 8 | 10 | 27 | 80 | 196 | 269 | 180 | 206 | 200 | 250 | 180 | 196 | 205 | 275 | 238 | 209 | 150 | 94 | 66 | 30 | 23 | 17 |

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# Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

## Average Daily Traffic

Location: **Prospect Avenue, between Fanita Drive and Cuyamaca Street**

Date: **Wednesday, February 7, 2018** Total Daily Volume: **8897** Description: **Total Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 38 | 25 | 15 | 17 | 31 | 143 | 367 | 891 | 539 | 378 | 486 | 616 | 676 | 649 | 664 | 711 | 730 | 674 | 445 | 337 | 250 | 114 | 70 | 31 |
| 7 | 6 | 5 | 0 | 6 | 27 | 52 | 146 | 171 | 101 | 102 | 154 | 175 | 158 | 189 | 166 | 187 | 195 | 136 | 96 | 76 | 35 | 22 | 16 |
| 15 | 8 | 2 | 8 | 5 | 28 | 86 | 185 | 128 | 92 | 124 | 137 | 184 | 142 | 144 | 193 | 172 | 182 | 103 | 77 | 58 | 37 | 24 | 4 |
| 9 | 8 | 3 | 4 | 6 | 33 | 96 | 303 | 124 | 97 | 121 | 151 | 167 | 176 | 161 | 185 | 196 | 154 | 106 | 79 | 65 | 22 | 11 | 5 |
| 7 | 3 | 5 | 5 | 14 | 55 | 133 | 257 | 116 | 88 | 139 | 174 | 150 | 173 | 170 | 167 | 175 | 143 | 100 | 85 | 51 | 20 | 13 | 6 |

Date: **Wednesday, February 7, 2018** Total Daily Volume: **4049** Description: **Eastbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 15 | 10 | 5 | 9 | 17 | 86 | 128 | 360 | 226 | 172 | 221 | 273 | 339 | 322 | 307 | 326 | 329 | 304 | 205 | 178 | 118 | 54 | 31 | 14 |
| 2 | 3 | 2 | 0 | 3 | 19 | 18 | 38 | 64 | 46 | 46 | 60 | 85 | 82 | 103 | 93 | 75 | 76 | 62 | 52 | 34 | 13 | 12 | 8 |
| 6 | 4 | 0 | 5 | 4 | 16 | 27 | 69 | 55 | 41 | 49 | 66 | 98 | 69 | 67 | 81 | 91 | 83 | 47 | 40 | 27 | 19 | 8 | 2 |
| 3 | 1 | 1 | 2 | 4 | 23 | 30 | 109 | 59 | 50 | 62 | 72 | 84 | 84 | 63 | 86 | 87 | 71 | 49 | 36 | 33 | 12 | 5 | 2 |
| 4 | 2 | 2 | 2 | 6 | 28 | 53 | 144 | 48 | 35 | 64 | 75 | 72 | 87 | 74 | 66 | 76 | 74 | 47 | 50 | 24 | 10 | 6 | 2 |

Date: **Wednesday, February 7, 2018** Total Daily Volume: **4848** Description: **Westbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 23 | 15 | 10 | 8 | 14 | 57 | 239 | 531 | 313 | 206 | 265 | 343 | 337 | 327 | 357 | 385 | 401 | 370 | 240 | 159 | 132 | 60 | 39 | 17 |
| 5 | 3 | 3 | 0 | 3 | 8 | 34 | 108 | 107 | 55 | 56 | 94 | 90 | 76 | 86 | 73 | 112 | 119 | 74 | 44 | 42 | 22 | 10 | 8 |
| 9 | 4 | 2 | 3 | 1 | 12 | 59 | 116 | 73 | 51 | 75 | 71 | 86 | 73 | 77 | 112 | 81 | 99 | 56 | 37 | 31 | 18 | 16 | 2 |
| 6 | 7 | 2 | 2 | 2 | 10 | 66 | 194 | 65 | 47 | 59 | 79 | 83 | 92 | 98 | 99 | 109 | 83 | 57 | 43 | 32 | 10 | 6 | 3 |
| 3 | 1 | 3 | 3 | 8 | 27 | 80 | 113 | 68 | 53 | 75 | 99 | 78 | 86 | 96 | 101 | 99 | 69 | 53 | 35 | 27 | 10 | 7 | 4 |

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# Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

## Average Daily Traffic

Location: **Prospect Avenue, between Cuyamaca Street and Cottonwood Avenue**

Date: **Wednesday, February 7, 2018** Total Daily Volume: **9884** Description: **Total Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 28 | 18 | 20 | 22 | 36 | 223 | 484 | 921 | 739 | 561 | 544 | 667 | 651 | 665 | 698 | 842 | 844 | 729 | 449 | 296 | 216 | 115 | 58 | 58 |
| 6 | 3 | 3 | 2 | 7 | 31 | 84 | 167 | 227 | 147 | 128 | 160 | 163 | 155 | 173 | 221 | 212 | 213 | 141 | 92 | 72 | 33 | 15 | 23 |
| 6 | 4 | 6 | 7 | 7 | 42 | 126 | 185 | 165 | 141 | 141 | 171 | 179 | 142 | 158 | 204 | 219 | 172 | 99 | 63 | 56 | 31 | 18 | 13 |
| 6 | 4 | 6 | 6 | 7 | 61 | 118 | 269 | 168 | 137 | 127 | 160 | 158 | 186 | 187 | 210 | 225 | 177 | 111 | 63 | 55 | 26 | 16 | 10 |
| 10 | 7 | 5 | 7 | 15 | 89 | 156 | 300 | 179 | 136 | 148 | 176 | 151 | 182 | 180 | 207 | 188 | 167 | 98 | 78 | 33 | 25 | 9 | 12 |

Date: **Wednesday, February 7, 2018** Total Daily Volume: **4820** Description: **Eastbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 17 | 11 | 10 | 11 | 17 | 107 | 172 | 364 | 330 | 261 | 263 | 313 | 330 | 339 | 370 | 441 | 441 | 366 | 248 | 180 | 115 | 59 | 27 | 28 |
| 3 | 2 | 2 | 1 | 2 | 9 | 40 | 62 | 89 | 73 | 62 | 74 | 80 | 81 | 95 | 118 | 109 | 96 | 80 | 50 | 32 | 15 | 6 | 10 |
| 5 | 1 | 0 | 3 | 3 | 17 | 50 | 61 | 69 | 66 | 66 | 74 | 83 | 72 | 87 | 102 | 122 | 93 | 53 | 44 | 31 | 15 | 7 | 6 |
| 3 | 3 | 4 | 5 | 5 | 31 | 33 | 96 | 74 | 62 | 61 | 81 | 86 | 94 | 85 | 106 | 111 | 91 | 60 | 44 | 30 | 12 | 11 | 6 |
| 6 | 5 | 4 | 2 | 7 | 50 | 49 | 145 | 98 | 60 | 74 | 84 | 81 | 92 | 103 | 115 | 99 | 86 | 55 | 42 | 22 | 17 | 3 | 6 |

Date: **Wednesday, February 7, 2018** Total Daily Volume: **5064** Description: **Westbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11 | 7 | 10 | 11 | 19 | 116 | 312 | 557 | 409 | 300 | 281 | 354 | 321 | 326 | 328 | 401 | 403 | 363 | 201 | 116 | 101 | 56 | 31 | 30 |
| 3 | 1 | 1 | 1 | 5 | 22 | 44 | 105 | 138 | 74 | 66 | 86 | 83 | 74 | 78 | 103 | 103 | 117 | 61 | 42 | 40 | 18 | 9 | 13 |
| 1 | 3 | 6 | 4 | 4 | 25 | 76 | 124 | 96 | 75 | 75 | 97 | 96 | 70 | 71 | 102 | 97 | 79 | 46 | 19 | 25 | 16 | 11 | 7 |
| 3 | 1 | 2 | 1 | 2 | 30 | 85 | 173 | 94 | 75 | 66 | 79 | 72 | 92 | 102 | 104 | 114 | 86 | 51 | 19 | 25 | 14 | 5 | 4 |
| 4 | 2 | 1 | 5 | 8 | 39 | 107 | 155 | 81 | 76 | 74 | 92 | 70 | 90 | 77 | 92 | 89 | 81 | 43 | 36 | 11 | 8 | 6 | 6 |

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# Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

## Average Daily Traffic

Location: **West Hills Parkway, between Mast Boulevard and Mission Gorge Road**

Date: **Wednesday, February 7, 2018** Total Daily Volume: **11605** Description: **Total Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 38 | 32 | 13 | 24 | 81 | 268 | 1179 | 1514 | 1131 | 386 | 415 | 449 | 471 | 556 | 638 | 821 | 865 | 983 | 682 | 422 | 281 | 183 | 115 | 58 |
| 10 | 9 | 2 | 4 | 9 | 30 | 155 | 436 | 425 | 97 | 110 | 98 | 108 | 118 | 143 | 190 | 183 | 273 | 190 | 117 | 72 | 49 | 37 | 14 |
| 8 | 3 | 2 | 5 | 12 | 58 | 242 | 307 | 367 | 105 | 106 | 117 | 122 | 121 | 164 | 202 | 211 | 260 | 168 | 108 | 66 | 57 | 33 | 16 |
| 11 | 9 | 4 | 9 | 26 | 71 | 352 | 329 | 189 | 93 | 100 | 124 | 122 | 159 | 144 | 214 | 219 | 237 | 164 | 95 | 65 | 40 | 27 | 15 |
| 9 | 11 | 5 | 6 | 34 | 109 | 430 | 442 | 150 | 91 | 99 | 110 | 119 | 158 | 187 | 215 | 252 | 213 | 160 | 102 | 78 | 37 | 18 | 13 |

Date: **Wednesday, February 7, 2018** Total Daily Volume: **6302** Description: **Northbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 13 | 9 | 5 | 11 | 55 | 192 | 920 | 1106 | 743 | 185 | 202 | 206 | 212 | 248 | 284 | 386 | 436 | 499 | 261 | 129 | 89 | 61 | 32 | 18 |
| 3 | 2 | 1 | 0 | 6 | 20 | 124 | 347 | 316 | 52 | 56 | 49 | 42 | 47 | 56 | 81 | 91 | 142 | 75 | 34 | 21 | 10 | 7 | 5 |
| 2 | 2 | 1 | 2 | 11 | 41 | 187 | 207 | 256 | 49 | 49 | 55 | 61 | 48 | 67 | 101 | 110 | 137 | 71 | 37 | 17 | 19 | 11 | 6 |
| 4 | 1 | 2 | 4 | 15 | 46 | 284 | 223 | 95 | 38 | 51 | 58 | 58 | 84 | 67 | 100 | 109 | 122 | 57 | 31 | 22 | 19 | 9 | 4 |
| 4 | 4 | 1 | 5 | 23 | 85 | 325 | 329 | 76 | 46 | 46 | 44 | 51 | 69 | 94 | 104 | 126 | 98 | 58 | 27 | 29 | 13 | 5 | 3 |

Date: **Wednesday, February 7, 2018** Total Daily Volume: **5303** Description: **Southbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 25 | 23 | 8 | 13 | 26 | 76 | 259 | 408 | 388 | 201 | 213 | 243 | 259 | 308 | 354 | 435 | 429 | 484 | 421 | 293 | 192 | 122 | 83 | 40 |
| 7 | 7 | 1 | 4 | 3 | 10 | 31 | 89 | 109 | 45 | 54 | 49 | 66 | 71 | 87 | 109 | 92 | 131 | 115 | 83 | 51 | 39 | 30 | 9 |
| 6 | 1 | 1 | 3 | 1 | 17 | 55 | 100 | 111 | 56 | 57 | 62 | 61 | 73 | 97 | 101 | 101 | 123 | 97 | 71 | 49 | 38 | 22 | 10 |
| 7 | 8 | 2 | 5 | 11 | 25 | 68 | 106 | 94 | 55 | 49 | 66 | 64 | 75 | 77 | 114 | 110 | 115 | 107 | 64 | 43 | 21 | 18 | 11 |
| 5 | 7 | 4 | 1 | 11 | 24 | 105 | 113 | 74 | 45 | 53 | 66 | 68 | 89 | 93 | 111 | 126 | 115 | 102 | 75 | 49 | 24 | 13 | 10 |

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# Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

## Average Daily Traffic

Location: **Fanita Parkway, between Ganley Drive and Lake Canyon Road**

Date: **Wednesday, January 31, 2018** Total Daily Volume: **2606** Description: **Total Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | 4 | 5 | 13 | 31 | 76 | 140 | 123 | 157 | 119 | 144 | 162 | 163 | 161 | 201 | 202 | 203 | 218 | 169 | 126 | 81 | 65 | 24 | 14 |
| 2 | 2 | 1 | 4 | 2 | 7 | 30 | 26 | 45 | 30 | 40 | 41 | 37 | 49 | 59 | 46 | 57 | 64 | 46 | 36 | 21 | 17 | 6 | 6 |
| 2 | 0 | 1 | 3 | 8 | 12 | 41 | 33 | 35 | 25 | 31 | 39 | 51 | 36 | 63 | 49 | 56 | 63 | 48 | 34 | 23 | 24 | 10 | 3 |
| 1 | 1 | 1 | 2 | 10 | 24 | 37 | 32 | 43 | 27 | 46 | 43 | 41 | 29 | 37 | 54 | 44 | 52 | 41 | 25 | 17 | 14 | 5 | 3 |
| 0 | 1 | 2 | 4 | 11 | 33 | 32 | 32 | 34 | 37 | 27 | 39 | 34 | 47 | 42 | 53 | 46 | 39 | 34 | 31 | 20 | 10 | 3 | 2 |

Date: **Wednesday, January 31, 2018** Total Daily Volume: **1297** Description: **Northbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 3 | 3 | 3 | 3 | 14 | 14 | 29 | 49 | 45 | 46 | 79 | 88 | 86 | 100 | 124 | 127 | 145 | 116 | 85 | 59 | 50 | 16 | 10 |
| 1 | 1 | 0 | 1 | 0 | 1 | 3 | 4 | 17 | 8 | 7 | 18 | 21 | 27 | 30 | 27 | 37 | 44 | 33 | 23 | 15 | 14 | 4 | 4 |
| 1 | 0 | 1 | 0 | 0 | 5 | 2 | 4 | 8 | 10 | 7 | 22 | 25 | 20 | 28 | 33 | 35 | 40 | 33 | 23 | 15 | 16 | 7 | 3 |
| 1 | 1 | 1 | 2 | 2 | 3 | 6 | 11 | 13 | 12 | 20 | 22 | 21 | 13 | 17 | 35 | 23 | 34 | 26 | 16 | 13 | 11 | 2 | 2 |
| 0 | 1 | 1 | 0 | 1 | 5 | 3 | 10 | 11 | 15 | 12 | 17 | 21 | 26 | 25 | 29 | 32 | 27 | 24 | 23 | 16 | 9 | 3 | 1 |

Date: **Wednesday, January 31, 2018** Total Daily Volume: **1309** Description: **Southbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 1 | 2 | 10 | 28 | 62 | 126 | 94 | 108 | 74 | 98 | 83 | 75 | 75 | 101 | 78 | 76 | 73 | 53 | 41 | 22 | 15 | 8 | 4 |
| 1 | 1 | 1 | 3 | 2 | 6 | 27 | 22 | 28 | 22 | 33 | 23 | 16 | 22 | 29 | 19 | 20 | 20 | 13 | 13 | 6 | 3 | 2 | 2 |
| 1 | 0 | 0 | 3 | 8 | 7 | 39 | 29 | 27 | 15 | 24 | 17 | 26 | 16 | 35 | 16 | 21 | 23 | 15 | 11 | 8 | 8 | 3 | 0 |
| 0 | 0 | 0 | 0 | 8 | 21 | 31 | 21 | 30 | 15 | 26 | 21 | 20 | 16 | 20 | 19 | 21 | 18 | 15 | 9 | 4 | 3 | 3 | 1 |
| 0 | 0 | 1 | 4 | 10 | 28 | 29 | 22 | 23 | 22 | 15 | 22 | 13 | 21 | 17 | 24 | 14 | 12 | 10 | 8 | 4 | 1 | 0 | 1 |

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# Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

## Average Daily Traffic

Location: **Fanita Parkway, between Lake Canyon Road and Mast Boulevard**

Date: **Wednesday, January 31, 2018** Total Daily Volume: **3856** Description: **Total Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6 | 6 | 4 | 15 | 40 | 115 | 225 | 220 | 305 | 174 | 195 | 216 | 226 | 212 | 290 | 303 | 314 | 337 | 233 | 172 | 118 | 76 | 36 | 18 |
| 2 | 2 | 0 | 5 | 2 | 15 | 45 | 63 | 99 | 53 | 57 | 53 | 60 | 54 | 71 | 71 | 79 | 112 | 61 | 50 | 35 | 17 | 12 | 7 |
| 1 | 1 | 1 | 3 | 8 | 16 | 65 | 57 | 78 | 35 | 45 | 51 | 61 | 45 | 72 | 70 | 74 | 89 | 68 | 51 | 42 | 28 | 13 | 4 |
| 3 | 2 | 1 | 2 | 17 | 42 | 60 | 50 | 74 | 42 | 55 | 55 | 55 | 47 | 69 | 89 | 79 | 78 | 50 | 32 | 18 | 18 | 7 | 3 |
| 0 | 1 | 2 | 5 | 13 | 42 | 55 | 50 | 54 | 44 | 38 | 57 | 50 | 66 | 78 | 73 | 82 | 58 | 54 | 39 | 23 | 13 | 4 | 4 |

Date: **Wednesday, January 31, 2018** Total Daily Volume: **1882** Description: **Northbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4 | 5 | 1 | 4 | 3 | 12 | 19 | 53 | 109 | 66 | 68 | 109 | 115 | 117 | 145 | 192 | 196 | 213 | 158 | 114 | 84 | 59 | 24 | 12 |
| 1 | 1 | 0 | 1 | 0 | 2 | 3 | 13 | 39 | 12 | 14 | 26 | 31 | 31 | 39 | 44 | 51 | 68 | 41 | 30 | 26 | 15 | 9 | 4 |
| 1 | 1 | 0 | 0 | 0 | 4 | 4 | 8 | 27 | 14 | 16 | 28 | 26 | 24 | 36 | 44 | 38 | 56 | 46 | 34 | 26 | 19 | 9 | 4 |
| 2 | 2 | 0 | 2 | 2 | 4 | 7 | 16 | 26 | 17 | 20 | 28 | 27 | 22 | 29 | 59 | 50 | 48 | 31 | 22 | 13 | 14 | 3 | 2 |
| 0 | 1 | 1 | 1 | 1 | 2 | 5 | 16 | 17 | 23 | 18 | 27 | 31 | 40 | 41 | 45 | 57 | 41 | 40 | 28 | 19 | 11 | 3 | 2 |

Date: **Wednesday, January 31, 2018** Total Daily Volume: **1974** Description: **Southbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 1 | 3 | 11 | 37 | 103 | 206 | 167 | 196 | 108 | 127 | 107 | 111 | 95 | 145 | 111 | 118 | 124 | 75 | 58 | 34 | 17 | 12 | 6 |
| 1 | 1 | 0 | 4 | 2 | 13 | 42 | 50 | 60 | 41 | 43 | 27 | 29 | 23 | 32 | 27 | 28 | 44 | 20 | 20 | 9 | 2 | 3 | 3 |
| 0 | 0 | 1 | 3 | 8 | 12 | 61 | 49 | 51 | 21 | 29 | 23 | 35 | 21 | 36 | 26 | 36 | 33 | 22 | 17 | 16 | 9 | 4 | 0 |
| 1 | 0 | 1 | 0 | 15 | 38 | 53 | 34 | 48 | 25 | 35 | 27 | 28 | 25 | 40 | 30 | 29 | 30 | 19 | 10 | 5 | 4 | 4 | 1 |
| 0 | 0 | 1 | 4 | 12 | 40 | 50 | 34 | 37 | 21 | 20 | 30 | 19 | 26 | 37 | 28 | 25 | 17 | 14 | 11 | 4 | 2 | 1 | 2 |

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# Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

## Average Daily Traffic

Location: **Fanita Parkway, between Mast Boulevard and Carlton Oaks Drive**

Date: **Wednesday, January 31, 2018** Total Daily Volume: **3331** Description: **Total Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | 12 | 5 | 8 | 12 | 34 | 189 | 354 | 303 | 176 | 217 | 228 | 209 | 214 | 279 | 263 | 239 | 225 | 141 | 91 | 61 | 39 | 16 | 11 |
| 1 | 3 | 1 | 1 | 1 | 5 | 23 | 83 | 113 | 53 | 57 | 75 | 37 | 43 | 57 | 77 | 65 | 60 | 38 | 16 | 17 | 13 | 8 | 7 |
| 2 | 5 | 0 | 1 | 2 | 2 | 30 | 72 | 67 | 42 | 48 | 47 | 58 | 49 | 57 | 67 | 59 | 69 | 40 | 29 | 23 | 15 | 4 | 3 |
| 1 | 2 | 3 | 4 | 3 | 5 | 53 | 92 | 70 | 39 | 48 | 54 | 50 | 45 | 64 | 58 | 51 | 59 | 30 | 21 | 8 | 5 | 0 | 0 |
| 1 | 2 | 1 | 2 | 6 | 22 | 83 | 107 | 53 | 42 | 64 | 52 | 64 | 77 | 101 | 61 | 64 | 37 | 33 | 25 | 13 | 6 | 4 | 1 |

Date: **Wednesday, January 31, 2018** Total Daily Volume: **1406** Description: **Northbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 8 | 3 | 5 | 3 | 13 | 52 | 120 | 117 | 80 | 73 | 99 | 94 | 96 | 125 | 127 | 105 | 105 | 75 | 38 | 28 | 24 | 8 | 6 |
| 1 | 1 | 1 | 1 | 0 | 3 | 6 | 28 | 34 | 23 | 20 | 25 | 20 | 18 | 23 | 33 | 33 | 24 | 16 | 5 | 9 | 9 | 3 | 3 |
| 0 | 4 | 0 | 0 | 1 | 1 | 4 | 19 | 24 | 18 | 15 | 18 | 20 | 23 | 30 | 33 | 28 | 27 | 23 | 17 | 11 | 8 | 3 | 3 |
| 1 | 2 | 1 | 3 | 1 | 1 | 15 | 31 | 41 | 20 | 17 | 29 | 20 | 24 | 29 | 34 | 16 | 28 | 17 | 6 | 3 | 3 | 0 | 0 |
| 0 | 1 | 1 | 1 | 1 | 8 | 27 | 42 | 18 | 19 | 21 | 27 | 34 | 31 | 43 | 27 | 28 | 26 | 19 | 10 | 5 | 4 | 2 | 0 |

Date: **Wednesday, January 31, 2018** Total Daily Volume: **1925** Description: **Southbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 4 | 2 | 3 | 9 | 21 | 137 | 234 | 186 | 96 | 144 | 129 | 115 | 118 | 154 | 136 | 134 | 120 | 66 | 53 | 33 | 15 | 8 | 5 |
| 0 | 2 | 0 | 0 | 1 | 2 | 17 | 55 | 79 | 30 | 37 | 50 | 17 | 25 | 34 | 44 | 32 | 36 | 22 | 11 | 8 | 4 | 5 | 4 |
| 2 | 1 | 0 | 1 | 1 | 1 | 26 | 53 | 43 | 24 | 33 | 29 | 38 | 26 | 27 | 34 | 31 | 42 | 17 | 12 | 12 | 7 | 1 | 0 |
| 0 | 0 | 2 | 1 | 2 | 4 | 38 | 61 | 29 | 19 | 31 | 25 | 30 | 21 | 35 | 24 | 35 | 31 | 13 | 15 | 5 | 2 | 0 | 0 |
| 1 | 1 | 0 | 1 | 5 | 14 | 56 | 65 | 35 | 23 | 43 | 25 | 30 | 46 | 58 | 34 | 36 | 11 | 14 | 15 | 8 | 2 | 2 | 1 |

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# Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

## Average Daily Traffic

Location: **Fanita Drive, between Mission Gorge Road and SR 52 Ramps**

Date: **Wednesday, February 7, 2018** Total Daily Volume: **18922** Description: **Total Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 92 | 60 | 43 | 67 | 134 | 489 | 1307 | 1479 | 1497 | 1026 | 830 | 1029 | 1076 | 1181 | 1267 | 1357 | 1328 | 1428 | 1039 | 769 | 632 | 441 | 211 | 140 |
| 25 | 16 | 14 | 11 | 24 | 58 | 258 | 326 | 428 | 305 | 200 | 236 | 265 | 294 | 349 | 358 | 337 | 363 | 286 | 193 | 173 | 124 | 72 | 33 |
| 28 | 14 | 12 | 11 | 16 | 91 | 304 | 340 | 350 | 244 | 217 | 245 | 289 | 287 | 295 | 328 | 321 | 403 | 258 | 223 | 150 | 123 | 62 | 38 |
| 17 | 15 | 6 | 21 | 34 | 107 | 325 | 393 | 365 | 227 | 198 | 271 | 264 | 273 | 300 | 337 | 329 | 330 | 253 | 175 | 170 | 108 | 44 | 37 |
| 22 | 15 | 11 | 24 | 60 | 233 | 420 | 420 | 354 | 250 | 215 | 277 | 258 | 327 | 323 | 334 | 341 | 332 | 242 | 178 | 139 | 86 | 33 | 32 |

Date: **Wednesday, February 7, 2018** Total Daily Volume: **10498** Description: **Northbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 46 | 27 | 24 | 54 | 83 | 389 | 968 | 757 | 906 | 646 | 504 | 603 | 606 | 679 | 680 | 732 | 670 | 667 | 469 | 347 | 287 | 207 | 94 | 53 |
| 12 | 9 | 9 | 8 | 15 | 44 | 214 | 192 | 233 | 215 | 127 | 145 | 162 | 172 | 184 | 178 | 178 | 168 | 126 | 102 | 82 | 55 | 36 | 11 |
| 15 | 6 | 8 | 7 | 10 | 71 | 251 | 161 | 190 | 160 | 135 | 145 | 154 | 171 | 173 | 172 | 158 | 185 | 112 | 91 | 73 | 55 | 25 | 13 |
| 6 | 8 | 1 | 18 | 25 | 76 | 230 | 206 | 243 | 129 | 129 | 164 | 154 | 152 | 160 | 202 | 154 | 147 | 114 | 79 | 73 | 54 | 19 | 16 |
| 13 | 4 | 6 | 21 | 33 | 198 | 273 | 198 | 240 | 142 | 113 | 149 | 136 | 184 | 163 | 180 | 180 | 167 | 117 | 75 | 59 | 43 | 14 | 13 |

Date: **Wednesday, February 7, 2018** Total Daily Volume: **8424** Description: **Southbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 46 | 33 | 19 | 13 | 51 | 100 | 339 | 722 | 591 | 380 | 326 | 426 | 470 | 502 | 587 | 625 | 658 | 761 | 570 | 422 | 345 | 234 | 117 | 87 |
| 13 | 7 | 5 | 3 | 9 | 14 | 44 | 134 | 195 | 90 | 73 | 91 | 103 | 122 | 165 | 180 | 159 | 195 | 160 | 91 | 91 | 69 | 36 | 22 |
| 13 | 8 | 4 | 4 | 6 | 20 | 53 | 179 | 160 | 84 | 82 | 100 | 135 | 116 | 122 | 156 | 163 | 218 | 146 | 132 | 77 | 68 | 37 | 25 |
| 11 | 7 | 5 | 3 | 9 | 31 | 95 | 187 | 122 | 98 | 69 | 107 | 110 | 121 | 140 | 135 | 175 | 183 | 139 | 96 | 97 | 54 | 25 | 21 |
| 9 | 11 | 5 | 3 | 27 | 35 | 147 | 222 | 114 | 108 | 102 | 128 | 122 | 143 | 160 | 154 | 161 | 165 | 125 | 103 | 80 | 43 | 19 | 19 |

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# Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

## Average Daily Traffic

Location: **Fanita Drive, between SR 52 Ramps and Prospect Avenue**

Date: **Wednesday, February 7, 2018** Total Daily Volume: **11646** Description: **Total Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 67 | 31 | 19 | 37 | 84 | 266 | 705 | 1089 | 800 | 563 | 458 | 599 | 627 | 698 | 807 | 856 | 847 | 886 | 660 | 537 | 442 | 327 | 150 | 91 |
| 13 | 6 | 6 | 1 | 18 | 39 | 102 | 236 | 262 | 151 | 111 | 141 | 158 | 148 | 240 | 240 | 195 | 234 | 183 | 126 | 117 | 99 | 53 | 17 |
| 17 | 10 | 4 | 6 | 11 | 67 | 160 | 258 | 193 | 126 | 124 | 132 | 178 | 172 | 180 | 203 | 208 | 244 | 169 | 170 | 113 | 86 | 39 | 26 |
| 17 | 6 | 3 | 14 | 23 | 73 | 185 | 295 | 181 | 140 | 100 | 158 | 144 | 186 | 186 | 218 | 211 | 218 | 151 | 128 | 115 | 70 | 34 | 19 |
| 20 | 9 | 6 | 16 | 32 | 87 | 258 | 300 | 164 | 146 | 123 | 168 | 147 | 192 | 201 | 195 | 233 | 190 | 157 | 113 | 97 | 72 | 24 | 29 |

Date: **Wednesday, February 7, 2018** Total Daily Volume: **6154** Description: **Northbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 23 | 11 | 10 | 30 | 74 | 235 | 524 | 712 | 509 | 346 | 259 | 323 | 314 | 351 | 402 | 392 | 380 | 388 | 260 | 216 | 169 | 133 | 56 | 37 |
| 4 | 5 | 3 | 1 | 14 | 35 | 84 | 163 | 165 | 94 | 69 | 76 | 88 | 80 | 124 | 98 | 95 | 97 | 67 | 54 | 46 | 41 | 21 | 8 |
| 5 | 1 | 2 | 3 | 9 | 62 | 130 | 161 | 132 | 78 | 70 | 71 | 83 | 82 | 100 | 96 | 85 | 112 | 75 | 69 | 46 | 31 | 13 | 8 |
| 5 | 2 | 1 | 13 | 22 | 63 | 136 | 194 | 117 | 87 | 63 | 92 | 68 | 99 | 94 | 112 | 91 | 95 | 52 | 50 | 41 | 32 | 16 | 8 |
| 9 | 3 | 4 | 13 | 29 | 75 | 174 | 194 | 95 | 87 | 57 | 84 | 75 | 90 | 84 | 86 | 109 | 84 | 66 | 43 | 36 | 29 | 6 | 13 |

Date: **Wednesday, February 7, 2018** Total Daily Volume: **5492** Description: **Southbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 44 | 20 | 9 | 7 | 10 | 31 | 181 | 377 | 291 | 217 | 199 | 276 | 313 | 347 | 405 | 464 | 467 | 498 | 400 | 321 | 273 | 194 | 94 | 54 |
| 9 | 1 | 3 | 0 | 4 | 4 | 18 | 73 | 97 | 57 | 42 | 65 | 70 | 68 | 116 | 142 | 100 | 137 | 116 | 72 | 71 | 58 | 32 | 9 |
| 12 | 9 | 2 | 3 | 2 | 5 | 30 | 97 | 61 | 48 | 54 | 61 | 95 | 90 | 80 | 107 | 123 | 132 | 94 | 101 | 67 | 55 | 26 | 18 |
| 12 | 4 | 2 | 1 | 1 | 10 | 49 | 101 | 64 | 53 | 37 | 66 | 76 | 87 | 92 | 106 | 120 | 123 | 99 | 78 | 74 | 38 | 18 | 11 |
| 11 | 6 | 2 | 3 | 3 | 12 | 84 | 106 | 69 | 59 | 66 | 84 | 72 | 102 | 117 | 109 | 124 | 106 | 91 | 70 | 61 | 43 | 18 | 16 |

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# Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

## Average Daily Traffic

Location: **Fanita Drive, South of Prospect Ave**

Date: **Wednesday, April 25, 2018** Total Daily Volume: **6618** Description: **Total Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 37 | 24 | 11 | 12 | 48 | 129 | 304 | 567 | 424 | 317 | 328 | 297 | 322 | 321 | 423 | 503 | 510 | 552 | 470 | 391 | 289 | 197 | 91 | 51 |
| 14 | 3 | 2 | 1 | 8 | 15 | 47 | 129 | 131 | 91 | 82 | 76 | 86 | 61 | 91 | 150 | 127 | 147 | 101 | 107 | 88 | 52 | 35 | 21 |
| 12 | 7 | 1 | 1 | 9 | 28 | 64 | 141 | 108 | 82 | 80 | 61 | 94 | 80 | 125 | 125 | 117 | 163 | 112 | 96 | 64 | 42 | 22 | 10 |
| 6 | 7 | 6 | 5 | 8 | 40 | 75 | 164 | 96 | 77 | 79 | 74 | 85 | 85 | 107 | 122 | 125 | 121 | 132 | 101 | 75 | 53 | 18 | 9 |
| 5 | 7 | 2 | 5 | 23 | 46 | 118 | 133 | 89 | 67 | 87 | 86 | 57 | 95 | 100 | 106 | 141 | 121 | 125 | 87 | 62 | 50 | 16 | 11 |

Date: **Wednesday, April 25, 2018** Total Daily Volume: **3567** Description: **Northbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 14 | 9 | 6 | 9 | 35 | 96 | 217 | 317 | 248 | 219 | 188 | 178 | 208 | 195 | 248 | 245 | 243 | 248 | 199 | 169 | 128 | 96 | 34 | 18 |
| 7 | 1 | 2 | 0 | 6 | 12 | 35 | 77 | 77 | 64 | 51 | 50 | 56 | 36 | 61 | 70 | 64 | 64 | 43 | 48 | 36 | 14 | 17 | 9 |
| 5 | 3 | 0 | 0 | 8 | 24 | 49 | 85 | 61 | 56 | 40 | 33 | 56 | 56 | 71 | 57 | 57 | 83 | 48 | 35 | 33 | 22 | 6 | 4 |
| 1 | 3 | 3 | 4 | 5 | 29 | 58 | 95 | 56 | 56 | 41 | 40 | 61 | 57 | 63 | 61 | 59 | 52 | 54 | 49 | 30 | 34 | 7 | 3 |
| 1 | 2 | 1 | 5 | 16 | 31 | 75 | 60 | 54 | 43 | 56 | 55 | 35 | 46 | 53 | 57 | 63 | 49 | 54 | 37 | 29 | 26 | 4 | 2 |

Date: **Wednesday, April 25, 2018** Total Daily Volume: **3051** Description: **Southbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 23 | 15 | 5 | 3 | 13 | 33 | 87 | 250 | 176 | 98 | 140 | 119 | 114 | 126 | 175 | 258 | 267 | 304 | 271 | 222 | 161 | 101 | 57 | 33 |
| 7 | 2 | 0 | 1 | 2 | 3 | 12 | 52 | 54 | 27 | 31 | 26 | 30 | 25 | 30 | 80 | 63 | 83 | 58 | 59 | 52 | 38 | 18 | 12 |
| 7 | 4 | 1 | 1 | 1 | 4 | 15 | 56 | 47 | 26 | 40 | 28 | 38 | 24 | 54 | 68 | 60 | 80 | 64 | 61 | 31 | 20 | 16 | 6 |
| 5 | 4 | 3 | 1 | 3 | 11 | 17 | 69 | 40 | 21 | 38 | 34 | 24 | 28 | 44 | 61 | 66 | 69 | 78 | 52 | 45 | 19 | 11 | 6 |
| 4 | 5 | 1 | 0 | 7 | 15 | 43 | 73 | 35 | 24 | 31 | 31 | 22 | 49 | 47 | 49 | 78 | 72 | 71 | 50 | 33 | 24 | 12 | 9 |

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# Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

## Average Daily Traffic

Location: **Carlton Hills Boulevard, between Lake Canyon Road and Mast Boulevard**

Date: **Wednesday, January 31, 2018** Total Daily Volume: **5881** Description: **Total Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 18 | 10 | 5 | 19 | 28 | 132 | 203 | 369 | 553 | 267 | 267 | 318 | 358 | 289 | 480 | 511 | 483 | 505 | 386 | 253 | 213 | 124 | 58 | 32 |
| 8 | 2 | 0 | 1 | 6 | 22 | 45 | 74 | 114 | 71 | 75 | 72 | 95 | 72 | 113 | 112 | 110 | 174 | 99 | 93 | 57 | 39 | 17 | 9 |
| 4 | 3 | 2 | 3 | 5 | 21 | 43 | 72 | 183 | 68 | 54 | 79 | 96 | 57 | 107 | 120 | 101 | 134 | 112 | 59 | 76 | 34 | 13 | 13 |
| 3 | 4 | 2 | 6 | 7 | 42 | 47 | 102 | 149 | 66 | 72 | 84 | 89 | 77 | 120 | 142 | 144 | 101 | 88 | 47 | 43 | 28 | 15 | 5 |
| 3 | 1 | 1 | 9 | 10 | 47 | 68 | 121 | 107 | 62 | 66 | 83 | 78 | 83 | 140 | 137 | 128 | 96 | 87 | 54 | 37 | 23 | 13 | 5 |

Date: **Wednesday, January 31, 2018** Total Daily Volume: **2975** Description: **Northbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 14 | 5 | 2 | 7 | 5 | 30 | 55 | 139 | 244 | 88 | 128 | 179 | 163 | 162 | 272 | 277 | 277 | 276 | 227 | 148 | 132 | 81 | 42 | 22 |
| 6 | 1 | 0 | 1 | 2 | 4 | 8 | 23 | 61 | 16 | 30 | 33 | 42 | 42 | 77 | 55 | 63 | 82 | 57 | 60 | 39 | 24 | 13 | 5 |
| 3 | 1 | 0 | 2 | 0 | 2 | 11 | 18 | 100 | 23 | 29 | 44 | 53 | 23 | 66 | 67 | 63 | 74 | 61 | 31 | 43 | 21 | 8 | 8 |
| 2 | 2 | 2 | 1 | 0 | 11 | 17 | 40 | 51 | 25 | 36 | 47 | 34 | 40 | 61 | 83 | 69 | 59 | 57 | 28 | 24 | 20 | 11 | 5 |
| 3 | 1 | 0 | 3 | 3 | 13 | 19 | 58 | 32 | 24 | 33 | 55 | 34 | 57 | 68 | 72 | 82 | 61 | 52 | 29 | 26 | 16 | 10 | 4 |

Date: **Wednesday, January 31, 2018** Total Daily Volume: **2906** Description: **Southbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4 | 5 | 3 | 12 | 23 | 102 | 148 | 230 | 309 | 179 | 139 | 139 | 195 | 127 | 208 | 234 | 206 | 229 | 159 | 105 | 81 | 43 | 16 | 10 |
| 2 | 1 | 0 | 0 | 4 | 18 | 37 | 51 | 53 | 55 | 45 | 39 | 53 | 30 | 36 | 57 | 47 | 92 | 42 | 33 | 18 | 15 | 4 | 4 |
| 1 | 2 | 2 | 1 | 5 | 19 | 32 | 54 | 83 | 45 | 25 | 35 | 43 | 34 | 41 | 53 | 38 | 60 | 51 | 28 | 33 | 13 | 5 | 5 |
| 1 | 2 | 0 | 5 | 7 | 31 | 30 | 62 | 98 | 41 | 36 | 37 | 55 | 37 | 59 | 59 | 75 | 42 | 31 | 19 | 19 | 8 | 4 | 0 |
| 0 | 0 | 1 | 6 | 7 | 34 | 49 | 63 | 75 | 38 | 33 | 28 | 44 | 26 | 72 | 65 | 46 | 35 | 35 | 25 | 11 | 7 | 3 | 1 |

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# Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

## Average Daily Traffic

Location: **Carlton Hills Boulevard, between Mast Boulevard and Carlton Oaks Drive**

Date: **Wednesday, January 31, 2018** Total Daily Volume: **10025** Description: **Total Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 32 | 13 | 15 | 25 | 63 | 175 | 388 | 747 | 813 | 485 | 477 | 556 | 533 | 584 | 825 | 770 | 785 | 854 | 698 | 472 | 344 | 226 | 97 | 48 |
| 15 | 2 | 2 | 5 | 11 | 31 | 51 | 166 | 206 | 138 | 110 | 114 | 131 | 133 | 183 | 196 | 190 | 252 | 200 | 130 | 95 | 63 | 31 | 18 |
| 8 | 2 | 4 | 8 | 12 | 35 | 75 | 168 | 220 | 129 | 107 | 134 | 157 | 135 | 187 | 187 | 178 | 220 | 191 | 111 | 105 | 65 | 30 | 11 |
| 2 | 6 | 5 | 7 | 15 | 50 | 120 | 207 | 216 | 102 | 138 | 153 | 130 | 149 | 189 | 170 | 195 | 193 | 158 | 119 | 74 | 53 | 20 | 13 |
| 7 | 3 | 4 | 5 | 25 | 59 | 142 | 206 | 171 | 116 | 122 | 155 | 115 | 167 | 266 | 217 | 222 | 189 | 149 | 112 | 70 | 45 | 16 | 6 |

Date: **Wednesday, January 31, 2018** Total Daily Volume: **5176** Description: **Northbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 20 | 6 | 9 | 10 | 17 | 58 | 146 | 300 | 355 | 216 | 234 | 288 | 286 | 316 | 450 | 439 | 455 | 457 | 385 | 262 | 216 | 150 | 65 | 36 |
| 9 | 1 | 1 | 4 | 3 | 12 | 12 | 65 | 85 | 69 | 54 | 56 | 73 | 70 | 116 | 95 | 103 | 124 | 114 | 80 | 59 | 43 | 23 | 15 |
| 3 | 0 | 2 | 3 | 4 | 11 | 30 | 54 | 95 | 64 | 43 | 63 | 78 | 69 | 103 | 105 | 97 | 118 | 97 | 56 | 63 | 37 | 17 | 7 |
| 2 | 3 | 3 | 2 | 5 | 19 | 50 | 81 | 100 | 43 | 78 | 88 | 70 | 93 | 111 | 112 | 126 | 108 | 90 | 70 | 48 | 39 | 11 | 10 |
| 6 | 2 | 3 | 1 | 5 | 16 | 54 | 100 | 75 | 40 | 59 | 81 | 65 | 84 | 120 | 127 | 129 | 107 | 84 | 56 | 46 | 31 | 14 | 4 |

Date: **Wednesday, January 31, 2018** Total Daily Volume: **4849** Description: **Southbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12 | 7 | 6 | 15 | 46 | 117 | 242 | 447 | 458 | 269 | 243 | 268 | 247 | 268 | 375 | 331 | 330 | 397 | 313 | 210 | 128 | 76 | 32 | 12 |
| 6 | 1 | 1 | 1 | 8 | 19 | 39 | 101 | 121 | 69 | 56 | 58 | 58 | 63 | 67 | 101 | 87 | 128 | 86 | 50 | 36 | 20 | 8 | 3 |
| 5 | 2 | 2 | 5 | 8 | 24 | 45 | 114 | 125 | 65 | 64 | 71 | 79 | 66 | 84 | 82 | 81 | 102 | 94 | 55 | 42 | 28 | 13 | 4 |
| 0 | 3 | 2 | 5 | 10 | 31 | 70 | 126 | 116 | 59 | 60 | 65 | 60 | 56 | 78 | 58 | 69 | 85 | 68 | 49 | 26 | 14 | 9 | 3 |
| 1 | 1 | 1 | 4 | 20 | 43 | 88 | 106 | 96 | 76 | 63 | 74 | 50 | 83 | 146 | 90 | 93 | 82 | 65 | 56 | 24 | 14 | 2 | 2 |

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# Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

## Average Daily Traffic

Location: **Carlton Hills Boulevard, between Carlton Oaks Drive and Mission Gorge Road**

Date: **Wednesday, January 31, 2018** Total Daily Volume: **24957** Description: **Total Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 90 | 47 | 46 | 46 | 129 | 379 | 1110 | 2255 | 1881 | 1123 | 1112 | 1367 | 1293 | 1416 | 1585 | 1533 | 1760 | 1953 | 1565 | 1407 | 1194 | 805 | 539 | 322 |
| 28 | 11 | 9 | 11 | 16 | 61 | 169 | 499 | 574 | 315 | 272 | 400 | 350 | 319 | 392 | 390 | 421 | 453 | 417 | 344 | 340 | 263 | 142 | 87 |
| 22 | 13 | 18 | 10 | 17 | 74 | 216 | 491 | 524 | 300 | 266 | 307 | 300 | 355 | 367 | 394 | 423 | 548 | 378 | 356 | 292 | 214 | 156 | 97 |
| 23 | 12 | 10 | 12 | 45 | 113 | 292 | 595 | 432 | 258 | 286 | 327 | 331 | 329 | 405 | 371 | 478 | 508 | 408 | 353 | 291 | 194 | 136 | 73 |
| 17 | 11 | 9 | 13 | 51 | 131 | 433 | 670 | 351 | 250 | 288 | 333 | 312 | 413 | 421 | 378 | 438 | 444 | 362 | 354 | 271 | 134 | 105 | 65 |

Date: **Wednesday, January 31, 2018** Total Daily Volume: **12227** Description: **Northbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 60 | 31 | 29 | 16 | 22 | 75 | 545 | 1149 | 851 | 496 | 511 | 588 | 701 | 775 | 946 | 884 | 1010 | 1025 | 844 | 608 | 478 | 319 | 169 | 95 |
| 21 | 9 | 7 | 4 | 3 | 5 | 67 | 254 | 276 | 141 | 119 | 141 | 200 | 171 | 229 | 215 | 266 | 263 | 218 | 162 | 124 | 97 | 54 | 19 |
| 10 | 8 | 13 | 5 | 4 | 12 | 95 | 245 | 230 | 133 | 113 | 128 | 164 | 208 | 226 | 214 | 217 | 270 | 208 | 156 | 130 | 103 | 45 | 33 |
| 15 | 8 | 5 | 3 | 7 | 24 | 139 | 293 | 173 | 108 | 138 | 153 | 178 | 155 | 251 | 220 | 252 | 260 | 212 | 150 | 122 | 76 | 40 | 23 |
| 14 | 6 | 4 | 4 | 8 | 34 | 244 | 357 | 172 | 114 | 141 | 166 | 159 | 241 | 240 | 235 | 275 | 232 | 206 | 140 | 102 | 43 | 30 | 20 |

Date: **Wednesday, January 31, 2018** Total Daily Volume: **12730** Description: **Southbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30 | 16 | 17 | 30 | 107 | 304 | 565 | 1106 | 1030 | 627 | 601 | 779 | 592 | 641 | 639 | 649 | 750 | 928 | 721 | 799 | 716 | 486 | 370 | 227 |
| 7 | 2 | 2 | 7 | 13 | 56 | 102 | 245 | 298 | 174 | 153 | 259 | 150 | 148 | 163 | 175 | 155 | 190 | 199 | 182 | 216 | 166 | 88 | 68 |
| 12 | 5 | 5 | 5 | 13 | 62 | 121 | 246 | 294 | 167 | 153 | 179 | 136 | 147 | 141 | 180 | 206 | 278 | 170 | 200 | 162 | 111 | 111 | 64 |
| 8 | 4 | 5 | 9 | 38 | 89 | 153 | 302 | 259 | 150 | 148 | 174 | 153 | 174 | 154 | 151 | 226 | 248 | 196 | 203 | 169 | 118 | 96 | 50 |
| 3 | 5 | 5 | 9 | 43 | 97 | 189 | 313 | 179 | 136 | 147 | 167 | 153 | 172 | 181 | 143 | 163 | 212 | 156 | 214 | 169 | 91 | 75 | 45 |

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# Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

## Average Daily Traffic

Location: **Halberns Boulevard, between Lake Canyon Road and Mast Boulevard**

Date: **Wednesday, January 31, 2018** Total Daily Volume: **2209** Description: **Total Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4 | 4 | 3 | 6 | 15 | 59 | 100 | 140 | 172 | 137 | 122 | 139 | 111 | 134 | 147 | 180 | 147 | 165 | 157 | 106 | 69 | 34 | 41 | 17 |
| 2 | 2 | 0 | 0 | 3 | 4 | 16 | 33 | 52 | 31 | 30 | 42 | 19 | 40 | 42 | 41 | 28 | 39 | 34 | 29 | 26 | 10 | 9 | 4 |
| 2 | 2 | 2 | 0 | 7 | 9 | 26 | 35 | 44 | 39 | 26 | 43 | 25 | 34 | 28 | 46 | 49 | 41 | 35 | 19 | 18 | 9 | 13 | 5 |
| 0 | 0 | 0 | 4 | 3 | 20 | 26 | 28 | 34 | 38 | 35 | 29 | 34 | 33 | 35 | 56 | 34 | 44 | 44 | 31 | 14 | 9 | 10 | 3 |
| 0 | 0 | 1 | 2 | 2 | 26 | 32 | 44 | 42 | 29 | 31 | 25 | 33 | 27 | 42 | 37 | 36 | 41 | 44 | 27 | 11 | 6 | 9 | 5 |

Date: **Wednesday, January 31, 2018** Total Daily Volume: **938** Description: **Northbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 2 | 0 | 0 | 0 | 2 | 2 | 19 | 53 | 46 | 56 | 53 | 49 | 63 | 78 | 95 | 85 | 88 | 87 | 65 | 41 | 23 | 21 | 8 |
| 1 | 1 | 0 | 0 | 0 | 1 | 1 | 5 | 9 | 11 | 14 | 14 | 9 | 21 | 19 | 19 | 13 | 16 | 18 | 19 | 12 | 6 | 7 | 2 |
| 1 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 15 | 10 | 16 | 15 | 14 | 16 | 18 | 26 | 25 | 29 | 17 | 12 | 11 | 7 | 5 | 2 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 14 | 19 | 11 | 13 | 13 | 11 | 15 | 33 | 25 | 17 | 25 | 18 | 11 | 6 | 5 | 1 |
| 0 | 0 | 0 | 0 | 0 | 1 | 1 | 6 | 15 | 6 | 15 | 11 | 13 | 15 | 26 | 17 | 22 | 26 | 27 | 16 | 7 | 4 | 4 | 3 |

Date: **Wednesday, January 31, 2018** Total Daily Volume: **1271** Description: **Southbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 2 | 3 | 6 | 15 | 57 | 98 | 121 | 119 | 91 | 66 | 86 | 62 | 71 | 69 | 85 | 62 | 77 | 70 | 41 | 28 | 11 | 20 | 9 |
| 1 | 1 | 0 | 0 | 3 | 3 | 15 | 28 | 43 | 20 | 16 | 28 | 10 | 19 | 23 | 22 | 15 | 23 | 16 | 10 | 14 | 4 | 2 | 2 |
| 1 | 1 | 2 | 0 | 7 | 9 | 26 | 32 | 29 | 29 | 10 | 28 | 11 | 18 | 10 | 20 | 24 | 12 | 18 | 7 | 7 | 2 | 8 | 3 |
| 0 | 0 | 0 | 4 | 3 | 20 | 26 | 23 | 20 | 19 | 24 | 16 | 21 | 22 | 20 | 23 | 9 | 27 | 19 | 13 | 3 | 3 | 5 | 2 |
| 0 | 0 | 1 | 2 | 2 | 25 | 31 | 38 | 27 | 23 | 16 | 14 | 20 | 12 | 16 | 20 | 14 | 15 | 17 | 11 | 4 | 2 | 5 | 2 |

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# Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

## Average Daily Traffic

Location: **Town Center Parkway, between Mission Gorge Road and Cuyamaca Street**

Date: **Wednesday, February 7, 2018** Total Daily Volume: **19282** Description: **Total Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 23 | 12 | 13 | 25 | 55 | 194 | 464 | 701 | 845 | 970 | 1216 | 1556 | 1712 | 1539 | 1548 | 1419 | 1490 | 1568 | 1405 | 1104 | 767 | 354 | 191 | 111 |
| 10 | 2 | 3 | 2 | 11 | 16 | 92 | 156 | 219 | 210 | 313 | 399 | 395 | 404 | 390 | 359 | 370 | 368 | 399 | 286 | 214 | 119 | 72 | 43 |
| 9 | 3 | 2 | 2 | 9 | 33 | 96 | 170 | 217 | 252 | 271 | 346 | 420 | 394 | 367 | 310 | 370 | 427 | 357 | 275 | 218 | 124 | 41 | 32 |
| 2 | 6 | 5 | 4 | 9 | 59 | 115 | 167 | 213 | 253 | 331 | 419 | 470 | 369 | 386 | 366 | 385 | 358 | 319 | 296 | 196 | 66 | 41 | 19 |
| 2 | 1 | 3 | 17 | 26 | 86 | 161 | 208 | 196 | 255 | 301 | 392 | 427 | 372 | 405 | 384 | 365 | 415 | 330 | 247 | 139 | 45 | 37 | 17 |

Date: **Wednesday, February 7, 2018** Total Daily Volume: **9275** Description: **Northbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6 | 8 | 4 | 17 | 34 | 96 | 200 | 307 | 410 | 492 | 533 | 761 | 891 | 737 | 740 | 727 | 746 | 832 | 663 | 507 | 308 | 154 | 67 | 35 |
| 3 | 2 | 2 | 1 | 7 | 9 | 38 | 69 | 108 | 102 | 132 | 205 | 198 | 193 | 193 | 179 | 185 | 185 | 193 | 140 | 87 | 41 | 23 | 12 |
| 2 | 2 | 1 | 1 | 7 | 20 | 37 | 61 | 115 | 130 | 123 | 154 | 224 | 163 | 185 | 153 | 190 | 227 | 160 | 118 | 81 | 62 | 19 | 18 |
| 0 | 4 | 0 | 3 | 3 | 22 | 43 | 71 | 105 | 128 | 160 | 216 | 259 | 200 | 176 | 188 | 194 | 194 | 154 | 133 | 85 | 27 | 10 | 1 |
| 1 | 0 | 1 | 12 | 17 | 45 | 82 | 106 | 82 | 132 | 118 | 186 | 210 | 181 | 186 | 207 | 177 | 226 | 156 | 116 | 55 | 24 | 15 | 4 |

Date: **Wednesday, February 7, 2018** Total Daily Volume: **10007** Description: **Southbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 17 | 4 | 9 | 8 | 21 | 98 | 264 | 394 | 435 | 478 | 683 | 795 | 821 | 802 | 808 | 692 | 744 | 736 | 742 | 597 | 459 | 200 | 124 | 76 |
| 7 | 0 | 1 | 1 | 4 | 7 | 54 | 87 | 111 | 108 | 181 | 194 | 197 | 211 | 197 | 180 | 185 | 183 | 206 | 146 | 127 | 78 | 49 | 31 |
| 7 | 1 | 1 | 1 | 2 | 13 | 59 | 109 | 102 | 122 | 148 | 192 | 196 | 231 | 182 | 157 | 180 | 200 | 197 | 157 | 137 | 62 | 22 | 14 |
| 2 | 2 | 5 | 1 | 6 | 37 | 72 | 96 | 108 | 125 | 171 | 203 | 211 | 169 | 210 | 178 | 191 | 164 | 165 | 163 | 111 | 39 | 31 | 18 |
| 1 | 1 | 2 | 5 | 9 | 41 | 79 | 102 | 114 | 123 | 183 | 206 | 217 | 191 | 219 | 177 | 188 | 189 | 174 | 131 | 84 | 21 | 22 | 13 |

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# Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

## Average Daily Traffic

Location: **Town Center Parkway, between Cuyamaca Street and Riverview Parkway**

Date: **Tuesday, February 6, 2018** Total Daily Volume: **5662** Description: **Total Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 20 | 26 | 8 | 20 | 39 | 93 | 182 | 266 | 370 | 287 | 297 | 325 | 410 | 366 | 457 | 448 | 448 | 518 | 405 | 243 | 184 | 134 | 75 | 41 |
| 10 | 2 | 3 | 2 | 13 | 17 | 43 | 48 | 75 | 104 | 59 | 94 | 90 | 100 | 90 | 111 | 115 | 138 | 118 | 71 | 50 | 45 | 32 | 19 |
| 1 | 11 | 2 | 1 | 7 | 20 | 50 | 65 | 97 | 72 | 73 | 86 | 118 | 74 | 120 | 129 | 108 | 143 | 112 | 59 | 53 | 35 | 7 | 9 |
| 6 | 5 | 1 | 9 | 11 | 31 | 39 | 70 | 95 | 55 | 87 | 79 | 113 | 101 | 128 | 107 | 113 | 124 | 94 | 53 | 34 | 34 | 24 | 6 |
| 3 | 8 | 2 | 8 | 8 | 25 | 50 | 83 | 103 | 56 | 78 | 66 | 89 | 91 | 119 | 101 | 112 | 113 | 81 | 60 | 47 | 20 | 12 | 7 |

Date: **Tuesday, February 6, 2018** Total Daily Volume: **3054** Description: **Eastbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12 | 17 | 6 | 11 | 22 | 44 | 70 | 126 | 221 | 149 | 142 | 165 | 209 | 195 | 235 | 256 | 272 | 282 | 241 | 140 | 109 | 67 | 40 | 23 |
| 6 | 2 | 2 | 0 | 8 | 9 | 20 | 20 | 40 | 60 | 29 | 51 | 42 | 58 | 41 | 66 | 69 | 78 | 76 | 37 | 29 | 21 | 21 | 12 |
| 1 | 7 | 2 | 1 | 4 | 10 | 17 | 30 | 52 | 37 | 40 | 46 | 61 | 36 | 58 | 84 | 68 | 77 | 71 | 37 | 36 | 15 | 2 | 6 |
| 4 | 2 | 0 | 6 | 8 | 12 | 22 | 41 | 57 | 25 | 38 | 33 | 59 | 55 | 67 | 55 | 67 | 62 | 45 | 31 | 18 | 19 | 11 | 3 |
| 1 | 6 | 2 | 4 | 2 | 13 | 11 | 35 | 72 | 27 | 35 | 35 | 47 | 46 | 69 | 51 | 68 | 65 | 49 | 35 | 26 | 12 | 6 | 2 |

Date: **Tuesday, February 6, 2018** Total Daily Volume: **2608** Description: **Westbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8 | 9 | 2 | 9 | 17 | 49 | 112 | 140 | 149 | 138 | 155 | 160 | 201 | 171 | 222 | 192 | 176 | 236 | 164 | 103 | 75 | 67 | 35 | 18 |
| 4 | 0 | 1 | 2 | 5 | 8 | 23 | 28 | 35 | 44 | 30 | 43 | 48 | 42 | 49 | 45 | 46 | 60 | 42 | 34 | 21 | 24 | 11 | 7 |
| 0 | 4 | 0 | 0 | 3 | 10 | 33 | 35 | 45 | 35 | 33 | 40 | 57 | 38 | 62 | 45 | 40 | 66 | 41 | 22 | 17 | 20 | 5 | 3 |
| 2 | 3 | 1 | 3 | 3 | 19 | 17 | 29 | 38 | 30 | 49 | 46 | 54 | 46 | 61 | 52 | 46 | 62 | 49 | 22 | 16 | 15 | 13 | 3 |
| 2 | 2 | 0 | 4 | 6 | 12 | 39 | 48 | 31 | 29 | 43 | 31 | 42 | 45 | 50 | 50 | 44 | 48 | 32 | 25 | 21 | 8 | 6 | 5 |

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# Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

## Average Daily Traffic

Location: **Cuyamaca Street, between Princess Joann Road and Woodglen Vista Drive**

Date: **Tuesday, January 30, 2018** Total Daily Volume: **673** Description: **Total Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 5 | 1 | 1 | 3 | 14 | 30 | 44 | 44 | 30 | 34 | 40 | 47 | 34 | 45 | 45 | 60 | 57 | 56 | 29 | 23 | 11 | 6 | 14 |
| 0 | 0 | 1 | 1 | 1 | 4 | 6 | 12 | 14 | 3 | 8 | 8 | 15 | 12 | 18 | 9 | 12 | 12 | 14 | 8 | 3 | 2 | 5 | 5 |
| 0 | 0 | 0 | 0 | 0 | 4 | 11 | 13 | 11 | 12 | 7 | 8 | 13 | 10 | 9 | 12 | 15 | 17 | 17 | 9 | 3 | 3 | 0 | 1 |
| 0 | 3 | 0 | 0 | 0 | 3 | 5 | 11 | 12 | 6 | 12 | 6 | 8 | 4 | 7 | 13 | 12 | 12 | 13 | 9 | 7 | 2 | 0 | 3 |
| 0 | 2 | 0 | 0 | 2 | 3 | 8 | 8 | 7 | 9 | 7 | 18 | 11 | 8 | 11 | 11 | 21 | 16 | 12 | 3 | 10 | 4 | 1 | 5 |

Date: **Tuesday, January 30, 2018** Total Daily Volume: **337** Description: **Northbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 3 | 0 | 0 | 0 | 3 | 1 | 10 | 17 | 10 | 14 | 18 | 27 | 16 | 23 | 30 | 40 | 40 | 35 | 16 | 16 | 7 | 3 | 8 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 5 | 1 | 2 | 3 | 5 | 6 | 11 | 6 | 8 | 10 | 11 | 8 | 2 | 1 | 3 | 3 |
| 0 | 0 | 0 | 0 | 0 | 3 | 1 | 2 | 6 | 4 | 3 | 2 | 9 | 5 | 5 | 10 | 11 | 11 | 8 | 3 | 2 | 1 | 0 | 1 |
| 0 | 1 | 0 | 0 | 0 | 0 | 0 | 4 | 5 | 2 | 5 | 5 | 5 | 3 | 2 | 7 | 7 | 8 | 10 | 5 | 5 | 2 | 0 | 2 |
| 0 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 3 | 4 | 8 | 8 | 2 | 5 | 7 | 14 | 11 | 6 | 0 | 7 | 3 | 0 | 2 |

Date: **Tuesday, January 30, 2018** Total Daily Volume: **336** Description: **Southbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 2 | 1 | 1 | 3 | 11 | 29 | 34 | 27 | 20 | 20 | 22 | 20 | 18 | 22 | 15 | 20 | 17 | 21 | 13 | 7 | 4 | 3 | 6 |
| 0 | 0 | 1 | 1 | 1 | 4 | 6 | 10 | 9 | 2 | 6 | 5 | 10 | 6 | 7 | 3 | 4 | 2 | 3 | 0 | 1 | 1 | 2 | 2 |
| 0 | 0 | 0 | 0 | 0 | 1 | 10 | 11 | 5 | 8 | 4 | 6 | 4 | 5 | 4 | 2 | 4 | 6 | 9 | 6 | 1 | 2 | 0 | 0 |
| 0 | 2 | 0 | 0 | 0 | 3 | 5 | 7 | 7 | 4 | 7 | 1 | 3 | 1 | 5 | 6 | 5 | 4 | 3 | 4 | 2 | 0 | 0 | 1 |
| 0 | 0 | 0 | 0 | 2 | 3 | 8 | 6 | 6 | 6 | 3 | 10 | 3 | 6 | 6 | 4 | 7 | 5 | 6 | 3 | 3 | 1 | 1 | 3 |

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# Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

## Average Daily Traffic

Location: **Cuyamaca Street, between Woodglen Vista Drive and El Nopal**

Date: **Tuesday, January 30, 2018** Total Daily Volume: **4361** Description: **Total Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 17 | 8 | 7 | 12 | 32 | 118 | 247 | 340 | 288 | 180 | 205 | 195 | 240 | 230 | 318 | 328 | 367 | 382 | 297 | 188 | 178 | 101 | 47 | 36 |
| 7 | 1 | 2 | 4 | 3 | 23 | 48 | 84 | 83 | 42 | 48 | 49 | 58 | 69 | 75 | 82 | 78 | 110 | 80 | 45 | 45 | 34 | 15 | 13 |
| 3 | 2 | 0 | 2 | 10 | 24 | 73 | 81 | 77 | 48 | 46 | 41 | 76 | 39 | 78 | 68 | 86 | 86 | 84 | 53 | 42 | 29 | 9 | 5 |
| 5 | 5 | 4 | 1 | 8 | 36 | 60 | 100 | 66 | 48 | 54 | 47 | 52 | 56 | 74 | 102 | 90 | 93 | 63 | 50 | 49 | 15 | 12 | 6 |
| 2 | 0 | 1 | 5 | 11 | 35 | 66 | 75 | 62 | 42 | 57 | 58 | 54 | 66 | 91 | 76 | 113 | 93 | 70 | 40 | 42 | 23 | 11 | 12 |

Date: **Tuesday, January 30, 2018** Total Daily Volume: **2205** Description: **Northbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8 | 8 | 4 | 1 | 4 | 11 | 26 | 75 | 97 | 63 | 80 | 92 | 143 | 113 | 178 | 223 | 237 | 265 | 202 | 128 | 126 | 67 | 33 | 21 |
| 2 | 1 | 0 | 0 | 0 | 4 | 3 | 17 | 21 | 20 | 20 | 19 | 29 | 40 | 36 | 54 | 54 | 78 | 51 | 33 | 30 | 22 | 11 | 8 |
| 2 | 2 | 0 | 0 | 0 | 2 | 5 | 20 | 30 | 12 | 20 | 19 | 50 | 21 | 44 | 48 | 51 | 63 | 55 | 33 | 33 | 18 | 9 | 5 |
| 3 | 5 | 4 | 1 | 4 | 2 | 8 | 19 | 24 | 15 | 19 | 23 | 31 | 25 | 47 | 67 | 63 | 60 | 46 | 37 | 34 | 10 | 5 | 5 |
| 1 | 0 | 0 | 0 | 0 | 3 | 10 | 19 | 22 | 16 | 21 | 31 | 33 | 27 | 51 | 54 | 69 | 64 | 50 | 25 | 29 | 17 | 8 | 3 |

Date: **Tuesday, January 30, 2018** Total Daily Volume: **2156** Description: **Southbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9 | 0 | 3 | 11 | 28 | 107 | 221 | 265 | 191 | 117 | 125 | 103 | 97 | 117 | 140 | 105 | 130 | 117 | 95 | 60 | 52 | 34 | 14 | 15 |
| 5 | 0 | 2 | 4 | 3 | 19 | 45 | 67 | 62 | 22 | 28 | 30 | 29 | 29 | 39 | 28 | 24 | 32 | 29 | 12 | 15 | 12 | 4 | 5 |
| 1 | 0 | 0 | 2 | 10 | 22 | 68 | 61 | 47 | 36 | 26 | 22 | 26 | 18 | 34 | 20 | 35 | 23 | 29 | 20 | 9 | 11 | 0 | 0 |
| 2 | 0 | 0 | 0 | 4 | 34 | 52 | 81 | 42 | 33 | 35 | 24 | 21 | 31 | 27 | 35 | 27 | 33 | 17 | 13 | 15 | 5 | 7 | 1 |
| 1 | 0 | 1 | 5 | 11 | 32 | 56 | 56 | 40 | 26 | 36 | 27 | 21 | 39 | 40 | 22 | 44 | 29 | 20 | 15 | 13 | 6 | 3 | 9 |

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# Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

## Average Daily Traffic

Location: **Cuyamaca Street, between El Nopal and Mast Boulevard**

Date: **Tuesday, January 30, 2018** Total Daily Volume: **8862** Description: **Total Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 | 23 | 10 | 22 | 66 | 231 | 515 | 778 | 651 | 386 | 422 | 414 | 489 | 498 | 648 | 666 | 695 | 773 | 556 | 375 | 312 | 186 | 84 | 38 |
| 8 | 6 | 2 | 5 | 8 | 41 | 92 | 172 | 181 | 89 | 109 | 104 | 100 | 132 | 170 | 195 | 166 | 227 | 163 | 107 | 82 | 62 | 30 | 13 |
| 5 | 4 | 1 | 4 | 16 | 42 | 135 | 175 | 186 | 97 | 104 | 99 | 143 | 105 | 152 | 143 | 160 | 180 | 159 | 87 | 88 | 64 | 17 | 7 |
| 5 | 8 | 5 | 4 | 16 | 73 | 136 | 224 | 146 | 106 | 107 | 102 | 112 | 122 | 162 | 182 | 166 | 169 | 115 | 89 | 67 | 32 | 17 | 11 |
| 6 | 5 | 2 | 9 | 26 | 75 | 152 | 207 | 138 | 94 | 102 | 109 | 134 | 139 | 164 | 146 | 203 | 197 | 119 | 92 | 75 | 28 | 20 | 7 |

Date: **Tuesday, January 30, 2018** Total Daily Volume: **4036** Description: **Northbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 16 | 13 | 6 | 2 | 7 | 15 | 46 | 144 | 186 | 128 | 156 | 182 | 249 | 245 | 335 | 413 | 414 | 472 | 353 | 237 | 208 | 124 | 58 | 27 |
| 5 | 5 | 1 | 0 | 0 | 5 | 3 | 28 | 43 | 34 | 46 | 37 | 50 | 69 | 75 | 115 | 99 | 140 | 90 | 70 | 52 | 39 | 18 | 8 |
| 3 | 2 | 1 | 0 | 1 | 3 | 11 | 36 | 51 | 29 | 34 | 45 | 70 | 53 | 82 | 95 | 91 | 109 | 99 | 52 | 65 | 42 | 17 | 6 |
| 4 | 5 | 4 | 2 | 4 | 3 | 16 | 37 | 50 | 31 | 40 | 49 | 56 | 55 | 87 | 110 | 100 | 98 | 79 | 57 | 45 | 22 | 10 | 9 |
| 4 | 1 | 0 | 0 | 2 | 4 | 16 | 43 | 42 | 34 | 36 | 51 | 73 | 68 | 91 | 93 | 124 | 125 | 85 | 58 | 46 | 21 | 13 | 4 |

Date: **Tuesday, January 30, 2018** Total Daily Volume: **4826** Description: **Southbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8 | 10 | 4 | 20 | 59 | 216 | 469 | 634 | 465 | 258 | 266 | 232 | 240 | 253 | 313 | 253 | 281 | 301 | 203 | 138 | 104 | 62 | 26 | 11 |
| 3 | 1 | 1 | 5 | 8 | 36 | 89 | 144 | 138 | 55 | 63 | 67 | 50 | 63 | 95 | 80 | 67 | 87 | 73 | 37 | 30 | 23 | 12 | 5 |
| 2 | 2 | 0 | 4 | 15 | 39 | 124 | 139 | 135 | 68 | 70 | 54 | 73 | 52 | 70 | 48 | 69 | 71 | 60 | 35 | 23 | 22 | 0 | 1 |
| 1 | 3 | 1 | 2 | 12 | 70 | 120 | 187 | 96 | 75 | 67 | 53 | 56 | 67 | 75 | 72 | 66 | 71 | 36 | 32 | 22 | 10 | 7 | 2 |
| 2 | 4 | 2 | 9 | 24 | 71 | 136 | 164 | 96 | 60 | 66 | 58 | 61 | 71 | 73 | 53 | 79 | 72 | 34 | 34 | 29 | 7 | 7 | 3 |

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# Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

## Average Daily Traffic

Location: **Cuyamaca Street, between Mast Boulevard and River Park Drive**

Date: **Tuesday, February 6, 2018** Total Daily Volume: **19600** Description: **Total Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 46 | 25 | 19 | 43 | 95 | 301 | 655 | 1085 | 1301 | 957 | 981 | 1155 | 1207 | 1287 | 1535 | 1486 | 1585 | 1792 | 1435 | 1079 | 755 | 487 | 181 | 108 |
| 17 | 6 | 3 | 2 | 18 | 54 | 120 | 243 | 339 | 248 | 205 | 273 | 290 | 295 | 338 | 396 | 395 | 459 | 403 | 295 | 233 | 167 | 60 | 43 |
| 12 | 7 | 6 | 2 | 19 | 68 | 157 | 276 | 400 | 240 | 235 | 288 | 298 | 314 | 373 | 374 | 364 | 453 | 377 | 270 | 201 | 127 | 42 | 23 |
| 7 | 3 | 7 | 15 | 28 | 83 | 175 | 261 | 301 | 247 | 241 | 312 | 333 | 300 | 389 | 332 | 417 | 419 | 353 | 262 | 172 | 109 | 40 | 20 |
| 10 | 9 | 3 | 24 | 30 | 96 | 203 | 305 | 261 | 222 | 300 | 282 | 286 | 378 | 435 | 384 | 409 | 461 | 302 | 252 | 149 | 84 | 39 | 22 |

Date: **Tuesday, February 6, 2018** Total Daily Volume: **9939** Description: **Northbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30 | 12 | 12 | 9 | 13 | 106 | 248 | 373 | 507 | 403 | 444 | 566 | 624 | 680 | 823 | 819 | 864 | 961 | 776 | 660 | 474 | 332 | 129 | 74 |
| 11 | 5 | 3 | 0 | 1 | 20 | 46 | 84 | 109 | 97 | 86 | 132 | 152 | 164 | 150 | 197 | 247 | 239 | 217 | 184 | 135 | 107 | 41 | 31 |
| 8 | 4 | 4 | 1 | 1 | 31 | 66 | 100 | 155 | 111 | 116 | 144 | 164 | 178 | 212 | 209 | 185 | 237 | 194 | 161 | 130 | 86 | 26 | 17 |
| 5 | 1 | 3 | 2 | 4 | 23 | 62 | 80 | 141 | 109 | 121 | 146 | 165 | 148 | 213 | 198 | 226 | 227 | 209 | 154 | 117 | 75 | 34 | 10 |
| 6 | 2 | 2 | 6 | 7 | 32 | 74 | 109 | 102 | 86 | 121 | 144 | 143 | 190 | 248 | 215 | 206 | 258 | 156 | 161 | 92 | 64 | 28 | 16 |

Date: **Tuesday, February 6, 2018** Total Daily Volume: **9661** Description: **Southbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 16 | 13 | 7 | 34 | 82 | 195 | 407 | 712 | 794 | 554 | 537 | 589 | 583 | 607 | 712 | 667 | 721 | 831 | 659 | 419 | 281 | 155 | 52 | 34 |
| 6 | 1 | 0 | 2 | 17 | 34 | 74 | 159 | 230 | 151 | 119 | 141 | 138 | 131 | 188 | 199 | 148 | 220 | 186 | 111 | 98 | 60 | 19 | 12 |
| 4 | 3 | 2 | 1 | 18 | 37 | 91 | 176 | 245 | 129 | 119 | 144 | 134 | 136 | 161 | 165 | 179 | 216 | 183 | 109 | 71 | 41 | 16 | 6 |
| 2 | 2 | 4 | 13 | 24 | 60 | 113 | 181 | 160 | 138 | 120 | 166 | 168 | 152 | 176 | 134 | 191 | 192 | 144 | 108 | 55 | 34 | 6 | 10 |
| 4 | 7 | 1 | 18 | 23 | 64 | 129 | 196 | 159 | 136 | 179 | 138 | 143 | 188 | 187 | 169 | 203 | 203 | 146 | 91 | 57 | 20 | 11 | 6 |

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# Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

## Average Daily Traffic

Location: **Cuyamaca Street, between River Park Drive and Town Center Parkway**

Date: **Tuesday, February 6, 2018** Total Daily Volume: **26692** Description: **Total Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 62 | 42 | 24 | 62 | 127 | 361 | 775 | 1355 | 1649 | 1319 | 1353 | 1689 | 1692 | 1741 | 2008 | 2073 | 2119 | 2438 | 2055 | 1558 | 1069 | 683 | 283 | 155 |
| 22 | 6 | 5 | 8 | 29 | 62 | 139 | 265 | 391 | 340 | 309 | 427 | 455 | 436 | 462 | 531 | 510 | 655 | 550 | 417 | 323 | 216 | 76 | 51 |
| 17 | 6 | 7 | 11 | 22 | 66 | 173 | 320 | 485 | 336 | 327 | 412 | 406 | 415 | 484 | 493 | 513 | 599 | 551 | 397 | 287 | 176 | 67 | 32 |
| 10 | 17 | 5 | 15 | 36 | 109 | 197 | 362 | 396 | 319 | 316 | 440 | 426 | 416 | 500 | 485 | 551 | 578 | 487 | 358 | 236 | 149 | 70 | 39 |
| 13 | 13 | 7 | 28 | 40 | 124 | 266 | 408 | 377 | 324 | 401 | 410 | 405 | 474 | 562 | 564 | 545 | 606 | 467 | 386 | 223 | 142 | 70 | 33 |

Date: **Tuesday, February 6, 2018** Total Daily Volume: **13397** Description: **Northbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 33 | 23 | 14 | 14 | 29 | 119 | 328 | 515 | 712 | 605 | 641 | 765 | 794 | 934 | 1096 | 1102 | 1144 | 1312 | 1123 | 882 | 586 | 390 | 150 | 86 |
| 11 | 6 | 3 | 1 | 4 | 23 | 54 | 87 | 183 | 153 | 137 | 192 | 192 | 229 | 259 | 249 | 285 | 352 | 290 | 247 | 158 | 112 | 42 | 31 |
| 9 | 4 | 4 | 5 | 5 | 23 | 74 | 131 | 225 | 165 | 167 | 189 | 210 | 231 | 258 | 270 | 288 | 313 | 315 | 230 | 170 | 108 | 38 | 21 |
| 5 | 9 | 3 | 3 | 6 | 31 | 80 | 126 | 124 | 156 | 171 | 190 | 197 | 210 | 282 | 253 | 285 | 317 | 264 | 192 | 138 | 99 | 44 | 12 |
| 8 | 4 | 4 | 5 | 14 | 42 | 120 | 171 | 180 | 131 | 166 | 194 | 195 | 264 | 297 | 330 | 286 | 330 | 254 | 213 | 120 | 71 | 26 | 22 |

Date: **Tuesday, February 6, 2018** Total Daily Volume: **13295** Description: **Southbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 29 | 19 | 10 | 48 | 98 | 242 | 447 | 840 | 937 | 714 | 712 | 924 | 898 | 807 | 912 | 971 | 975 | 1126 | 932 | 676 | 483 | 293 | 133 | 69 |
| 11 | 0 | 2 | 7 | 25 | 39 | 85 | 178 | 208 | 187 | 172 | 235 | 263 | 207 | 203 | 282 | 225 | 303 | 260 | 170 | 165 | 104 | 34 | 20 |
| 8 | 2 | 3 | 6 | 17 | 43 | 99 | 189 | 260 | 171 | 160 | 223 | 196 | 184 | 226 | 223 | 225 | 286 | 236 | 167 | 117 | 68 | 29 | 11 |
| 5 | 8 | 2 | 12 | 30 | 78 | 117 | 236 | 272 | 163 | 145 | 250 | 229 | 206 | 218 | 232 | 266 | 261 | 223 | 166 | 98 | 50 | 26 | 27 |
| 5 | 9 | 3 | 23 | 26 | 82 | 146 | 237 | 197 | 193 | 235 | 216 | 210 | 210 | 265 | 234 | 259 | 276 | 213 | 173 | 103 | 71 | 44 | 11 |

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# Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

## Average Daily Traffic

Location: **Cuyamaca Street, between Town Center Parkway and Mission Gorge Road**

Date: **Tuesday, February 6, 2018** Total Daily Volume: **21850** Description: **Total Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 58 | 29 | 28 | 46 | 74 | 227 | 524 | 951 | 1245 | 1125 | 1189 | 1474 | 1529 | 1544 | 1684 | 1688 | 1767 | 1921 | 1644 | 1253 | 877 | 589 | 258 | 126 |
| 17 | 7 | 6 | 6 | 13 | 30 | 100 | 177 | 277 | 287 | 233 | 365 | 399 | 387 | 402 | 412 | 418 | 502 | 443 | 342 | 255 | 192 | 80 | 46 |
| 14 | 5 | 9 | 9 | 13 | 35 | 115 | 242 | 343 | 277 | 269 | 344 | 372 | 391 | 371 | 393 | 433 | 487 | 425 | 317 | 243 | 153 | 55 | 28 |
| 13 | 11 | 4 | 14 | 20 | 81 | 126 | 248 | 326 | 294 | 320 | 394 | 398 | 389 | 439 | 432 | 434 | 437 | 386 | 298 | 181 | 119 | 52 | 32 |
| 14 | 6 | 9 | 17 | 28 | 81 | 183 | 284 | 299 | 267 | 367 | 371 | 360 | 377 | 472 | 451 | 482 | 495 | 390 | 296 | 198 | 125 | 71 | 20 |

Date: **Tuesday, February 6, 2018** Total Daily Volume: **10984** Description: **Northbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 28 | 20 | 21 | 13 | 24 | 86 | 218 | 401 | 605 | 585 | 623 | 674 | 724 | 801 | 911 | 892 | 913 | 962 | 865 | 674 | 433 | 316 | 126 | 69 |
| 7 | 6 | 4 | 1 | 3 | 13 | 37 | 59 | 132 | 152 | 120 | 158 | 177 | 216 | 214 | 183 | 223 | 254 | 240 | 191 | 121 | 92 | 46 | 25 |
| 7 | 3 | 8 | 4 | 4 | 16 | 46 | 103 | 174 | 140 | 155 | 163 | 184 | 197 | 203 | 198 | 230 | 238 | 245 | 185 | 116 | 85 | 30 | 18 |
| 7 | 6 | 2 | 4 | 4 | 29 | 56 | 109 | 142 | 161 | 166 | 177 | 187 | 203 | 226 | 247 | 223 | 211 | 194 | 153 | 94 | 78 | 28 | 15 |
| 7 | 5 | 7 | 4 | 13 | 28 | 79 | 130 | 157 | 132 | 182 | 176 | 176 | 185 | 268 | 264 | 237 | 259 | 186 | 145 | 102 | 61 | 22 | 11 |

Date: **Tuesday, February 6, 2018** Total Daily Volume: **10866** Description: **Southbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30 | 9 | 7 | 33 | 50 | 141 | 306 | 550 | 640 | 540 | 566 | 800 | 805 | 743 | 773 | 796 | 854 | 959 | 779 | 579 | 444 | 273 | 132 | 57 |
| 10 | 1 | 2 | 5 | 10 | 17 | 63 | 118 | 145 | 135 | 113 | 207 | 222 | 171 | 188 | 229 | 195 | 248 | 203 | 151 | 134 | 100 | 34 | 21 |
| 7 | 2 | 1 | 5 | 9 | 19 | 69 | 139 | 169 | 137 | 114 | 181 | 188 | 194 | 168 | 195 | 203 | 249 | 180 | 132 | 127 | 68 | 25 | 10 |
| 6 | 5 | 2 | 10 | 16 | 52 | 70 | 139 | 184 | 133 | 154 | 217 | 211 | 186 | 213 | 185 | 211 | 226 | 192 | 145 | 87 | 41 | 24 | 17 |
| 7 | 1 | 2 | 13 | 15 | 53 | 104 | 154 | 142 | 135 | 185 | 195 | 184 | 192 | 204 | 187 | 245 | 236 | 204 | 151 | 96 | 64 | 49 | 9 |

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# Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

## Average Daily Traffic

Location: **Cuyamaca St, between Mission Gorge Rd and SR 52**

Date: **Wednesday, April 25, 2018** Total Daily Volume: **39022** Description: **Total Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 129 | 72 | 55 | 85 | 202 | 439 | 937 | 2082 | 1849 | 1936 | 2348 | 2751 | 2972 | 2914 | 2876 | 2845 | 3012 | 2995 | 2694 | 2200 | 1698 | 1120 | 513 | 298 |
| 36 | 20 | 10 | 7 | 33 | 78 | 174 | 403 | 466 | 437 | 590 | 670 | 780 | 702 | 704 | 699 | 750 | 784 | 696 | 559 | 495 | 369 | 144 | 110 |
| 33 | 18 | 14 | 14 | 40 | 96 | 197 | 472 | 427 | 460 | 542 | 671 | 784 | 707 | 707 | 770 | 737 | 740 | 712 | 595 | 436 | 305 | 124 | 75 |
| 33 | 17 | 13 | 17 | 49 | 104 | 255 | 603 | 433 | 484 | 592 | 656 | 697 | 748 | 727 | 675 | 764 | 741 | 708 | 520 | 429 | 244 | 106 | 66 |
| 27 | 17 | 18 | 47 | 80 | 161 | 311 | 604 | 523 | 555 | 624 | 754 | 711 | 757 | 738 | 701 | 761 | 730 | 578 | 526 | 338 | 202 | 139 | 47 |

Date: **Wednesday, April 25, 2018** Total Daily Volume: **19828** Description: **Northbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 71 | 39 | 31 | 50 | 135 | 232 | 513 | 1168 | 1055 | 1123 | 1247 | 1459 | 1501 | 1402 | 1394 | 1452 | 1618 | 1554 | 1332 | 1012 | 706 | 459 | 170 | 105 |
| 20 | 12 | 3 | 3 | 23 | 37 | 94 | 230 | 264 | 255 | 316 | 359 | 427 | 313 | 341 | 345 | 388 | 390 | 319 | 242 | 201 | 121 | 43 | 40 |
| 18 | 9 | 10 | 7 | 24 | 52 | 102 | 252 | 237 | 271 | 297 | 358 | 380 | 362 | 346 | 399 | 401 | 395 | 406 | 305 | 186 | 148 | 43 | 21 |
| 17 | 7 | 6 | 10 | 34 | 51 | 135 | 337 | 252 | 273 | 299 | 344 | 345 | 361 | 360 | 332 | 405 | 388 | 339 | 251 | 174 | 98 | 43 | 22 |
| 16 | 11 | 12 | 30 | 54 | 92 | 182 | 349 | 302 | 324 | 335 | 398 | 349 | 366 | 347 | 376 | 424 | 381 | 268 | 214 | 145 | 92 | 41 | 22 |

Date: **Wednesday, April 25, 2018** Total Daily Volume: **19194** Description: **Southbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 58 | 33 | 24 | 35 | 67 | 207 | 424 | 914 | 794 | 813 | 1101 | 1292 | 1471 | 1512 | 1482 | 1393 | 1394 | 1441 | 1362 | 1188 | 992 | 661 | 343 | 193 |
| 16 | 8 | 7 | 4 | 10 | 41 | 80 | 173 | 202 | 182 | 274 | 311 | 353 | 389 | 363 | 354 | 362 | 394 | 377 | 317 | 294 | 248 | 101 | 70 |
| 15 | 9 | 4 | 7 | 16 | 44 | 95 | 220 | 190 | 189 | 245 | 313 | 404 | 345 | 361 | 371 | 336 | 345 | 306 | 290 | 250 | 157 | 81 | 54 |
| 16 | 10 | 7 | 7 | 15 | 53 | 120 | 266 | 181 | 211 | 293 | 312 | 352 | 387 | 367 | 343 | 359 | 353 | 369 | 269 | 255 | 146 | 63 | 44 |
| 11 | 6 | 6 | 17 | 26 | 69 | 129 | 255 | 221 | 231 | 289 | 356 | 362 | 391 | 391 | 325 | 337 | 349 | 310 | 312 | 193 | 110 | 98 | 25 |

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# Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

## Average Daily Traffic

Location: **Cuyamaca St, between SR 52 to Prospect Ave**

Date: **Wednesday, April 25, 2018** Total Daily Volume: **26060** Description: **Total Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 141 | 60 | 66 | 96 | 232 | 697 | 1181 | 1627 | 1624 | 1418 | 1510 | 1742 | 1905 | 1884 | 2031 | 2118 | 2049 | 1827 | 1308 | 969 | 710 | 432 | 228 | 205 |
| 51 | 18 | 18 | 14 | 36 | 95 | 238 | 317 | 435 | 363 | 403 | 408 | 512 | 479 | 478 | 530 | 546 | 520 | 382 | 273 | 210 | 137 | 60 | 50 |
| 36 | 14 | 9 | 13 | 48 | 144 | 296 | 375 | 394 | 331 | 342 | 440 | 466 | 490 | 500 | 564 | 512 | 502 | 326 | 249 | 173 | 110 | 70 | 54 |
| 39 | 14 | 18 | 31 | 74 | 199 | 264 | 440 | 400 | 341 | 380 | 441 | 466 | 431 | 513 | 533 | 534 | 434 | 312 | 233 | 203 | 103 | 49 | 48 |
| 15 | 14 | 21 | 38 | 74 | 259 | 383 | 495 | 395 | 383 | 385 | 453 | 461 | 484 | 540 | 491 | 457 | 371 | 288 | 214 | 124 | 82 | 49 | 53 |

Date: **Wednesday, April 25, 2018** Total Daily Volume: **12331** Description: **Northbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 85 | 29 | 24 | 36 | 100 | 234 | 403 | 557 | 659 | 726 | 764 | 909 | 916 | 880 | 986 | 1090 | 1147 | 954 | 630 | 458 | 341 | 199 | 112 | 92 |
| 30 | 12 | 8 | 2 | 17 | 32 | 71 | 108 | 171 | 173 | 209 | 243 | 272 | 233 | 229 | 288 | 308 | 280 | 179 | 134 | 105 | 61 | 29 | 24 |
| 19 | 4 | 2 | 4 | 20 | 63 | 105 | 124 | 156 | 176 | 182 | 225 | 219 | 240 | 236 | 281 | 285 | 277 | 153 | 131 | 79 | 55 | 37 | 22 |
| 23 | 3 | 7 | 13 | 34 | 69 | 90 | 162 | 174 | 183 | 180 | 213 | 227 | 213 | 259 | 287 | 306 | 224 | 157 | 114 | 105 | 47 | 24 | 18 |
| 13 | 10 | 7 | 17 | 29 | 70 | 137 | 163 | 158 | 194 | 193 | 228 | 198 | 194 | 262 | 234 | 248 | 173 | 141 | 79 | 52 | 36 | 22 | 28 |

Date: **Wednesday, April 25, 2018** Total Daily Volume: **13729** Description: **Southbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 56 | 31 | 42 | 60 | 132 | 463 | 778 | 1070 | 965 | 692 | 746 | 833 | 989 | 1004 | 1045 | 1028 | 902 | 873 | 678 | 511 | 369 | 233 | 116 | 113 |
| 21 | 6 | 10 | 12 | 19 | 63 | 167 | 209 | 264 | 190 | 194 | 165 | 240 | 246 | 249 | 242 | 238 | 240 | 203 | 139 | 105 | 76 | 31 | 26 |
| 17 | 10 | 7 | 9 | 28 | 81 | 191 | 251 | 238 | 155 | 160 | 215 | 247 | 250 | 264 | 283 | 227 | 225 | 173 | 118 | 94 | 55 | 33 | 32 |
| 16 | 11 | 11 | 18 | 40 | 130 | 174 | 278 | 226 | 158 | 200 | 228 | 239 | 218 | 254 | 246 | 228 | 210 | 155 | 119 | 98 | 56 | 25 | 30 |
| 2 | 4 | 14 | 21 | 45 | 189 | 246 | 332 | 237 | 189 | 192 | 225 | 263 | 290 | 278 | 257 | 209 | 198 | 147 | 135 | 72 | 46 | 27 | 25 |

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# Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

## Average Daily Traffic

Location: **Riverview Parkway, between Mission Gorge Road and Town Center Parkway**

Date: **Tuesday, February 6, 2018** Total Daily Volume: **7643** Description: **Total Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 47 | 15 | 17 | 40 | 109 | 195 | 263 | 382 | 550 | 359 | 386 | 442 | 502 | 450 | 535 | 516 | 582 | 708 | 546 | 365 | 280 | 190 | 105 | 59 |
| 16 | 5 | 5 | 7 | 22 | 47 | 68 | 67 | 126 | 124 | 85 | 115 | 115 | 118 | 90 | 153 | 145 | 193 | 139 | 100 | 78 | 46 | 24 | 16 |
| 15 | 2 | 2 | 6 | 17 | 35 | 51 | 71 | 133 | 89 | 83 | 123 | 137 | 115 | 170 | 127 | 140 | 168 | 147 | 96 | 77 | 56 | 28 | 17 |
| 11 | 7 | 4 | 8 | 22 | 53 | 62 | 96 | 130 | 73 | 116 | 105 | 130 | 111 | 155 | 105 | 152 | 195 | 137 | 92 | 72 | 43 | 25 | 12 |
| 5 | 1 | 6 | 19 | 48 | 60 | 82 | 148 | 161 | 73 | 102 | 99 | 120 | 106 | 120 | 131 | 145 | 152 | 123 | 77 | 53 | 45 | 28 | 14 |

Date: **Tuesday, February 6, 2018** Total Daily Volume: **3754** Description: **Northbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 14 | 8 | 6 | 33 | 89 | 126 | 176 | 254 | 412 | 208 | 196 | 230 | 240 | 188 | 192 | 218 | 241 | 327 | 229 | 130 | 103 | 71 | 40 | 23 |
| 3 | 3 | 0 | 7 | 14 | 28 | 39 | 41 | 93 | 76 | 43 | 62 | 54 | 41 | 31 | 64 | 63 | 74 | 64 | 40 | 32 | 18 | 7 | 5 |
| 5 | 1 | 1 | 2 | 15 | 24 | 32 | 46 | 99 | 47 | 42 | 57 | 75 | 57 | 51 | 50 | 60 | 81 | 64 | 36 | 25 | 20 | 14 | 6 |
| 5 | 3 | 2 | 7 | 19 | 29 | 42 | 61 | 86 | 43 | 59 | 57 | 53 | 42 | 54 | 46 | 47 | 98 | 55 | 39 | 27 | 21 | 9 | 2 |
| 1 | 1 | 3 | 17 | 41 | 45 | 63 | 106 | 134 | 42 | 52 | 54 | 58 | 48 | 56 | 58 | 71 | 74 | 46 | 15 | 19 | 12 | 10 | 10 |

Date: **Tuesday, February 6, 2018** Total Daily Volume: **3889** Description: **Southbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 33 | 7 | 11 | 7 | 20 | 69 | 87 | 128 | 138 | 151 | 190 | 212 | 262 | 262 | 343 | 298 | 341 | 381 | 317 | 235 | 177 | 119 | 65 | 36 |
| 13 | 2 | 5 | 0 | 8 | 19 | 29 | 26 | 33 | 48 | 42 | 53 | 61 | 77 | 59 | 89 | 82 | 119 | 75 | 60 | 46 | 28 | 17 | 11 |
| 10 | 1 | 1 | 4 | 2 | 11 | 19 | 25 | 34 | 42 | 41 | 66 | 62 | 58 | 119 | 77 | 80 | 87 | 83 | 60 | 52 | 36 | 14 | 11 |
| 6 | 4 | 2 | 1 | 3 | 24 | 20 | 35 | 44 | 30 | 57 | 48 | 77 | 69 | 101 | 59 | 105 | 97 | 82 | 53 | 45 | 22 | 16 | 10 |
| 4 | 0 | 3 | 2 | 7 | 15 | 19 | 42 | 27 | 31 | 50 | 45 | 62 | 58 | 64 | 73 | 74 | 78 | 77 | 62 | 34 | 33 | 18 | 4 |

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# Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

## Average Daily Traffic

Location: **Riverview Parkway, between Town Center Parkway and Magnolia Avenue**

Date: **Wednesday, February 7, 2018** Total Daily Volume: **1085** Description: **Total Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 15 | 7 | 0 | 24 | 37 | 122 | 86 | 63 | 41 | 30 | 42 | 40 | 43 | 45 | 54 | 40 | 91 | 119 | 82 | 23 | 16 | 32 | 21 | 12 |
| 5 | 3 | 0 | 1 | 4 | 36 | 30 | 19 | 12 | 8 | 12 | 6 | 7 | 10 | 8 | 7 | 19 | 29 | 43 | 4 | 2 | 6 | 5 | 2 |
| 6 | 1 | 0 | 2 | 5 | 27 | 18 | 14 | 15 | 6 | 10 | 13 | 10 | 9 | 21 | 13 | 24 | 25 | 22 | 7 | 12 | 6 | 13 | 1 |
| 1 | 1 | 0 | 8 | 11 | 22 | 14 | 12 | 5 | 8 | 12 | 12 | 7 | 9 | 17 | 12 | 26 | 16 | 14 | 6 | 1 | 11 | 1 | 4 |
| 3 | 2 | 0 | 13 | 17 | 37 | 24 | 18 | 9 | 8 | 8 | 9 | 19 | 17 | 8 | 8 | 22 | 49 | 3 | 6 | 1 | 9 | 2 | 5 |

Date: **Wednesday, February 7, 2018** Total Daily Volume: **536** Description: **Eastbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7 | 4 | 0 | 14 | 8 | 25 | 57 | 15 | 11 | 14 | 25 | 18 | 24 | 20 | 38 | 34 | 50 | 56 | 54 | 12 | 9 | 18 | 16 | 7 |
| 4 | 3 | 0 | 0 | 2 | 7 | 22 | 4 | 4 | 2 | 5 | 2 | 4 | 4 | 3 | 7 | 13 | 3 | 32 | 2 | 1 | 4 | 4 | 1 |
| 2 | 1 | 0 | 0 | 1 | 4 | 12 | 5 | 2 | 6 | 7 | 5 | 6 | 7 | 17 | 10 | 18 | 11 | 13 | 3 | 6 | 5 | 10 | 1 |
| 1 | 0 | 0 | 8 | 1 | 5 | 12 | 3 | 2 | 3 | 9 | 5 | 4 | 5 | 13 | 12 | 15 | 7 | 7 | 5 | 1 | 3 | 1 | 3 |
| 0 | 0 | 0 | 6 | 4 | 9 | 11 | 3 | 3 | 3 | 4 | 6 | 10 | 4 | 5 | 5 | 4 | 35 | 2 | 2 | 1 | 6 | 1 | 2 |

Date: **Wednesday, February 7, 2018** Total Daily Volume: **549** Description: **Westbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8 | 3 | 0 | 10 | 29 | 97 | 29 | 48 | 30 | 16 | 17 | 22 | 19 | 25 | 16 | 6 | 41 | 63 | 28 | 11 | 7 | 14 | 5 | 5 |
| 1 | 0 | 0 | 1 | 2 | 29 | 8 | 15 | 8 | 6 | 7 | 4 | 3 | 6 | 5 | 0 | 6 | 26 | 11 | 2 | 1 | 2 | 1 | 1 |
| 4 | 0 | 0 | 2 | 4 | 23 | 6 | 9 | 13 | 0 | 3 | 8 | 4 | 2 | 4 | 3 | 6 | 14 | 9 | 4 | 6 | 1 | 3 | 0 |
| 0 | 1 | 0 | 0 | 10 | 17 | 2 | 9 | 3 | 5 | 3 | 7 | 3 | 4 | 4 | 0 | 11 | 9 | 7 | 1 | 0 | 8 | 0 | 1 |
| 3 | 2 | 0 | 7 | 13 | 28 | 13 | 15 | 6 | 5 | 4 | 3 | 9 | 13 | 3 | 3 | 18 | 14 | 1 | 4 | 0 | 3 | 1 | 3 |

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# Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

## Average Daily Traffic

Location: **Magnolia Avenue, between Cuyamaca Street and Princess Joann Road**

Date: **Tuesday, January 30, 2018** Total Daily Volume: **110** Description: **Total Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 2 | 3 | 7 | 4 | 8 | 3 | 5 | 5 | 17 | 7 | 9 | 15 | 5 | 6 | 6 | 3 | 2 | 0 | 3 |
| 0 | 0 | 0 | 0 | 0 | 1 | 0 | 6 | 2 | 2 | 0 | 1 | 1 | 1 | 0 | 4 | 3 | 2 | 3 | 2 | 1 | 0 | 0 | 1 |
| 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 4 | 3 | 2 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 2 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 1 | 10 | 0 | 2 | 7 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 1 | 3 | 2 | 3 | 2 | 2 | 4 | 1 | 3 | 2 | 1 | 3 | 2 | 2 | 0 | 0 |

Date: **Tuesday, January 30, 2018** Total Daily Volume: **58** Description: **Northbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 1 | 2 | 5 | 1 | 4 | 2 | 2 | 2 | 11 | 6 | 3 | 6 | 2 | 4 | 1 | 3 | 2 | 0 | 1 |
| 0 | 0 | 0 | 0 | 0 | 1 | 0 | 4 | 1 | 2 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 2 | 0 | 1 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 4 | 2 | 2 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 5 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 1 | 2 | 2 | 0 | 1 | 4 | 1 | 2 | 1 | 1 | 1 | 2 | 2 | 0 | 0 |

Date: **Tuesday, January 30, 2018** Total Daily Volume: **52** Description: **Southbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 3 | 4 | 1 | 3 | 3 | 6 | 1 | 6 | 9 | 3 | 2 | 5 | 0 | 0 | 0 | 2 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 4 | 2 | 1 | 1 | 2 | 0 | 0 | 0 | 1 |
| 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 5 | 0 | 2 | 6 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 1 | 2 | 1 | 0 | 0 | 1 | 1 | 0 | 2 | 0 | 0 | 0 | 0 |

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# Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

## Average Daily Traffic

Location: **Magnolia Avenue, between Princess Joann Road and Woodglen Vista Drive**

Date: **Tuesday, January 30, 2018** Total Daily Volume: **2017** Description: **Total Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | 10 | 6 | 11 | 23 | 52 | 111 | 155 | 103 | 87 | 104 | 91 | 100 | 122 | 125 | 146 | 198 | 160 | 148 | 83 | 82 | 51 | 25 | 19 |
| 0 | 2 | 1 | 4 | 1 | 11 | 17 | 38 | 21 | 17 | 19 | 24 | 30 | 36 | 37 | 36 | 47 | 34 | 41 | 26 | 19 | 13 | 9 | 10 |
| 3 | 5 | 2 | 3 | 4 | 9 | 33 | 35 | 21 | 22 | 28 | 19 | 21 | 32 | 26 | 36 | 39 | 42 | 28 | 15 | 13 | 22 | 4 | 7 |
| 2 | 1 | 1 | 0 | 15 | 18 | 31 | 51 | 21 | 18 | 24 | 22 | 24 | 19 | 30 | 28 | 60 | 40 | 46 | 25 | 15 | 10 | 4 | 2 |
| 0 | 2 | 2 | 4 | 3 | 14 | 30 | 31 | 40 | 30 | 33 | 26 | 25 | 35 | 32 | 46 | 52 | 44 | 33 | 17 | 35 | 6 | 8 | 0 |

Date: **Tuesday, January 30, 2018** Total Daily Volume: **998** Description: **Northbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 7 | 5 | 3 | 3 | 3 | 16 | 47 | 50 | 39 | 38 | 46 | 50 | 67 | 72 | 87 | 121 | 96 | 102 | 47 | 42 | 30 | 13 | 12 |
| 0 | 0 | 1 | 1 | 1 | 2 | 3 | 10 | 7 | 10 | 7 | 12 | 11 | 23 | 22 | 21 | 32 | 22 | 26 | 15 | 13 | 6 | 4 | 6 |
| 1 | 5 | 2 | 1 | 0 | 0 | 4 | 4 | 12 | 10 | 9 | 11 | 11 | 18 | 15 | 23 | 23 | 25 | 20 | 12 | 13 | 12 | 4 | 5 |
| 1 | 0 | 1 | 0 | 2 | 1 | 3 | 17 | 13 | 4 | 9 | 11 | 14 | 10 | 18 | 14 | 32 | 25 | 33 | 13 | 8 | 6 | 2 | 1 |
| 0 | 2 | 1 | 1 | 0 | 0 | 6 | 16 | 18 | 15 | 13 | 12 | 14 | 16 | 17 | 29 | 34 | 24 | 23 | 7 | 8 | 6 | 3 | 0 |

Date: **Tuesday, January 30, 2018** Total Daily Volume: **1019** Description: **Southbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 3 | 1 | 8 | 20 | 49 | 95 | 108 | 53 | 48 | 66 | 45 | 50 | 55 | 53 | 59 | 77 | 64 | 46 | 36 | 40 | 21 | 12 | 7 |
| 0 | 2 | 0 | 3 | 0 | 9 | 14 | 28 | 14 | 7 | 12 | 12 | 19 | 13 | 15 | 15 | 15 | 12 | 15 | 11 | 6 | 7 | 5 | 4 |
| 2 | 0 | 0 | 2 | 4 | 9 | 29 | 31 | 9 | 12 | 19 | 8 | 10 | 14 | 11 | 13 | 16 | 17 | 8 | 3 | 0 | 10 | 0 | 2 |
| 1 | 1 | 0 | 0 | 13 | 17 | 28 | 34 | 8 | 14 | 15 | 11 | 10 | 9 | 12 | 14 | 28 | 15 | 13 | 12 | 7 | 4 | 2 | 1 |
| 0 | 0 | 1 | 3 | 3 | 14 | 24 | 15 | 22 | 15 | 20 | 14 | 11 | 19 | 15 | 17 | 18 | 20 | 10 | 10 | 27 | 0 | 5 | 0 |

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# Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

## Average Daily Traffic

Location: **Magnolia Avenue, between Woodglen Vista Drive and El Nopal**

Date: **Tuesday, January 30, 2018** Total Daily Volume: **9032** Description: **Total Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 48 | 35 | 19 | 24 | 91 | 204 | 458 | 753 | 493 | 409 | 371 | 398 | 446 | 604 | 576 | 730 | 772 | 797 | 608 | 415 | 333 | 229 | 126 | 93 |
| 15 | 7 | 4 | 4 | 11 | 37 | 85 | 164 | 139 | 104 | 90 | 98 | 111 | 136 | 183 | 201 | 197 | 190 | 203 | 119 | 90 | 67 | 49 | 27 |
| 9 | 10 | 5 | 8 | 14 | 38 | 107 | 179 | 108 | 115 | 93 | 107 | 114 | 126 | 137 | 170 | 178 | 205 | 145 | 105 | 78 | 71 | 30 | 22 |
| 18 | 6 | 4 | 3 | 34 | 59 | 123 | 252 | 125 | 100 | 83 | 90 | 113 | 178 | 119 | 172 | 187 | 203 | 148 | 93 | 77 | 46 | 27 | 28 |
| 6 | 12 | 6 | 9 | 32 | 70 | 143 | 158 | 121 | 90 | 105 | 103 | 108 | 164 | 137 | 187 | 210 | 199 | 112 | 98 | 88 | 45 | 20 | 16 |

Date: **Tuesday, January 30, 2018** Total Daily Volume: **4641** Description: **Northbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 34 | 24 | 14 | 10 | 14 | 27 | 106 | 313 | 217 | 166 | 165 | 192 | 238 | 333 | 307 | 440 | 440 | 451 | 387 | 263 | 205 | 150 | 78 | 67 |
| 11 | 4 | 3 | 1 | 4 | 5 | 21 | 49 | 62 | 46 | 45 | 43 | 49 | 77 | 99 | 124 | 111 | 110 | 129 | 72 | 65 | 41 | 32 | 18 |
| 8 | 7 | 5 | 4 | 1 | 3 | 22 | 83 | 50 | 49 | 43 | 56 | 66 | 85 | 80 | 106 | 105 | 117 | 93 | 77 | 57 | 53 | 17 | 17 |
| 12 | 4 | 3 | 1 | 6 | 5 | 27 | 131 | 53 | 36 | 30 | 41 | 57 | 80 | 67 | 101 | 101 | 106 | 96 | 52 | 44 | 29 | 18 | 20 |
| 3 | 9 | 3 | 4 | 3 | 14 | 36 | 50 | 52 | 35 | 47 | 52 | 66 | 91 | 61 | 109 | 123 | 118 | 69 | 62 | 39 | 27 | 11 | 12 |

Date: **Tuesday, January 30, 2018** Total Daily Volume: **4391** Description: **Southbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 14 | 11 | 5 | 14 | 77 | 177 | 352 | 440 | 276 | 243 | 206 | 206 | 208 | 271 | 269 | 290 | 332 | 346 | 221 | 152 | 128 | 79 | 48 | 26 |
| 4 | 3 | 1 | 3 | 7 | 32 | 64 | 115 | 77 | 58 | 45 | 55 | 62 | 59 | 84 | 77 | 86 | 80 | 74 | 47 | 25 | 26 | 17 | 9 |
| 1 | 3 | 0 | 4 | 13 | 35 | 85 | 96 | 58 | 66 | 50 | 51 | 48 | 41 | 57 | 64 | 73 | 88 | 52 | 28 | 21 | 18 | 13 | 5 |
| 6 | 2 | 1 | 2 | 28 | 54 | 96 | 121 | 72 | 64 | 53 | 49 | 56 | 98 | 52 | 71 | 86 | 97 | 52 | 41 | 33 | 17 | 9 | 8 |
| 3 | 3 | 3 | 5 | 29 | 56 | 107 | 108 | 69 | 55 | 58 | 51 | 42 | 73 | 76 | 78 | 87 | 81 | 43 | 36 | 49 | 18 | 9 | 4 |

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# Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

## Average Daily Traffic

Location: **Magnolia Avenue, between El Nopal and Mast Boulevard**

Date: **Tuesday, January 30, 2018** Total Daily Volume: **13693** Description: **Total Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 52 | 41 | 22 | 33 | 116 | 320 | 676 | 1107 | 787 | 615 | 601 | 647 | 713 | 831 | 933 | 1118 | 1140 | 1178 | 929 | 666 | 514 | 331 | 195 | 128 |
| 13 | 8 | 4 | 8 | 19 | 63 | 141 | 271 | 246 | 154 | 141 | 158 | 172 | 189 | 293 | 290 | 276 | 276 | 289 | 203 | 133 | 105 | 73 | 44 |
| 12 | 10 | 5 | 8 | 20 | 59 | 170 | 254 | 186 | 164 | 145 | 172 | 186 | 182 | 192 | 273 | 279 | 315 | 226 | 172 | 119 | 93 | 48 | 27 |
| 21 | 9 | 4 | 5 | 38 | 95 | 163 | 340 | 184 | 136 | 150 | 146 | 188 | 235 | 211 | 275 | 286 | 302 | 217 | 150 | 118 | 71 | 40 | 29 |
| 6 | 14 | 9 | 12 | 39 | 103 | 202 | 242 | 171 | 161 | 165 | 171 | 167 | 225 | 237 | 280 | 299 | 285 | 197 | 141 | 144 | 62 | 34 | 28 |

Date: **Tuesday, January 30, 2018** Total Daily Volume: **6738** Description: **Northbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 36 | 24 | 12 | 14 | 14 | 49 | 145 | 372 | 313 | 232 | 266 | 300 | 376 | 447 | 451 | 632 | 668 | 666 | 563 | 410 | 319 | 212 | 130 | 87 |
| 10 | 3 | 2 | 4 | 5 | 12 | 28 | 94 | 96 | 60 | 66 | 78 | 79 | 110 | 137 | 161 | 171 | 149 | 174 | 120 | 95 | 67 | 51 | 31 |
| 9 | 5 | 4 | 3 | 2 | 5 | 37 | 98 | 77 | 66 | 69 | 80 | 99 | 113 | 88 | 157 | 150 | 190 | 141 | 114 | 80 | 63 | 30 | 18 |
| 14 | 5 | 3 | 4 | 6 | 11 | 33 | 120 | 68 | 50 | 59 | 64 | 100 | 96 | 117 | 158 | 166 | 155 | 140 | 85 | 66 | 44 | 25 | 24 |
| 3 | 11 | 3 | 3 | 1 | 21 | 47 | 60 | 72 | 56 | 72 | 78 | 98 | 128 | 109 | 156 | 181 | 172 | 108 | 91 | 78 | 38 | 24 | 14 |

Date: **Tuesday, January 30, 2018** Total Daily Volume: **6955** Description: **Southbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 16 | 17 | 10 | 19 | 102 | 271 | 531 | 735 | 474 | 383 | 335 | 347 | 337 | 384 | 482 | 486 | 472 | 512 | 366 | 256 | 195 | 119 | 65 | 41 |
| 3 | 5 | 2 | 4 | 14 | 51 | 113 | 177 | 150 | 94 | 75 | 80 | 93 | 79 | 156 | 129 | 105 | 127 | 115 | 83 | 38 | 38 | 22 | 13 |
| 3 | 5 | 1 | 5 | 18 | 54 | 133 | 156 | 109 | 98 | 76 | 92 | 87 | 69 | 104 | 116 | 129 | 125 | 85 | 58 | 39 | 30 | 18 | 9 |
| 7 | 4 | 1 | 1 | 32 | 84 | 130 | 220 | 116 | 86 | 91 | 82 | 88 | 139 | 94 | 117 | 120 | 147 | 77 | 65 | 52 | 27 | 15 | 5 |
| 3 | 3 | 6 | 9 | 38 | 82 | 155 | 182 | 99 | 105 | 93 | 93 | 69 | 97 | 128 | 124 | 118 | 113 | 89 | 50 | 66 | 24 | 10 | 14 |

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# Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

## Average Daily Traffic

Location: **Magnolia Avenue, between Mast Boulevard and Riverview Parkway**

Date: **Tuesday, February 6, 2018** Total Daily Volume: **22438** Description: **Total Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 101 | 65 | 51 | 41 | 174 | 543 | 1140 | 2263 | 1546 | 935 | 926 | 975 | 1050 | 1274 | 1455 | 1809 | 1760 | 1892 | 1468 | 1067 | 852 | 551 | 303 | 197 |
| 35 | 22 | 13 | 6 | 16 | 87 | 196 | 544 | 535 | 252 | 233 | 247 | 272 | 270 | 386 | 539 | 435 | 467 | 415 | 282 | 248 | 162 | 92 | 61 |
| 25 | 15 | 9 | 8 | 30 | 115 | 222 | 573 | 410 | 235 | 220 | 244 | 244 | 282 | 344 | 447 | 420 | 482 | 397 | 305 | 206 | 146 | 90 | 41 |
| 21 | 15 | 17 | 12 | 51 | 158 | 303 | 560 | 308 | 235 | 223 | 243 | 271 | 322 | 334 | 408 | 446 | 481 | 356 | 261 | 200 | 116 | 76 | 58 |
| 20 | 13 | 12 | 15 | 77 | 183 | 419 | 586 | 293 | 213 | 250 | 241 | 263 | 400 | 391 | 415 | 459 | 462 | 300 | 219 | 198 | 127 | 45 | 37 |

Date: **Tuesday, February 6, 2018** Total Daily Volume: **10482** Description: **Northbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 64 | 40 | 32 | 18 | 30 | 135 | 427 | 834 | 610 | 366 | 407 | 452 | 494 | 623 | 706 | 893 | 979 | 1017 | 739 | 559 | 444 | 323 | 178 | 112 |
| 20 | 12 | 7 | 2 | 1 | 18 | 73 | 240 | 226 | 93 | 97 | 106 | 131 | 129 | 160 | 231 | 234 | 260 | 190 | 139 | 117 | 96 | 48 | 33 |
| 21 | 9 | 7 | 4 | 9 | 23 | 84 | 200 | 153 | 98 | 103 | 119 | 112 | 158 | 172 | 218 | 246 | 260 | 202 | 170 | 112 | 76 | 55 | 25 |
| 13 | 10 | 10 | 5 | 5 | 34 | 95 | 197 | 113 | 94 | 105 | 119 | 121 | 135 | 179 | 203 | 248 | 244 | 184 | 143 | 109 | 73 | 46 | 29 |
| 10 | 9 | 8 | 7 | 15 | 60 | 175 | 197 | 118 | 81 | 102 | 108 | 130 | 201 | 195 | 241 | 251 | 253 | 163 | 107 | 106 | 78 | 29 | 25 |

Date: **Tuesday, February 6, 2018** Total Daily Volume: **11956** Description: **Southbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 37 | 25 | 19 | 23 | 144 | 408 | 713 | 1429 | 936 | 569 | 519 | 523 | 556 | 651 | 749 | 916 | 781 | 875 | 729 | 508 | 408 | 228 | 125 | 85 |
| 15 | 10 | 6 | 4 | 15 | 69 | 123 | 304 | 309 | 159 | 136 | 141 | 141 | 141 | 226 | 308 | 201 | 207 | 225 | 143 | 131 | 66 | 44 | 28 |
| 4 | 6 | 2 | 4 | 21 | 92 | 138 | 373 | 257 | 137 | 117 | 125 | 132 | 124 | 172 | 229 | 174 | 222 | 195 | 135 | 94 | 70 | 35 | 16 |
| 8 | 5 | 7 | 7 | 46 | 124 | 208 | 363 | 195 | 141 | 118 | 124 | 150 | 187 | 155 | 205 | 198 | 237 | 172 | 118 | 91 | 43 | 30 | 29 |
| 10 | 4 | 4 | 8 | 62 | 123 | 244 | 389 | 175 | 132 | 148 | 133 | 133 | 199 | 196 | 174 | 208 | 209 | 137 | 112 | 92 | 49 | 16 | 12 |

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# Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

## Average Daily Traffic

Location: **Magnolia Avenue, between Riverview Parkway and Mission Gorge Road**

Date: **Tuesday, February 6, 2018** Total Daily Volume: **25828** Description: **Total Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 127 | 92 | 57 | 66 | 211 | 663 | 1262 | 2229 | 1619 | 1111 | 1159 | 1252 | 1310 | 1517 | 1775 | 2141 | 2108 | 2118 | 1619 | 1195 | 955 | 644 | 365 | 233 |
| 43 | 34 | 17 | 11 | 19 | 120 | 254 | 517 | 544 | 282 | 282 | 307 | 329 | 392 | 467 | 591 | 540 | 570 | 482 | 340 | 269 | 193 | 114 | 54 |
| 31 | 19 | 11 | 15 | 43 | 153 | 224 | 527 | 437 | 287 | 291 | 324 | 312 | 321 | 451 | 542 | 471 | 515 | 407 | 326 | 238 | 168 | 114 | 68 |
| 34 | 23 | 15 | 21 | 60 | 171 | 355 | 549 | 313 | 265 | 283 | 315 | 336 | 351 | 410 | 513 | 556 | 525 | 406 | 276 | 217 | 144 | 87 | 59 |
| 19 | 16 | 14 | 19 | 89 | 219 | 429 | 636 | 325 | 277 | 303 | 306 | 333 | 453 | 447 | 495 | 541 | 508 | 324 | 253 | 231 | 139 | 50 | 52 |

Date: **Tuesday, February 6, 2018** Total Daily Volume: **12619** Description: **Northbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 82 | 58 | 33 | 30 | 44 | 188 | 496 | 920 | 646 | 439 | 501 | 586 | 625 | 812 | 897 | 1077 | 1223 | 1186 | 839 | 665 | 536 | 384 | 219 | 133 |
| 26 | 21 | 8 | 5 | 1 | 30 | 73 | 235 | 238 | 110 | 119 | 136 | 150 | 214 | 190 | 268 | 290 | 331 | 236 | 191 | 141 | 113 | 61 | 32 |
| 24 | 10 | 8 | 6 | 13 | 43 | 74 | 244 | 158 | 118 | 127 | 147 | 161 | 172 | 222 | 242 | 293 | 298 | 194 | 187 | 134 | 89 | 68 | 37 |
| 22 | 16 | 10 | 10 | 6 | 44 | 130 | 220 | 115 | 97 | 128 | 158 | 156 | 178 | 220 | 286 | 320 | 289 | 227 | 150 | 132 | 92 | 57 | 33 |
| 10 | 11 | 7 | 9 | 24 | 71 | 219 | 221 | 135 | 114 | 127 | 145 | 158 | 248 | 265 | 281 | 320 | 268 | 182 | 137 | 129 | 90 | 33 | 31 |

Date: **Tuesday, February 6, 2018** Total Daily Volume: **13209** Description: **Southbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 45 | 34 | 24 | 36 | 167 | 475 | 766 | 1309 | 973 | 672 | 658 | 666 | 685 | 705 | 878 | 1064 | 885 | 932 | 780 | 530 | 419 | 260 | 146 | 100 |
| 17 | 13 | 9 | 6 | 18 | 90 | 181 | 282 | 306 | 172 | 163 | 171 | 179 | 178 | 277 | 323 | 250 | 239 | 246 | 149 | 128 | 80 | 53 | 22 |
| 7 | 9 | 3 | 9 | 30 | 110 | 150 | 283 | 279 | 169 | 164 | 177 | 151 | 149 | 229 | 300 | 178 | 217 | 213 | 139 | 104 | 79 | 46 | 31 |
| 12 | 7 | 5 | 11 | 54 | 127 | 225 | 329 | 198 | 168 | 155 | 157 | 180 | 173 | 190 | 227 | 236 | 236 | 179 | 126 | 85 | 52 | 30 | 26 |
| 9 | 5 | 7 | 10 | 65 | 148 | 210 | 415 | 190 | 163 | 176 | 161 | 175 | 205 | 182 | 214 | 221 | 240 | 142 | 116 | 102 | 49 | 17 | 21 |

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# Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

## Average Daily Traffic

Location: **Magnolia Avenue, between Mission Gorge Road and SR 52 Ramps**

Date: **Thursday, February 8, 2018** Total Daily Volume: **33865** Description: **Total Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 155 | 93 | 64 | 102 | 308 | 914 | 1518 | 2332 | 2114 | 1747 | 1718 | 1908 | 1998 | 2071 | 2442 | 2903 | 2715 | 2666 | 1992 | 1367 | 1113 | 792 | 502 | 331 |
| 52 | 30 | 18 | 15 | 33 | 145 | 271 | 480 | 672 | 485 | 448 | 446 | 550 | 477 | 573 | 668 | 712 | 729 | 569 | 385 | 302 | 226 | 154 | 87 |
| 40 | 18 | 18 | 23 | 63 | 226 | 324 | 501 | 534 | 421 | 415 | 474 | 495 | 529 | 657 | 742 | 665 | 720 | 522 | 355 | 304 | 203 | 143 | 84 |
| 35 | 18 | 6 | 37 | 88 | 237 | 396 | 630 | 472 | 431 | 422 | 472 | 463 | 527 | 627 | 754 | 673 | 604 | 490 | 303 | 256 | 194 | 114 | 86 |
| 28 | 27 | 22 | 27 | 124 | 306 | 527 | 721 | 436 | 410 | 433 | 516 | 490 | 538 | 585 | 739 | 665 | 613 | 411 | 324 | 251 | 169 | 91 | 74 |

Date: **Thursday, February 8, 2018** Total Daily Volume: **16428** Description: **Northbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 75 | 59 | 40 | 43 | 108 | 375 | 734 | 1144 | 999 | 765 | 730 | 876 | 949 | 1072 | 1152 | 1440 | 1411 | 1345 | 937 | 689 | 559 | 451 | 280 | 195 |
| 23 | 19 | 11 | 7 | 12 | 56 | 105 | 235 | 356 | 207 | 188 | 208 | 262 | 224 | 269 | 327 | 352 | 356 | 260 | 206 | 127 | 129 | 80 | 57 |
| 19 | 12 | 13 | 12 | 24 | 82 | 146 | 250 | 230 | 193 | 178 | 227 | 232 | 274 | 296 | 341 | 354 | 348 | 245 | 189 | 157 | 121 | 77 | 51 |
| 18 | 10 | 3 | 10 | 23 | 86 | 193 | 287 | 206 | 185 | 175 | 207 | 228 | 276 | 293 | 384 | 347 | 321 | 239 | 144 | 142 | 112 | 66 | 45 |
| 15 | 18 | 13 | 14 | 49 | 151 | 290 | 372 | 207 | 180 | 189 | 234 | 227 | 298 | 294 | 388 | 358 | 320 | 193 | 150 | 133 | 89 | 57 | 42 |

Date: **Thursday, February 8, 2018** Total Daily Volume: **17437** Description: **Southbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 80 | 34 | 24 | 59 | 200 | 539 | 784 | 1188 | 1115 | 982 | 988 | 1032 | 1049 | 999 | 1290 | 1463 | 1304 | 1321 | 1055 | 678 | 554 | 341 | 222 | 136 |
| 29 | 11 | 7 | 8 | 21 | 89 | 166 | 245 | 316 | 278 | 260 | 238 | 288 | 253 | 304 | 341 | 360 | 373 | 309 | 179 | 175 | 97 | 74 | 30 |
| 21 | 6 | 5 | 11 | 39 | 144 | 178 | 251 | 304 | 228 | 237 | 247 | 263 | 255 | 361 | 401 | 311 | 372 | 277 | 166 | 147 | 82 | 66 | 33 |
| 17 | 8 | 3 | 27 | 65 | 151 | 203 | 343 | 266 | 246 | 247 | 265 | 235 | 251 | 334 | 370 | 326 | 283 | 251 | 159 | 114 | 82 | 48 | 41 |
| 13 | 9 | 9 | 13 | 75 | 155 | 237 | 349 | 229 | 230 | 244 | 282 | 263 | 240 | 291 | 351 | 307 | 293 | 218 | 174 | 118 | 80 | 34 | 32 |

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# Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

## Average Daily Traffic

Location: **Magnolia Avenue, between SR 52 Ramps and South of Prospect Avenue**

Date: **Thursday, February 8, 2018** Total Daily Volume: **12596** Description: **Total Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 49 | 17 | 39 | 34 | 108 | 239 | 465 | 687 | 763 | 699 | 748 | 862 | 932 | 915 | 988 | 1172 | 1000 | 919 | 667 | 445 | 331 | 251 | 174 | 92 |
| 14 | 9 | 7 | 8 | 14 | 32 | 89 | 128 | 220 | 176 | 171 | 219 | 245 | 219 | 206 | 265 | 286 | 242 | 181 | 134 | 90 | 70 | 56 | 19 |
| 13 | 1 | 16 | 11 | 21 | 39 | 104 | 151 | 182 | 183 | 166 | 209 | 230 | 222 | 269 | 282 | 216 | 253 | 175 | 122 | 95 | 68 | 41 | 34 |
| 15 | 3 | 8 | 12 | 25 | 70 | 118 | 187 | 178 | 163 | 198 | 198 | 223 | 222 | 253 | 325 | 257 | 230 | 163 | 101 | 67 | 67 | 41 | 19 |
| 7 | 4 | 8 | 3 | 48 | 98 | 154 | 221 | 183 | 177 | 213 | 236 | 234 | 252 | 260 | 300 | 241 | 194 | 148 | 88 | 79 | 46 | 36 | 20 |

Date: **Thursday, February 8, 2018** Total Daily Volume: **5727** Description: **Northbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 29 | 7 | 24 | 15 | 37 | 78 | 128 | 236 | 256 | 279 | 286 | 409 | 452 | 435 | 461 | 596 | 532 | 465 | 313 | 216 | 172 | 152 | 101 | 48 |
| 7 | 5 | 3 | 4 | 5 | 15 | 33 | 43 | 72 | 67 | 66 | 98 | 118 | 102 | 87 | 142 | 153 | 120 | 90 | 62 | 37 | 41 | 39 | 8 |
| 9 | 0 | 9 | 4 | 12 | 12 | 32 | 56 | 51 | 78 | 72 | 104 | 113 | 102 | 111 | 139 | 114 | 134 | 82 | 67 | 52 | 45 | 23 | 18 |
| 10 | 2 | 7 | 6 | 6 | 20 | 30 | 58 | 61 | 66 | 66 | 97 | 118 | 116 | 132 | 170 | 137 | 115 | 64 | 48 | 38 | 44 | 23 | 9 |
| 3 | 0 | 5 | 1 | 14 | 31 | 33 | 79 | 72 | 68 | 82 | 110 | 103 | 115 | 131 | 145 | 128 | 96 | 77 | 39 | 45 | 22 | 16 | 13 |

Date: **Thursday, February 8, 2018** Total Daily Volume: **6869** Description: **Southbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 20 | 10 | 15 | 19 | 71 | 161 | 337 | 451 | 507 | 420 | 462 | 453 | 480 | 480 | 527 | 576 | 468 | 454 | 354 | 229 | 159 | 99 | 73 | 44 |
| 7 | 4 | 4 | 4 | 9 | 17 | 56 | 85 | 148 | 109 | 105 | 121 | 127 | 117 | 119 | 123 | 133 | 122 | 91 | 72 | 53 | 29 | 17 | 11 |
| 4 | 1 | 7 | 7 | 9 | 27 | 72 | 95 | 131 | 105 | 94 | 105 | 117 | 120 | 158 | 143 | 102 | 119 | 93 | 55 | 43 | 23 | 18 | 16 |
| 5 | 1 | 1 | 6 | 19 | 50 | 88 | 129 | 117 | 97 | 132 | 101 | 105 | 106 | 121 | 155 | 120 | 115 | 99 | 53 | 29 | 23 | 18 | 10 |
| 4 | 4 | 3 | 2 | 34 | 67 | 121 | 142 | 111 | 109 | 131 | 126 | 131 | 137 | 129 | 155 | 113 | 98 | 71 | 49 | 34 | 24 | 20 | 7 |

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# Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

## Average Daily Traffic

Location: **Woodside Avenue, East of Magnolia Avenue**

Date: **Tuesday, February 6, 2018** Total Daily Volume: **27209** Description: **Total Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 120 | 69 | 60 | 55 | 188 | 644 | 1226 | 1754 | 1695 | 1377 | 1464 | 1687 | 1859 | 1769 | 1883 | 2374 | 2265 | 2173 | 1662 | 1119 | 845 | 463 | 260 | 198 |
| 52 | 24 | 21 | 10 | 25 | 94 | 216 | 358 | 475 | 359 | 365 | 408 | 509 | 474 | 422 | 569 | 582 | 662 | 479 | 306 | 227 | 126 | 73 | 54 |
| 24 | 16 | 9 | 5 | 25 | 128 | 281 | 414 | 435 | 357 | 367 | 378 | 451 | 417 | 448 | 540 | 578 | 565 | 442 | 289 | 232 | 120 | 66 | 36 |
| 30 | 14 | 14 | 13 | 47 | 187 | 325 | 445 | 396 | 308 | 382 | 459 | 455 | 428 | 544 | 620 | 538 | 479 | 386 | 289 | 198 | 115 | 64 | 55 |
| 14 | 15 | 16 | 27 | 91 | 235 | 404 | 537 | 389 | 353 | 350 | 442 | 444 | 450 | 469 | 645 | 567 | 467 | 355 | 235 | 188 | 102 | 57 | 53 |

Date: **Tuesday, February 6, 2018** Total Daily Volume: **13925** Description: **Eastbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 65 | 29 | 32 | 28 | 78 | 304 | 517 | 731 | 699 | 588 | 664 | 827 | 960 | 952 | 1019 | 1283 | 1227 | 1169 | 969 | 680 | 540 | 298 | 155 | 111 |
| 23 | 12 | 11 | 5 | 9 | 41 | 77 | 147 | 192 | 152 | 166 | 189 | 246 | 254 | 242 | 320 | 312 | 335 | 274 | 182 | 138 | 77 | 47 | 35 |
| 18 | 5 | 4 | 3 | 8 | 53 | 122 | 178 | 193 | 161 | 167 | 179 | 230 | 243 | 239 | 303 | 310 | 335 | 258 | 182 | 150 | 85 | 31 | 20 |
| 13 | 9 | 7 | 3 | 22 | 84 | 142 | 163 | 156 | 116 | 169 | 223 | 245 | 236 | 285 | 326 | 276 | 250 | 219 | 172 | 123 | 69 | 33 | 30 |
| 11 | 3 | 10 | 17 | 39 | 126 | 176 | 243 | 158 | 159 | 162 | 236 | 239 | 219 | 253 | 334 | 329 | 249 | 218 | 144 | 129 | 67 | 44 | 26 |

Date: **Tuesday, February 6, 2018** Total Daily Volume: **13284** Description: **Westbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 55 | 40 | 28 | 27 | 110 | 340 | 709 | 1023 | 996 | 789 | 800 | 860 | 899 | 817 | 864 | 1091 | 1038 | 1004 | 693 | 439 | 305 | 165 | 105 | 87 |
| 29 | 12 | 10 | 5 | 16 | 53 | 139 | 211 | 283 | 207 | 199 | 219 | 263 | 220 | 180 | 249 | 270 | 327 | 205 | 124 | 89 | 49 | 26 | 19 |
| 6 | 11 | 5 | 2 | 17 | 75 | 159 | 236 | 242 | 196 | 200 | 199 | 221 | 174 | 209 | 237 | 268 | 230 | 184 | 107 | 82 | 35 | 35 | 16 |
| 17 | 5 | 7 | 10 | 25 | 103 | 183 | 282 | 240 | 192 | 213 | 236 | 210 | 192 | 259 | 294 | 262 | 229 | 167 | 117 | 75 | 46 | 31 | 25 |
| 3 | 12 | 6 | 10 | 52 | 109 | 228 | 294 | 231 | 194 | 188 | 206 | 205 | 231 | 216 | 311 | 238 | 218 | 137 | 91 | 59 | 35 | 13 | 27 |

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# Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

## Average Daily Traffic

Location: **N. Woodside Avenue, between Riverford Road and Woodside Avenue**

Date: **Thursday, February 1, 2018** Total Daily Volume: **3390** Description: **Total Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 13 | 9 | 4 | 16 | 63 | 107 | 167 | 231 | 209 | 176 | 193 | 217 | 221 | 269 | 283 | 278 | 288 | 275 | 124 | 88 | 71 | 43 | 28 | 17 |
| 8 | 3 | 3 | 1 | 2 | 16 | 25 | 60 | 43 | 35 | 57 | 46 | 65 | 50 | 59 | 57 | 83 | 87 | 39 | 26 | 26 | 13 | 4 | 6 |
| 2 | 2 | 0 | 7 | 6 | 23 | 38 | 47 | 50 | 42 | 44 | 47 | 53 | 64 | 52 | 58 | 73 | 66 | 39 | 23 | 16 | 16 | 7 | 1 |
| 0 | 3 | 0 | 3 | 16 | 20 | 39 | 63 | 57 | 51 | 49 | 56 | 53 | 93 | 99 | 86 | 74 | 59 | 26 | 23 | 11 | 5 | 8 | 6 |
| 3 | 1 | 1 | 5 | 39 | 48 | 65 | 61 | 59 | 48 | 43 | 68 | 50 | 62 | 73 | 77 | 58 | 63 | 20 | 16 | 18 | 9 | 9 | 4 |

Date: **Thursday, February 1, 2018** Total Daily Volume: **1906** Description: **Eastbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12 | 6 | 3 | 5 | 2 | 5 | 30 | 55 | 86 | 83 | 111 | 139 | 113 | 177 | 185 | 195 | 212 | 210 | 81 | 63 | 56 | 38 | 25 | 14 |
| 8 | 3 | 3 | 0 | 0 | 1 | 3 | 12 | 13 | 16 | 30 | 25 | 36 | 30 | 33 | 36 | 63 | 76 | 27 | 16 | 20 | 12 | 4 | 5 |
| 2 | 1 | 0 | 3 | 0 | 2 | 12 | 11 | 19 | 18 | 26 | 29 | 26 | 34 | 29 | 34 | 51 | 47 | 25 | 16 | 14 | 14 | 7 | 0 |
| 0 | 1 | 0 | 1 | 1 | 2 | 5 | 20 | 28 | 29 | 32 | 39 | 27 | 72 | 71 | 70 | 60 | 46 | 14 | 18 | 7 | 3 | 6 | 5 |
| 2 | 1 | 0 | 1 | 1 | 0 | 10 | 12 | 26 | 20 | 23 | 46 | 24 | 41 | 52 | 55 | 38 | 41 | 15 | 13 | 15 | 9 | 8 | 4 |

Date: **Thursday, February 1, 2018** Total Daily Volume: **1484** Description: **Westbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 3 | 1 | 11 | 61 | 102 | 137 | 176 | 123 | 93 | 82 | 78 | 108 | 92 | 98 | 83 | 76 | 65 | 43 | 25 | 15 | 5 | 3 | 3 |
| 0 | 0 | 0 | 1 | 2 | 15 | 22 | 48 | 30 | 19 | 27 | 21 | 29 | 20 | 26 | 21 | 20 | 11 | 12 | 10 | 6 | 1 | 0 | 1 |
| 0 | 1 | 0 | 4 | 6 | 21 | 26 | 36 | 31 | 24 | 18 | 18 | 27 | 30 | 23 | 24 | 22 | 19 | 14 | 7 | 2 | 2 | 0 | 1 |
| 0 | 2 | 0 | 2 | 15 | 18 | 34 | 43 | 29 | 22 | 17 | 17 | 26 | 21 | 28 | 16 | 14 | 13 | 12 | 5 | 4 | 2 | 2 | 1 |
| 1 | 0 | 1 | 4 | 38 | 48 | 55 | 49 | 33 | 28 | 20 | 22 | 26 | 21 | 21 | 22 | 20 | 22 | 5 | 3 | 3 | 0 | 1 | 0 |

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# Linscott, Law & Greenspan, Engineers

4542 Ruffner Street, Suite 100, San Diego, CA 92111

## Average Daily Traffic

Location: **Riverford Road, between Riverside Drive and SR-67 Ramps**

Date: **Thursday, February 1, 2018** Total Daily Volume: **18394** Description: **Total Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 81 | 56 | 50 | 96 | 211 | 533 | 854 | 1380 | 1311 | 961 | 892 | 1033 | 1037 | 1041 | 1260 | 1559 | 1502 | 1514 | 1080 | 717 | 563 | 335 | 203 | 125 |
| 24 | 14 | 6 | 16 | 38 | 96 | 186 | 306 | 319 | 255 | 240 | 225 | 268 | 250 | 276 | 401 | 355 | 413 | 300 | 193 | 169 | 97 | 66 | 42 |
| 15 | 22 | 12 | 16 | 43 | 115 | 199 | 344 | 327 | 232 | 214 | 218 | 272 | 254 | 323 | 362 | 405 | 390 | 329 | 203 | 166 | 105 | 35 | 30 |
| 20 | 13 | 15 | 24 | 54 | 160 | 214 | 355 | 356 | 236 | 218 | 295 | 263 | 269 | 320 | 419 | 345 | 391 | 252 | 181 | 114 | 57 | 61 | 31 |
| 22 | 7 | 17 | 40 | 76 | 162 | 255 | 375 | 309 | 238 | 220 | 295 | 234 | 268 | 341 | 377 | 397 | 320 | 199 | 140 | 114 | 76 | 41 | 22 |

Date: **Thursday, February 1, 2018** Total Daily Volume: **8732** Description: **Northbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 45 | 33 | 22 | 49 | 66 | 150 | 319 | 600 | 562 | 351 | 368 | 501 | 493 | 524 | 622 | 774 | 765 | 718 | 578 | 450 | 308 | 212 | 142 | 80 |
| 16 | 12 | 2 | 5 | 13 | 23 | 46 | 123 | 139 | 95 | 95 | 107 | 122 | 120 | 135 | 199 | 179 | 197 | 162 | 121 | 87 | 51 | 44 | 28 |
| 11 | 12 | 6 | 7 | 14 | 34 | 60 | 138 | 139 | 90 | 74 | 100 | 125 | 120 | 163 | 216 | 206 | 198 | 172 | 120 | 87 | 72 | 25 | 22 |
| 7 | 5 | 5 | 14 | 18 | 43 | 73 | 168 | 157 | 79 | 99 | 150 | 113 | 145 | 155 | 182 | 190 | 174 | 127 | 120 | 75 | 34 | 43 | 17 |
| 11 | 4 | 9 | 23 | 21 | 50 | 140 | 171 | 127 | 87 | 100 | 144 | 133 | 139 | 169 | 177 | 190 | 149 | 117 | 89 | 59 | 55 | 30 | 13 |

Date: **Thursday, February 1, 2018** Total Daily Volume: **9662** Description: **Southbound Volume**

| 0:00 | 1:00 | 2:00 | 3:00 | 4:00 | 5:00 | 6:00 | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 12:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 | 20:00 | 21:00 | 22:00 | 23:00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 36 | 23 | 28 | 47 | 145 | 383 | 535 | 780 | 749 | 610 | 524 | 532 | 544 | 517 | 638 | 785 | 737 | 796 | 502 | 267 | 255 | 123 | 61 | 45 |
| 8 | 2 | 4 | 11 | 25 | 73 | 140 | 183 | 180 | 160 | 145 | 118 | 146 | 130 | 141 | 202 | 176 | 216 | 138 | 72 | 82 | 46 | 22 | 14 |
| 4 | 10 | 6 | 9 | 29 | 81 | 139 | 206 | 188 | 142 | 140 | 118 | 147 | 134 | 160 | 146 | 199 | 192 | 157 | 83 | 79 | 33 | 10 | 8 |
| 13 | 8 | 10 | 10 | 36 | 117 | 141 | 187 | 199 | 157 | 119 | 145 | 150 | 124 | 165 | 237 | 155 | 217 | 125 | 61 | 39 | 23 | 18 | 14 |
| 11 | 3 | 8 | 17 | 55 | 112 | 115 | 204 | 182 | 151 | 120 | 151 | 101 | 129 | 172 | 200 | 207 | 171 | 82 | 51 | 55 | 21 | 11 | 9 |

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| Dist | Route | County | Postmile | | Description | Back Peak Hour | Back Peak Month | Back AADT | Ahead Peak Hour | Ahead Peak Month | Ahead AADT |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 03 | 051 | SAC | 5.498 | | SACRAMENTO, MARCONI AVENUE | 12100 | 164000 | 157800 | 9900 | 140000 | 134200 |
| 03 | 051 | SAC | 5.783 | | SACRAMENTO, AUBURN BOULEVARD | 9900 | 140000 | 134200 | 9900 | 140000 | 134200 |
| 03 | 051 | SAC | 5.963 | | SACRAMENTO, HOWE AVENUE | 9900 | 140000 | 134200 | 9900 | 141000 | 136000 |
| 03 | 051 | SAC | 6.213 | | SACRAMENTO, BELL STREET | 9900 | 141000 | 136000 | 9900 | 139000 | 134400 |
| 03 | 051 | SAC | 6.788 | | SACRAMENTO, FULTON AVENUE | 9900 | 139000 | 134400 | 11100 | 155000 | 148600 |
| 03 | 051 | SAC | 7.701 | | SACRAMENTO, AUBURN BOULEVARD | 11100 | 155000 | 148600 | 10400 | 144000 | 138000 |
| 03 | 051 | SAC | 7.969 | | SACRAMENTO, WATT AVENUE | 10400 | 144000 | 138000 | 10200 | 142000 | 136000 |
| 03 | 051 | SAC | 8.86 | | JCT. RTE. 80 WEST | 10100 | 133000 | 129000 | | | |
| 11 | 052 | SD | .324 | | JCT. RTE. 5 | | | | 7500 | 93000 | 85000 |
| 11 | 052 | SD | 1.346 | | REGENTS ROAD | 7500 | 93000 | 85000 | 6900 | 85000 | 83000 |
| 11 | 052 | SD | 2.292 | | SAN DIEGO, GENESEE AVENUE | 6900 | 85000 | 83000 | 7600 | 93000 | 89000 |
| 11 | 052 | SD | 3.761 | | JCT. RTE. 805 | 7600 | 93000 | 89000 | 9600 | 111000 | 107000 |
| 11 | 052 | SD | 5.494 | | CONVOY STREET | 9600 | 111000 | 107000 | 9500 | 111000 | 107000 |
| 11 | 052 | SD | 6.602 | | JCT. RTE. 163 | 9500 | 111000 | 107000 | 8700 | 96000 | 94000 |
| 11 | 052 | SD | 6.926 | | KEARNEY VILLA OC | 8700 | 96000 | 94000 | 8700 | 96000 | 94000 |
| 11 | 052 | SD | 7.314 | | JCT. RTE. 15 | 8700 | 96000 | 94000 | 8700 | 104000 | 100000 |
| 11 | 052 | SD | 8.713 | | SANTO ROAD | 8700 | 104000 | 100000 | 8200 | 99000 | 96000 |
| 11 | 052 | SD | 13.273 | | MAST BOULEVARD | 8000 | 99000 | 96000 | 7100 | 85000 | 83000 |
| 11 | 052 | SD | 13.972 | | MISSION GORGE | 7100 | 85000 | 83000 | 7200 | 86000 | 83000 |
| 11 | 052 | SD | 14.962 | | JCT. RTE. 125 | 7200 | 86000 | 83000 | 7600 | 83000 | 80000 |
| 11 | 052 | SD | 16.144 | | CUYAMACA STREET | 7600 | 83000 | 80000 | 7000 | 80000 | 77000 |
| 11 | 052 | SD | 17.22 | | JCT. RTE. 67 | 7000 | 80000 | 77000 | | | |
| 01 | 053 | LAK | 0 | | LOWER LAKE, JCT. RTE. 29 | | | | 2000 | 19000 | 17000 |
| 01 | 053 | LAK | 1.47 | | LAKESHORE DRIVE, OLD STATE HIGHWAY | 2000 | 19000 | 17000 | 2100 | 19000 | 17500 |
| 01 | 053 | LAK | 2.96 | | CLEARLAKE HIGHLANDS, 40TH AVENUE | 2100 | 19000 | 17500 | 830 | 9000 | 8300 |
| 01 | 053 | LAK | 7.445 | | JCT. RTE. 20 | 550 | 6100 | 5600 | | | |
| 11 | 054 | SD | 0 | R | JCT. RTE. 5, BEGIN RIGHT ALIGN | | | | 4900 | 57000 | 56000 |
| 11 | 054 | SD | .401 | R | NATIONAL CITY BOULEVARD | 4900 | 57000 | 56000 | 4800 | 62000 | 61000 |
| 11 | 054 | SD | .899 | R | NATIONAL CITY, HIGHLAND AVENUE OC | 4800 | 62000 | 61000 | 5200 | 67000 | 64000 |
| 11 | 054 | SD | 1.753 | R | END RIGHT ALIGN | 5200 | 67000 | 64000 | | | |
| 11 | 054 | SD | 0 | L | WB OFF TO SB 5, BEGIN LEFT ALIGN | | | | 3750 | 52000 | 51000 |
| 11 | 054 | SD | .406 | L | NATIONAL CITY, NATIONAL CITY BOULEVARD | 3750 | 52000 | 51000 | 4600 | 60000 | 58000 |
| 11 | 054 | SD | .904 | L | NATIONAL CITY, HIGHLAND AVENUE OC | 4600 | 60000 | 58000 | 5000 | 65000 | 62000 |
| 11 | 054 | SD | 1.797 | L | END LEFT ALIGN | 5000 | 65000 | 62000 | | | |
| 11 | 054 | SD | 1.88 | | JCT. RTE. 805 | 10400 | 135000 | 132000 | 10900 | 143000 | 139000 |
| 11 | 054 | SD | 2.968 | | REO DRIVE | 10900 | 143000 | 139000 | 10300 | 134000 | 130000 |
| 11 | 054 | SD | 4.207 | | WOODMAN STREET | 10300 | 134000 | 130000 | 9800 | 125000 | 122000 |

| Dist | Route | County | | Postmile | Description | Back Peak Hour | Back Peak Month | Back AADT | Ahead Peak Hour | Ahead Peak Month | Ahead AADT |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 06 | 065 | TUL | | 30.54 | ROAD 204, SPRUCE AVE | 2000 | 23200 | 21200 | 1250 | 14700 | 13800 |
| 06 | 065 | TUL | | 31.546 | JCT. RTE. 137 WEST | 1150 | 14300 | 12700 | 720 | 6800 | 6400 |
| 06 | 065 | TUL | | 37.1 | EXETER, D STREET | 870 | 10600 | 8700 | 750 | 8600 | 7500 |
| 06 | 065 | TUL | | 37.65 | EXETER, PINE STREET | 920 | 10200 | 9200 | 1000 | 11300 | 10200 |
| 06 | 065 | TUL | | 39.577 | JCT. RTE. 198 | 980 | 9800 | 9100 | | | |
| 03 | 065 | PLA | R | 4.863 | ROSEVILLE, JCT. RTE. 80 | | | | 8700 | 121000 | 117400 |
| 03 | 065 | PLA | R | 5.926 | ROSEVILLE, HARDING BOULEVARD | 8700 | 121000 | 117400 | 8200 | 114000 | 110000 |
| 03 | 065 | PLA | R | 7.1 | PLEASANT GROVE | 8200 | 114000 | 110000 | 7300 | 101000 | 98000 |
| 03 | 065 | PLA | M | 8.258 | WASHINGTON BOULEVARD | 7300 | 101000 | 98000 | 6200 | 79000 | 76800 |
| 03 | 065 | PLA | R | 9.569 | PLACER/SUNSET BOULEVARDS | 6200 | 79000 | 76800 | 5900 | 68000 | 64200 |
| 03 | 065 | PLA | R | 11.921 | TWELVE BRIDGES OC | 5900 | 68000 | 64200 | 4700 | 57000 | 53300 |
| 03 | 065 | PLA | R | 24.259 | PLACER/YUBA COUNTY LINE | 2200 | 23600 | 21700 | | | |
| 03 | 065 | YUB | R | 0 | PLACER/YUBA COUNTY LINE | | | | 2200 | 23600 | 21700 |
| 03 | 065 | YUB | | 1.503 | WHEATLAND, EVERGREEN DRIVE | 1800 | 20200 | 18500 | 2000 | 21500 | 19800 |
| 03 | 065 | YUB | | 2.207 | DRY CREEK BRIDGE | 2000 | 21500 | 19800 | 2000 | 21500 | 19800 |
| 03 | 065 | YUB | | 2.6 | DAIRY ROAD | 2000 | 21500 | 19800 | 2000 | 21500 | 19800 |
| 03 | 065 | YUB | | 4.099 | SOUTH BEALE RD - RT | 2000 | 21500 | 19800 | 1800 | 19800 | 19000 |
| 03 | 065 | YUB | R | 6.884 | FORTY MILE ROAD | 1800 | 19800 | 19000 | 1750 | 19000 | 18000 |
| 03 | 065 | YUB | R | 8.028 | MC GOWAN ROAD | 1750 | 19000 | 18000 | 2000 | 22200 | 20400 |
| 03 | 065 | YUB | R | 9.177 | JCT. RTE. 70 | 2000 | 22200 | 20400 | | | |
| 07 | 066 | LA | | 0 | LA VERNE, BASELINE ROAD | | | | 1850 | 19600 | 19300 |
| 07 | 066 | LA | R | .189 | LA VERNE, JCT. RTE. 210 | 1850 | 19600 | 19300 | 2200 | 26500 | 25000 |
| 07 | 066 | LA | | 1.731 | LA VERNE, FRUIT STREET/WHITE AVENUE | 2100 | 25500 | 24000 | 1900 | 23100 | 22000 |
| 07 | 066 | LA | | 2.54 | POMONA, GAREY AVENUE | 2000 | 24100 | 22800 | 2050 | 23100 | 21800 |
| 07 | 066 | LA | | 3.219 | CLAREMONT, TOWNE AVENUE | 2050 | 23100 | 21800 | 2250 | 25000 | 23700 |
| 07 | 066 | LA | | 3.22 | RIALTO/SAN BERNARDINO CITY LIMITS (PEPPER AVENUE) | 2100 | 22400 | 21300 | | | |
| 08 | 066 | SBD | | 20.14 | RIALTO/SAN BERNARDINO CITY LIMITS (PEPPER AVENUE) | | | | 1850 | 20800 | 19700 |
| 08 | 066 | SBD | | 21.37 | FOURTH STREET | 1850 | 22500 | 21500 | 1700 | 20700 | 19800 |
| 08 | 066 | SBD | | 22.415 | SAN BERNARDINO, MOUNT VERNON AVENUE | 1500 | 18600 | 17800 | 1350 | 16500 | 15800 |
| 08 | 066 | SBD | | 23.054 | SAN BERNARDINO, JCT. RTE. 215 | 1500 | 18600 | 17800 | 1500 | 18600 | 17800 |
| 08 | 066 | SBD | S | 23.156 | SPUR RTE 4TH,RT/N&SB TO RTE 215,L | 1500 | 18600 | 17800 | 1500 | 18600 | 17800 |
| 08 | 066 | SBD | S | 23.408 | END SPUR AT 6TH AND H STREET | 1500 | 18600 | 17800 | | | |
| 11 | 067 | SD | R | 0 | EL CAJON, JCT. RTE. 8 | | | | 4050 | 49000 | 48500 |
| 11 | 067 | SD | R | .306 | EL CAJON, BROADWAY | 4050 | 49000 | 48500 | 8700 | 102000 | 100000 |
| 11 | 067 | SD | R | 1.118 | BRADLEY AVENUE | 8700 | 102000 | 100000 | 8000 | 98000 | 93000 |
| 11 | 067 | SD | R | 1.943 | PROSPECT AVENUE | 8000 | 98000 | 93000 | 5300 | 63000 | 60000 |
| 11 | 067 | SD | R | 2.672 | WOODSIDE AVENUE | 5300 | 63000 | 60000 | 7000 | 79000 | 77000 |

| Dist | Route | County | | Postmile | Description | Back Peak Hour | Back Peak Month | Back AADT | Ahead Peak Hour | Ahead Peak Month | Ahead AADT |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 11 | 067 | SD | R | 3.914 | RIVERFORD ROAD | 7000 | 79000 | 77000 | 5400 | 63000 | 62000 |
| 11 | 067 | SD | R | 4.832 | WINTER GARDEN BOULEVARD | 5400 | 63000 | 62000 | 3450 | 39500 | 37500 |
| 11 | 067 | SD | R | 5.479 | MAPLEVIEW STREET | 3450 | 39500 | 37500 | 2350 | 26000 | 25500 |
| 11 | 067 | SD | R | 6.229 | WILLOW ROAD | 2350 | 26000 | 25500 | 2150 | 23600 | 23000 |
| 11 | 067 | SD | | 9.117 | VIGILANTE ROAD | 2150 | 23600 | 23000 | 2050 | 22800 | 22300 |
| 11 | 067 | SD | | 9.32 | SLAUGHTER HOUSE CANYON ROAD | 2050 | 22800 | 22300 | 1950 | 21100 | 20900 |
| 11 | 067 | SD | | 13.56 | RIO MARIA RD RT T | 1950 | 21100 | 20900 | 1950 | 22100 | 19500 |
| 11 | 067 | SD | | 15.2 | POWAY ROAD | 1950 | 22100 | 19500 | 2250 | 26000 | 25500 |
| 11 | 067 | SD | R | 20.873 | SAN VICENTE LAKE ROAD | 2250 | 26000 | 25500 | 2200 | 23800 | 23100 |
| 11 | 067 | SD | | 21.348 | HIGHLAND VALLEY ROAD | 2200 | 23800 | 23100 | 1950 | 21000 | 20700 |
| 11 | 067 | SD | | 23.276 | LETTON STREET | 1950 | 21000 | 20700 | 1950 | 21700 | 21400 |
| 11 | 067 | SD | | 23.84 | MONTECITO ROAD/15TH STREET | 1950 | 21700 | 21400 | 3000 | 34500 | 34000 |
| 11 | 067 | SD | | 24.17 | TWELFTH STREET | 3000 | 34500 | 34000 | 3100 | 36000 | 35500 |
| 11 | 067 | SD | | 24.27 | ELEVENTH STREET | 3100 | 36000 | 35500 | 2250 | 26500 | 26000 |
| 11 | 067 | SD | | 24.377 | RAMONA, JCT. RTE. 78 | 2250 | 26500 | 26000 | | | |
| 05 | 068 | MON | | 0 | PACIFIC GROVE, ASILOMAR BEACH STATE PARK | | | | 520 | 3100 | 2700 |
| 05 | 068 | MON | | .224 | SUNSET DRIVE EAST OF ASILOMAR | 450 | 3450 | 3000 | 840 | 7500 | 6400 |
| 05 | 068 | MON | | 1.12 | PACIFIC GROVE, FOREST AVENUE | 1300 | 16400 | 14000 | 1550 | 19900 | 18100 |
| 05 | 068 | MON | | 1.5 | PRESCOTT LANE | 1550 | 19900 | 18100 | 2000 | 23800 | 22500 |
| 05 | 068 | MON | | 1.99 | PRESIDIO BOULEVARD | 2350 | 27000 | 26500 | 2350 | 27000 | 26500 |
| 05 | 068 | MON | R | 3.948 | JCT. RTE. 1, CARMEL-PACIFIC GROVE | 2450 | 28000 | 27200 | 1950 | 23800 | 23700 |
| 05 | 068 | MON | | 6.812 | JCT. RTE. 218 NORTHWEST | 1950 | 23600 | 22300 | 2250 | 23600 | 22800 |
| 05 | 068 | MON | | 11.221 | LAURELES GRADE ROAD | 2250 | 23600 | 22800 | 2550 | 25500 | 23600 |
| 05 | 068 | MON | | 13.33 | SAN BENANCIO ROAD | 2550 | 25500 | 23600 | 2550 | 27500 | 25700 |
| 05 | 068 | MON | R | 17.19 | RESERVATION ROAD | 2550 | 27500 | 25700 | 2700 | 30500 | 29800 |
| 05 | 068 | MON | R | 18.076 | SPRECKLES BOULEVARD | 2950 | 32000 | 29800 | 3100 | 30000 | 28300 |
| 05 | 068 | MON | | 19.971 | SALINAS, BLANCO ROAD | 3100 | 30000 | 28300 | 3100 | 28500 | 27000 |
| 05 | 068 | MON | | 20.91 | SALINAS, AVENUE A/MAPLE STREET | 3100 | 28500 | 27000 | 1950 | 23500 | 22300 |
| 05 | 068 | MON | | 21.074 | SALINAS, JOHN/MAIN STREET | 1950 | 23500 | 22300 | 920 | 11000 | 10400 |
| 05 | 068 | MON | | 21.565 | SALINAS, ABBOTT STREET | 1050 | 12400 | 11900 | 2100 | 20000 | 19700 |
| 05 | 068 | MON | | 22.023 | SALINAS, JCT. RTE. 101 | 2350 | 21100 | 20800 | | | |
| 03 | 070 | SUT | R | .051 | JCT. RTE. 99 | | | | 1600 | 19900 | 18000 |
| 03 | 070 | SUT | R | 4.049 | NICOLAUS AVENUE OC | 1600 | 19900 | 18000 | 1800 | 21000 | 18800 |
| 03 | 070 | SUT | | 8.298 | SUTTER/YUBA COUNTY LINE | 1800 | 21000 | 18800 | | | |
| 03 | 070 | YUB | | 0 | SUTTER/YUBA COUNTY LINE | | | | 1800 | 21000 | 18800 |
| 03 | 070 | YUB | R | .354 | FEATHER RIVER BOULEVARD | 1800 | 21000 | 18800 | 1700 | 19200 | 17900 |
| 03 | 070 | YUB | R | 3.474 | PLUMAS LAKE BLVD | 1700 | 19200 | 17900 | 1750 | 20600 | 19700 |

| Dist | Route | County | | Postmile | Description | Back Peak Hour | Back Peak Month | Back AADT | Ahead Peak Hour | Ahead Peak Month | Ahead AADT |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 11 | 125 | SD | | 14.738 | LEMON AVENUE | 13000 | 177000 | 174000 | 14000 | 172000 | 170000 |
| 11 | 125 | SD | R | 15.094 | LA MESA, GROSSMONT BOULEVARD | 14000 | 172000 | 170000 | 13000 | 163000 | 161000 |
| 11 | 125 | SD | R | 15.409 | JCT. RTE. 8 | 13000 | 163000 | 161000 | 8100 | 102000 | 101000 |
| 11 | 125 | SD | | 18.663 | LA MESA, AMAYA DRIVE | 8100 | 102000 | 101000 | 8300 | 95000 | 91000 |
| 11 | 125 | SD | | 19.53 | NAVAJO ROAD | 8300 | 95000 | 91000 | 7200 | 81000 | 79000 |
| 11 | 125 | SD | | 20.393 | GROSSMONT COLLEGE DRIVE | 7200 | 81000 | 79000 | 6300 | 71000 | 68000 |
| 11 | 125 | SD | | 22.172 | JCT. RTE. 52, SANTEE | 6300 | 71000 | 68000 | 3250 | 33500 | 32500 |
| 11 | 125 | SD | | 22.301 | MISSION GORGE ROAD | 3250 | 33500 | 32500 | | | |
| 07 | 126 | VEN | | 0 | JCT. RTE. 101 | | | | 4850 | 49000 | 47000 |
| 07 | 126 | VEN | | 1.448 | VENTURA, VICTORIA AVENUE | 4850 | 49000 | 47000 | 4700 | 48000 | 46000 |
| 07 | 126 | VEN | | 2.799 | VENTURA, KIMBALL ROAD | 4700 | 48000 | 46000 | 3750 | 39000 | 37500 |
| 07 | 126 | VEN | R | 5.031 | VENTURA, JCT. RTE. 118 | 3750 | 39000 | 37500 | 4400 | 54000 | 51000 |
| 07 | 126 | VEN | R | 8.912 | BRIGGS ROAD | 4400 | 54000 | 51000 | 4150 | 51000 | 49000 |
| 07 | 126 | VEN | R | 10.38 | SANTA PAULA, PECK ROAD | 4150 | 51000 | 49000 | 3500 | 43500 | 41500 |
| 07 | 126 | VEN | R | 11.365 | SANTA PAULA, PALM AVENUE | 3500 | 43500 | 41500 | 3850 | 47000 | 36500 |
| 07 | 126 | VEN | R | 12.042 | SANTA PAULA, JCT. RTE. 150 | 3850 | 47000 | 36500 | 2550 | 31500 | 29500 |
| 07 | 126 | VEN | R | 13.248 | HALLOCK DRIVE | 2550 | 31500 | 29500 | 3500 | 37500 | 34500 |
| 07 | 126 | VEN | T | 16.73 | SESPE RANCH UC | 3500 | 37500 | 34500 | 3000 | 32000 | 29000 |
| 07 | 126 | VEN | | 20.331 | FILLMORE, WEST CITY LIMITS, LOS SERENOS ROAD | 3000 | 32000 | 29000 | 2550 | 33000 | 29000 |
| 07 | 126 | VEN | | 21.137 | FILLMORE, JCT. RTE. 23 | 2700 | 35000 | 30500 | 2350 | 30000 | 26500 |
| 07 | 126 | VEN | | 22.48 | FILLMORE, EAST CITY LIMITS | 2400 | 30000 | 26000 | 2400 | 30000 | 26000 |
| 07 | 126 | VEN | R | 29.296 | CENTER STREET | 2500 | 26500 | 22500 | 2650 | 27500 | 23500 |
| 07 | 126 | VEN | R | 36.64 | VENTURA/LOS ANGELES COUNTY LINE | 2250 | 26000 | 22600 | | | |
| 07 | 126 | LA | R | 0 | VENTURA/LOS ANGELES COUNTY LINE | | | | 2250 | 26000 | 22600 |
| 07 | 126 | LA | R | 3.564 | WOLCOTT WAY | 2250 | 26000 | 22600 | 2500 | 29000 | 25500 |
| 07 | 126 | LA | R | 4.885 | COMMERCE CENTER DRIVE | 2500 | 29000 | 25500 | 3600 | 41500 | 36500 |
| 07 | 126 | LA | R | 5.46 | THE OLD ROAD | 3600 | 41500 | 36500 | 3600 | 42000 | 36500 |
| 07 | 126 | LA | R | 5.801 | SANTA CLARITA, NORTH JCT. RTE. 5 | 3600 | 42000 | 36500 | 2200 | 30500 | 28000 |
| 07 | 126 | LA | R | 5.85 | SANTA CLARITA, SOUTH JCT. RTE. 5 | 2200 | 30500 | 28000 | 2200 | 30500 | 28000 |
| 07 | 126 | LA | | 6.036 | SANTA CLARITA, TOURNEY ROAD (END OF ROUTE) | 2200 | 30500 | 28000 | | | |
| 08 | 127 | SBD | L | 0 | JCT. RTE. 15 | | | | 960 | 8000 | 6700 |
| 08 | 127 | SBD | L | .17 | BAKER, JCT HIGHWAY | 960 | 8000 | 6700 | 350 | 2800 | 2200 |
| 08 | 127 | SBD | | .642 | SCHOOL ROAD | 350 | 2800 | 2200 | 230 | 1450 | 1150 |
| 08 | 127 | SBD | | 29.708 | SARATOGA SPRINGS ROAD | 230 | 1450 | 1150 | 190 | 1050 | 800 |
| 08 | 127 | SBD | | 41.473 | SAN BERNARDINO/INYO COUNTY LINE | 170 | 810 | 800 | | | |
| 09 | 127 | INY | | 0 | SAN BERNARDINO/INYO COUNTY LINE | | | | 180 | 1350 | 800 |
| 09 | 127 | INY | | 6.51 | OLD SPANISH TRAIL HWY | 170 | 1000 | 750 | 150 | 1300 | 730 |

| RTE | DIST | CNTY | POST MILE | LEG | DESCRIPTION | VEHICLE AADT TOTAL | TRUCK AADT TOTAL | TRUCK % TOT VEH | TRUCK By Axle 2 | TRUCK By Axle 3 | AADT By Axle 4 | TOTAL By Axle 5+ | % By Axle 2 | TRUCK By Axle 3 | AADT By Axle 4 | By Axle 5+ | EAL 2-WAY (1000) | YEAR VER/ EST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 50 | 03 | ED | 39.772 | B | ICEHOUSE RD | 11500 | 725 | 6.30 | 267 | 95 | 15 | 348 | 36.80 | 13 | 2 | 48 | 140 | 83V |
| 50 | 03 | ED | 39.772 | A | ICEHOUSE RD | 11200 | 459 | 4.10 | 251 | 21 | 16 | 171 | 54.70 | 5 | 4 | 37 | 72 | 83V |
| 50 | 03 | ED | 70.621 | B | JCT. RTE. 89 SOUTH | 11600 | 733 | 6.32 | 369 | 154 | 69 | 141 | 50.31 | 21 | 9 | 19 | 86 | 12E |
| 50 | 03 | ED | 70.621 | A | JCT. RTE. 89 SOUTH | 13600 | 456 | 3.35 | 176 | 122 | 30 | 128 | 38.63 | 27 | 7 | 28 | 66 | 12E |
| 50 | 03 | ED | 75.448 | B | SOUTH LAKE TAHOE, JCT. RTE. 89 NORTH | 19800 | 793 | 4.00 | 466 | 73 | 16 | 238 | 58.80 | 9 | 2 | 30 | 107 | 83E |
| 50 | 03 | ED | 75.448 | A | SOUTH LAKE TAHOE, JCT. RTE. 89 NORTH | 34000 | 1360 | 4.00 | 1064 | 133 | 20 | 143 | 78.20 | 10 | 2 | 11 | 102 | 84V |
| 50 | 03 | ED | 80.44 | B | NEVADA STATE LINE | 28000 | 869 | 3.10 | 724 | 42 | 9 | 94 | 83.40 | 5 | 1 | 11 | 63 | 83V |
| 51 | 03 | SAC | 0 | A | SACRAMENTO, JCT. RTES. 50/99 | 146500 | 5430 | 3.71 | 2000 | 750 | 280 | 2400 | 36.83 | 14 | 5 | 44 | 1008 | 16E |
| 51 | 03 | SAC | 3.357 | B | SACRAMENTO, EXPOSITION BLVD | 169000 | 5332 | 3.16 | 1910 | 735 | 282 | 2405 | 35.82 | 14 | 5 | 45 | 1006 | 16E |
| 51 | 03 | SAC | 3.688 | B | SACRAMENTO, JCT. RTE. 160 WEST | 155700 | 3596 | 2.31 | 1101 | 616 | 374 | 1505 | 30.62 | 17 | 10 | 42 | 669 | 11V |
| 51 | 03 | SAC | 3.688 | A | SACRAMENTO, JCT. RTE. 160 WEST | 158000 | 3689 | 4.67 | 1915 | 346 | 198 | 1230 | 51.92 | 9 | 5 | 33 | 552 | 04E |
| 51 | 03 | SAC | 6.788 | A | SACRAMENTO, FULTON AVE | 148600 | 8469 | 5.70 | 4997 | 847 | 169 | 2456 | 59.00 | 10 | 2 | 29 | 1125 | 83E |
| 51 | 03 | SAC | 8.86 | B | JCT. RTE. 80 WEST | 129000 | 7353 | 5.70 | 4353 | 721 | 169 | 2110 | 59.20 | 10 | 2 | 29 | 971 | 81V |
| 52 | 11 | SD | 0.324 | A | JCT. RTE. 5 | 85000 | 2805 | 3.30 | 1910 | 407 | 67 | 421 | 68.10 | 15 | 2 | 15 | 259 | 87E |
| 52 | 11 | SD | 2.292 | B | SAN DIEGO, GENESEE AVE | 83000 | 2739 | 3.30 | 1865 | 397 | 66 | 411 | 68.10 | 15 | 2 | 15 | 253 | 87E |
| 52 | 11 | SD | 3.761 | B | JCT. RTE. 805 | 89000 | 2760 | 3.10 | 1918 | 491 | 86 | 265 | 69.50 | 18 | 3 | 10 | 216 | 96E |
| 52 | 11 | SD | 8.713 | A | SANTO RD | 96000 | 2496 | 2.60 | 1957 | 314 | 45 | 180 | 78.40 | 13 | 2 | 7 | 166 | 96E |

| RTE | DIST | CNTY | POST MILE | LEG | DESCRIPTION | VEHICLE AADT TOTAL | TRUCK AADT TOTAL | TRUCK % TOT VEH | TRUCK By Axle 2 | TRUCK By Axle 3 | AADT By Axle 4 | AADT By Axle 5+ | TOTAL % 2 | TRUCK % By Axle 3 | AADT By Axle 4 | AADT By Axle 5+ | EAL 2-WAY (1000) | YEAR VER/ EST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 66 | 07 | LA | R0.189 | A | LA VERNE, JCT. RTE. 210 | 25000 | 680 | 2.72 | 355 | 159 | 109 | 57 | 52.20 | 23 | 16 | 8 | 63 | 04E |
| 66 | 07 | LA | 2.54 | B | POMONA, GAREY AVE | 22800 | 621 | 2.72 | 324 | 145 | 100 | 52 | 52.20 | 23 | 16 | 8 | 57 | 04V |
| 66 | 08 | SBD | 21.37 | B | FOURTH ST | 21500 | 645 | 3.00 | 515 | 72 | 19 | 39 | 79.90 | 11 | 3 | 6 | 41 | 88E |
| 66 | 08 | SBD | 21.37 | A | FOURTH ST | 19800 | 396 | 2.00 | 317 | 44 | 11 | 24 | 80.00 | 11 | 3 | 6 | 25 | 88E |
| 66 | 08 | SBD | 23.054 | B | SAN BERNARDINO, JCT. RTE. 215 | 17800 | 356 | 2.00 | 285 | 39 | 10 | 22 | 80.10 | 11 | 3 | 6 | 23 | 88E |
| 67 | 11 | SD | R0 | A | EL CAJON, JCT. RTE. 8 | 48500 | 3783 | 7.80 | 2262 | 526 | 151 | 844 | 59.80 | 14 | 4 | 22 | 441 | 86E |
| 67 | 11 | SD | R0.306 | A | EL CAJON, BRDWAY | 100000 | 6700 | 6.70 | 4007 | 931 | 268 | 1494 | 59.80 | 14 | 4 | 22 | 781 | 86V |
| 67 | 11 | SD | R1.118 | A | BRADLEY AVE | 93000 | 6231 | 6.70 | 3726 | 866 | 249 | 1390 | 59.80 | 14 | 4 | 22 | 726 | 86E |
| 67 | 11 | SD | R2.672 | A | WOODSIDE AVE | 77000 | 5621 | 7.30 | 3395 | 708 | 118 | 1400 | 60.40 | 13 | 2 | 25 | 684 | 86V |
| 67 | 11 | SD | R4.832 | B | WINTER GARDEN BLVD | 62000 | 1612 | 2.60 | 974 | 203 | 34 | 401 | 60.40 | 13 | 2 | 25 | 196 | 86E |
| 67 | 11 | SD | R4.832 | A | WINTER GARDEN BLVD | 37500 | 1575 | 4.20 | 951 | 197 | 35 | 392 | 60.40 | 13 | 2 | 25 | 192 | 86E |
| 67 | 11 | SD | 15.2 | B | POWAY RD | 19500 | 1793 | 9.20 | 1166 | 140 | 30 | 457 | 65.00 | 8 | 2 | 26 | 216 | 96E |
| 67 | 11 | SD | 15.2 | A | POWAY RD | 25500 | 1757 | 6.89 | 1424 | 107 | 51 | 175 | 81.05 | 6 | 3 | 10 | 128 | 16V |
| 67 | 11 | SD | 24.377 | B | RAMONA, JCT. RTE. 78 | 26000 | 1508 | 5.80 | 703 | 149 | 23 | 633 | 46.60 | 10 | 2 | 42 | 260 | 85E |
| 68 | 05 | MON | 0 | A | PACIFIC GROVE, ASILOMAR BEACH STATE PARK | 2700 | 108 | 4.00 | 90 | 15 | 1 | 2 | 83.00 | 14 | 1 | 2 | 5 | 14E |
| 68 | 05 | MON | L4.264 | B | JCT. RTE. 1, CARMEL-PACIFIC GROVE | 27200 | 1088 | 4.00 | 881 | 87 | 33 | 87 | 81.00 | 8 | 3 | 8 | 74 | 14E |
| 68 | 05 | MON | R3.948 | A | JCT. RTE. 1, CARMEL-PACIFIC GROVE | 23700 | 710 | 3.00 | 505 | 92 | 28 | 85 | 71.00 | 13 | 4 | 12 | 60 | 14E |

| RTE | DIST | CNTY | POST MILE | LEG | DESCRIPTION | VEHICLE AADT TOTAL | TRUCK AADT TOTAL | TRUCK % TOT VEH | TRUCK By Axle 2 | TRUCK By Axle 3 | AADT Axle 4 | AADT Axle 5+ | TOTAL % 2 | TRUCK By Axle 3 | AADT Axle 4 | AADT Axle 5+ | EAL 2-WAY (1000) | YEAR VER/ EST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 121 | 04 | NAP | R5.891 | B | JCT. RTE. 221 SOUTH | 25000 | 659 | 2.64 | 414 | 142 | 12 | 91 | 62.72 | 22 | 2 | 14 | 61 | 02V |
| 121 | 04 | NAP | 6.01 | A | JCT. RTE. 221 SOUTH | 31500 | 1238 | 3.93 | 767 | 203 | 72 | 196 | 61.99 | 16 | 6 | 16 | 124 | 02V |
| 121 | 04 | NAP | 9.403 | B | NAPA, TRANCAS ST | 12400 | 490 | 3.95 | 264 | 118 | 63 | 45 | 53.90 | 24 | 13 | 9 | 45 | 99V |
| 121 | 04 | NAP | 10.55 | B | ATLAS PEAK RD | 10500 | 644 | 6.13 | 398 | 128 | 18 | 100 | 61.85 | 20 | 3 | 15 | 63 | 99V |
| 121 | 04 | NAP | 10.68 | B | VICHY AVE | 4150 | 144 | 3.49 | 91 | 42 | 5 | 6 | 63.02 | 29 | 4 | 4 | 10 | 99V |
| 121 | 04 | NAP | 22.083 | B | JCT. RTE. 128 | 1900 | 55 | 2.90 | 42 | 7 | 0 | 6 | 76.10 | 13 | 0 | 11 | 4 | 96V |
| 123 | 04 | ALA | 0 | A | OAKLAND, JCT. RTE. 580 | 25500 | 421 | 1.65 | 306 | 55 | 11 | 49 | 72.73 | 13 | 3 | 12 | 34 | 03V |
| 123 | 04 | ALA | 1.906 | B | BERKELEY, JCT. RTE. 13 | 20800 | 607 | 2.92 | 463 | 87 | 9 | 48 | 76.26 | 14 | 2 | 8 | 42 | 03V |
| 123 | 04 | ALA | 1.906 | A | BERKELEY, JCT. RTE. 13 | 22000 | 460 | 2.09 | 361 | 57 | 8 | 34 | 78.41 | 12 | 2 | 7 | 31 | 03V |
| 123 | 04 | CC | 2.1 | B | CUTTING BLVD | 29500 | 446 | 1.51 | 283 | 102 | 5 | 56 | 63.56 | 23 | 1 | 13 | 39 | 03V |
| 123 | 04 | CC | 2.198 | B | RICHMOND, JCT. RTE. 80 | 20300 | 489 | 2.41 | 367 | 63 | 12 | 47 | 75.11 | 13 | 2 | 10 | 37 | 02V |
| 124 | 10 | AMA | 0 | A | JCT. RTE. 88, IONE SOUTH | 5800 | 488 | 8.40 | 104 | 76 | 15 | 293 | 21.30 | 16 | 3 | 60 | 114 | 96V |
| 124 | 10 | AMA | 2.291 | B | IONE, WEST JCT RTE 104 | 9200 | 810 | 8.80 | 162 | 160 | 34 | 454 | 20.00 | 20 | 4 | 56 | 182 | 96V |
| 124 | 10 | AMA | R2.291 | A | IONE, WEST JCT RTE 104 | 2700 | 135 | 5.00 | 38 | 46 | 7 | 44 | 28.40 | 34 | 5 | 33 | 22 | 96V |
| 125 | 11 | SD | 12.967 | A | EAST JCT. RTE. 94 | 174000 | 7656 | 4.40 | 4509 | 1087 | 299 | 1761 | 58.90 | 14 | 4 | 23 | 909 | 96E |
| 125 | 11 | SD | R15.409 | B | JCT. RTE. 8 | 161000 | 7083 | 4.40 | 4172 | 1006 | 276 | 1629 | 58.90 | 14 | 4 | 23 | 841 | 96E |
| 126 | 07 | VEN | 0 | A | EB ON FROM MAIN ST and VENTURA, JCT. RTE. 101 | 47000 | 2511 | 5.34 | 594 | 384 | 219 | 1314 | 23.65 | 15 | 9 | 52 | 542 | 12E |

| | | | | | | | | | AM PEAK | | | | | | | PM PEAK | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DI | RTE | CO | PRE | PM | CS | LEG | YR | Dir | 1 WAY PHV | % K | % D | % KD | HR | DAY | MNTH | Dir | 1 WAY PHV | % K | % D | % KD | HR | DAY | MNTH |
| 03 | 049 | SIE | | 47.44 | 217 | B | 16 | S | 49 | 25 | 57.65 | 14.41 | 12 | SUN | JUL | S | 48 | 27.06 | 52.17 | 14.12 | 13 | SUN | JUL |
| 02 | 049 | PLU | | 7.5 | 121 | B | 16 | S | 62 | 9.41 | 65.96 | 6.21 | 8 | TUE | AUG | S | 76 | 10.81 | 70.37 | 7.61 | 17 | MON | AUG |
| 03 | 050 | YOL | | 2.477 | 410 | B | 15 | E | 6046 | 8.64 | 56.53 | 4.88 | 7 | TUE | JAN | E | 5857 | 7.32 | 64.65 | 4.73 | 16 | WED | FEB |
| 03 | 050 | SAC | R | 3.674 | 228 | A | 15 | W | 8851 | 9.02 | 53.77 | 4.85 | 7 | THU | SEP | E | 8096 | 8.44 | 52.59 | 4.44 | 16 | TUE | SEP |
| 03 | 050 | SAC | R | 5.336 | 230 | A | 16 | E | 8175 | 9.09 | 50.01 | 4.54 | 7 | THU | FEB | W | 8121 | 8.78 | 51.39 | 4.51 | 16 | THU | OCT |
| 03 | 050 | SAC | R | 7.746 | 232 | A | 16 | E | 8423 | 8.41 | 55.37 | 4.66 | 8 | THU | AUG | E | 8363 | 9 | 51.36 | 4.62 | 16 | THU | APR |
| 03 | 050 | ED | R | 8.564 | 245 | B | 15 | E | 3259 | 8.56 | 59.34 | 5.08 | 11 | SAT | OCT | E | 3521 | 9.26 | 59.25 | 5.48 | 15 | FRI | JAN |
| 03 | 050 | ED | | 18.03 | 314 | A | 15 | E | 2123 | 9.84 | 60.16 | 5.92 | 10 | SUN | OCT | E | 2186 | 10.15 | 60.07 | 6.1 | 14 | FRI | AUG |
| 03 | 050 | ED | R | 31.30 | 315 | A | 16 | W | 1365 | 16.69 | 70.73 | 11.8 | 12 | SUN | AUG | W | 1327 | 18.47 | 62.13 | 11.48 | 14 | SUN | AUG |
| 03 | 050 | ED | | 70.62 | 382 | B | 16 | W | 1176 | 14.11 | 71.58 | 10.1 | 11 | SUN | SEP | W | 1032 | 17.35 | 51.09 | 8.86 | 13 | SUN | JUL |
| 03 | 050 | ED | | 70.62 | 383 | A | 16 | W | 1310 | 11.54 | 83.07 | 9.59 | 10 | SUN | NOV | W | 1085 | 12.19 | 65.13 | 7.94 | 14 | SUN | SEP |
| 03 | 050 | ED | | 78.42 | 384 | B | 16 | W | 1506 | 9.11 | 56.17 | 5.12 | 11 | THU | JUL | E | 1464 | 9.5 | 52.36 | 4.98 | 15 | WED | JUL |
| 03 | 050 | ED | | 78.42 | 385 | A | 16 | W | 1497 | 9.86 | 50.51 | 4.98 | 12 | SUN | SEP | W | 1501 | 9.2 | 54.29 | 4.99 | 15 | SAT | JUN |
| 03 | 050 | ED | | 80.44 | 387 | O | 16 | W | 1016 | 7.13 | 50.8 | 3.62 | 12 | SAT | JAN | E | 1277 | 8.49 | 53.63 | 4.55 | 16 | SAT | JAN |
| 03 | 051 | SAC | | 1.204 | 426 | B | 16 | N | 7669 | 7.59 | 56.41 | 4.28 | 7 | TUE | APR | N | 6472 | 6.46 | 55.89 | 3.61 | 13 | THU | NOV |
| 03 | 051 | SAC | | 1.204 | 427 | A | 16 | N | 7187 | 7.25 | 56.61 | 4.1 | 7 | THU | OCT | N | 6487 | 6.73 | 55.06 | 3.7 | 13 | WED | OCT |
| 03 | 051 | SAC | | 3.357 | 430 | B | 16 | S | 6312 | 7.2 | 51.81 | 3.73 | 7 | TUE | APR | S | 5866 | 6.61 | 52.46 | 3.47 | 15 | MON | APR |
| 03 | 051 | SAC | | 4.061 | 432 | A | 16 | S | 7804 | 7.52 | 61.3 | 4.61 | 7 | WED | DEC | N | 6961 | 7.37 | 55.76 | 4.11 | 16 | WED | MAR |
| 03 | 051 | SAC | | 7.969 | 433 | A | 16 | S | 5205 | 6.02 | 63.52 | 3.82 | 6 | THU | JAN | N | 6077 | 7.49 | 59.57 | 4.46 | 17 | WED | MAR |
| 11 | 052 | SD | | 3.761 | 703 | B | 16 | E | 3859 | 7.81 | 55.31 | 4.32 | 7 | TUE | FEB | E | 4432 | 8.35 | 59.39 | 4.96 | 15 | THU | FEB |
| 11 | 052 | SD | | 5.494 | 725 | B | 16 | W | 6042 | 8.93 | 63.35 | 5.66 | 7 | WED | DEC | E | 5599 | 8.48 | 61.85 | 5.24 | 15 | THU | MAR |
| 11 | 052 | SD | | 5.494 | 726 | A | 16 | W | 5670 | 8.46 | 62.83 | 5.31 | 8 | FRI | SEP | E | 6092 | 8.74 | 65.34 | 5.71 | 15 | THU | AUG |
| 11 | 052 | SD | | 8.713 | 727 | B | 16 | W | 6472 | 8.48 | 75.95 | 6.44 | 7 | WED | JAN | E | 5507 | 8.17 | 67.09 | 5.48 | 15 | TUE | NOV |
| 11 | 052 | SD | | 8.713 | 728 | A | 16 | W | 5898 | 8.41 | 73.46 | 6.17 | 7 | WED | JUN | E | 5624 | 8.37 | 70.39 | 5.89 | 16 | WED | AUG |
| 11 | 052 | SD | | 13.27 | 729 | B | 16 | W | 5968 | 7.81 | 79.71 | 6.23 | 6 | MON | FEB | E | 5516 | 8.27 | 69.62 | 5.76 | 16 | TUE | FEB |
| 11 | 052 | SD | | 13.27 | 730 | A | 16 | W | 4058 | 6.68 | 73.53 | 4.91 | 6 | MON | MAY | E | 4614 | 8.59 | 64.97 | 5.58 | 15 | MON | NOV |
| 11 | 052 | SD | | 14.96 | 732 | B | 16 | W | 4215 | 6.79 | 74.68 | 5.07 | 6 | TUE | AUG | E | 4630 | 8.27 | 67.33 | 5.57 | 17 | WED | MAR |
| 11 | 052 | SD | | 15.83 | 733 | O | 16 | W | 3235 | 6.16 | 65.12 | 4.01 | 6 | FRI | OCT | E | 4305 | 8.88 | 60.08 | 5.34 | 15 | THU | OCT |
| 11 | 052 | SD | | 16.74 | 734 | O | 16 | W | 3252 | 5.82 | 71.44 | 4.16 | 6 | THU | OCT | E | 4052 | 8.38 | 61.89 | 5.18 | 16 | MON | MAR |
| 01 | 053 | LAK | | 5.15 | 728 | A | 16 | S | 396 | 9.3 | 51.36 | 4.78 | 11 | SAT | JUL | N | 452 | 9.56 | 57 | 5.45 | 16 | FRI | OCT |
| 01 | 053 | LAK | | 7.413 | 729 | B | 16 | N | 341 | 8.12 | 75.11 | 6.1 | 11 | MON | JUL | N | 396 | 9.64 | 73.47 | 7.08 | 15 | FRI | FEB |
| 11 | 054 | SD | | 1.88 | 814 | A | 16 | W | 6687 | 7.5 | 64 | 4.8 | 7 | TUE | MAY | E | 6074 | 7.73 | 56.42 | 4.36 | 16 | THU | JUN |
| 11 | 054 | SD | | 4.207 | 815 | B | 16 | W | 6276 | 7.88 | 62.07 | 4.89 | 7 | WED | FEB | E | 5517 | 7.89 | 54.52 | 4.3 | 16 | THU | JUN |

| | | | | | | | | | AM PEAK | | | | | | | PM PEAK | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DI | RTE | CO | PRE | PM | CS | LEG | YR | Dir | 1 WAY PHV | % K | % D | % KD | HR | DAY | MNTH | Dir | 1 WAY PHV | % K | % D | % KD | HR | DAY | MNTH |
| 08 | 060 | SBD | R | 0 | 981 | A | 14 | W | 7938 | 6.64 | 53.85 | 3.58 | 7 | THU | MAY | W | 8097 | 6.58 | 55.46 | 3.65 | 13 | SUN | JUN |
| 08 | 060 | SBD | R | 7.873 | 877 | X | 16 | W | 7977 | 6.1 | 56.32 | 3.44 | 7 | TUE | AUG | E | 7916 | 6.56 | 51.97 | 3.41 | 16 | THU | APR |
| 08 | 060 | RIV | R | 1.564 | 714 | B | 15 | W | 7044 | 6.96 | 52.78 | 3.67 | 7 | THU | JAN | W | 7552 | 7.38 | 53.41 | 3.94 | 16 | WED | FEB |
| 04 | 061 | ALA | | 18.52 | 131 | A | 15 | N | 2320 | 9.85 | 57.87 | 5.7 | 8 | THU | MAR | S | 2124 | 10.18 | 51.28 | 5.22 | 17 | THU | SEP |
| 08 | 062 | SBD | | 34.22 | 934 | B | 14 | E | 4490 | 85.98 | 99.1 | 85.2 | 5 | THU | NOV | E | 741 | 17.72 | 79.34 | 14.06 | 16 | TUE | NOV |
| 06 | 063 | TUL | | 0 | 21 | A | 14 | N | 795 | 7.43 | 60.55 | 4.5 | 12 | SUN | DEC | S | 926 | 9.55 | 54.89 | 5.24 | 17 | WED | SEP |
| 06 | 063 | TUL | | 4.01 | 78 | B | 14 | N | 936 | 8.33 | 58.35 | 4.86 | 11 | SUN | MAR | S | 1060 | 10.33 | 53.27 | 5.5 | 17 | FRI | DEC |
| 06 | 063 | TUL | L | 7.97 | 79 | B | 14 | N | 1383 | 9.41 | 51.28 | 4.82 | 12 | WED | SEP | N | 1387 | 8.69 | 55.64 | 4.84 | 14 | FRI | DEC |
| 06 | 063 | TUL | | 7.98 | 80 | A | 14 | S | 1239 | 8.15 | 59.57 | 4.85 | 12 | WED | DEC | S | 1472 | 9.46 | 60.9 | 5.76 | 17 | WED | DEC |
| 06 | 063 | TUL | | 15.11 | 81 | A | 14 | S | 303 | 8.21 | 54.3 | 4.46 | 12 | SUN | SEP | N | 367 | 8.83 | 61.17 | 5.4 | 15 | SUN | DEC |
| 06 | 063 | TUL | | 23.57 | 82 | B | 14 | N | 522 | 9.23 | 53.59 | 4.95 | 6 | MON | MAR | S | 640 | 7.09 | 85.56 | 6.06 | 21 | TUE | JUN |
| 06 | 063 | TUL | R | 25.55 | 83 | A | 14 | S | 105 | 9.49 | 60.35 | 5.73 | 12 | SAT | MAR | S | 113 | 11.18 | 55.12 | 6.16 | 16 | FRI | MAR |
| 06 | 063 | FRE | | 8.362 | 84 | B | 14 | N | 61 | 15.51 | 52.59 | 8.16 | 12 | SUN | JUN | S | 70 | 11.23 | 83.33 | 9.36 | 18 | SUN | JUN |
| 06 | 065 | KER | R | 0 | 20 | A | 16 | N | 999 | 8.25 | 73.08 | 6.03 | 6 | WED | MAR | S | 1128 | 9.91 | 68.7 | 6.81 | 15 | WED | SEP |
| 06 | 065 | KER | | 2.9 | 188 | B | 14 | N | 576 | 8.68 | 68.49 | 5.94 | 6 | TUE | NOV | S | 587 | 9.16 | 66.1 | 6.06 | 15 | MON | MAY |
| 06 | 065 | KER | | 11.86 | 662 | B | 14 | S | 418 | 9.72 | 59.29 | 5.76 | 5 | THU | AUG | N | 417 | 10.7 | 53.74 | 5.75 | 16 | FRI | NOV |
| 06 | 065 | KER | | 23.19 | 621 | B | 16 | S | 436 | 8.49 | 69.87 | 5.93 | 7 | FRI | OCT | N | 431 | 9.26 | 63.29 | 5.86 | 15 | TUE | APR |
| 06 | 065 | TUL | R | 14.07 | 606 | A | 14 | S | 856 | 8.69 | 88.43 | 7.69 | 5 | FRI | AUG | N | 783 | 9.62 | 73.11 | 7.03 | 16 | THU | NOV |
| 06 | 065 | TUL | | 18.16 | 85 | A | 14 | S | 1239 | 8.11 | 59.34 | 4.81 | 7 | THU | NOV | N | 1529 | 9.6 | 61.83 | 5.94 | 15 | WED | NOV |
| 06 | 065 | TUL | | 18.16 | 410 | B | 14 | S | 812 | 7.02 | 82.19 | 5.77 | 5 | THU | MAY | N | 924 | 9.38 | 70 | 6.57 | 19 | THU | NOV |
| 06 | 065 | TUL | R | 20.14 | 665 | A | 14 | S | 1158 | 8.61 | 63.24 | 5.45 | 7 | THU | NOV | N | 1137 | 8.93 | 59.87 | 5.35 | 16 | FRI | NOV |
| 06 | 065 | TUL | | 23.33 | 973 | B | 16 | N | 1059 | 8.77 | 52.79 | 4.63 | 8 | TUE | MAR | N | 1157 | 9.19 | 55.07 | 5.06 | 17 | TUE | DEC |
| 06 | 065 | TUL | | 30.54 | 40 | B | 14 | S | 948 | 7.45 | 63.88 | 4.76 | 7 | TUE | MAY | S | 1005 | 9.47 | 53.23 | 5.04 | 17 | WED | NOV |
| 06 | 065 | TUL | | 30.54 | 623 | A | 14 | N | 607 | 8.07 | 58.7 | 4.74 | 11 | SUN | MAY | S | 634 | 9.2 | 53.77 | 4.95 | 15 | FRI | NOV |
| 06 | 065 | TUL | | 39.58 | 86 | B | 14 | S | 487 | 10.96 | 52.03 | 5.7 | 10 | THU | NOV | S | 473 | 10 | 55.39 | 5.54 | 16 | SUN | MAY |
| 03 | 065 | PLA | R | 4.863 | 289 | A | 16 | N | 4284 | 7.08 | 51.55 | 3.65 | 12 | WED | NOV | N | 4423 | 7.4 | 50.9 | 3.77 | 15 | MON | APR |
| 03 | 065 | PLA | R | 9.569 | 292 | A | 16 | S | 3501 | 7.8 | 69.94 | 5.45 | 7 | MON | FEB | N | 3266 | 7.97 | 63.83 | 5.09 | 17 | MON | AUG |
| 03 | 065 | PLA | R | 24.26 | 303 | O | 15 | N | 918 | 8.19 | 54.22 | 4.44 | 7 | TUE | MAR | N | 1086 | 9.33 | 56.27 | 5.25 | 16 | FRI | JUN |
| 03 | 065 | YUB | R | 0 | 303 | O | 15 | N | 918 | 8.19 | 54.22 | 4.44 | 7 | TUE | MAR | N | 1086 | 9.33 | 56.27 | 5.25 | 16 | FRI | JUN |
| 03 | 065 | YUB | R | 6.884 | 294 | B | 15 | S | 834 | 8.34 | 54.91 | 4.58 | 7 | WED | MAR | N | 958 | 9.61 | 54.74 | 5.26 | 16 | FRI | MAR |
| 03 | 065 | YUB | R | 9.177 | 295 | B | 16 | S | 1098 | 9.2 | 58.62 | 5.39 | 7 | FRI | SEP | S | 1102 | 10.67 | 50.74 | 5.41 | 15 | FRI | MAY |
| 11 | 067 | SD | R | 2.149 | 736 | A | 16 | S | 3025 | 7.28 | 58.57 | 4.26 | 7 | WED | OCT | N | 3444 | 8.44 | 57.53 | 4.85 | 15 | WED | APR |
| 11 | 067 | SD | | 6.67 | 821 | A | 16 | N | 1459 | 9.29 | 68.34 | 6.35 | 7 | MON | JUN | S | 1226 | 9.04 | 58.97 | 5.33 | 15 | THU | JAN |

| | | | | | | | | | AM PEAK | | | | | | | PM PEAK | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DI | RTE | CO | PRE | PM | CS | LEG | YR | Dir | 1 WAY PHV | % K | % D | % KD | HR | DAY | MNTH | Dir | 1 WAY PHV | % K | % D | % KD | HR | DAY | MNTH |
| 07 | 118 | VEN | R | 23.6 | 459 | A | 15 | W | 5196 | 9.39 | 59.25 | 5.56 | 7 | THU | NOV | E | 4728 | 8.78 | 57.67 | 5.06 | 16 | WED | NOV |
| 07 | 118 | VEN | R | 27.81 | 782 | O | 16 | E | 6134 | 8.53 | 51.7 | 4.41 | 7 | THU | MAY | W | 6476 | 8.79 | 53 | 4.66 | 16 | MON | SEP |
| 07 | 118 | LA | R | 1.19 | 444 | O | 14 | E | 6515 | 9.68 | 57.5 | 5.57 | 7 | TUE | NOV | W | 6099 | 9.74 | 53.51 | 5.21 | 17 | TUE | OCT |
| 07 | 118 | LA | R | 5.195 | 480 | A | 15 | W | 9635 | 8.93 | 53.91 | 4.82 | 7 | WED | MAR | E | 8455 | 7.9 | 53.47 | 4.23 | 16 | TUE | MAR |
| 07 | 118 | LA | R | 10.8 | 422 | O | 16 | W | 10733 | 8.04 | 54.79 | 4.4 | 7 | FRI | APR | W | 10155 | 8.12 | 51.31 | 4.17 | 17 | WED | JUN |
| 06 | 119 | KER | | 0 | 93 | A | 15 | W | 334 | 8.04 | 80.48 | 6.47 | 6 | MON | APR | E | 360 | 9.94 | 70.18 | 6.98 | 16 | TUE | OCT |
| 06 | 119 | KER | | 3.17 | 189 | A | 15 | W | 746 | 10.14 | 64.37 | 6.53 | 6 | MON | JAN | E | 846 | 11.56 | 64.04 | 7.4 | 16 | WED | OCT |
| 06 | 119 | KER | | 18.17 | 64 | B | 16 | W | 750 | 9.75 | 76.38 | 7.45 | 6 | THU | DEC | E | 762 | 11.01 | 68.71 | 7.57 | 16 | TUE | NOV |
| 06 | 119 | KER | | 19.77 | 6 | B | 15 | W | 674 | 11.51 | 88.8 | 10.22 | 5 | TUE | OCT | E | 601 | 12.2 | 74.66 | 9.11 | 16 | MON | OCT |
| 06 | 119 | KER | | 19.77 | 7 | A | 15 | W | 830 | 12.83 | 90.02 | 11.55 | 5 | THU | OCT | E | 661 | 12.39 | 74.27 | 9.2 | 16 | THU | JAN |
| 06 | 119 | KER | | 31.28 | 94 | B | 15 | E | 737 | 8.47 | 55.54 | 4.7 | 7 | THU | APR | W | 823 | 9.64 | 54.47 | 5.25 | 17 | THU | JAN |
| 10 | 120 | SJ | | 21.18 | 2 | B | 16 | W | 787 | 10.74 | 62.86 | 6.75 | 12 | MON | MAY | W | 834 | 9.62 | 74.4 | 7.16 | 17 | SUN | SEP |
| 10 | 120 | STA | | 7.225 | 163 | A | 16 | E | 1128 | 10.53 | 56.97 | 6 | 12 | SUN | JUL | W | 1127 | 8.54 | 70.17 | 5.99 | 17 | SUN | MAR |
| 10 | 120 | TUO | R | 5.982 | 420 | A | 16 | E | 937 | 9.57 | 75.81 | 7.25 | 9 | SAT | SEP | W | 957 | 10.92 | 67.82 | 7.41 | 16 | SUN | JUL |
| 10 | 120 | TUO | | 15.52 | 174 | A | 16 | E | 436 | 14.28 | 73.52 | 10.5 | 9 | SAT | JUL | W | 427 | 14.49 | 70.93 | 10.28 | 16 | SUN | JUL |
| 10 | 120 | TUO | R | 23.90 | 35 | B | 16 | E | 431 | 13.24 | 69.63 | 9.22 | 10 | SAT | JUN | W | 445 | 16.57 | 57.42 | 9.52 | 13 | SUN | AUG |
| 09 | 120 | MNO | R | 12.06 | 948 | B | 16 | W | 370 | 27.55 | 72.84 | 20.07 | 10 | FRI | AUG | E | 298 | 24.95 | 64.78 | 16.16 | 16 | SUN | SEP |
| 09 | 120 | MNO | | 13.37 | 625 | A | 16 | W | 77 | 29.4 | 54.23 | 15.94 | 11 | SUN | AUG | E | 76 | 29.81 | 52.78 | 15.74 | 16 | SAT | SEP |
| 09 | 120 | MNO | | 51.86 | 100 | B | 16 | W | 36 | 17 | 70.59 | 12 | 10 | WED | SEP | W | 42 | 20.33 | 68.85 | 14 | 16 | THU | JUL |
| 09 | 120 | MNO | | 58.99 | 626 | B | 16 | E | 47 | 14.29 | 66.2 | 9.46 | 12 | TUE | JUL | W | 51 | 19.72 | 52.04 | 10.26 | 16 | WED | JUL |
| 04 | 121 | SON | | 0 | 93 | A | 14 | N | 1124 | 8.77 | 69.38 | 6.09 | 11 | SAT | MAY | S | 1286 | 9.99 | 69.7 | 6.96 | 17 | THU | DEC |
| 04 | 121 | SON | R | 7.438 | 16 | B | 14 | N | 1044 | 8.92 | 56.01 | 5 | 11 | SAT | SEP | S | 1071 | 8.65 | 59.24 | 5.13 | 17 | SAT | JUN |
| 04 | 121 | SON | | 7.442 | 17 | A | 14 | S | 886 | 8.95 | 51.6 | 4.62 | 8 | WED | SEP | N | 907 | 8.45 | 55.95 | 4.73 | 18 | FRI | SEP |
| 04 | 121 | SON | | 9.54 | 467 | A | 14 | N | 794 | 8.91 | 53.04 | 4.73 | 8 | WED | SEP | S | 808 | 9.38 | 51.3 | 4.81 | 16 | FRI | SEP |
| 04 | 121 | NAP | | 10.55 | 96 | B | 14 | S | 652 | 9.44 | 68.13 | 6.43 | 7 | TUE | OCT | N | 677 | 10.51 | 63.57 | 6.68 | 16 | FRI | JUL |
| 04 | 121 | NAP | | 10.68 | 412 | B | 14 | S | 859 | 22.11 | 61.53 | 13.6 | 8 | TUE | OCT | N | 538 | 12.24 | 69.6 | 8.52 | 16 | FRI | JUL |
| 04 | 121 | NAP | | 10.68 | 422 | A | 14 | S | 420 | 12.83 | 83.17 | 10.67 | 7 | TUE | OCT | N | 485 | 15.14 | 81.38 | 12.32 | 16 | FRI | OCT |
| 04 | 121 | NAP | | 22.08 | 18 | B | 14 | S | 165 | 15.93 | 57.49 | 9.16 | 11 | SUN | JUL | N | 188 | 14.82 | 70.41 | 10.43 | 16 | FRI | JUL |
| 11 | 125 | SD | | 9.898 | 746 | B | 16 | N | 4768 | 8.32 | 52.72 | 4.39 | 7 | THU | OCT | S | 5249 | 8.45 | 57.16 | 4.83 | 17 | WED | APR |
| 11 | 125 | SD | | 12.97 | 991 | A | 16 | N | 6701 | 6.78 | 57 | 3.86 | 6 | MON | NOV | S | 6643 | 7.43 | 51.55 | 3.83 | 16 | WED | SEP |
| 11 | 125 | SD | | 22.17 | 749 | B | 16 | N | 3109 | 7.37 | 60.89 | 4.49 | 8 | THU | NOV | S | 3505 | 9.02 | 56.08 | 5.06 | 17 | WED | MAR |
| 11 | 125 | SD | | 22.30 | 748 | B | 16 | S | 1812 | 9.73 | 57.47 | 5.59 | 7 | WED | FEB | S | 1785 | 8.56 | 64.35 | 5.51 | 17 | THU | JAN |
| 07 | 126 | VEN | | 1.83 | 408 | O | 14 | W | 2365 | 7.37 | 69.6 | 5.13 | 7 | THU | OCT | E | 2685 | 9.39 | 62.02 | 5.82 | 17 | THU | OCT |

# APPENDIX C

## EXISTING PEAK HOUR ANALYSES

# APPENDIX C-1

## EXISTING PEAK HOUR SYNCHRO INTERSECTION SHEETS

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 7.6 |
| Intersection LOS | A |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 54 | 31 | 4 | 0 | 32 | 4 | 8 | 0 | 2 | 0 |
| Future Vol, veh/h | 0 | 0 | 54 | 31 | 4 | 0 | 32 | 4 | 8 | 0 | 2 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 59 | 34 | 4 | 0 | 35 | 4 | 9 | 0 | 2 | 0 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 3 | 3 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 3 | 3 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 3 | 3 | 1 | 1 |
| HCM Control Delay | 7 | 8.1 | 7.9 | 7.5 |
| HCM LOS | A | A | A | A |

| Lane | NBLn1 | NBLn2 | NBLn3 | EBLn1 | WBLn1 | SBLn1 | SBLn2 | SBLn3 |
|---|---|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 0% | 89% | 0% | 0% | 0% |
| Vol Thru, % | 0% | 100% | 0% | 0% | 11% | 100% | 100% | 100% |
| Vol Right, % | 0% | 0% | 100% | 100% | 0% | 0% | 0% | 0% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 32 | 4 | 8 | 54 | 35 | 0 | 2 | 0 |
| LT Vol | 32 | 0 | 0 | 0 | 31 | 0 | 0 | 0 |
| Through Vol | 0 | 4 | 0 | 0 | 4 | 0 | 2 | 0 |
| RT Vol | 0 | 0 | 8 | 54 | 0 | 0 | 0 | 0 |
| Lane Flow Rate | 35 | 4 | 9 | 59 | 38 | 0 | 2 | 0 |
| Geometry Grp | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| Degree of Util (X) | 0.05 | 0.006 | 0.01 | 0.064 | 0.054 | 0 | 0.003 | 0 |
| Departure Headway (Hd) | 5.204 | 4.703 | 4.002 | 3.937 | 5.091 | 4.731 | 4.731 | 4.731 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 684 | 755 | 886 | 902 | 700 | 0 | 749 | 0 |
| Service Time | 2.967 | 2.466 | 1.765 | 1.694 | 2.844 | 2.509 | 2.509 | 2.509 |
| HCM Lane V/C Ratio | 0.051 | 0.005 | 0.01 | 0.065 | 0.054 | 0 | 0.003 | 0 |
| HCM Control Delay | 8.2 | 7.5 | 6.8 | 7 | 8.1 | 7.5 | 7.5 | 7.5 |
| HCM Lane LOS | A | A | A | A | A | N | A | N |
| HCM 95th-tile Q | 0.2 | 0 | 0 | 0.2 | 0.2 | 0 | 0 | 0 |





| Intersection | |
|---|---|
| Int Delay, s/veh | 6.4 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 125 | 1 | 0 | 57 | 1 | 0 |
| Future Vol, veh/h | 125 | 1 | 0 | 57 | 1 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 136 | 1 | 0 | 62 | 1 | 0 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 33 | 31 | 0 | 0 | 62 | 0 |
| Stage 1 | 31 | - | - | - | - | - |
| Stage 2 | 2 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | - | - | 4.12 | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | - | - | 2.218 | - |
| Pot Cap-1 Maneuver | 980 | 1043 | - | - | 1541 | - |
| Stage 1 | 992 | - | - | - | - | - |
| Stage 2 | 1021 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 979 | 1043 | - | - | 1541 | - |
| Mov Cap-2 Maneuver | 979 | - | - | - | - | - |
| Stage 1 | 991 | - | - | - | - | - |
| Stage 2 | 1021 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 9.3 | 0 | 7.3 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | SBL | SBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 979 | 1541 | - |
| HCM Lane V/C Ratio | - | - | 0.14 | 0.001 | - |
| HCM Control Delay (s) | - | - | 9.3 | 7.3 | 0 |
| HCM Lane LOS | - | - | A | A | A |
| HCM 95th %tile Q(veh) | - | - | 0.5 | 0 | - |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 8.9 |
| Intersection LOS | A |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 1 | 12 | 227 | 0 | 4 | 3 | 6 | 66 | 8 | 27 | 0 |
| Future Vol, veh/h | 0 | 1 | 12 | 227 | 0 | 4 | 3 | 6 | 66 | 8 | 27 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 1 | 13 | 247 | 0 | 4 | 3 | 7 | 72 | 9 | 29 | 0 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay | 7 | 9.4 | 7.8 | 8.3 |
| HCM LOS | A | A | A | A |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 98% | 100% | 0% |
| Vol Thru, % | 0% | 8% | 8% | 0% | 0% | 100% |
| Vol Right, % | 0% | 92% | 92% | 2% | 0% | 0% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 3 | 72 | 13 | 231 | 8 | 27 |
| LT Vol | 3 | 0 | 0 | 227 | 8 | 0 |
| Through Vol | 0 | 6 | 1 | 0 | 0 | 27 |
| RT Vol | 0 | 66 | 12 | 4 | 0 | 0 |
| Lane Flow Rate | 3 | 78 | 14 | 251 | 9 | 29 |
| Geometry Grp | 7 | 7 | 2 | 2 | 7 | 7 |
| Degree of Util (X) | 0.005 | 0.099 | 0.015 | 0.309 | 0.014 | 0.043 |
| Departure Headway (Hd) | 5.705 | 4.556 | 3.941 | 4.436 | 5.741 | 5.237 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 629 | 789 | 909 | 816 | 625 | 686 |
| Service Time | 3.422 | 2.272 | 1.962 | 2.436 | 3.458 | 2.954 |
| HCM Lane V/C Ratio | 0.005 | 0.099 | 0.015 | 0.308 | 0.014 | 0.042 |
| HCM Control Delay | 8.5 | 7.8 | 7 | 9.4 | 8.5 | 8.2 |
| HCM Lane LOS | A | A | A | A | A | A |
| HCM 95th-tile Q | 0 | 0.3 | 0 | 1.3 | 0 | 0.1 |

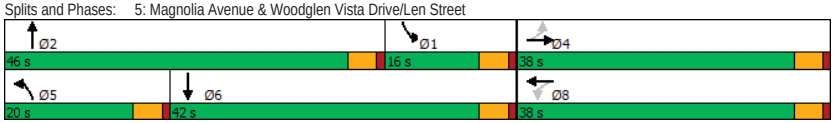




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 17 | 1 | 109 | 44 | 13 | 10 | 35 | 141 | 14 | 7 | 336 | 11 |
| Future Volume (vph) | 17 | 1 | 109 | 44 | 13 | 10 | 35 | 141 | 14 | 7 | 336 | 11 |
| Confl. Peds. (#/hr) | | | 95 | | | 4 | | | 15 | | | 95 |
| Confl. Bikes (#/hr) | | | 1 | | | 1 | | | | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Perm | NA | | Perm | NA | | Prot | NA | | Prot | NA | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 26.5 | 26.5 | | 26.5 | 26.5 | | 11.5 | 22.5 | | 11.5 | 22.5 | |
| Total Split (s) | 38.0 | 38.0 | | 38.0 | 38.0 | | 20.0 | 46.0 | | 16.0 | 42.0 | |
| Total Split (%) | 38.0% | 38.0% | | 38.0% | 38.0% | | 20.0% | 46.0% | | 16.0% | 42.0% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | | | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lead | | Lag | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 31.9 |
| Natural Cycle: 65 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 5: Magnolia Avenue & Woodglen Vista Drive/Len Street



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 17 | 1 | 109 | 44 | 13 | 10 | 35 | 141 | 14 | 7 | 336 | 11 |
| Future Volume (veh/h) | 17 | 1 | 109 | 44 | 13 | 10 | 35 | 141 | 14 | 7 | 336 | 11 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.90 | 0.93 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 0.82 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 18 | 1 | 118 | 48 | 14 | 11 | 38 | 153 | 15 | 8 | 365 | 12 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 638 | 4 | 451 | 366 | 103 | 58 | 106 | 956 | 93 | 119 | 1046 | 34 |
| Arrive On Green | 0.32 | 0.32 | 0.32 | 0.32 | 0.32 | 0.32 | 0.06 | 0.29 | 0.29 | 0.07 | 0.30 | 0.30 |
| Sat Flow, veh/h | 1381 | 12 | 1417 | 702 | 325 | 182 | 1781 | 3265 | 316 | 1781 | 3484 | 114 |
| Grp Volume(v), veh/h | 18 | 0 | 119 | 73 | 0 | 0 | 38 | 82 | 86 | 8 | 185 | 192 |
| Grp Sat Flow(s),veh/h/ln | 1381 | 0 | 1429 | 1210 | 0 | 0 | 1781 | 1777 | 1804 | 1781 | 1777 | 1821 |
| Q Serve(g_s), s | 0.0 | 0.0 | 2.6 | 0.3 | 0.0 | 0.0 | 0.9 | 1.4 | 1.5 | 0.2 | 3.4 | 3.5 |
| Cycle Q Clear(g_c), s | 0.3 | 0.0 | 2.6 | 2.9 | 0.0 | 0.0 | 0.9 | 1.4 | 1.5 | 0.2 | 3.4 | 3.5 |
| Prop In Lane | 1.00 | | 0.99 | 0.66 | | 0.15 | 1.00 | | 0.18 | 1.00 | | 0.06 |
| Lane Grp Cap(c), veh/h | 638 | 0 | 454 | 527 | 0 | 0 | 106 | 520 | 528 | 119 | 533 | 546 |
| V/C Ratio(X) | 0.03 | 0.00 | 0.26 | 0.14 | 0.00 | 0.00 | 0.36 | 0.16 | 0.16 | 0.07 | 0.35 | 0.35 |
| Avail Cap(c_a), veh/h | 1303 | 0 | 1142 | 1166 | 0 | 0 | 659 | 1760 | 1786 | 489 | 1590 | 1629 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 9.8 | 0.0 | 10.6 | 10.3 | 0.0 | 0.0 | 18.9 | 11.0 | 11.0 | 18.3 | 11.5 | 11.5 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 0.3 | 0.1 | 0.0 | 0.0 | 2.0 | 0.1 | 0.1 | 0.2 | 0.4 | 0.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.1 | 0.0 | 0.7 | 0.4 | 0.0 | 0.0 | 0.4 | 0.4 | 0.5 | 0.1 | 1.1 | 1.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 9.9 | 0.0 | 10.9 | 10.5 | 0.0 | 0.0 | 20.9 | 11.1 | 11.1 | 18.6 | 11.8 | 11.9 |
| LnGrp LOS | A | A | B | B | A | A | C | B | B | B | B | B |
| Approach Vol, veh/h | | 137 | | | 73 | | | 206 | | | 385 | |
| Approach Delay, s/veh | | 10.8 | | | 10.5 | | | 12.9 | | | 12.0 | |
| Approach LOS | | B | | | B | | | B | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.3 | 16.8 | | 17.8 | 7.0 | 17.1 | | 17.8 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 11.5 | 41.5 | | 33.5 | 15.5 | 37.5 | | 33.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.2 | 3.5 | | 4.6 | 2.9 | 5.5 | | 4.9 | | | | |
| Green Ext Time (p_c), s | 0.0 | 0.9 | | 0.9 | 0.0 | 2.1 | | 0.4 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 11.9 |
| HCM 6th LOS | | B |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 12 |
| Intersection LOS | B |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 1 | 7 | 258 | 4 | 3 | 5 | 77 | 46 | 1 | 278 | 1 |
| Future Vol, veh/h | 0 | 1 | 7 | 258 | 4 | 3 | 5 | 77 | 46 | 1 | 278 | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 1 | 8 | 280 | 4 | 3 | 5 | 84 | 50 | 1 | 302 | 1 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |

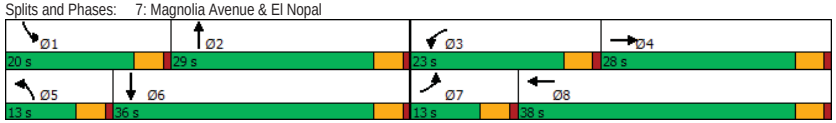
| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay | 8.2 | 12.2 | 9.6 | 13 |
| HCM LOS | A | B | A | B |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 97% | 100% | 0% |
| Vol Thru, % | 0% | 63% | 12% | 2% | 0% | 100% |
| Vol Right, % | 0% | 37% | 88% | 1% | 0% | 0% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 5 | 123 | 8 | 265 | 1 | 279 |
| LT Vol | 5 | 0 | 0 | 258 | 1 | 0 |
| Through Vol | 0 | 77 | 1 | 4 | 0 | 278 |
| RT Vol | 0 | 46 | 7 | 3 | 0 | 1 |
| Lane Flow Rate | 5 | 134 | 9 | 288 | 1 | 303 |
| Geometry Grp | 7 | 7 | 2 | 2 | 7 | 7 |
| Degree of Util (X) | 0.01 | 0.205 | 0.012 | 0.423 | 0.002 | 0.462 |
| Departure Headway (Hd) | 6.297 | 5.525 | 5.149 | 5.283 | 5.991 | 5.483 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 572 | 654 | 698 | 674 | 592 | 649 |
| Service Time | 3.997 | 3.225 | 3.158 | 3.37 | 3.783 | 3.275 |
| HCM Lane V/C Ratio | 0.009 | 0.205 | 0.013 | 0.427 | 0.002 | 0.467 |
| HCM Control Delay | 9.1 | 9.6 | 8.2 | 12.2 | 8.8 | 13 |
| HCM Lane LOS | A | A | A | B | A | B |
| HCM 95th-tile Q | 0 | 0.8 | 0 | 2.1 | 0 | 2.4 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 45 | 63 | 93 | 136 | 119 | 99 | 48 | 262 | 53 | 114 | 458 | 83 |
| Future Volume (vph) | 45 | 63 | 93 | 136 | 119 | 99 | 48 | 262 | 53 | 114 | 458 | 83 |
| Confl. Peds. (#/hr) | | | | | | 2 | | | | | | |
| Confl. Bikes (#/hr) | | | 2 | | | 2 | | | 1 | | | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | | Prot | NA | |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 11.5 | 26.5 | | 11.5 | 25.5 | | 11.5 | 22.5 | | 11.5 | 22.5 | |
| Total Split (s) | 13.0 | 28.0 | | 23.0 | 38.0 | | 13.0 | 29.0 | | 20.0 | 36.0 | |
| Total Split (%) | 13.0% | 28.0% | | 23.0% | 38.0% | | 13.0% | 29.0% | | 20.0% | 36.0% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | | None | Max | | None | Max | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 78.3 |
| Natural Cycle: 75 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 7: Magnolia Avenue & El Nopal








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 45 | 63 | 93 | 136 | 119 | 99 | 48 | 262 | 53 | 114 | 458 | 83 |
| Future Volume (veh/h) | 45 | 63 | 93 | 136 | 119 | 99 | 48 | 262 | 53 | 114 | 458 | 83 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 49 | 68 | 101 | 148 | 129 | 108 | 52 | 285 | 58 | 124 | 498 | 90 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 108 | 94 | 139 | 190 | 173 | 145 | 112 | 1212 | 243 | 160 | 1318 | 237 |
| Arrive On Green | 0.06 | 0.14 | 0.14 | 0.11 | 0.19 | 0.19 | 0.06 | 0.41 | 0.41 | 0.09 | 0.44 | 0.44 |
| Sat Flow, veh/h | 1781 | 673 | 999 | 1781 | 933 | 781 | 1781 | 2938 | 588 | 1781 | 2997 | 539 |
| Grp Volume(v), veh/h | 49 | 0 | 169 | 148 | 0 | 237 | 52 | 170 | 173 | 124 | 294 | 294 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1672 | 1781 | 0 | 1713 | 1781 | 1777 | 1750 | 1781 | 1777 | 1759 |
| Q Serve(g_s), s | 1.9 | 0.0 | 6.9 | 5.8 | 0.0 | 9.4 | 2.0 | 4.5 | 4.6 | 4.9 | 8.0 | 8.1 |
| Cycle Q Clear(g_c), s | 1.9 | 0.0 | 6.9 | 5.8 | 0.0 | 9.4 | 2.0 | 4.5 | 4.6 | 4.9 | 8.0 | 8.1 |
| Prop In Lane | 1.00 | | 0.60 | 1.00 | | 0.46 | 1.00 | | 0.34 | 1.00 | | 0.31 |
| Lane Grp Cap(c), veh/h | 108 | 0 | 233 | 190 | 0 | 317 | 112 | 733 | 722 | 160 | 781 | 773 |
| V/C Ratio(X) | 0.45 | 0.00 | 0.72 | 0.78 | 0.00 | 0.75 | 0.46 | 0.23 | 0.24 | 0.77 | 0.38 | 0.38 |
| Avail Cap(c_a), veh/h | 211 | 0 | 549 | 460 | 0 | 801 | 211 | 733 | 722 | 385 | 781 | 773 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 32.5 | 0.0 | 29.5 | 31.2 | 0.0 | 27.6 | 32.4 | 13.7 | 13.7 | 31.9 | 13.5 | 13.5 |
| Incr Delay (d2), s/veh | 2.9 | 0.0 | 4.3 | 6.7 | 0.0 | 3.5 | 3.0 | 0.7 | 0.8 | 7.7 | 1.4 | 1.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.9 | 0.0 | 3.0 | 2.8 | 0.0 | 4.0 | 0.9 | 1.7 | 1.7 | 2.3 | 3.0 | 3.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 35.4 | 0.0 | 33.8 | 37.9 | 0.0 | 31.1 | 35.4 | 14.4 | 14.5 | 39.6 | 14.9 | 14.9 |
| LnGrp LOS | D | A | C | D | A | C | D | B | B | D | B | B |
| Approach Vol, veh/h | | 218 | | | 385 | | | 395 | | | 712 | |
| Approach Delay, s/veh | | 34.1 | | | 33.7 | | | 17.2 | | | 19.2 | |
| Approach LOS | | C | | | C | | | B | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 11.0 | 34.1 | 12.1 | 14.5 | 9.0 | 36.0 | 8.9 | 17.8 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 15.5 | 24.5 | 18.5 | 23.5 | 8.5 | 31.5 | 8.5 | 33.5 |
| Max Q Clear Time (g_c+I1), s | 6.9 | 6.6 | 7.8 | 8.9 | 4.0 | 10.1 | 3.9 | 11.4 |
| Green Ext Time (p_c), s | 0.2 | 1.7 | 0.3 | 0.8 | 0.0 | 3.3 | 0.0 | 1.5 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 23.9 |
| HCM 6th LOS | C |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 13.9 |
| Intersection LOS | B |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 239 | 20 | 170 | 225 | 14 | 220 |
| Future Vol, veh/h | 239 | 20 | 170 | 225 | 14 | 220 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 260 | 22 | 185 | 245 | 15 | 239 |
| Number of Lanes | 1 | 1 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB |
|---|---|---|---|
| Opposing Approach | WB | EB | |
| Opposing Lanes | 1 | 2 | 0 |
| Conflicting Approach Left | | NB | EB |
| Conflicting Lanes Left | 0 | 1 | 2 |
| Conflicting Approach Right | NB | | WB |
| Conflicting Lanes Right | 1 | 0 | 1 |
| HCM Control Delay | 12.1 | 16.7 | 11.3 |
| HCM LOS | B | C | B |

| Lane | NBLn1 | EBLn1 | EBLn2 | WBLn1 |
|---|---|---|---|---|
| Vol Left, % | 6% | 0% | 0% | 43% |
| Vol Thru, % | 0% | 100% | 0% | 57% |
| Vol Right, % | 94% | 0% | 100% | 0% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 234 | 239 | 20 | 395 |
| LT Vol | 14 | 0 | 0 | 170 |
| Through Vol | 0 | 239 | 0 | 225 |
| RT Vol | 220 | 0 | 20 | 0 |
| Lane Flow Rate | 254 | 260 | 22 | 429 |
| Geometry Grp | 2 | 7 | 7 | 5 |
| Degree of Util (X) | 0.368 | 0.414 | 0.03 | 0.626 |
| Departure Headway (Hd) | 5.208 | 5.739 | 5.03 | 5.252 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 689 | 629 | 712 | 687 |
| Service Time | 3.243 | 3.469 | 2.76 | 3.278 |
| HCM Lane V/C Ratio | 0.369 | 0.413 | 0.031 | 0.624 |
| HCM Control Delay | 11.3 | 12.5 | 7.9 | 16.7 |
| HCM Lane LOS | B | B | A | C |
| HCM 95th-tile Q | 1.7 | 2 | 0.1 | 4.4 |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 7.9 |
| Intersection LOS | A |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 88 | 9 | 40 | 74 | 3 | 102 |
| Future Vol, veh/h | 88 | 9 | 40 | 74 | 3 | 102 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 96 | 10 | 43 | 80 | 3 | 111 |
| Number of Lanes | 1 | 0 | 1 | 0 | 0 | 1 |

| Approach | WB | NB | SB |
|---|---|---|---|
| Opposing Approach | | SB | NB |
| Opposing Lanes | 0 | 1 | 1 |
| Conflicting Approach Left | NB | | WB |
| Conflicting Lanes Left | 1 | 0 | 1 |
| Conflicting Approach Right | SB | WB | |
| Conflicting Lanes Right | 1 | 1 | 0 |
| HCM Control Delay | 8.3 | 7.5 | 8 |
| HCM LOS | A | A | A |

| Lane | NBLn1 | WBLn1 | SBLn1 |
|---|---|---|---|
| Vol Left, % | 0% | 91% | 3% |
| Vol Thru, % | 35% | 0% | 97% |
| Vol Right, % | 65% | 9% | 0% |
| Sign Control | Stop | Stop | Stop |
| Traffic Vol by Lane | 114 | 97 | 105 |
| LT Vol | 0 | 88 | 3 |
| Through Vol | 40 | 0 | 102 |
| RT Vol | 74 | 9 | 0 |
| Lane Flow Rate | 124 | 105 | 114 |
| Geometry Grp | 1 | 1 | 1 |
| Degree of Util (X) | 0.135 | 0.134 | 0.137 |
| Departure Headway (Hd) | 3.921 | 4.566 | 4.324 |
| Convergence, Y/N | Yes | Yes | Yes |
| Cap | 918 | 788 | 834 |
| Service Time | 1.929 | 2.579 | 2.324 |
| HCM Lane V/C Ratio | 0.135 | 0.133 | 0.137 |
| HCM Control Delay | 7.5 | 8.3 | 8 |
| HCM Lane LOS | A | A | A |
| HCM 95th-tile Q | 0.5 | 0.5 | 0.5 |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 10.3 |
| Intersection LOS | B |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 3 | 20 | 193 | 8 | 26 | 10 | 206 | 36 | 4 | 2 | 26 | 1 |
| Future Vol, veh/h | 3 | 20 | 193 | 8 | 26 | 10 | 206 | 36 | 4 | 2 | 26 | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 3 | 22 | 210 | 9 | 28 | 11 | 224 | 39 | 4 | 2 | 28 | 1 |
| Number of Lanes | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 2 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 2 | 2 | 3 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 3 | 2 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 3 | 2 | 1 | 2 |
| HCM Control Delay | 9.4 | 9.1 | 11.4 | 9 |
| HCM LOS | A | A | B | A |

| Lane | NBLn1 | NBLn2 | NBLn3 | EBLn1 | EBLn2 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 13% | 0% | 18% | 100% | 0% |
| Vol Thru, % | 0% | 100% | 75% | 87% | 0% | 59% | 0% | 96% |
| Vol Right, % | 0% | 0% | 25% | 0% | 100% | 23% | 0% | 4% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 206 | 24 | 16 | 23 | 193 | 44 | 2 | 27 |
| LT Vol | 206 | 0 | 0 | 3 | 0 | 8 | 2 | 0 |
| Through Vol | 0 | 24 | 12 | 20 | 0 | 26 | 0 | 26 |
| RT Vol | 0 | 0 | 4 | 0 | 193 | 10 | 0 | 1 |
| Lane Flow Rate | 224 | 26 | 17 | 25 | 210 | 48 | 2 | 29 |
| Geometry Grp | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| Degree of Util (X) | 0.365 | 0.039 | 0.025 | 0.039 | 0.282 | 0.077 | 0.004 | 0.048 |
| Departure Headway (Hd) | 5.875 | 5.372 | 5.196 | 5.613 | 4.846 | 5.822 | 6.422 | 5.891 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 609 | 662 | 683 | 636 | 738 | 610 | 552 | 602 |
| Service Time | 3.648 | 3.145 | 2.969 | 3.366 | 2.599 | 3.607 | 4.219 | 3.687 |
| HCM Lane V/C Ratio | 0.368 | 0.039 | 0.025 | 0.039 | 0.285 | 0.079 | 0.004 | 0.048 |
| HCM Control Delay | 12 | 8.4 | 8.1 | 8.6 | 9.5 | 9.1 | 9.2 | 9 |
| HCM Lane LOS | B | A | A | A | A | A | A | A |
| HCM 95th-tile Q | 1.7 | 0.1 | 0.1 | 0.1 | 1.2 | 0.2 | 0 | 0.2 |





| Intersection | |
|---|---|
| Int Delay, s/veh | 4.8 |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 8 | 41 | 23 | 20 | 0 | 31 |
| Future Vol, veh/h | 8 | 41 | 23 | 20 | 0 | 31 |
| Conflicting Peds, #/hr | 1 | 1 | 1 | 0 | 0 | 1 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | 150 | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 9 | 45 | 25 | 22 | 0 | 34 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 91 | 19 | 35 | 0 | - | 0 |
| Stage 1 | 18 | - | - | - | - | - |
| Stage 2 | 73 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | 4.12 | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | 2.218 | - | - | - |
| Pot Cap-1 Maneuver | 909 | 1059 | 1576 | - | - | - |
| Stage 1 | 1005 | - | - | - | - | - |
| Stage 2 | 950 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 893 | 1057 | 1575 | - | - | - |
| Mov Cap-2 Maneuver | 893 | - | - | - | - | - |
| Stage 1 | 988 | - | - | - | - | - |
| Stage 2 | 949 | - | - | - | - | - |

| Approach | EB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 8.7 | 3.9 | 0 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1575 | - | 1026 | - | - |
| HCM Lane V/C Ratio | 0.016 | - | 0.052 | - | - |
| HCM Control Delay (s) | 7.3 | - | 8.7 | - | - |
| HCM Lane LOS | A | - | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | 0.2 | - | - |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 22.4 |
| Intersection LOS | C |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 11 | 90 | 1 | 1 | 1 | 137 | 29 | 3 | 517 | 0 |
| Future Vol, veh/h | 0 | 0 | 11 | 90 | 1 | 1 | 1 | 137 | 29 | 3 | 517 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 12 | 98 | 1 | 1 | 1 | 149 | 32 | 3 | 562 | 0 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 3 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 3 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 3 | 2 | 1 | 1 |
| HCM Control Delay | 8.8 | 11.3 | 9.4 | 28.8 |
| HCM LOS | A | B | A | D |

| Lane | NBLn1 | NBLn2 | NBLn3 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 0% | 98% | 100% | 0% |
| Vol Thru, % | 0% | 100% | 0% | 0% | 1% | 0% | 100% |
| Vol Right, % | 0% | 0% | 100% | 100% | 1% | 0% | 0% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 1 | 137 | 29 | 11 | 92 | 3 | 517 |
| LT Vol | 1 | 0 | 0 | 0 | 90 | 3 | 0 |
| Through Vol | 0 | 137 | 0 | 0 | 1 | 0 | 517 |
| RT Vol | 0 | 0 | 29 | 11 | 1 | 0 | 0 |
| Lane Flow Rate | 1 | 149 | 32 | 12 | 100 | 3 | 562 |
| Geometry Grp | 7 | 7 | 7 | 7 | 7 | 8 | 8 |
| Degree of Util (X) | 0.002 | 0.225 | 0.041 | 0.02 | 0.193 | 0.005 | 0.831 |
| Departure Headway (Hd) | 5.939 | 5.434 | 4.727 | 6.015 | 6.961 | 5.825 | 5.322 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 597 | 654 | 747 | 598 | 519 | 610 | 674 |
| Service Time | 3.734 | 3.228 | 2.52 | 3.719 | 4.663 | 3.606 | 3.102 |
| HCM Lane V/C Ratio | 0.002 | 0.228 | 0.043 | 0.02 | 0.193 | 0.005 | 0.834 |
| HCM Control Delay | 8.7 | 9.8 | 7.7 | 8.8 | 11.3 | 8.6 | 28.9 |
| HCM Lane LOS | A | A | A | A | B | A | D |
| HCM 95th-tile Q | 0 | 0.9 | 0.1 | 0.1 | 0.7 | 0 | 9 |

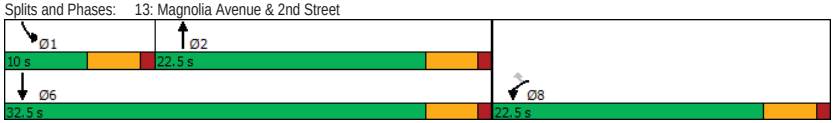




| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 158 | 33 | 347 | 103 | 109 | 714 |
| Future Volume (vph) | 158 | 33 | 347 | 103 | 109 | 714 |
| Confl. Peds. (#/hr) | | 4 | | 11 | | |
| Confl. Bikes (#/hr) | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | 0% | | | 0% |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | NA | | Prot | NA |
| Protected Phases | 8 | | 2 | | 1 | 6 |
| Permitted Phases | | 8 | | | | |
| Detector Phase | 8 | 8 | 2 | | 1 | 6 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | | 8.5 | 20.5 |
| Total Split (s) | 22.5 | 22.5 | 22.5 | | 10.0 | 32.5 |
| Total Split (%) | 40.9% | 40.9% | 40.9% | | 18.2% | 59.1% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Lead/Lag | | | Lag | | Lead | |
| Lead-Lag Optimize? | | | Yes | | Yes | |
| Recall Mode | None | None | Min | | None | Min |

| Intersection Summary |
|---|
| Cycle Length: 55 |
| Actuated Cycle Length: 39.3 |
| Natural Cycle: 55 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 13: Magnolia Avenue & 2nd Street



| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 158 | 33 | 347 | 103 | 109 | 714 |
| Future Volume (veh/h) | 158 | 33 | 347 | 103 | 109 | 714 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | | 0.98 | 1.00 | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | No | | | No |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 172 | 36 | 377 | 112 | 118 | 776 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 257 | 229 | 770 | 226 | 153 | 1894 |
| Arrive On Green | 0.14 | 0.14 | 0.29 | 0.29 | 0.09 | 0.53 |
| Sat Flow, veh/h | 1781 | 1585 | 2790 | 790 | 1781 | 3647 |
| Grp Volume(v), veh/h | 172 | 36 | 247 | 242 | 118 | 776 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 1777 | 1710 | 1781 | 1777 |
| Q Serve(g_s), s | 2.5 | 0.6 | 3.2 | 3.3 | 1.8 | 3.6 |
| Cycle Q Clear(g_c), s | 2.5 | 0.6 | 3.2 | 3.3 | 1.8 | 3.6 |
| Prop In Lane | 1.00 | 1.00 | | 0.46 | 1.00 | |
| Lane Grp Cap(c), veh/h | 257 | 229 | 507 | 488 | 153 | 1894 |
| V/C Ratio(X) | 0.67 | 0.16 | 0.49 | 0.50 | 0.77 | 0.41 |
| Avail Cap(c_a), veh/h | 1150 | 1023 | 1147 | 1104 | 351 | 3569 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 11.3 | 10.4 | 8.3 | 8.3 | 12.5 | 3.9 |
| Incr Delay (d2), s/veh | 3.0 | 0.3 | 0.7 | 0.8 | 7.9 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.9 | 0.2 | 0.7 | 0.7 | 0.8 | 0.2 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 14.3 | 10.8 | 9.0 | 9.1 | 20.4 | 4.0 |
| LnGrp LOS | B | B | A | A | C | A |
| Approach Vol, veh/h | 208 | | 489 | | | 894 |
| Approach Delay, s/veh | 13.7 | | 9.0 | | | 6.2 |
| Approach LOS | B | | A | | | A |

| Timer - Assigned Phs | 1 | 2 | | | | 6 | 8 |
|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 6.9 | 12.5 | | | | 19.4 | 8.5 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 5.5 | 18.0 | | | | 28.0 | 18.0 |
| Max Q Clear Time (g_c+I1), s | 3.8 | 5.3 | | | | 5.6 | 4.5 |
| Green Ext Time (p_c), s | 0.0 | 2.2 | | | | 5.2 | 0.5 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 8.0 |
| HCM 6th LOS | A |

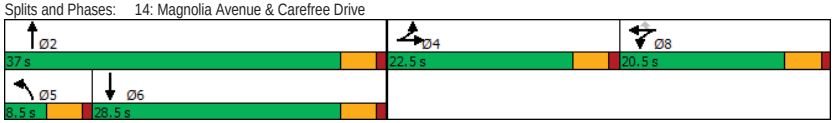




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 5 | 0 | 57 | 185 | 0 | 30 | 17 | 428 | 0 | 0 | 841 | 2 |
| Future Volume (vph) | 5 | 0 | 57 | 185 | 0 | 30 | 17 | 428 | 0 | 0 | 841 | 2 |
| Confl. Peds. (#/hr) | | | 115 | | | | | | 13 | | | 18 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | 50% | | | | | | | | |
| Turn Type | Split | NA | | Split | NA | Perm | Prot | NA | | | NA | |
| Protected Phases | 4 | 4 | | 8 | 8 | | 5 | 2 | | | 6 | |
| Permitted Phases | | | | | | 8 | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | 8 | 5 | 2 | | | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | | 4.0 | |
| Minimum Split (s) | 22.5 | 22.5 | | 20.5 | 20.5 | 20.5 | 8.5 | 22.5 | | | 22.5 | |
| Total Split (s) | 22.5 | 22.5 | | 20.5 | 20.5 | 20.5 | 8.5 | 37.0 | | | 28.5 | |
| Total Split (%) | 28.1% | 28.1% | | 25.6% | 25.6% | 25.6% | 10.6% | 46.3% | | | 35.6% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | 0.0 | |
| Total Lost Time (s) | | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | | 4.5 | |
| Lead/Lag | | | | | | | Lead | | | | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | | | | Yes | |
| Recall Mode | None | None | | None | None | None | None | Min | | | Min | |

| Intersection Summary |
|---|
| Cycle Length: 80 |
| Actuated Cycle Length: 47.9 |
| Natural Cycle: 80 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 14: Magnolia Avenue & Carefree Drive



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 5 | 0 | 57 | 185 | 0 | 30 | 17 | 428 | 0 | 0 | 841 | 2 |
| Future Volume (veh/h) | 5 | 0 | 57 | 185 | 0 | 30 | 17 | 428 | 0 | 0 | 841 | 2 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.84 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.95 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 0 | 0 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 5 | 0 | 62 | 201 | 0 | 33 | 18 | 465 | 0 | 0 | 914 | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 0 | 0 | 2 | 2 |
| Cap, veh/h | 22 | 0 | 273 | 351 | 0 | 156 | 31 | 1542 | 0 | 0 | 1210 | 3 |
| Arrive On Green | 0.22 | 0.00 | 0.22 | 0.10 | 0.00 | 0.10 | 0.02 | 0.43 | 0.00 | 0.00 | 0.33 | 0.33 |
| Sat Flow, veh/h | 101 | 0 | 1257 | 3563 | 0 | 1585 | 1781 | 3647 | 0 | 0 | 3731 | 8 |
| Grp Volume(v), veh/h | 67 | 0 | 0 | 201 | 0 | 33 | 18 | 465 | 0 | 0 | 446 | 470 |
| Grp Sat Flow(s),veh/h/ln | 1358 | 0 | 0 | 1781 | 0 | 1585 | 1781 | 1777 | 0 | 0 | 1777 | 1868 |
| Q Serve(g_s), s | 2.2 | 0.0 | 0.0 | 2.9 | 0.0 | 1.0 | 0.5 | 4.6 | 0.0 | 0.0 | 12.1 | 12.1 |
| Cycle Q Clear(g_c), s | 2.2 | 0.0 | 0.0 | 2.9 | 0.0 | 1.0 | 0.5 | 4.6 | 0.0 | 0.0 | 12.1 | 12.1 |
| Prop In Lane | 0.07 | | 0.93 | 1.00 | | 1.00 | 1.00 | | 0.00 | 0.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 295 | 0 | 0 | 351 | 0 | 156 | 31 | 1542 | 0 | 0 | 591 | 622 |
| V/C Ratio(X) | 0.23 | 0.00 | 0.00 | 0.57 | 0.00 | 0.21 | 0.58 | 0.30 | 0.00 | 0.00 | 0.76 | 0.76 |
| Avail Cap(c_a), veh/h | 454 | 0 | 0 | 1058 | 0 | 471 | 132 | 2145 | 0 | 0 | 792 | 833 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 17.4 | 0.0 | 0.0 | 23.2 | 0.0 | 22.3 | 26.3 | 9.9 | 0.0 | 0.0 | 16.0 | 16.0 |
| Incr Delay (d2), s/veh | 0.4 | 0.0 | 0.0 | 1.5 | 0.0 | 0.7 | 15.7 | 0.1 | 0.0 | 0.0 | 2.9 | 2.8 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.7 | 0.0 | 0.0 | 1.2 | 0.0 | 0.4 | 0.3 | 1.4 | 0.0 | 0.0 | 4.4 | 4.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 17.8 | 0.0 | 0.0 | 24.7 | 0.0 | 23.0 | 41.9 | 10.0 | 0.0 | 0.0 | 18.9 | 18.8 |
| LnGrp LOS | B | A | A | C | A | C | D | B | A | A | B | B |
| Approach Vol, veh/h | | 67 | | | 234 | | | 483 | | | 916 | |
| Approach Delay, s/veh | | 17.8 | | | 24.4 | | | 11.2 | | | 18.8 | |
| Approach LOS | | B | | | C | | | B | | | B | |
| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 27.9 | | 16.2 | 5.4 | 22.4 | | 9.8 | | | | |
| Change Period (Y+Rc), s | | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | | 32.5 | | 18.0 | 4.0 | 24.0 | | 16.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 6.6 | | 4.2 | 2.5 | 14.1 | | 4.9 | | | | |
| Green Ext Time (p_c), s | | 3.0 | | 0.2 | 0.0 | 3.8 | | 0.6 | | | | |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 17.4 |
| HCM 6th LOS | B |

**Notes**

User approved volume balancing among the lanes for turning movement.

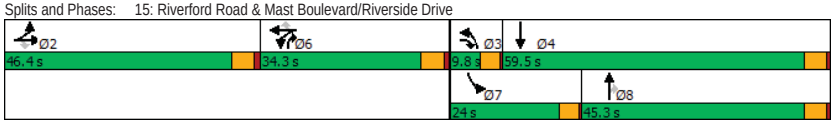




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 30 | 30 | 50 | 444 | 11 | 220 | 16 | 177 | 321 | 268 | 290 | 13 |
| Future Volume (vph) | 30 | 30 | 50 | 444 | 11 | 220 | 16 | 177 | 321 | 268 | 290 | 13 |
| Confl. Peds. (#/hr) | | | 4 | | | 3 | | | 7 | | | |
| Confl. Bikes (#/hr) | | | 1 | | | 2 | | | 2 | | | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Split | NA | pm+ov | Split | NA | Perm | Prot | NA | pm+ov | Prot | NA | |
| Protected Phases | 2 | 2 | 3 | 6 | 6 | | 3 | 8 | 6 | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | 8 | | | |
| Detector Phase | 2 | 2 | 3 | 6 | 6 | 6 | 3 | 8 | 6 | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 6.0 | 6.0 | 5.0 | 4.0 | 4.0 | 4.0 | 5.0 | 6.0 | 4.0 | 4.0 | 6.0 | |
| Minimum Split (s) | 45.3 | 45.3 | 9.1 | 34.3 | 34.3 | 34.3 | 9.1 | 45.3 | 34.3 | 8.6 | 49.9 | |
| Total Split (s) | 46.4 | 46.4 | 9.8 | 34.3 | 34.3 | 34.3 | 9.8 | 45.3 | 34.3 | 24.0 | 59.5 | |
| Total Split (%) | 30.9% | 30.9% | 6.5% | 22.9% | 22.9% | 22.9% | 6.5% | 30.2% | 22.9% | 16.0% | 39.7% | |
| Yellow Time (s) | 4.3 | 4.3 | 3.6 | 4.3 | 4.3 | 4.3 | 3.6 | 3.9 | 4.3 | 3.6 | 3.9 | |
| All-Red Time (s) | 1.0 | 1.0 | 0.5 | 1.0 | 1.0 | 1.0 | 0.5 | 1.0 | 1.0 | 0.5 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 5.3 | 5.3 | 4.1 | 5.3 | 5.3 | 5.3 | 4.1 | 4.9 | 5.3 | 4.1 | 4.9 | |
| Lead/Lag | | | Lead | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | Yes | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | None | None | None | None | None | Min | None | None | Min | |

| Intersection Summary | |
|---|---|
| Cycle Length: 150 | |
| Actuated Cycle Length: 89.8 | |
| Natural Cycle: 150 | |
| Control Type: Actuated-Uncoordinated | |

Splits and Phases: 15: Riverford Road & Mast Boulevard/Riverside Drive



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 30 | 30 | 50 | 444 | 11 | 220 | 16 | 177 | 321 | 268 | 290 | 13 |
| Future Volume (veh/h) | 30 | 30 | 50 | 444 | 11 | 220 | 16 | 177 | 321 | 268 | 290 | 13 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.96 | 1.00 | | 0.97 | 1.00 | | 0.98 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 33 | 33 | 54 | 483 | 12 | 239 | 17 | 192 | 349 | 291 | 315 | 14 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 166 | 331 | 304 | 729 | 750 | 324 | 35 | 451 | 708 | 340 | 732 | 33 |
| Arrive On Green | 0.09 | 0.09 | 0.09 | 0.21 | 0.21 | 0.21 | 0.02 | 0.24 | 0.24 | 0.19 | 0.41 | 0.41 |
| Sat Flow, veh/h | 1781 | 3554 | 2664 | 3456 | 3554 | 1537 | 1781 | 1870 | 1550 | 1781 | 1776 | 79 |
| Grp Volume(v), veh/h | 33 | 33 | 54 | 483 | 12 | 239 | 17 | 192 | 349 | 291 | 0 | 329 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1332 | 1728 | 1777 | 1537 | 1781 | 1870 | 1550 | 1781 | 0 | 1855 |
| Q Serve(g_s), s | 1.3 | 0.6 | 1.4 | 9.5 | 0.2 | 10.8 | 0.7 | 6.4 | 11.8 | 11.7 | 0.0 | 9.4 |
| Cycle Q Clear(g_c), s | 1.3 | 0.6 | 1.4 | 9.5 | 0.2 | 10.8 | 0.7 | 6.4 | 11.8 | 11.7 | 0.0 | 9.4 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.04 |
| Lane Grp Cap(c), veh/h | 166 | 331 | 304 | 729 | 750 | 324 | 35 | 451 | 708 | 340 | 0 | 764 |
| V/C Ratio(X) | 0.20 | 0.10 | 0.18 | 0.66 | 0.02 | 0.74 | 0.48 | 0.43 | 0.49 | 0.86 | 0.00 | 0.43 |
| Avail Cap(c_a), veh/h | 986 | 1967 | 1530 | 1350 | 1388 | 600 | 137 | 1018 | 1178 | 477 | 0 | 1364 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 31.1 | 30.8 | 29.8 | 26.9 | 23.2 | 27.4 | 36.0 | 23.8 | 14.4 | 29.1 | 0.0 | 15.6 |
| Incr Delay (d2), s/veh | 0.6 | 0.1 | 0.3 | 1.0 | 0.0 | 3.3 | 9.7 | 0.6 | 0.5 | 10.5 | 0.0 | 0.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.5 | 0.3 | 0.4 | 3.7 | 0.1 | 4.1 | 0.4 | 2.8 | 5.9 | 5.8 | 0.0 | 3.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 31.7 | 30.9 | 30.1 | 27.9 | 23.2 | 30.6 | 45.7 | 24.5 | 14.9 | 39.6 | 0.0 | 16.0 |
| LnGrp LOS | C | C | C | C | C | C | D | C | B | D | A | B |
| Approach Vol, veh/h | | 120 | | | 734 | | | 558 | | | 620 | |
| Approach Delay, s/veh | | 30.8 | | | 28.7 | | | 19.1 | | | 27.1 | |
| Approach LOS | | C | | | C | | | B | | | C | |

| Timer - Assigned Phs | 2 | 3 | 4 | | 6 | 7 | 8 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 12.2 | 5.6 | 35.5 | | 21.0 | 18.3 | 22.8 | | | | | |
| Change Period (Y+Rc), s | 5.3 | 4.1 | 4.9 | | 5.3 | 4.1 | 4.9 | | | | | |
| Max Green Setting (Gmax), s | 41.1 | 5.7 | 54.6 | | 29.0 | 19.9 | 40.4 | | | | | |
| Max Q Clear Time (g_c+I1), s | 3.4 | 2.7 | 11.4 | | 12.8 | 13.7 | 13.8 | | | | | |
| Green Ext Time (p_c), s | 0.5 | 0.0 | 2.2 | | 2.5 | 0.5 | 2.5 | | | | | |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 25.7 |
| HCM 6th LOS | C |





| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 6 | 0 | 88 | 3 | 0 | 0 | 0 | 0 | 254 | 0 | 2 |
| Future Volume (vph) | 0 | 6 | 0 | 88 | 3 | 0 | 0 | 0 | 0 | 254 | 0 | 2 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | 1 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | 50% | | |
| Turn Type | | NA | | Split | NA | | | | | Split | NA | |
| Protected Phases | | 8 | | 4 | 4 | | | | | 2 | 2 | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | | 8 | | 4 | 4 | | | | | 2 | 2 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | 7.0 | | 8.0 | 8.0 | | | | | 5.0 | 5.0 | |
| Minimum Split (s) | | 25.1 | | 28.4 | 28.4 | | | | | 32.3 | 32.3 | |
| Total Split (s) | | 25.1 | | 30.0 | 30.0 | | | | | 34.9 | 34.9 | |
| Total Split (%) | | 27.9% | | 33.3% | 33.3% | | | | | 38.8% | 38.8% | |
| Yellow Time (s) | | 4.1 | | 4.4 | 4.4 | | | | | 4.1 | 4.1 | |
| All-Red Time (s) | | 1.0 | | 1.0 | 1.0 | | | | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | | 0.0 | 0.0 | | | | | 0.0 | 0.0 | |
| Total Lost Time (s) | | 5.1 | | 5.4 | 5.4 | | | | | 5.1 | 5.1 | |
| Lead/Lag | | | | | | | | | | | | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Recall Mode | | None | | None | None | | | | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 90 |
| Actuated Cycle Length: 32.1 |
| Natural Cycle: 90 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 16: SR 52 EB Ramps & Mast Blvd

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 6 | 0 | 88 | 3 | 0 | 0 | 0 | 0 | 254 | 0 | 2 |
| Future Volume (veh/h) | 0 | 6 | 0 | 88 | 3 | 0 | 0 | 0 | 0 | 254 | 0 | 2 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | | | | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | | | | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | | | | No | |
| Adj Sat Flow, veh/h/ln | 0 | 1870 | 1870 | 1870 | 1870 | 0 | | | | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 7 | 0 | 96 | 3 | 0 | | | | 278 | 0 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 0 | 2 | 2 | 2 | 2 | 0 | | | | 2 | 2 | 2 |
| Cap, veh/h | 0 | 25 | 0 | 287 | 301 | 0 | | | | 636 | 334 | 0 |
| Arrive On Green | 0.00 | 0.01 | 0.00 | 0.16 | 0.16 | 0.00 | | | | 0.18 | 0.00 | 0.00 |
| Sat Flow, veh/h | 0 | 1870 | 0 | 1781 | 1870 | 0 | | | | 3563 | 1870 | 0 |
| Grp Volume(v), veh/h | 0 | 7 | 0 | 96 | 3 | 0 | | | | 278 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 0 | 1870 | 0 | 1781 | 1870 | 0 | | | | 1781 | 1870 | 0 |
| Q Serve(g_s), s | 0.0 | 0.1 | 0.0 | 1.2 | 0.0 | 0.0 | | | | 1.7 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 0.0 | 0.1 | 0.0 | 1.2 | 0.0 | 0.0 | | | | 1.7 | 0.0 | 0.0 |
| Prop In Lane | 0.00 | | 0.00 | 1.00 | | 0.00 | | | | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 0 | 25 | 0 | 287 | 301 | 0 | | | | 636 | 334 | 0 |
| V/C Ratio(X) | 0.00 | 0.28 | 0.00 | 0.34 | 0.01 | 0.00 | | | | 0.44 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 0 | 1552 | 0 | 1819 | 1909 | 0 | | | | 4406 | 2313 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | | | | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 0.0 | 11.8 | 0.0 | 9.0 | 8.5 | 0.0 | | | | 8.8 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 0.0 | 2.3 | 0.0 | 0.7 | 0.0 | 0.0 | | | | 0.5 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 | | | | 0.4 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 14.0 | 0.0 | 9.6 | 8.5 | 0.0 | | | | 9.3 | 0.0 | 0.0 |
| LnGrp LOS | A | B | A | A | A | A | | | | A | A | A |
| Approach Vol, veh/h | | 7 | | | 99 | | | | | | 278 | |
| Approach Delay, s/veh | | 14.0 | | | 9.6 | | | | | | 9.3 | |
| Approach LOS | | B | | | A | | | | | | A | |

| Timer - Assigned Phs | | 2 | | 4 | | | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 9.4 | | 9.3 | | | | 5.4 | | | | |
| Change Period (Y+Rc), s | | 5.1 | | 5.4 | | | | 5.1 | | | | |
| Max Green Setting (Gmax), s | | 29.8 | | 24.6 | | | | 20.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 3.7 | | 3.2 | | | | 2.1 | | | | |
| Green Ext Time (p_c), s | | 1.0 | | 0.2 | | | | 0.0 | | | | |

| Intersection Summary | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HCM 6th Ctrl Delay | | | 9.5 | | | | | | | | | |
| HCM 6th LOS | | | A | | | | | | | | | |

**Notes**

User approved volume balancing among the lanes for turning movement.





| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 7 | 253 | 0 | 0 | 85 | 2049 | 6 | 0 | 18 | 0 | 0 | 0 |
| Future Volume (vph) | 7 | 253 | 0 | 0 | 85 | 2049 | 6 | 0 | 18 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | 48% | | | 34% | | | |
| Turn Type | Prot | NA | | | NA | Perm | Perm | NA | Perm | | | |
| Protected Phases | 5 | 2 | | | 6 | | | 8 | | | | |
| Permitted Phases | | | | | | 6 | 8 | | 8 | | | |
| Detector Phase | 5 | 2 | | | 6 | 6 | 8 | 8 | 8 | | | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 10.0 | | | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | | | |
| Minimum Split (s) | 11.7 | 38.6 | | | 28.4 | 28.4 | 43.1 | 43.1 | 43.1 | | | |
| Total Split (s) | 11.7 | 86.9 | | | 75.2 | 75.2 | 43.1 | 43.1 | 43.1 | | | |
| Total Split (%) | 9.0% | 66.8% | | | 57.8% | 57.8% | 33.2% | 33.2% | 33.2% | | | |
| Yellow Time (s) | 3.7 | 4.1 | | | 4.4 | 4.4 | 4.1 | 4.1 | 4.1 | | | |
| All-Red Time (s) | 1.0 | 1.0 | | | 1.0 | 1.0 | 2.0 | 2.0 | 2.0 | | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | 0.0 | | | |
| Total Lost Time (s) | 4.7 | 5.1 | | | 5.4 | 5.4 | | 6.1 | 6.1 | | | |
| Lead/Lag | Lead | | | | Lag | Lag | | | | | | |
| Lead-Lag Optimize? | Yes | | | | Yes | Yes | | | | | | |
| Recall Mode | None | Min | | | Min | Min | None | None | None | | | |

| Intersection Summary |
|---|
| Cycle Length: 130 |
| Actuated Cycle Length: 104.6 |
| Natural Cycle: 145 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 17: SR-52 WB Ramps & Mast Blvd

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 7 | 253 | 0 | 0 | 85 | 2049 | 6 | 0 | 18 | 0 | 0 | 0 |
| Future Volume (veh/h) | 7 | 253 | 0 | 0 | 85 | 2049 | 6 | 0 | 18 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.98 | 1.00 | | 1.00 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.99 | 1.00 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 0 | 0 | 1870 | 1945 | 1870 | 1870 | 1870 | | | |
| Adj Flow Rate, veh/h | 8 | 275 | 0 | 0 | 0 | 2288 | 7 | 10 | 14 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | |
| Percent Heavy Veh, % | 2 | 2 | 0 | 0 | 2 | 2 | 2 | 2 | 2 | | | |
| Cap, veh/h | 25 | 2885 | 0 | 0 | 1394 | 2407 | 45 | 64 | 95 | | | |
| Arrive On Green | 0.01 | 0.81 | 0.00 | 0.00 | 0.00 | 0.75 | 0.06 | 0.06 | 0.06 | | | |
| Sat Flow, veh/h | 1781 | 3647 | 0 | 0 | 1870 | 3229 | 746 | 1065 | 1585 | | | |
| Grp Volume(v), veh/h | 8 | 275 | 0 | 0 | 0 | 2288 | 17 | 0 | 14 | | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 0 | 0 | 1870 | 1615 | 1811 | 0 | 1585 | | | |
| Q Serve(g_s), s | 0.4 | 1.4 | 0.0 | 0.0 | 0.0 | 55.5 | 0.8 | 0.0 | 0.8 | | | |
| Cycle Q Clear(g_c), s | 0.4 | 1.4 | 0.0 | 0.0 | 0.0 | 55.5 | 0.8 | 0.0 | 0.8 | | | |
| Prop In Lane | 1.00 | | 0.00 | 0.00 | | 1.00 | 0.41 | | 1.00 | | | |
| Lane Grp Cap(c), veh/h | 25 | 2885 | 0 | 0 | 1394 | 2407 | 109 | 0 | 95 | | | |
| V/C Ratio(X) | 0.32 | 0.10 | 0.00 | 0.00 | 0.00 | 0.95 | 0.16 | 0.00 | 0.15 | | | |
| Avail Cap(c_a), veh/h | 139 | 3240 | 0 | 0 | 1455 | 2512 | 747 | 0 | 654 | | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | | | |
| Uniform Delay (d), s/veh | 43.8 | 1.7 | 0.0 | 0.0 | 0.0 | 10.0 | 40.0 | 0.0 | 40.0 | | | |
| Incr Delay (d2), s/veh | 2.7 | 0.0 | 0.0 | 0.0 | 0.0 | 8.8 | 0.2 | 0.0 | 0.3 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ln | 0.2 | 0.2 | 0.0 | 0.0 | 0.0 | 15.7 | 0.4 | 0.0 | 0.3 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 46.5 | 1.7 | 0.0 | 0.0 | 0.0 | 18.8 | 40.3 | 0.0 | 40.3 | | | |
| LnGrp LOS | D | A | A | A | A | B | D | A | D | | | |
| Approach Vol, veh/h | | 283 | | | 2288 | | | 31 | | | | |
| Approach Delay, s/veh | | 3.0 | | | 18.8 | | | 40.3 | | | | |
| Approach LOS | | A | | | B | | | D | | | | |
| Timer - Assigned Phs | | 2 | | | 5 | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 78.2 | | | 6.0 | 72.3 | | 11.5 | | | | |
| Change Period (Y+Rc), s | | * 5.4 | | | * 4.7 | 5.4 | | 6.1 | | | | |
| Max Green Setting (Gmax), s | | * 82 | | | * 7 | 69.8 | | 37.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 3.4 | | | 2.4 | 57.5 | | 2.8 | | | | |
| Green Ext Time (p_c), s | | 1.9 | | | 0.0 | 9.3 | | 0.1 | | | | |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 17.4 |
| HCM 6th LOS | B |

**Notes**

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

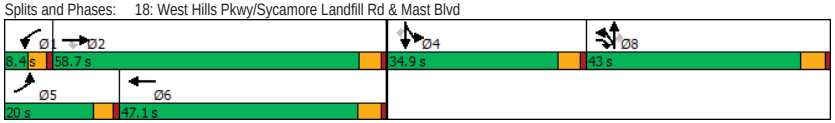




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 34 | 154 | 83 | 12 | 1094 | 6 | 1000 | 11 | 167 | 3 | 3 | 40 |
| Future Volume (vph) | 34 | 154 | 83 | 12 | 1094 | 6 | 1000 | 11 | 167 | 3 | 3 | 40 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | 49% | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | | Split | NA | Perm | Split | NA | Perm |
| Protected Phases | 5 | 2 | 8 | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Permitted Phases | | | 2 | | | | | | 8 | | | 4 |
| Detector Phase | 5 | 2 | 8 | 1 | 6 | | 8 | 8 | 8 | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 10.0 | 10.0 | 4.0 | 10.0 | | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| Minimum Split (s) | 20.0 | 34.9 | 33.4 | 8.4 | 35.2 | | 33.4 | 33.4 | 33.4 | 34.9 | 34.9 | 34.9 |
| Total Split (s) | 20.0 | 58.7 | 43.0 | 8.4 | 47.1 | | 43.0 | 43.0 | 43.0 | 34.9 | 34.9 | 34.9 |
| Total Split (%) | 13.8% | 40.5% | 29.7% | 5.8% | 32.5% | | 29.7% | 29.7% | 29.7% | 24.1% | 24.1% | 24.1% |
| Yellow Time (s) | 3.4 | 3.9 | 4.4 | 3.4 | 4.2 | | 4.4 | 4.4 | 4.4 | 3.9 | 3.9 | 3.9 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.4 | 4.9 | 5.4 | 4.4 | 5.2 | | 5.4 | 5.4 | 5.4 | | 4.9 | 4.9 |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | Min | None | None | Min | | None | None | None | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 145 |
| Actuated Cycle Length: 109.5 |
| Natural Cycle: 145 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 18: West Hills Pkwy/Sycamore Landfill Rd & Mast Blvd



Existing AM
18: West Hills Pkwy/Sycamore Landfill Rd & Mast Blvd

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 34 | 154 | 83 | 12 | 1094 | 6 | 1000 | 11 | 167 | 3 | 3 | 40 |
| Future Volume (veh/h) | 34 | 154 | 83 | 12 | 1094 | 6 | 1000 | 11 | 167 | 3 | 3 | 40 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.98 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 37 | 167 | 90 | 13 | 1189 | 7 | 1096 | 0 | 182 | 3 | 3 | 43 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 111 | 1470 | 1176 | 41 | 1316 | 8 | 1169 | 0 | 520 | 64 | 64 | 110 |
| Arrive On Green | 0.06 | 0.41 | 0.41 | 0.01 | 0.36 | 0.36 | 0.33 | 0.00 | 0.33 | 0.07 | 0.07 | 0.07 |
| Sat Flow, veh/h | 1781 | 3554 | 1585 | 3456 | 3622 | 21 | 3563 | 0 | 1585 | 912 | 912 | 1585 |
| Grp Volume(v), veh/h | 37 | 167 | 90 | 13 | 583 | 613 | 1096 | 0 | 182 | 6 | 0 | 43 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1585 | 1728 | 1777 | 1866 | 1781 | 0 | 1585 | 1825 | 0 | 1585 |
| Q Serve(g_s), s | 2.2 | 3.3 | 1.8 | 0.4 | 35.1 | 35.1 | 33.6 | 0.0 | 9.8 | 0.3 | 0.0 | 2.9 |
| Cycle Q Clear(g_c), s | 2.2 | 3.3 | 1.8 | 0.4 | 35.1 | 35.1 | 33.6 | 0.0 | 9.8 | 0.3 | 0.0 | 2.9 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.01 | 1.00 | | 1.00 | 0.50 | | 1.00 |
| Lane Grp Cap(c), veh/h | 111 | 1470 | 1176 | 41 | 646 | 678 | 1169 | 0 | 520 | 127 | 0 | 110 |
| V/C Ratio(X) | 0.33 | 0.11 | 0.08 | 0.32 | 0.90 | 0.90 | 0.94 | 0.00 | 0.35 | 0.05 | 0.00 | 0.39 |
| Avail Cap(c_a), veh/h | 247 | 1697 | 1277 | 123 | 661 | 694 | 1189 | 0 | 529 | 486 | 0 | 422 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 50.6 | 20.3 | 4.0 | 55.2 | 34.0 | 34.0 | 36.7 | 0.0 | 28.7 | 48.9 | 0.0 | 50.1 |
| Incr Delay (d2), s/veh | 0.7 | 0.0 | 0.0 | 1.6 | 16.5 | 15.9 | 13.8 | 0.0 | 0.6 | 0.2 | 0.0 | 2.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.0 | 1.3 | 1.4 | 0.2 | 17.4 | 18.1 | 16.1 | 0.0 | 3.7 | 0.2 | 0.0 | 1.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 51.3 | 20.4 | 4.0 | 56.8 | 50.5 | 49.9 | 50.5 | 0.0 | 29.3 | 49.1 | 0.0 | 52.4 |
| LnGrp LOS | D | C | A | E | D | D | D | A | C | D | A | D |
| Approach Vol, veh/h | | 294 | | | 1209 | | | 1278 | | | 49 | |
| Approach Delay, s/veh | | 19.2 | | | 50.3 | | | 47.5 | | | 52.0 | |
| Approach LOS | | B | | | D | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.7 | 51.8 | | 12.7 | 11.4 | 46.1 | | 42.4 | | | | |
| Change Period (Y+Rc), s | 4.4 | * 5.2 | | 4.9 | 4.4 | 5.2 | | 5.4 | | | | |
| Max Green Setting (Gmax), s | 4.0 | * 54 | | 30.0 | 15.6 | 41.9 | | 37.6 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.4 | 5.3 | | 4.9 | 4.2 | 37.1 | | 35.6 | | | | |
| Green Ext Time (p_c), s | 0.0 | 1.8 | | 0.1 | 0.0 | 3.9 | | 1.4 | | | | |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 45.8 |
| HCM 6th LOS | D |

Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



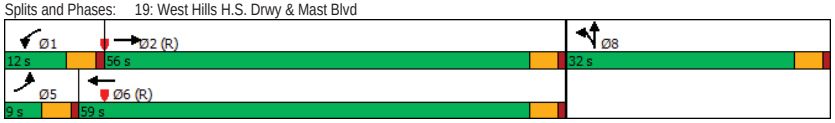
Existing AM
19: West Hills H.S. Drwy & Mast Blvd

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 2 | 264 | 33 | 22 | 1044 | 0 | 27 | 0 | 16 | 0 | 0 | 0 |
| Future Volume (vph) | 2 | 264 | 33 | 22 | 1044 | 0 | 27 | 0 | 16 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | 9 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Split | NA | | | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | | | | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | | | | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | | | | |
| Minimum Split (s) | 8.5 | 22.5 | | 8.5 | 20.5 | | 31.5 | 31.5 | | | | |
| Total Split (s) | 9.0 | 56.0 | | 12.0 | 59.0 | | 32.0 | 32.0 | | | | |
| Total Split (%) | 9.0% | 56.0% | | 12.0% | 59.0% | | 32.0% | 32.0% | | | | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | | | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | | |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | | 4.5 | | | | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | | | | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 70 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 19: West Hills H.S. Drwy & Mast Blvd



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 2 | 264 | 33 | 22 | 1044 | 0 | 27 | 0 | 16 | 0 | 0 | 0 |
| Future Volume (veh/h) | 2 | 264 | 33 | 22 | 1044 | 0 | 27 | 0 | 16 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 0 | 1900 | 1870 | 1900 | | | |
| Adj Flow Rate, veh/h | 2 | 287 | 36 | 24 | 1135 | 0 | 29 | 0 | 17 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 0 | 0 | 2 | 0 | | | |
| Cap, veh/h | 4 | 2578 | 320 | 35 | 2942 | 0 | 38 | 0 | 22 | | | |
| Arrive On Green | 0.00 | 0.81 | 0.81 | 0.03 | 1.00 | 0.00 | 0.03 | 0.00 | 0.03 | | | |
| Sat Flow, veh/h | 1781 | 3181 | 395 | 1781 | 3647 | 0 | 1074 | 0 | 630 | | | |
| Grp Volume(v), veh/h | 2 | 159 | 164 | 24 | 1135 | 0 | 46 | 0 | 0 | | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1799 | 1781 | 1777 | 0 | 1703 | 0 | 0 | | | |
| Q Serve(g_s), s | 0.1 | 1.9 | 1.9 | 1.3 | 0.0 | 0.0 | 2.7 | 0.0 | 0.0 | | | |
| Cycle Q Clear(g_c), s | 0.1 | 1.9 | 1.9 | 1.3 | 0.0 | 0.0 | 2.7 | 0.0 | 0.0 | | | |
| Prop In Lane | 1.00 | | 0.22 | 1.00 | | 0.00 | 0.63 | | 0.37 | | | |
| Lane Grp Cap(c), veh/h | 4 | 1440 | 1458 | 35 | 2942 | 0 | 60 | 0 | 0 | | | |
| V/C Ratio(X) | 0.52 | 0.11 | 0.11 | 0.69 | 0.39 | 0.00 | 0.77 | 0.00 | 0.00 | | | |
| Avail Cap(c_a), veh/h | 80 | 1440 | 1458 | 134 | 2942 | 0 | 468 | 0 | 0 | | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.33 | 1.33 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 0.99 | 0.99 | 0.99 | 0.78 | 0.78 | 0.00 | 1.00 | 0.00 | 0.00 | | | |
| Uniform Delay (d), s/veh | 49.8 | 2.0 | 2.0 | 48.4 | 0.0 | 0.0 | 47.9 | 0.0 | 0.0 | | | |
| Incr Delay (d2), s/veh | 79.1 | 0.2 | 0.2 | 17.5 | 0.3 | 0.0 | 18.7 | 0.0 | 0.0 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ln | 0.1 | 0.4 | 0.4 | 0.7 | 0.1 | 0.0 | 1.4 | 0.0 | 0.0 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 129.0 | 2.1 | 2.1 | 65.9 | 0.3 | 0.0 | 66.6 | 0.0 | 0.0 | | | |
| LnGrp LOS | F | A | A | E | A | A | E | A | A | | | |
| Approach Vol, veh/h | | 325 | | | 1159 | | | 46 | | | | |
| Approach Delay, s/veh | | 2.9 | | | 1.7 | | | 66.6 | | | | |
| Approach LOS | | A | | | A | | | E | | | | |
| Timer - Assigned Phs | 1 | 2 | | | 5 | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 6.4 | 85.6 | | | 4.7 | 87.3 | | 8.0 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 7.5 | 51.5 | | | 4.5 | 54.5 | | 27.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 3.3 | 3.9 | | | 2.1 | 2.0 | | 4.7 | | | | |
| Green Ext Time (p_c), s | 0.0 | 1.9 | | | 0.0 | 10.3 | | 0.2 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | 3.9 | | | | | | | | | |
| HCM 6th LOS | | | A | | | | | | | | | |

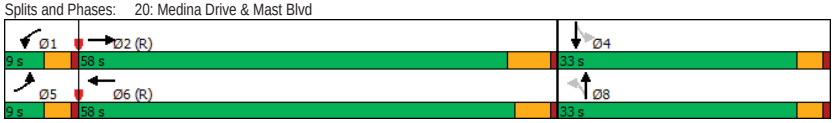




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 10 | 472 | 35 | 11 | 1187 | 10 | 30 | 4 | 10 | 21 | 12 | 26 |
| Future Volume (vph) | 10 | 472 | 35 | 11 | 1187 | 10 | 30 | 4 | 10 | 21 | 12 | 26 |
| Confl. Peds. (#/hr) | | | 2 | | | | | | 1 | | | 10 |
| Confl. Bikes (#/hr) | | | 1 | | | 1 | | | 2 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Perm | NA | | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | | 4 | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 22.0 | | 8.2 | 22.0 | | 32.2 | 32.2 | | 32.2 | 32.2 | |
| Total Split (s) | 9.0 | 58.0 | | 9.0 | 58.0 | | 33.0 | 33.0 | | 33.0 | 33.0 | |
| Total Split (%) | 9.0% | 58.0% | | 9.0% | 58.0% | | 33.0% | 33.0% | | 33.0% | 33.0% | |
| Yellow Time (s) | 3.2 | 5.1 | | 3.2 | 4.3 | | 3.2 | 3.2 | | 3.2 | 3.2 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | 0.0 | |
| Total Lost Time (s) | 4.2 | 6.1 | | 4.2 | 5.3 | | | 4.2 | | | 4.2 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 75 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 20: Medina Drive & Mast Blvd



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 10 | 472 | 35 | 11 | 1187 | 10 | 30 | 4 | 10 | 21 | 12 | 26 |
| Future Volume (veh/h) | 10 | 472 | 35 | 11 | 1187 | 10 | 30 | 4 | 10 | 21 | 12 | 26 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 0.98 | | 0.98 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 11 | 513 | 38 | 12 | 1290 | 11 | 33 | 4 | 11 | 23 | 13 | 28 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 19 | 2498 | 185 | 20 | 2696 | 23 | 153 | 24 | 35 | 86 | 51 | 68 |
| Arrive On Green | 0.00 | 0.25 | 0.25 | 0.02 | 1.00 | 1.00 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 |
| Sat Flow, veh/h | 1781 | 3349 | 247 | 1781 | 3610 | 31 | 950 | 243 | 355 | 377 | 518 | 696 |
| Grp Volume(v), veh/h | 11 | 272 | 279 | 12 | 635 | 666 | 48 | 0 | 0 | 64 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1819 | 1781 | 1777 | 1864 | 1547 | 0 | 0 | 1591 | 0 | 0 |
| Q Serve(g_s), s | 0.6 | 12.1 | 12.2 | 0.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.5 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 0.6 | 12.1 | 12.2 | 0.7 | 0.0 | 0.0 | 2.5 | 0.0 | 0.0 | 3.6 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | | 0.14 | 1.00 | | 0.02 | 0.69 | | 0.23 | 0.36 | | 0.44 |
| Lane Grp Cap(c), veh/h | 19 | 1326 | 1357 | 20 | 1327 | 1392 | 212 | 0 | 0 | 204 | 0 | 0 |
| V/C Ratio(X) | 0.59 | 0.20 | 0.21 | 0.59 | 0.48 | 0.48 | 0.23 | 0.00 | 0.00 | 0.31 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 86 | 1326 | 1357 | 86 | 1327 | 1392 | 481 | 0 | 0 | 497 | 0 | 0 |
| HCM Platoon Ratio | 0.33 | 0.33 | 0.33 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.99 | 0.99 | 0.99 | 0.84 | 0.84 | 0.84 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 49.6 | 14.1 | 14.2 | 48.6 | 0.0 | 0.0 | 41.8 | 0.0 | 0.0 | 42.3 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 25.6 | 0.3 | 0.3 | 8.4 | 1.0 | 1.0 | 0.2 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.4 | 5.6 | 5.8 | 0.3 | 0.4 | 0.4 | 1.1 | 0.0 | 0.0 | 1.5 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 75.2 | 14.5 | 14.5 | 57.0 | 1.0 | 1.0 | 42.0 | 0.0 | 0.0 | 42.6 | 0.0 | 0.0 |
| LnGrp LOS | E | B | B | E | A | A | D | A | A | D | A | A |
| Approach Vol, veh/h | | 562 | | | 1313 | | | 48 | | | 64 | |
| Approach Delay, s/veh | | 15.7 | | | 1.5 | | | 42.0 | | | 42.6 | |
| Approach LOS | | B | | | A | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.3 | 80.7 | | 14.0 | 5.3 | 80.8 | | 14.0 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 6.1 | | * 4.2 | * 4.2 | * 6.1 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | * 4.8 | 51.9 | | * 29 | * 4.8 | * 53 | | * 29 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.7 | 14.2 | | 5.6 | 2.6 | 2.0 | | 4.5 | | | | |
| Green Ext Time (p_c), s | 0.0 | 5.8 | | 0.2 | 0.0 | 20.7 | | 0.1 | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | | 7.8 |
| HCM 6th LOS | | | A |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

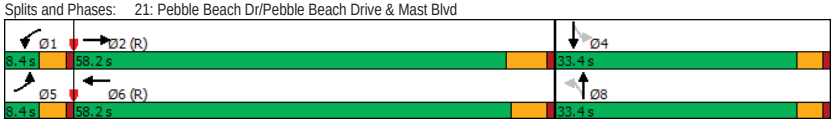




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 4 | 478 | 17 | 16 | 1233 | 22 | 17 | 7 | 36 | 66 | 22 | 20 |
| Future Volume (vph) | 4 | 478 | 17 | 16 | 1233 | 22 | 17 | 7 | 36 | 66 | 22 | 20 |
| Confl. Peds. (#/hr) | | | 8 | | | 1 | | | 2 | | | 11 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Perm | NA | | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | | 4 | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 23.9 | | 8.2 | 23.3 | | 33.2 | 33.2 | | 32.2 | 32.2 | |
| Total Split (s) | 8.4 | 58.2 | | 8.4 | 58.2 | | 33.4 | 33.4 | | 33.4 | 33.4 | |
| Total Split (%) | 8.4% | 58.2% | | 8.4% | 58.2% | | 33.4% | 33.4% | | 33.4% | 33.4% | |
| Yellow Time (s) | 3.2 | 4.9 | | 3.2 | 4.3 | | 3.2 | 3.2 | | 3.2 | 3.2 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | 0.0 | |
| Total Lost Time (s) | 4.2 | 5.9 | | 4.2 | 5.3 | | | 4.2 | | | 4.2 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 80 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 21: Pebble Beach Dr/Pebble Beach Drive & Mast Blvd



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 4 | 478 | 17 | 16 | 1233 | 22 | 17 | 7 | 36 | 66 | 22 | 20 |
| Future Volume (veh/h) | 4 | 478 | 17 | 16 | 1233 | 22 | 17 | 7 | 36 | 66 | 22 | 20 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 1.00 | 0.98 | | 1.00 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 4 | 520 | 18 | 17 | 1340 | 24 | 18 | 8 | 39 | 72 | 24 | 22 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 7 | 2519 | 87 | 27 | 2607 | 47 | 81 | 46 | 121 | 162 | 53 | 36 |
| Arrive On Green | 0.01 | 1.00 | 1.00 | 0.03 | 1.00 | 1.00 | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 |
| Sat Flow, veh/h | 1781 | 3503 | 121 | 1781 | 3572 | 64 | 284 | 373 | 985 | 844 | 430 | 292 |
| Grp Volume(v), veh/h | 4 | 263 | 275 | 17 | 666 | 698 | 65 | 0 | 0 | 118 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1848 | 1781 | 1777 | 1859 | 1642 | 0 | 0 | 1566 | 0 | 0 |
| Q Serve(g_s), s | 0.2 | 0.0 | 0.0 | 0.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 3.3 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 0.2 | 0.0 | 0.0 | 0.9 | 0.0 | 0.0 | 3.5 | 0.0 | 0.0 | 6.8 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | | 0.07 | 1.00 | | 0.03 | 0.28 | | 0.60 | 0.61 | | 0.19 |
| Lane Grp Cap(c), veh/h | 7 | 1278 | 1329 | 27 | 1297 | 1357 | 248 | 0 | 0 | 250 | 0 | 0 |
| V/C Ratio(X) | 0.53 | 0.21 | 0.21 | 0.63 | 0.51 | 0.51 | 0.26 | 0.00 | 0.00 | 0.47 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 75 | 1278 | 1329 | 75 | 1297 | 1357 | 507 | 0 | 0 | 499 | 0 | 0 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.99 | 0.99 | 0.99 | 0.84 | 0.84 | 0.84 | 0.99 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 49.5 | 0.0 | 0.0 | 48.2 | 0.0 | 0.0 | 40.0 | 0.0 | 0.0 | 41.3 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 20.0 | 0.4 | 0.3 | 7.5 | 1.2 | 1.2 | 0.2 | 0.0 | 0.0 | 0.5 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.1 | 0.1 | 0.1 | 0.5 | 0.4 | 0.4 | 1.5 | 0.0 | 0.0 | 2.8 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 69.4 | 0.4 | 0.3 | 55.7 | 1.2 | 1.2 | 40.2 | 0.0 | 0.0 | 41.8 | 0.0 | 0.0 |
| LnGrp LOS | E | A | A | E | A | A | D | A | A | D | A | A |
| Approach Vol, veh/h | | 542 | | | 1381 | | | 65 | | | 118 | |
| Approach Delay, s/veh | | 0.9 | | | 1.9 | | | 40.2 | | | 41.8 | |
| Approach LOS | | A | | | A | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.7 | 77.8 | | 16.5 | 4.6 | 78.9 | | 16.5 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 5.9 | | * 4.2 | * 4.2 | * 5.9 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | * 4.2 | 52.3 | | * 29 | * 4.2 | * 53 | | * 29 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.9 | 2.0 | | 8.8 | 2.2 | 2.0 | | 5.5 | | | | |
| Green Ext Time (p_c), s | 0.0 | 6.8 | | 0.4 | 0.0 | 29.7 | | 0.2 | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | | 5.0 |
| HCM 6th LOS | | | A |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

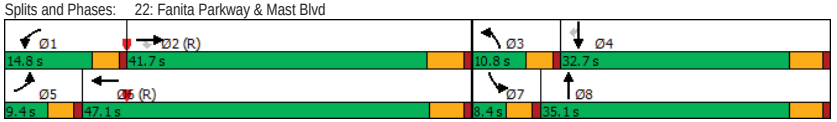




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 45 | 438 | 93 | 78 | 1119 | 30 | 36 | 25 | 30 | 23 | 55 | 96 |
| Future Volume (vph) | 45 | 438 | 93 | 78 | 1119 | 30 | 36 | 25 | 30 | 23 | 55 | 96 |
| Confl. Peds. (#/hr) | | | 8 | | | | | | 6 | | | 2 |
| Confl. Bikes (#/hr) | | | 2 | | | 2 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | | | | | | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 27.5 | 27.5 | 8.2 | 28.1 | | 8.2 | 35.1 | | 8.2 | 28.1 | 28.1 |
| Total Split (s) | 9.4 | 41.7 | 41.7 | 14.8 | 47.1 | | 10.8 | 35.1 | | 8.4 | 32.7 | 32.7 |
| Total Split (%) | 9.4% | 41.7% | 41.7% | 14.8% | 47.1% | | 10.8% | 35.1% | | 8.4% | 32.7% | 32.7% |
| Yellow Time (s) | 3.2 | 4.5 | 4.5 | 3.2 | 4.1 | | 3.2 | 4.1 | | 3.2 | 4.1 | 4.1 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.5 | 5.5 | 4.2 | 5.1 | | 4.2 | 5.1 | | 4.2 | 5.1 | 5.1 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | C-Max | C-Max | None | C-Max | | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 14.1 (14%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 90 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 22: Fanita Parkway & Mast Blvd



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 45 | 438 | 93 | 78 | 1119 | 30 | 36 | 25 | 30 | 23 | 55 | 96 |
| Future Volume (veh/h) | 45 | 438 | 93 | 78 | 1119 | 30 | 36 | 25 | 30 | 23 | 55 | 96 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 49 | 476 | 101 | 85 | 1216 | 33 | 39 | 27 | 33 | 25 | 60 | 104 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 62 | 2171 | 941 | 108 | 2247 | 61 | 49 | 90 | 110 | 36 | 208 | 175 |
| Arrive On Green | 0.07 | 1.00 | 1.00 | 0.12 | 1.00 | 1.00 | 0.03 | 0.12 | 0.12 | 0.02 | 0.11 | 0.11 |
| Sat Flow, veh/h | 1781 | 3554 | 1541 | 1781 | 3532 | 96 | 1781 | 759 | 928 | 1781 | 1870 | 1576 |
| Grp Volume(v), veh/h | 49 | 476 | 101 | 85 | 612 | 637 | 39 | 0 | 60 | 25 | 60 | 104 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1541 | 1781 | 1777 | 1851 | 1781 | 0 | 1687 | 1781 | 1870 | 1576 |
| Q Serve(g_s), s | 2.7 | 0.0 | 0.0 | 4.6 | 0.0 | 0.0 | 2.2 | 0.0 | 3.3 | 1.4 | 2.9 | 6.3 |
| Cycle Q Clear(g_c), s | 2.7 | 0.0 | 0.0 | 4.6 | 0.0 | 0.0 | 2.2 | 0.0 | 3.3 | 1.4 | 2.9 | 6.3 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.05 | 1.00 | | 0.55 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 62 | 2171 | 941 | 108 | 1131 | 1178 | 49 | 0 | 200 | 36 | 208 | 175 |
| V/C Ratio(X) | 0.79 | 0.22 | 0.11 | 0.79 | 0.54 | 0.54 | 0.79 | 0.00 | 0.30 | 0.70 | 0.29 | 0.59 |
| Avail Cap(c_a), veh/h | 93 | 2171 | 941 | 189 | 1131 | 1178 | 118 | 0 | 506 | 75 | 516 | 435 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.99 | 0.99 | 0.99 | 0.77 | 0.77 | 0.77 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 46.1 | 0.0 | 0.0 | 43.3 | 0.0 | 0.0 | 48.3 | 0.0 | 40.3 | 48.7 | 40.8 | 42.3 |
| Incr Delay (d2), s/veh | 18.4 | 0.2 | 0.2 | 7.2 | 1.4 | 1.4 | 18.5 | 0.0 | 3.0 | 16.8 | 2.5 | 10.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.5 | 0.1 | 0.1 | 2.1 | 0.5 | 0.5 | 1.2 | 0.0 | 1.5 | 0.8 | 1.5 | 2.9 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 64.5 | 0.2 | 0.2 | 50.5 | 1.4 | 1.4 | 66.9 | 0.0 | 43.3 | 65.5 | 43.3 | 52.3 |
| LnGrp LOS | E | A | A | D | A | A | E | A | D | E | D | D |
| Approach Vol, veh/h | | 626 | | | 1334 | | | 99 | | | 189 | |
| Approach Delay, s/veh | | 5.3 | | | 4.5 | | | 52.6 | | | 51.2 | |
| Approach LOS | | A | | | A | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 10.2 | 66.6 | 7.0 | 16.2 | 7.7 | 69.1 | 6.2 | 17.0 |
| Change Period (Y+Rc), s | * 4.2 | 5.5 | * 4.2 | 5.1 | * 4.2 | * 5.5 | * 4.2 | 5.1 |
| Max Green Setting (Gmax), s | * 11 | 36.2 | * 6.6 | 27.6 | * 5.2 | * 42 | * 4.2 | 30.0 |
| Max Q Clear Time (g_c+I1), s | 6.6 | 2.0 | 4.2 | 8.3 | 4.7 | 2.0 | 3.4 | 5.3 |
| Green Ext Time (p_c), s | 0.0 | 9.1 | 0.0 | 1.4 | 0.0 | 27.9 | 0.0 | 0.6 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 10.8 |
| HCM 6th LOS | B |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

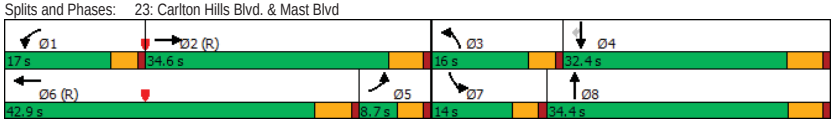




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 35 | 313 | 107 | 168 | 904 | 88 | 152 | 142 | 78 | 115 | 193 | 72 |
| Future Volume (vph) | 35 | 313 | 107 | 168 | 904 | 88 | 152 | 142 | 78 | 115 | 193 | 72 |
| Confl. Peds. (#/hr) | | | 5 | | | 6 | | | 22 | | | 8 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 33.1 | | 8.2 | 32.4 | | 8.2 | 34.2 | | 8.2 | 32.4 | 32.4 |
| Total Split (s) | 8.7 | 34.6 | | 17.0 | 42.9 | | 16.0 | 34.4 | | 14.0 | 32.4 | 32.4 |
| Total Split (%) | 8.7% | 34.6% | | 17.0% | 42.9% | | 16.0% | 34.4% | | 14.0% | 32.4% | 32.4% |
| Yellow Time (s) | 3.2 | 4.1 | | 3.2 | 4.4 | | 3.2 | 4.2 | | 3.2 | 4.4 | 4.4 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.1 | | 4.2 | 5.4 | | 4.2 | 5.2 | | 4.2 | 5.4 | 5.4 |
| Lead/Lag | Lag | Lag | | Lead | Lead | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | C-Min | | None | C-Min | | None | Min | | None | Min | Min |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 89 (89%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 85 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 23: Carlton Hills Blvd. & Mast Blvd



Existing AM
23: Carlton Hills Blvd. & Mast Blvd

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 35 | 313 | 107 | 168 | 904 | 88 | 152 | 142 | 78 | 115 | 193 | 72 |
| Future Volume (veh/h) | 35 | 313 | 107 | 168 | 904 | 88 | 152 | 142 | 78 | 115 | 193 | 72 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.99 | 1.00 | | 0.96 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 38 | 340 | 116 | 183 | 983 | 96 | 165 | 154 | 85 | 125 | 210 | 78 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 296 | 1087 | 365 | 214 | 1172 | 114 | 196 | 420 | 217 | 154 | 584 | 253 |
| Arrive On Green | 0.05 | 0.14 | 0.14 | 0.12 | 0.36 | 0.36 | 0.11 | 0.19 | 0.19 | 0.09 | 0.16 | 0.16 |
| Sat Flow, veh/h | 1781 | 2610 | 876 | 1781 | 3269 | 319 | 1781 | 2234 | 1156 | 1781 | 3554 | 1541 |
| Grp Volume(v), veh/h | 38 | 230 | 226 | 183 | 534 | 545 | 165 | 120 | 119 | 125 | 210 | 78 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1709 | 1781 | 1777 | 1811 | 1781 | 1777 | 1613 | 1781 | 1777 | 1541 |
| Q Serve(g_s), s | 2.0 | 11.6 | 11.9 | 10.1 | 27.6 | 27.6 | 9.1 | 5.9 | 6.4 | 6.9 | 5.2 | 3.0 |
| Cycle Q Clear(g_c), s | 2.0 | 11.6 | 11.9 | 10.1 | 27.6 | 27.6 | 9.1 | 5.9 | 6.4 | 6.9 | 5.2 | 3.0 |
| Prop In Lane | 1.00 | | 0.51 | 1.00 | | 0.18 | 1.00 | | 0.72 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 296 | 740 | 712 | 214 | 637 | 649 | 196 | 334 | 303 | 154 | 584 | 253 |
| V/C Ratio(X) | 0.13 | 0.31 | 0.32 | 0.85 | 0.84 | 0.84 | 0.84 | 0.36 | 0.39 | 0.81 | 0.36 | 0.31 |
| Avail Cap(c_a), veh/h | 296 | 740 | 712 | 228 | 666 | 679 | 210 | 519 | 471 | 175 | 959 | 416 |
| HCM Platoon Ratio | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.98 | 0.98 | 0.98 | 0.89 | 0.89 | 0.89 | 0.96 | 0.96 | 0.96 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 40.4 | 30.2 | 30.3 | 43.1 | 29.4 | 29.4 | 43.7 | 35.4 | 35.6 | 44.9 | 37.1 | 16.8 |
| Incr Delay (d2), s/veh | 0.1 | 1.1 | 1.2 | 21.2 | 11.3 | 11.1 | 21.9 | 1.8 | 2.3 | 19.7 | 1.6 | 2.9 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.9 | 5.6 | 5.6 | 5.6 | 13.1 | 13.3 | 5.1 | 2.7 | 2.7 | 3.8 | 2.4 | 1.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 40.4 | 31.3 | 31.5 | 64.3 | 40.7 | 40.6 | 65.5 | 37.2 | 37.9 | 64.6 | 38.7 | 19.7 |
| LnGrp LOS | D | C | C | E | D | D | E | D | D | E | D | B |
| Approach Vol, veh/h | | 494 | | | 1262 | | | 404 | | | 413 | |
| Approach Delay, s/veh | | 32.1 | | | 44.1 | | | 49.0 | | | 42.9 | |
| Approach LOS | | C | | | D | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 16.2 | 46.8 | 15.2 | 21.8 | 21.7 | 41.3 | 12.8 | 24.2 |
| Change Period (Y+Rc), s | * 4.2 | 5.1 | * 4.2 | 5.4 | 5.1 | * 5.4 | * 4.2 | * 5.4 |
| Max Green Setting (Gmax), s | * 13 | 29.5 | * 12 | 27.0 | 4.5 | * 38 | * 9.8 | * 29 |
| Max Q Clear Time (g_c+I1), s | 12.1 | 13.9 | 11.1 | 7.2 | 4.0 | 29.6 | 8.9 | 8.4 |
| Green Ext Time (p_c), s | 0.0 | 4.6 | 0.0 | 3.6 | 0.0 | 6.3 | 0.0 | 2.7 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 42.4 |
| HCM 6th LOS | D |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



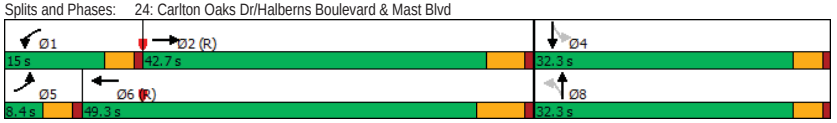
Existing AM
24: Carlton Oaks Dr/Halberns Boulevard & Mast Blvd

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 10 | 500 | 18 | 87 | 1130 | 22 | 41 | 23 | 71 | 43 | 39 | 44 |
| Future Volume (vph) | 10 | 500 | 18 | 87 | 1130 | 22 | 41 | 23 | 71 | 43 | 39 | 44 |
| Confl. Peds. (#/hr) | | | 6 | | | | | | 8 | | | 1 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Perm | NA | | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | | 4 | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 29.2 | | 8.2 | 28.3 | | 32.2 | 32.2 | | 32.2 | 32.2 | |
| Total Split (s) | 8.4 | 42.7 | | 15.0 | 49.3 | | 32.3 | 32.3 | | 32.3 | 32.3 | |
| Total Split (%) | 9.3% | 47.4% | | 16.7% | 54.8% | | 35.9% | 35.9% | | 35.9% | 35.9% | |
| Yellow Time (s) | 3.2 | 4.2 | | 3.2 | 5.3 | | 3.2 | 3.2 | | 3.2 | 3.2 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.2 | 5.2 | | 4.2 | 6.3 | | 4.2 | 4.2 | | 4.2 | 4.2 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 90 |
| Actuated Cycle Length: 90 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 75 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 24: Carlton Oaks Dr/Halberns Boulevard & Mast Blvd



Existing AM
24: Carlton Oaks Dr/Halberns Boulevard & Mast Blvd

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 10 | 500 | 18 | 87 | 1130 | 22 | 41 | 23 | 71 | 43 | 39 | 44 |
| Future Volume (veh/h) | 10 | 500 | 18 | 87 | 1130 | 22 | 41 | 23 | 71 | 43 | 39 | 44 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.98 | 0.99 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 11 | 543 | 20 | 95 | 1228 | 24 | 45 | 25 | 77 | 47 | 42 | 48 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 19 | 2199 | 81 | 121 | 2448 | 48 | 199 | 55 | 171 | 184 | 111 | 127 |
| Arrive On Green | 0.01 | 0.63 | 0.63 | 0.07 | 0.69 | 0.69 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 |
| Sat Flow, veh/h | 1781 | 3495 | 129 | 1781 | 3565 | 70 | 1305 | 398 | 1226 | 1277 | 795 | 909 |
| Grp Volume(v), veh/h | 11 | 276 | 287 | 95 | 612 | 640 | 45 | 0 | 102 | 47 | 0 | 90 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1847 | 1781 | 1777 | 1858 | 1305 | 0 | 1624 | 1277 | 0 | 1704 |
| Q Serve(g_s), s | 0.6 | 6.1 | 6.1 | 4.7 | 14.8 | 14.8 | 2.9 | 0.0 | 5.2 | 3.2 | 0.0 | 4.3 |
| Cycle Q Clear(g_c), s | 0.6 | 6.1 | 6.1 | 4.7 | 14.8 | 14.8 | 7.2 | 0.0 | 5.2 | 8.3 | 0.0 | 4.3 |
| Prop In Lane | 1.00 | | 0.07 | 1.00 | | 0.04 | 1.00 | | 0.75 | 1.00 | | 0.53 |
| Lane Grp Cap(c), veh/h | 19 | 1118 | 1162 | 121 | 1220 | 1276 | 199 | 0 | 226 | 184 | 0 | 237 |
| V/C Ratio(X) | 0.58 | 0.25 | 0.25 | 0.78 | 0.50 | 0.50 | 0.23 | 0.00 | 0.45 | 0.26 | 0.00 | 0.38 |
| Avail Cap(c_a), veh/h | 83 | 1118 | 1162 | 214 | 1220 | 1276 | 425 | 0 | 507 | 405 | 0 | 532 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.91 | 0.91 | 0.91 | 0.86 | 0.86 | 0.86 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 44.3 | 7.3 | 7.3 | 41.3 | 6.7 | 6.7 | 38.5 | 0.0 | 35.6 | 39.4 | 0.0 | 35.2 |
| Incr Delay (d2), s/veh | 9.0 | 0.5 | 0.5 | 3.6 | 1.3 | 1.2 | 0.2 | 0.0 | 0.5 | 0.3 | 0.0 | 0.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.3 | 2.1 | 2.2 | 2.1 | 4.6 | 4.8 | 0.9 | 0.0 | 2.0 | 1.0 | 0.0 | 1.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 53.3 | 7.8 | 7.8 | 44.8 | 8.0 | 8.0 | 38.7 | 0.0 | 36.1 | 39.7 | 0.0 | 35.6 |
| LnGrp LOS | D | A | A | D | A | A | D | A | D | D | A | D |
| Approach Vol, veh/h | | 574 | | | 1347 | | | 147 | | | 137 | |
| Approach Delay, s/veh | | 8.7 | | | 10.6 | | | 36.9 | | | 37.0 | |
| Approach LOS | | A | | | B | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 10.3 | 62.9 | | 16.7 | 5.2 | 68.1 | | 16.7 | | | | |
| Change Period (Y+Rc), s | * 4.2 | * 6.3 | | * 4.2 | * 4.2 | 6.3 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | * 11 | * 38 | | * 28 | * 4.2 | 43.0 | | * 28 | | | | |
| Max Q Clear Time (g_c+I1), s | 6.7 | 8.1 | | 10.3 | 2.6 | 16.8 | | 9.2 | | | | |
| Green Ext Time (p_c), s | 0.0 | 7.0 | | 0.3 | 0.0 | 16.8 | | 0.4 | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | | 13.5 |
| HCM 6th LOS | | | B |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



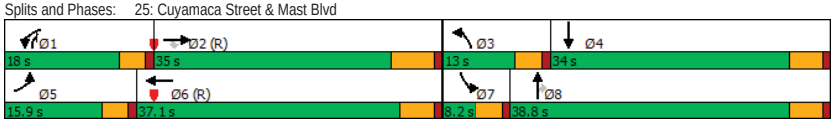
Existing AM
25: Cuyamaca Street & Mast Blvd

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 84 | 308 | 200 | 327 | 650 | 5 | 197 | 90 | 179 | 8 | 251 | 368 |
| Future Volume (vph) | 84 | 308 | 200 | 327 | 650 | 5 | 197 | 90 | 179 | 8 | 251 | 368 |
| Confl. Peds. (#/hr) | | | 8 | | | 5 | | | 3 | | | 3 |
| Confl. Bikes (#/hr) | | | 4 | | | 1 | | | 3 | | | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | | Prot | NA | pm+ov | Prot | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | 1 | 7 | 4 | |
| Permitted Phases | | | 2 | | | | | | 8 | | | |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | | 3 | 8 | 1 | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | | 4.0 | 7.0 | 4.0 | 4.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 34.3 | 34.3 | 8.2 | 32.3 | | 8.2 | 33.1 | 8.2 | 8.2 | 34.0 | |
| Total Split (s) | 15.9 | 35.0 | 35.0 | 18.0 | 37.1 | | 13.0 | 38.8 | 18.0 | 8.2 | 34.0 | |
| Total Split (%) | 15.9% | 35.0% | 35.0% | 18.0% | 37.1% | | 13.0% | 38.8% | 18.0% | 8.2% | 34.0% | |
| Yellow Time (s) | 3.2 | 5.3 | 5.3 | 3.2 | 4.3 | | 3.2 | 4.1 | 3.2 | 3.2 | 4.0 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.2 | 6.3 | 6.3 | 4.2 | 5.3 | | 4.2 | 5.1 | 4.2 | 4.2 | 5.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | |
| Recall Mode | None | C-Min | C-Min | None | C-Min | | None | None | None | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 31 (31%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 85 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 25: Cuyamaca Street & Mast Blvd



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 84 | 308 | 200 | 327 | 650 | 5 | 197 | 90 | 179 | 8 | 251 | 368 |
| Future Volume (veh/h) | 84 | 308 | 200 | 327 | 650 | 5 | 197 | 90 | 179 | 8 | 251 | 368 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 91 | 335 | 217 | 355 | 707 | 5 | 214 | 98 | 195 | 9 | 273 | 400 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 116 | 1131 | 493 | 422 | 1357 | 10 | 279 | 1254 | 744 | 16 | 499 | 438 |
| Arrive On Green | 0.07 | 0.32 | 0.32 | 0.12 | 0.38 | 0.38 | 0.08 | 0.35 | 0.35 | 0.01 | 0.28 | 0.28 |
| Sat Flow, veh/h | 1781 | 3554 | 1550 | 3456 | 3617 | 26 | 3456 | 3554 | 1559 | 1781 | 1777 | 1557 |
| Grp Volume(v), veh/h | 91 | 335 | 217 | 355 | 347 | 365 | 214 | 98 | 195 | 9 | 273 | 400 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1550 | 1728 | 1777 | 1865 | 1728 | 1777 | 1559 | 1781 | 1777 | 1557 |
| Q Serve(g_s), s | 5.0 | 7.1 | 11.1 | 10.1 | 15.2 | 15.2 | 6.1 | 1.8 | 7.5 | 0.5 | 13.1 | 24.9 |
| Cycle Q Clear(g_c), s | 5.0 | 7.1 | 11.1 | 10.1 | 15.2 | 15.2 | 6.1 | 1.8 | 7.5 | 0.5 | 13.1 | 24.9 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.01 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 116 | 1131 | 493 | 422 | 667 | 700 | 279 | 1254 | 744 | 16 | 499 | 438 |
| V/C Ratio(X) | 0.79 | 0.30 | 0.44 | 0.84 | 0.52 | 0.52 | 0.77 | 0.08 | 0.26 | 0.57 | 0.55 | 0.91 |
| Avail Cap(c_a), veh/h | 208 | 1131 | 493 | 477 | 667 | 700 | 304 | 1254 | 744 | 71 | 515 | 452 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.98 | 0.98 | 0.98 | 0.95 | 0.95 | 0.95 | 0.90 | 0.90 | 0.90 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 46.1 | 25.7 | 27.0 | 43.0 | 24.3 | 24.3 | 45.0 | 21.5 | 15.8 | 49.4 | 30.5 | 34.8 |
| Incr Delay (d2), s/veh | 4.3 | 0.7 | 2.8 | 10.0 | 2.8 | 2.6 | 8.1 | 0.0 | 0.2 | 11.5 | 1.6 | 23.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.3 | 3.0 | 4.4 | 4.7 | 6.6 | 6.9 | 2.9 | 0.8 | 2.6 | 0.3 | 5.7 | 11.9 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 50.3 | 26.3 | 29.8 | 53.0 | 27.0 | 26.9 | 53.1 | 21.6 | 16.0 | 60.9 | 32.2 | 58.0 |
| LnGrp LOS | D | C | C | D | C | C | D | C | B | E | C | E |
| Approach Vol, veh/h | | 643 | | | 1067 | | | 507 | | | 682 | |
| Approach Delay, s/veh | | 30.9 | | | 35.6 | | | 32.7 | | | 47.7 | |
| Approach LOS | | C | | | D | | | C | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 16.4 | 38.1 | 12.3 | 33.2 | 10.7 | 43.8 | 5.1 | 40.4 |
| Change Period (Y+Rc), s | * 4.2 | 6.3 | * 4.2 | * 5.1 | * 4.2 | * 6.3 | * 4.2 | 5.1 |
| Max Green Setting (Gmax), s | * 14 | 28.7 | * 8.8 | * 29 | * 12 | * 32 | * 4 | 33.7 |
| Max Q Clear Time (g_c+I1), s | 12.1 | 13.1 | 8.1 | 26.9 | 7.0 | 17.2 | 2.5 | 9.5 |
| Green Ext Time (p_c), s | 0.1 | 3.6 | 0.0 | 1.2 | 0.0 | 4.5 | 0.0 | 1.8 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 36.9 |
| HCM 6th LOS | D |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.





| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 475 | 67 | 116 | 861 | 21 | 90 |
| Future Volume (vph) | 475 | 67 | 116 | 861 | 21 | 90 |
| Confl. Peds. (#/hr) | | 17 | | | | 29 |
| Confl. Bikes (#/hr) | | 3 | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | NA | | Prot | NA | Prot | Perm |
| Protected Phases | 2 | | 1 | 6 | 8 | |
| Permitted Phases | | | | | | 8 |
| Detector Phase | 2 | | 1 | 6 | 8 | 8 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 22.5 | | 8.5 | 20.5 | 22.5 | 22.5 |
| Total Split (s) | 23.2 | | 14.3 | 37.5 | 22.5 | 22.5 |
| Total Split (%) | 38.7% | | 23.8% | 62.5% | 37.5% | 37.5% |
| Yellow Time (s) | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lag | | Lead | | | |
| Lead-Lag Optimize? | Yes | | Yes | | | |
| Recall Mode | Min | | None | Min | None | None |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 40.8 |
| Natural Cycle: 55 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 26: Park Center Drive & Mast Blvd

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 475 | 67 | 116 | 861 | 21 | 90 |
| Future Volume (veh/h) | 475 | 67 | 116 | 861 | 21 | 90 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | 0.95 | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 516 | 73 | 126 | 936 | 23 | 98 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 1024 | 144 | 162 | 2077 | 156 | 139 |
| Arrive On Green | 0.33 | 0.33 | 0.09 | 0.58 | 0.09 | 0.09 |
| Sat Flow, veh/h | 3199 | 437 | 1781 | 3647 | 1781 | 1585 |
| Grp Volume(v), veh/h | 294 | 295 | 126 | 936 | 23 | 98 |
| Grp Sat Flow(s),veh/h/ln | 1777 | 1765 | 1781 | 1777 | 1781 | 1585 |
| Q Serve(g_s), s | 3.7 | 3.7 | 1.9 | 4.1 | 0.3 | 1.7 |
| Cycle Q Clear(g_c), s | 3.7 | 3.7 | 1.9 | 4.1 | 0.3 | 1.7 |
| Prop In Lane | | 0.25 | 1.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 586 | 582 | 162 | 2077 | 156 | 139 |
| V/C Ratio(X) | 0.50 | 0.51 | 0.78 | 0.45 | 0.15 | 0.70 |
| Avail Cap(c_a), veh/h | 1210 | 1202 | 636 | 4271 | 1168 | 1039 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 7.4 | 7.4 | 12.2 | 3.2 | 11.6 | 12.2 |
| Incr Delay (d2), s/veh | 0.7 | 0.7 | 7.9 | 0.2 | 0.4 | 6.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.7 | 0.7 | 0.8 | 0.0 | 0.1 | 0.7 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 8.1 | 8.1 | 20.1 | 3.4 | 12.0 | 18.5 |
| LnGrp LOS | A | A | C | A | B | B |
| Approach Vol, veh/h | 589 | | | 1062 | 121 | |
| Approach Delay, s/veh | 8.1 | | | 5.4 | 17.3 | |
| Approach LOS | A | | | A | B | |

| Timer - Assigned Phs | 1 | 2 | | | | 6 | 8 |
|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.0 | 13.6 | | | | 20.5 | 6.9 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 9.8 | 18.7 | | | | 33.0 | 18.0 |
| Max Q Clear Time (g_c+I1), s | 3.9 | 5.7 | | | | 6.1 | 3.7 |
| Green Ext Time (p_c), s | 0.1 | 2.8 | | | | 6.9 | 0.3 |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | | 7.1 |
| HCM 6th LOS | | | A |

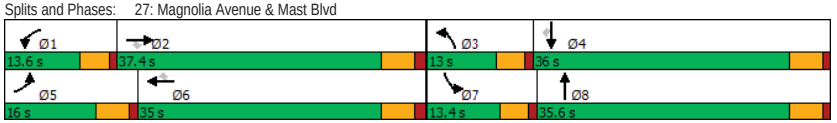




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 179 | 113 | 210 | 131 | 229 | 46 | 283 | 508 | 44 | 53 | 604 | 401 |
| Future Volume (vph) | 179 | 113 | 210 | 131 | 229 | 46 | 283 | 508 | 44 | 53 | 604 | 401 |
| Confl. Peds. (#/hr) | | | 14 | | | 31 | | | 11 | | | 8 |
| Confl. Bikes (#/hr) | | | 5 | | | 5 | | | 3 | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 11.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 9.0 | | 7.0 | 9.0 | 9.0 |
| Minimum Split (s) | 16.0 | 34.5 | 34.5 | 11.5 | 34.5 | 34.5 | 11.5 | 35.0 | | 11.5 | 36.0 | 36.0 |
| Total Split (s) | 16.0 | 37.4 | 37.4 | 13.6 | 35.0 | 35.0 | 13.0 | 35.6 | | 13.4 | 36.0 | 36.0 |
| Total Split (%) | 16.0% | 37.4% | 37.4% | 13.6% | 35.0% | 35.0% | 13.0% | 35.6% | | 13.4% | 36.0% | 36.0% |
| Yellow Time (s) | 4.0 | 4.0 | 4.0 | 3.5 | 4.0 | 4.0 | 3.5 | 4.0 | | 3.5 | 4.0 | 4.0 |
| All-Red Time (s) | 1.0 | 1.5 | 1.5 | 1.0 | 1.5 | 1.5 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 5.0 | 5.5 | 5.5 | 4.5 | 5.5 | 5.5 | 4.5 | 5.0 | | 4.5 | 5.0 | 5.0 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | Min | Min | None | Min | Min | None | Min | | None | Min | Min |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 73.5 |
| Natural Cycle: 100 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 27: Magnolia Avenue & Mast Blvd



Existing AM
27: Magnolia Avenue & Mast Blvd

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 179 | 113 | 210 | 131 | 229 | 46 | 283 | 508 | 44 | 53 | 604 | 401 |
| Future Volume (veh/h) | 179 | 113 | 210 | 131 | 229 | 46 | 283 | 508 | 44 | 53 | 604 | 401 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.94 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 195 | 123 | 228 | 142 | 249 | 50 | 308 | 552 | 48 | 58 | 657 | 436 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 440 | 868 | 374 | 175 | 743 | 311 | 343 | 1216 | 106 | 109 | 1174 | 513 |
| Arrive On Green | 0.13 | 0.24 | 0.24 | 0.10 | 0.21 | 0.21 | 0.10 | 0.37 | 0.37 | 0.06 | 0.33 | 0.33 |
| Sat Flow, veh/h | 3456 | 3554 | 1532 | 1781 | 3554 | 1489 | 3456 | 3301 | 286 | 1781 | 3554 | 1553 |
| Grp Volume(v), veh/h | 195 | 123 | 228 | 142 | 249 | 50 | 308 | 296 | 304 | 58 | 657 | 436 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1532 | 1781 | 1777 | 1489 | 1728 | 1777 | 1811 | 1781 | 1777 | 1553 |
| Q Serve(g_s), s | 4.5 | 2.3 | 11.3 | 6.7 | 5.1 | 2.4 | 7.5 | 10.8 | 10.9 | 2.7 | 13.0 | 22.4 |
| Cycle Q Clear(g_c), s | 4.5 | 2.3 | 11.3 | 6.7 | 5.1 | 2.4 | 7.5 | 10.8 | 10.9 | 2.7 | 13.0 | 22.4 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.16 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 440 | 868 | 374 | 175 | 743 | 311 | 343 | 655 | 667 | 109 | 1174 | 513 |
| V/C Ratio(X) | 0.44 | 0.14 | 0.61 | 0.81 | 0.34 | 0.16 | 0.90 | 0.45 | 0.45 | 0.53 | 0.56 | 0.85 |
| Avail Cap(c_a), veh/h | 444 | 1325 | 571 | 190 | 1226 | 514 | 343 | 655 | 667 | 185 | 1288 | 563 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 34.5 | 25.3 | 28.7 | 37.8 | 28.8 | 27.7 | 38.1 | 20.5 | 20.5 | 39.0 | 23.5 | 26.7 |
| Incr Delay (d2), s/veh | 0.8 | 0.1 | 1.9 | 19.5 | 0.3 | 0.3 | 24.3 | 0.5 | 0.5 | 1.5 | 0.5 | 11.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.8 | 0.9 | 4.1 | 3.8 | 2.1 | 0.8 | 4.2 | 4.2 | 4.3 | 1.2 | 5.1 | 9.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 35.4 | 25.4 | 30.6 | 57.3 | 29.1 | 28.0 | 62.3 | 21.0 | 21.0 | 40.5 | 24.0 | 37.7 |
| LnGrp LOS | D | C | C | E | C | C | E | C | C | D | C | D |
| Approach Vol, veh/h | | 546 | | | 441 | | | 908 | | | 1151 | |
| Approach Delay, s/veh | | 31.1 | | | 38.0 | | | 35.0 | | | 30.0 | |
| Approach LOS | | C | | | D | | | D | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 12.9 | 26.4 | 13.0 | 33.3 | 15.9 | 23.4 | 9.7 | 36.5 |
| Change Period (Y+Rc), s | 4.5 | 5.5 | 4.5 | 5.0 | 5.0 | 5.5 | 4.5 | 5.0 |
| Max Green Setting (Gmax), s | 9.1 | 31.9 | 8.5 | 31.0 | 11.0 | 29.5 | 8.9 | 30.6 |
| Max Q Clear Time (g_c+I1), s | 8.7 | 13.3 | 9.5 | 24.4 | 6.5 | 7.1 | 4.7 | 12.9 |
| Green Ext Time (p_c), s | 0.0 | 1.7 | 0.0 | 3.2 | 0.3 | 2.0 | 0.0 | 3.2 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 32.9 |
| HCM 6th LOS | C |



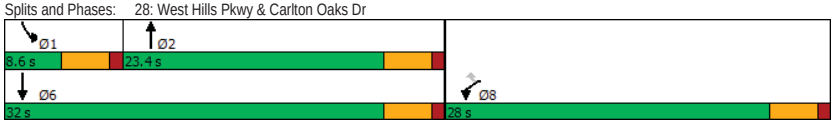
Existing AM
28: West Hills Pkwy & Carlton Oaks Dr

Fanita Ranch
06/06/2019

| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 363 | 612 | 694 | 98 | 39 | 63 |
| Future Volume (vph) | 363 | 612 | 694 | 98 | 39 | 63 |
| Confl. Peds. (#/hr) | | 9 | | 6 | | |
| Confl. Bikes (#/hr) | | | | 2 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | 0% | | | 0% |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | NA | | Prot | NA |
| Protected Phases | 8 | | 2 | | 1 | 6 |
| Permitted Phases | | 8 | | | | |
| Detector Phase | 8 | 8 | 2 | | 1 | 6 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | | 8.5 | 20.5 |
| Total Split (s) | 28.0 | 28.0 | 23.4 | | 8.6 | 32.0 |
| Total Split (%) | 46.7% | 46.7% | 39.0% | | 14.3% | 53.3% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Lead/Lag | | | Lag | | Lead | |
| Lead-Lag Optimize? | | | Yes | | Yes | |
| Recall Mode | None | None | Min | | None | Min |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 45.2 |
| Natural Cycle: 55 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 28: West Hills Pkwy & Carlton Oaks Dr



| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 363 | 612 | 694 | 98 | 39 | 63 |
| Future Volume (veh/h) | 363 | 612 | 694 | 98 | 39 | 63 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | | 0.97 | 1.00 | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | No | | | No |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 395 | 665 | 754 | 107 | 42 | 68 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 593 | 929 | 1020 | 145 | 65 | 1653 |
| Arrive On Green | 0.33 | 0.33 | 0.33 | 0.33 | 0.04 | 0.47 |
| Sat Flow, veh/h | 1781 | 2790 | 3203 | 441 | 1781 | 3647 |
| Grp Volume(v), veh/h | 395 | 665 | 431 | 430 | 42 | 68 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1395 | 1777 | 1774 | 1781 | 1777 |
| Q Serve(g_s), s | 8.5 | 9.3 | 9.6 | 9.6 | 1.0 | 0.5 |
| Cycle Q Clear(g_c), s | 8.5 | 9.3 | 9.6 | 9.6 | 1.0 | 0.5 |
| Prop In Lane | 1.00 | 1.00 | | 0.25 | 1.00 | |
| Lane Grp Cap(c), veh/h | 593 | 929 | 583 | 582 | 65 | 1653 |
| V/C Ratio(X) | 0.67 | 0.72 | 0.74 | 0.74 | 0.65 | 0.04 |
| Avail Cap(c_a), veh/h | 939 | 1470 | 753 | 752 | 164 | 2192 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 12.7 | 13.0 | 13.3 | 13.3 | 21.2 | 6.5 |
| Incr Delay (d2), s/veh | 1.3 | 1.0 | 2.8 | 2.8 | 10.4 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.9 | 2.5 | 3.2 | 3.2 | 0.5 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 14.0 | 14.1 | 16.1 | 16.1 | 31.6 | 6.5 |
| LnGrp LOS | B | B | B | B | C | A |
| Approach Vol, veh/h | 1060 | | 861 | | | 110 |
| Approach Delay, s/veh | 14.1 | | 16.1 | | | 16.1 |
| Approach LOS | B | | B | | | B |

| Timer - Assigned Phs | 1 | 2 | | | 6 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 6.1 | 19.1 | | | 25.2 | 19.3 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 4.1 | 18.9 | | | 27.5 | 23.5 |
| Max Q Clear Time (g_c+I1), s | 3.0 | 11.6 | | | 2.5 | 11.3 |
| Green Ext Time (p_c), s | 0.0 | 2.9 | | | 0.3 | 3.5 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 15.0 |
| HCM 6th LOS | B |

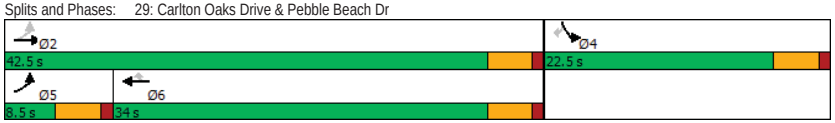




| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 5 | 299 | 668 | 150 | 157 | 50 |
| Future Volume (vph) | 5 | 299 | 668 | 150 | 157 | 50 |
| Confl. Peds. (#/hr) | | | | 13 | | |
| Confl. Bikes (#/hr) | | | | 8 | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | pm+pt | NA | NA | Perm | Prot | Perm |
| Protected Phases | 5 | 2 | 6 | | 4 | |
| Permitted Phases | 2 | | | 6 | | 4 |
| Detector Phase | 5 | 2 | 6 | 6 | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 |
| Total Split (s) | 8.5 | 42.5 | 34.0 | 34.0 | 22.5 | 22.5 |
| Total Split (%) | 13.1% | 65.4% | 52.3% | 52.3% | 34.6% | 34.6% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | | Lag | Lag | | |
| Lead-Lag Optimize? | Yes | | Yes | Yes | | |
| Recall Mode | None | Min | Min | Min | None | None |

| Intersection Summary |
|---|
| Cycle Length: 65 |
| Actuated Cycle Length: 47.5 |
| Natural Cycle: 65 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 29: Carlton Oaks Drive & Pebble Beach Dr



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 5 | 299 | 668 | 150 | 157 | 50 |
| Future Volume (veh/h) | 5 | 299 | 668 | 150 | 157 | 50 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 0.96 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 5 | 325 | 726 | 163 | 171 | 54 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 313 | 1168 | 939 | 765 | 253 | 225 |
| Arrive On Green | 0.01 | 0.62 | 0.50 | 0.50 | 0.14 | 0.14 |
| Sat Flow, veh/h | 1781 | 1870 | 1870 | 1524 | 1781 | 1585 |
| Grp Volume(v), veh/h | 5 | 325 | 726 | 163 | 171 | 54 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1870 | 1524 | 1781 | 1585 |
| Q Serve(g_s), s | 0.0 | 3.0 | 12.2 | 2.3 | 3.5 | 1.2 |
| Cycle Q Clear(g_c), s | 0.0 | 3.0 | 12.2 | 2.3 | 3.5 | 1.2 |
| Prop In Lane | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 313 | 1168 | 939 | 765 | 253 | 225 |
| V/C Ratio(X) | 0.02 | 0.28 | 0.77 | 0.21 | 0.68 | 0.24 |
| Avail Cap(c_a), veh/h | 488 | 1845 | 1432 | 1167 | 832 | 741 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 6.4 | 3.3 | 7.8 | 5.3 | 15.7 | 14.7 |
| Incr Delay (d2), s/veh | 0.0 | 0.1 | 1.5 | 0.1 | 3.1 | 0.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.4 | 3.3 | 0.5 | 1.4 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 6.4 | 3.4 | 9.3 | 5.5 | 18.8 | 15.2 |
| LnGrp LOS | A | A | A | A | B | B |
| Approach Vol, veh/h | | 330 | 889 | | 225 | |
| Approach Delay, s/veh | | 3.5 | 8.6 | | 18.0 | |
| Approach LOS | | A | A | | B | |

| Timer - Assigned Phs | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 28.6 | | 10.0 | 4.7 | 23.8 |
| Change Period (Y+Rc), s | 4.5 | | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 38.0 | | 18.0 | 4.0 | 29.5 |
| Max Q Clear Time (g_c+I1), s | 5.0 | | 5.5 | 2.0 | 14.2 |
| Green Ext Time (p_c), s | 2.0 | | 0.5 | 0.0 | 5.2 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 8.9 |
| HCM 6th LOS | A |

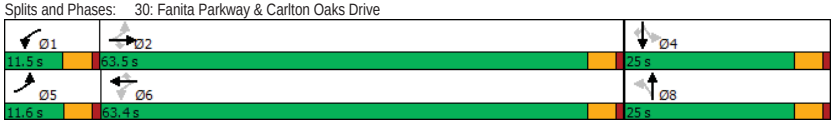




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 30 | 310 | 0 | 0 | 678 | 101 | 4 | 0 | 5 | 138 | 0 | 112 |
| Future Volume (vph) | 30 | 310 | 0 | 0 | 678 | 101 | 4 | 0 | 5 | 138 | 0 | 112 |
| Confl. Peds. (#/hr) | | | 4 | | | 4 | | | 14 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | 6 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | pm+pt | NA | Perm | pm+pt | NA | Perm | Perm | NA | | Perm | | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | 2 | | 2 | 6 | | 6 | 8 | | | 4 | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 8 | 8 | | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | | 7.0 | 7.0 | 7.0 |
| Minimum Split (s) | 11.5 | 26.5 | 26.5 | 11.5 | 20.5 | 20.5 | 22.5 | 22.5 | | 22.5 | 22.5 | 22.5 |
| Total Split (s) | 11.6 | 63.5 | 63.5 | 11.5 | 63.4 | 63.4 | 25.0 | 25.0 | | 25.0 | 25.0 | 25.0 |
| Total Split (%) | 11.6% | 63.5% | 63.5% | 11.5% | 63.4% | 63.4% | 25.0% | 25.0% | | 25.0% | 25.0% | 25.0% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | | | | | | |
| Recall Mode | None | Min | Min | None | Min | Min | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 62.6 |
| Natural Cycle: 70 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 30: Fanita Parkway & Carlton Oaks Drive



Existing AM
30: Fanita Parkway & Carlton Oaks Drive

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 30 | 310 | 0 | 0 | 678 | 101 | 4 | 0 | 5 | 138 | 0 | 112 |
| Future Volume (veh/h) | 30 | 310 | 0 | 0 | 678 | 101 | 4 | 0 | 5 | 138 | 0 | 112 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.97 | 1.00 | | 0.96 | 0.96 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 33 | 337 | 0 | 0 | 737 | 110 | 4 | 0 | 5 | 150 | 0 | 122 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 351 | 1200 | 1017 | 670 | 932 | 767 | 185 | 35 | 143 | 386 | 327 | 276 |
| Arrive On Green | 0.05 | 0.64 | 0.00 | 0.00 | 0.50 | 0.50 | 0.18 | 0.00 | 0.18 | 0.18 | 0.00 | 0.18 |
| Sat Flow, veh/h | 1781 | 1870 | 1585 | 1781 | 1870 | 1540 | 454 | 197 | 814 | 1356 | 1870 | 1576 |
| Grp Volume(v), veh/h | 33 | 337 | 0 | 0 | 737 | 110 | 9 | 0 | 0 | 150 | 0 | 122 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1585 | 1781 | 1870 | 1540 | 1466 | 0 | 0 | 1356 | 1870 | 1576 |
| Q Serve(g_s), s | 0.4 | 3.9 | 0.0 | 0.0 | 16.0 | 1.9 | 0.0 | 0.0 | 0.0 | 4.8 | 0.0 | 3.4 |
| Cycle Q Clear(g_c), s | 0.4 | 3.9 | 0.0 | 0.0 | 16.0 | 1.9 | 0.2 | 0.0 | 0.0 | 5.0 | 0.0 | 3.4 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 0.44 | | 0.56 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 351 | 1200 | 1017 | 670 | 932 | 767 | 362 | 0 | 0 | 386 | 327 | 276 |
| V/C Ratio(X) | 0.09 | 0.28 | 0.00 | 0.00 | 0.79 | 0.14 | 0.02 | 0.00 | 0.00 | 0.39 | 0.00 | 0.44 |
| Avail Cap(c_a), veh/h | 516 | 2248 | 1905 | 921 | 2244 | 1848 | 701 | 0 | 0 | 714 | 781 | 658 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 7.7 | 3.8 | 0.0 | 0.0 | 10.2 | 6.7 | 16.8 | 0.0 | 0.0 | 18.7 | 0.0 | 18.1 |
| Incr Delay (d2), s/veh | 0.1 | 0.1 | 0.0 | 0.0 | 1.6 | 0.1 | 0.0 | 0.0 | 0.0 | 0.6 | 0.0 | 1.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.1 | 0.8 | 0.0 | 0.0 | 4.9 | 0.5 | 0.1 | 0.0 | 0.0 | 1.4 | 0.0 | 1.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 7.8 | 4.0 | 0.0 | 0.0 | 11.7 | 6.7 | 16.8 | 0.0 | 0.0 | 19.4 | 0.0 | 19.2 |
| LnGrp LOS | A | A | A | A | B | A | B | A | A | B | A | B |
| Approach Vol, veh/h | | 370 | | | 847 | | | 9 | | | 272 | |
| Approach Delay, s/veh | | 4.3 | | | 11.1 | | | 16.8 | | | 19.3 | |
| Approach LOS | | A | | | B | | | B | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 0.0 | 36.0 | | 13.1 | 7.0 | 29.0 | | 13.1 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 7.0 | 59.0 | | 20.5 | 7.1 | 58.9 | | 20.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 0.0 | 5.9 | | 7.0 | 2.4 | 18.0 | | 2.2 | | | | |
| Green Ext Time (p_c), s | 0.0 | 2.1 | | 0.7 | 0.0 | 6.4 | | 0.0 | | | | |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 10.9 |
| HCM 6th LOS | B |



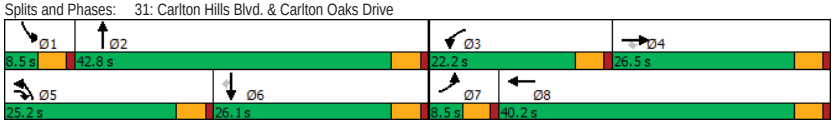
Existing AM
31: Carlton Hills Blvd. & Carlton Oaks Drive

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 10 | 121 | 441 | 221 | 170 | 10 | 545 | 314 | 177 | 14 | 525 | 78 |
| Future Volume (vph) | 10 | 121 | 441 | 221 | 170 | 10 | 545 | 314 | 177 | 14 | 525 | 78 |
| Confl. Peds. (#/hr) | | | 16 | | | 2 | | | 3 | | | 4 |
| Confl. Bikes (#/hr) | | | 1 | | | 1 | | | 1 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 7 | 4 | 5 | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | | | | 6 |
| Detector Phase | 7 | 4 | 5 | 3 | 8 | | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 26.5 | 8.5 | 8.5 | 26.5 | | 8.5 | 22.5 | | 8.5 | 22.5 | 22.5 |
| Total Split (s) | 8.5 | 26.5 | 25.2 | 22.2 | 40.2 | | 25.2 | 42.8 | | 8.5 | 26.1 | 26.1 |
| Total Split (%) | 8.5% | 26.5% | 25.2% | 22.2% | 40.2% | | 25.2% | 42.8% | | 8.5% | 26.1% | 26.1% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | | None | Min | | None | Min | Min |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 84.1 |
| Natural Cycle: 90 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 31: Carlton Hills Blvd. & Carlton Oaks Drive



## 31: Carlton Hills Blvd. & Carlton Oaks Drive

06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 10 | 121 | 441 | 221 | 170 | 10 | 545 | 314 | 177 | 14 | 525 | 78 |
| Future Volume (veh/h) | 10 | 121 | 441 | 221 | 170 | 10 | 545 | 314 | 177 | 14 | 525 | 78 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 11 | 132 | 479 | 240 | 185 | 11 | 592 | 341 | 192 | 15 | 571 | 85 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 19 | 460 | 692 | 278 | 1334 | 79 | 685 | 841 | 463 | 25 | 705 | 308 |
| Arrive On Green | 0.01 | 0.25 | 0.25 | 0.16 | 0.39 | 0.39 | 0.20 | 0.38 | 0.38 | 0.01 | 0.20 | 0.20 |
| Sat Flow, veh/h | 1781 | 1870 | 1534 | 1781 | 3406 | 201 | 3456 | 2197 | 1211 | 1781 | 3554 | 1555 |
| Grp Volume(v), veh/h | 11 | 132 | 479 | 240 | 96 | 100 | 592 | 274 | 259 | 15 | 571 | 85 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1534 | 1781 | 1777 | 1831 | 1728 | 1777 | 1631 | 1781 | 1777 | 1555 |
| Q Serve(g_s), s | 0.5 | 5.1 | 22.0 | 11.8 | 3.1 | 3.1 | 14.8 | 10.1 | 10.4 | 0.7 | 13.7 | 4.1 |
| Cycle Q Clear(g_c), s | 0.5 | 5.1 | 22.0 | 11.8 | 3.1 | 3.1 | 14.8 | 10.1 | 10.4 | 0.7 | 13.7 | 4.1 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.11 | 1.00 | | 0.74 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 19 | 460 | 692 | 278 | 696 | 717 | 685 | 680 | 624 | 25 | 705 | 308 |
| V/C Ratio(X) | 0.58 | 0.29 | 0.69 | 0.86 | 0.14 | 0.14 | 0.86 | 0.40 | 0.41 | 0.61 | 0.81 | 0.28 |
| Avail Cap(c_a), veh/h | 80 | 460 | 692 | 352 | 709 | 731 | 800 | 761 | 698 | 80 | 858 | 375 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 44.0 | 27.4 | 20.1 | 36.8 | 17.5 | 17.5 | 34.7 | 20.2 | 20.3 | 43.9 | 34.2 | 30.4 |
| Incr Delay (d2), s/veh | 24.7 | 0.3 | 3.0 | 16.1 | 0.1 | 0.1 | 8.7 | 0.4 | 0.4 | 21.5 | 4.9 | 0.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.4 | 2.3 | 8.2 | 6.3 | 1.3 | 1.3 | 6.8 | 4.0 | 3.8 | 0.5 | 6.2 | 1.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 68.7 | 27.7 | 23.1 | 52.9 | 17.6 | 17.6 | 43.4 | 20.5 | 20.7 | 65.3 | 39.1 | 30.9 |
| LnGrp LOS | E | C | C | D | B | B | D | C | C | E | D | C |
| Approach Vol, veh/h | | 622 | | | 436 | | | 1125 | | | 671 | |
| Approach Delay, s/veh | | 24.9 | | | 37.0 | | | 32.6 | | | 38.7 | |
| Approach LOS | | C | | | D | | | C | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.7 | 38.7 | 18.5 | 26.5 | 22.2 | 22.2 | 5.5 | 39.5 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 4.0 | 38.3 | 17.7 | 22.0 | 20.7 | 21.6 | 4.0 | 35.7 |
| Max Q Clear Time (g_c+I1), s | 2.7 | 12.4 | 13.8 | 24.0 | 16.8 | 15.7 | 2.5 | 5.1 |
| Green Ext Time (p_c), s | 0.0 | 3.4 | 0.3 | 0.0 | 0.9 | 2.0 | 0.0 | 1.1 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 33.0 |
| HCM 6th LOS | C |





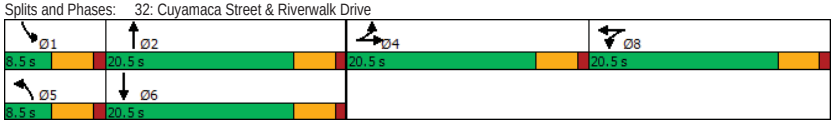
## 32: Cuyamaca Street & Riverwalk Drive

06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 1 | 0 | 0 | 90 | 1 | 55 | 17 | 433 | 80 | 98 | 910 | 3 |
| Future Volume (vph) | 1 | 0 | 0 | 90 | 1 | 55 | 17 | 433 | 80 | 98 | 910 | 3 |
| Confl. Peds. (#/hr) | | | 17 | | | 2 | | | 1 | | | 7 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Split | | | Split | NA | | Prot | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | 20.5 | 20.5 | | 20.5 | 20.5 | | 8.5 | 20.5 | | 8.5 | 20.5 | |
| Total Split (s) | 20.5 | 20.5 | | 20.5 | 20.5 | | 8.5 | 20.5 | | 8.5 | 20.5 | |
| Total Split (%) | 29.3% | 29.3% | | 29.3% | 29.3% | | 12.1% | 29.3% | | 12.1% | 29.3% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 70 |
| Actuated Cycle Length: 43.2 |
| Natural Cycle: 80 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 32: Cuyamaca Street & Riverwalk Drive



Existing AM
32: Cuyamaca Street & Riverwalk Drive

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 1 | 0 | 0 | 90 | 1 | 55 | 17 | 433 | 80 | 98 | 910 | 3 |
| Future Volume (veh/h) | 1 | 0 | 0 | 90 | 1 | 55 | 17 | 433 | 80 | 98 | 910 | 3 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.99 | 1.00 | | 1.00 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 1 | 0 | 0 | 98 | 1 | 60 | 18 | 471 | 87 | 107 | 989 | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 67 | 71 | 0 | 175 | 3 | 153 | 32 | 921 | 169 | 135 | 1326 | 4 |
| Arrive On Green | 0.04 | 0.00 | 0.00 | 0.10 | 0.10 | 0.10 | 0.02 | 0.31 | 0.31 | 0.08 | 0.36 | 0.36 |
| Sat Flow, veh/h | 1781 | 1870 | 0 | 1781 | 26 | 1554 | 1781 | 2997 | 550 | 1781 | 3634 | 11 |
| Grp Volume(v), veh/h | 1 | 0 | 0 | 98 | 0 | 61 | 18 | 278 | 280 | 107 | 484 | 508 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 0 | 1781 | 0 | 1580 | 1781 | 1777 | 1770 | 1781 | 1777 | 1868 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.0 | 2.0 | 0.0 | 1.4 | 0.4 | 4.8 | 4.9 | 2.2 | 8.9 | 8.9 |
| Cycle Q Clear(g_c), s | 0.0 | 0.0 | 0.0 | 2.0 | 0.0 | 1.4 | 0.4 | 4.8 | 4.9 | 2.2 | 8.9 | 8.9 |
| Prop In Lane | 1.00 | | 0.00 | 1.00 | | 0.98 | 1.00 | | 0.31 | 1.00 | | 0.01 |
| Lane Grp Cap(c), veh/h | 67 | 71 | 0 | 175 | 0 | 155 | 32 | 546 | 544 | 135 | 648 | 681 |
| V/C Ratio(X) | 0.01 | 0.00 | 0.00 | 0.56 | 0.00 | 0.39 | 0.55 | 0.51 | 0.51 | 0.80 | 0.75 | 0.75 |
| Avail Cap(c_a), veh/h | 761 | 799 | 0 | 761 | 0 | 675 | 190 | 759 | 757 | 190 | 759 | 798 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 17.3 | 0.0 | 0.0 | 16.1 | 0.0 | 15.8 | 18.2 | 10.6 | 10.7 | 17.0 | 10.4 | 10.4 |
| Incr Delay (d2), s/veh | 0.1 | 0.0 | 0.0 | 2.8 | 0.0 | 1.6 | 13.9 | 0.7 | 0.8 | 14.1 | 3.4 | 3.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.0 | 0.0 | 0.8 | 0.0 | 0.5 | 0.3 | 1.5 | 1.5 | 1.3 | 2.9 | 3.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 17.4 | 0.0 | 0.0 | 18.9 | 0.0 | 17.4 | 32.1 | 11.4 | 11.4 | 31.2 | 13.8 | 13.6 |
| LnGrp LOS | B | A | A | B | A | B | C | B | B | C | B | B |
| Approach Vol, veh/h | | 1 | | | 159 | | | 576 | | | 1099 | |
| Approach Delay, s/veh | | 17.4 | | | 18.3 | | | 12.0 | | | 15.4 | |
| Approach LOS | | B | | | B | | | B | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.3 | 16.0 | | 5.9 | 5.2 | 18.2 | | 8.2 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 4.0 | 16.0 | | 16.0 | 4.0 | 16.0 | | 16.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 4.2 | 6.9 | | 2.0 | 2.4 | 10.9 | | 4.0 | | | | |
| Green Ext Time (p_c), s | 0.0 | 2.2 | | 0.0 | 0.0 | 2.7 | | 0.4 | | | | |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 14.6 |
| HCM 6th LOS | B |



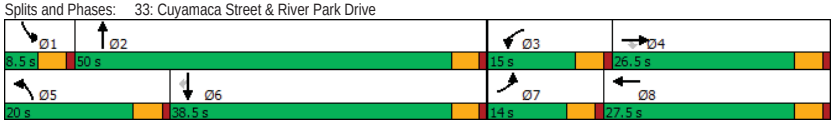
Existing AM
33: Cuyamaca Street & River Park Drive

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 58 | 26 | 97 | 77 | 30 | 27 | 126 | 549 | 81 | 16 | 739 | 39 |
| Future Volume (vph) | 58 | 26 | 97 | 77 | 30 | 27 | 126 | 549 | 81 | 16 | 739 | 39 |
| Confl. Peds. (#/hr) | | | 10 | | | 6 | | | 10 | | | 6 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | | | | 6 |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 26.5 | 26.5 | 8.5 | 26.5 | | 8.5 | 22.5 | | 8.5 | 26.5 | 26.5 |
| Total Split (s) | 14.0 | 26.5 | 26.5 | 15.0 | 27.5 | | 20.0 | 50.0 | | 8.5 | 38.5 | 38.5 |
| Total Split (%) | 14.0% | 26.5% | 26.5% | 15.0% | 27.5% | | 20.0% | 50.0% | | 8.5% | 38.5% | 38.5% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | | None | Min | | None | Min | Min |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 66.4 |
| Natural Cycle: 75 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 33: Cuyamaca Street & River Park Drive



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 58 | 26 | 97 | 77 | 30 | 27 | 126 | 549 | 81 | 16 | 739 | 39 |
| Future Volume (veh/h) | 58 | 26 | 97 | 77 | 30 | 27 | 126 | 549 | 81 | 16 | 739 | 39 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 63 | 28 | 105 | 84 | 33 | 29 | 137 | 597 | 88 | 17 | 803 | 42 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 82 | 264 | 219 | 108 | 142 | 125 | 180 | 1346 | 198 | 30 | 1242 | 549 |
| Arrive On Green | 0.05 | 0.14 | 0.14 | 0.06 | 0.16 | 0.16 | 0.10 | 0.43 | 0.43 | 0.02 | 0.35 | 0.35 |
| Sat Flow, veh/h | 1781 | 1870 | 1551 | 1781 | 913 | 802 | 1781 | 3103 | 456 | 1781 | 3554 | 1571 |
| Grp Volume(v), veh/h | 63 | 28 | 105 | 84 | 0 | 62 | 137 | 341 | 344 | 17 | 803 | 42 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1551 | 1781 | 0 | 1715 | 1781 | 1777 | 1782 | 1781 | 1777 | 1571 |
| Q Serve(g_s), s | 1.8 | 0.7 | 3.2 | 2.4 | 0.0 | 1.6 | 3.9 | 7.0 | 7.0 | 0.5 | 9.8 | 0.9 |
| Cycle Q Clear(g_c), s | 1.8 | 0.7 | 3.2 | 2.4 | 0.0 | 1.6 | 3.9 | 7.0 | 7.0 | 0.5 | 9.8 | 0.9 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.47 | 1.00 | | 0.26 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 82 | 264 | 219 | 108 | 0 | 267 | 180 | 771 | 773 | 30 | 1242 | 549 |
| V/C Ratio(X) | 0.77 | 0.11 | 0.48 | 0.78 | 0.00 | 0.23 | 0.76 | 0.44 | 0.44 | 0.57 | 0.65 | 0.08 |
| Avail Cap(c_a), veh/h | 327 | 795 | 659 | 361 | 0 | 762 | 533 | 1561 | 1566 | 138 | 2333 | 1032 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 24.4 | 19.4 | 20.5 | 24.0 | 0.0 | 19.1 | 22.7 | 10.3 | 10.3 | 25.3 | 14.2 | 11.3 |
| Incr Delay (d2), s/veh | 13.9 | 0.2 | 1.6 | 11.2 | 0.0 | 0.4 | 6.4 | 0.4 | 0.4 | 15.9 | 0.6 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.0 | 0.3 | 1.2 | 1.3 | 0.0 | 0.6 | 1.8 | 2.2 | 2.2 | 0.3 | 3.3 | 0.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 38.3 | 19.6 | 22.1 | 35.2 | 0.0 | 19.6 | 29.1 | 10.7 | 10.7 | 41.2 | 14.7 | 11.3 |
| LnGrp LOS | D | B | C | D | A | B | C | B | B | D | B | B |
| Approach Vol, veh/h | | 196 | | | 146 | | | 822 | | | 862 | |
| Approach Delay, s/veh | | 27.0 | | | 28.6 | | | 13.7 | | | 15.1 | |
| Approach LOS | | C | | | C | | | B | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.4 | 27.0 | 7.6 | 11.8 | 9.7 | 22.6 | 6.9 | 12.6 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 4.0 | 45.5 | 10.5 | 22.0 | 15.5 | 34.0 | 9.5 | 23.0 |
| Max Q Clear Time (g_c+I1), s | 2.5 | 9.0 | 4.4 | 5.2 | 5.9 | 11.8 | 3.8 | 3.6 |
| Green Ext Time (p_c), s | 0.0 | 4.6 | 0.1 | 0.4 | 0.2 | 5.8 | 0.0 | 0.2 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 16.7 |
| HCM 6th LOS | B |

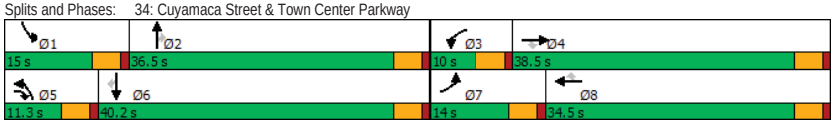




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 135 | 55 | 87 | 59 | 40 | 55 | 89 | 268 | 36 | 69 | 376 | 227 |
| Future Volume (vph) | 135 | 55 | 87 | 59 | 40 | 55 | 89 | 268 | 36 | 69 | 376 | 227 |
| Confl. Peds. (#/hr) | | | 7 | | | 1 | | | 5 | | | 3 |
| Confl. Bikes (#/hr) | | | 1 | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 7 | 4 | 5 | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | 2 | | | 6 |
| Detector Phase | 7 | 4 | 5 | 3 | 8 | 8 | 5 | 2 | 2 | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 34.5 | 8.5 | 8.5 | 34.5 | 34.5 | 8.5 | 34.5 | 34.5 | 8.5 | 34.5 | 34.5 |
| Total Split (s) | 14.0 | 38.5 | 11.3 | 10.0 | 34.5 | 34.5 | 11.3 | 36.5 | 36.5 | 15.0 | 40.2 | 40.2 |
| Total Split (%) | 14.0% | 38.5% | 11.3% | 10.0% | 34.5% | 34.5% | 11.3% | 36.5% | 36.5% | 15.0% | 40.2% | 40.2% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lead | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | None | None | Min | Min | None | Min | Min |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 54.2 |
| Natural Cycle: 90 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 34: Cuyamaca Street & Town Center Parkway



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 135 | 55 | 87 | 59 | 40 | 55 | 89 | 268 | 36 | 69 | 376 | 227 |
| Future Volume (veh/h) | 135 | 55 | 87 | 59 | 40 | 55 | 89 | 268 | 36 | 69 | 376 | 227 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 1.00 | 1.00 | | 0.99 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 147 | 60 | 95 | 64 | 43 | 60 | 97 | 291 | 39 | 75 | 409 | 247 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 274 | 286 | 339 | 175 | 441 | 196 | 226 | 1536 | 473 | 100 | 1489 | 461 |
| Arrive On Green | 0.08 | 0.15 | 0.15 | 0.05 | 0.12 | 0.12 | 0.07 | 0.30 | 0.30 | 0.06 | 0.29 | 0.29 |
| Sat Flow, veh/h | 3456 | 1870 | 1542 | 3456 | 3554 | 1581 | 3456 | 5106 | 1572 | 1781 | 5106 | 1580 |
| Grp Volume(v), veh/h | 147 | 60 | 95 | 64 | 43 | 60 | 97 | 291 | 39 | 75 | 409 | 247 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1870 | 1542 | 1728 | 1777 | 1581 | 1728 | 1702 | 1572 | 1781 | 1702 | 1580 |
| Q Serve(g_s), s | 1.7 | 1.1 | 2.1 | 0.7 | 0.4 | 1.4 | 1.1 | 1.7 | 0.7 | 1.7 | 2.5 | 5.4 |
| Cycle Q Clear(g_c), s | 1.7 | 1.1 | 2.1 | 0.7 | 0.4 | 1.4 | 1.1 | 1.7 | 0.7 | 1.7 | 2.5 | 5.4 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 274 | 286 | 339 | 175 | 441 | 196 | 226 | 1536 | 473 | 100 | 1489 | 461 |
| V/C Ratio(X) | 0.54 | 0.21 | 0.28 | 0.37 | 0.10 | 0.31 | 0.43 | 0.19 | 0.08 | 0.75 | 0.27 | 0.54 |
| Avail Cap(c_a), veh/h | 802 | 1553 | 1385 | 464 | 2604 | 1159 | 574 | 3991 | 1229 | 457 | 4453 | 1378 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 18.1 | 15.2 | 13.3 | 18.8 | 15.9 | 16.3 | 18.4 | 10.6 | 10.3 | 19.0 | 11.2 | 12.2 |
| Incr Delay (d2), s/veh | 1.6 | 0.4 | 0.4 | 1.3 | 0.1 | 0.9 | 1.3 | 0.1 | 0.1 | 10.7 | 0.1 | 1.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.6 | 0.4 | 0.6 | 0.3 | 0.2 | 0.5 | 0.4 | 0.5 | 0.2 | 0.9 | 0.7 | 1.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 19.7 | 15.5 | 13.8 | 20.1 | 16.0 | 17.2 | 19.7 | 10.7 | 10.3 | 29.8 | 11.3 | 13.1 |
| LnGrp LOS | B | B | B | C | B | B | B | B | B | C | B | B |
| Approach Vol, veh/h | | 302 | | | 167 | | | 427 | | | 731 | |
| Approach Delay, s/veh | | 17.0 | | | 18.0 | | | 12.7 | | | 13.8 | |
| Approach LOS | | B | | | B | | | B | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 6.8 | 16.8 | 6.6 | 10.8 | 7.2 | 16.4 | 7.7 | 9.6 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 10.5 | 32.0 | 5.5 | 34.0 | 6.8 | 35.7 | 9.5 | 30.0 |
| Max Q Clear Time (g_c+I1), s | 3.7 | 3.7 | 2.7 | 4.1 | 3.1 | 7.4 | 3.7 | 3.4 |
| Green Ext Time (p_c), s | 0.1 | 2.1 | 0.0 | 0.6 | 0.1 | 3.7 | 0.2 | 0.4 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 14.5 |
| HCM 6th LOS | B |

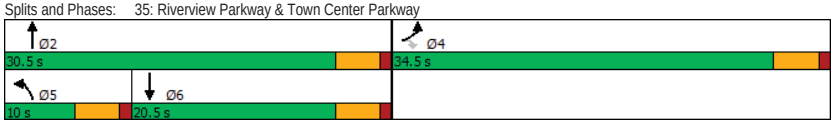




| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 95 | 99 | 95 | 6 | 3 |
| Future Volume (vph) | 0 | 95 | 99 | 95 | 6 | 3 |
| Confl. Peds. (#/hr) | | 4 | | | | 1 |
| Confl. Bikes (#/hr) | | 2 | | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | Prot | NA | NA | |
| Protected Phases | 4 | | 5 | 2 | 6 | |
| Permitted Phases | | 4 | | | | |
| Detector Phase | 4 | 4 | 5 | 2 | 6 | |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Minimum Split (s) | 34.5 | 34.5 | 8.5 | 25.5 | 20.5 | |
| Total Split (s) | 34.5 | 34.5 | 10.0 | 30.5 | 20.5 | |
| Total Split (%) | 53.1% | 53.1% | 15.4% | 46.9% | 31.5% | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lead/Lag | | | Lead | | Lag | |
| Lead-Lag Optimize? | | | Yes | | Yes | |
| Recall Mode | None | None | None | Min | Min | |

| Intersection Summary |
|---|
| Cycle Length: 65 |
| Actuated Cycle Length: 34.5 |
| Natural Cycle: 65 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 35: Riverview Parkway & Town Center Parkway



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 95 | 99 | 95 | 6 | 3 |
| Future Volume (veh/h) | 0 | 95 | 99 | 95 | 6 | 3 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 103 | 108 | 103 | 7 | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 153 | 136 | 158 | 1743 | 469 | 185 |
| Arrive On Green | 0.00 | 0.09 | 0.09 | 0.49 | 0.19 | 0.19 |
| Sat Flow, veh/h | 1781 | 1585 | 1781 | 3647 | 2560 | 976 |
| Grp Volume(v), veh/h | 0 | 103 | 108 | 103 | 5 | 5 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 1781 | 1777 | 1777 | 1666 |
| Q Serve(g_s), s | 0.0 | 1.3 | 1.2 | 0.3 | 0.0 | 0.1 |
| Cycle Q Clear(g_c), s | 0.0 | 1.3 | 1.2 | 0.3 | 0.0 | 0.1 |
| Prop In Lane | 1.00 | 1.00 | 1.00 | | | 0.59 |
| Lane Grp Cap(c), veh/h | 153 | 136 | 158 | 1743 | 338 | 316 |
| V/C Ratio(X) | 0.00 | 0.76 | 0.68 | 0.06 | 0.01 | 0.02 |
| Avail Cap(c_a), veh/h | 2516 | 2238 | 461 | 4349 | 1338 | 1255 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 0.0 | 9.5 | 9.4 | 2.8 | 7.0 | 7.0 |
| Incr Delay (d2), s/veh | 0.0 | 8.3 | 5.1 | 0.0 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.3 | 0.5 | 0.0 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 17.8 | 14.5 | 2.9 | 7.0 | 7.0 |
| LnGrp LOS | A | B | B | A | A | A |
| Approach Vol, veh/h | 103 | | | 211 | 10 | |
| Approach Delay, s/veh | 17.8 | | | 8.8 | 7.0 | |
| Approach LOS | B | | | A | A | |

| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 14.9 | | 6.3 | 6.4 | 8.5 |
| Change Period (Y+Rc), s | | 4.5 | | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | | 26.0 | | 30.0 | 5.5 | 16.0 |
| Max Q Clear Time (g_c+I1), s | | 2.3 | | 3.3 | 3.2 | 2.1 |
| Green Ext Time (p_c), s | | 0.5 | | 0.3 | 0.0 | 0.0 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 11.6 |
| HCM 6th LOS | | B |

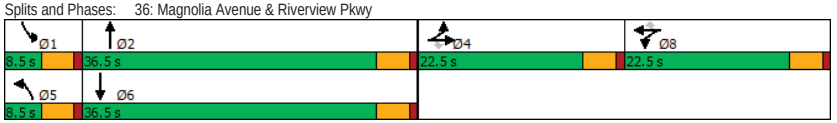




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 1 | 0 | 7 | 35 | 0 | 8 | 45 | 960 | 19 | 8 | 1203 | 3 |
| Future Volume (vph) | 1 | 0 | 7 | 35 | 0 | 8 | 45 | 960 | 19 | 8 | 1203 | 3 |
| Confl. Peds. (#/hr) | | | 8 | | | | | | | | | 8 |
| Confl. Bikes (#/hr) | | | 1 | | | | | | 5 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Split | NA | Perm | Split | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | | | | |
| Detector Phase | 4 | 4 | 4 | 8 | 8 | 8 | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 8.5 | 22.5 | | 8.5 | 22.5 | |
| Total Split (s) | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 8.5 | 36.5 | | 8.5 | 36.5 | |
| Total Split (%) | 25.0% | 25.0% | 25.0% | 25.0% | 25.0% | 25.0% | 9.4% | 40.6% | | 9.4% | 40.6% | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | None | None | None | None | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 90 |
| Actuated Cycle Length: 57.1 |
| Natural Cycle: 90 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 36: Magnolia Avenue & Riverview Pkwy



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 1 | 0 | 7 | 35 | 0 | 8 | 45 | 960 | 19 | 8 | 1203 | 3 |
| Future Volume (veh/h) | 1 | 0 | 7 | 35 | 0 | 8 | 45 | 960 | 19 | 8 | 1203 | 3 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.96 | 1.00 | | 1.00 | 1.00 | | 0.98 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 1 | 0 | 8 | 38 | 0 | 9 | 49 | 1043 | 21 | 9 | 1308 | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 51 | 0 | 44 | 70 | 0 | 62 | 72 | 1876 | 38 | 17 | 1803 | 4 |
| Arrive On Green | 0.03 | 0.00 | 0.03 | 0.04 | 0.00 | 0.04 | 0.04 | 0.53 | 0.53 | 0.01 | 0.50 | 0.50 |
| Sat Flow, veh/h | 1781 | 0 | 1520 | 1781 | 0 | 1585 | 1781 | 3561 | 72 | 1781 | 3637 | 8 |
| Grp Volume(v), veh/h | 1 | 0 | 8 | 38 | 0 | 9 | 49 | 520 | 544 | 9 | 639 | 672 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1520 | 1781 | 0 | 1585 | 1781 | 1777 | 1855 | 1781 | 1777 | 1869 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.2 | 1.0 | 0.0 | 0.2 | 1.2 | 8.9 | 8.9 | 0.2 | 12.9 | 12.9 |
| Cycle Q Clear(g_c), s | 0.0 | 0.0 | 0.2 | 1.0 | 0.0 | 0.2 | 1.2 | 8.9 | 8.9 | 0.2 | 12.9 | 12.9 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.04 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 51 | 0 | 44 | 70 | 0 | 62 | 72 | 936 | 977 | 17 | 881 | 926 |
| V/C Ratio(X) | 0.02 | 0.00 | 0.18 | 0.54 | 0.00 | 0.14 | 0.68 | 0.56 | 0.56 | 0.53 | 0.73 | 0.73 |
| Avail Cap(c_a), veh/h | 705 | 0 | 601 | 705 | 0 | 627 | 157 | 1249 | 1305 | 157 | 1249 | 1314 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 21.5 | 0.0 | 21.6 | 21.5 | 0.0 | 21.1 | 21.5 | 7.2 | 7.2 | 22.4 | 9.0 | 9.0 |
| Incr Delay (d2), s/veh | 0.2 | 0.0 | 2.0 | 6.4 | 0.0 | 1.0 | 10.5 | 0.5 | 0.5 | 23.8 | 1.3 | 1.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.0 | 0.1 | 0.5 | 0.0 | 0.1 | 0.7 | 2.1 | 2.2 | 0.2 | 3.1 | 3.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 21.6 | 0.0 | 23.5 | 27.8 | 0.0 | 22.2 | 32.1 | 7.7 | 7.7 | 46.3 | 10.3 | 10.2 |
| LnGrp LOS | C | A | C | C | A | C | C | A | A | D | B | B |
| Approach Vol, veh/h | | 9 | | | 47 | | | 1113 | | | 1320 | |
| Approach Delay, s/veh | | 23.3 | | | 26.7 | | | 8.8 | | | 10.5 | |
| Approach LOS | | C | | | C | | | A | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 4.9 | 28.5 | | 5.8 | 6.3 | 27.1 | | 6.3 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 4.0 | 32.0 | | 18.0 | 4.0 | 32.0 | | 18.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.2 | 10.9 | | 2.2 | 3.2 | 14.9 | | 3.0 | | | | |
| Green Ext Time (p_c), s | 0.0 | 6.7 | | 0.0 | 0.0 | 7.7 | | 0.1 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 10.1 |
| HCM 6th LOS | | B |





| Intersection | |
|---|---|
| Int Delay, s/veh | 10.2 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 0 | 15 | 0 | 146 | 382 | 563 | 0 | 0 | 270 | 546 |
| Future Vol, veh/h | 0 | 0 | 0 | 15 | 0 | 146 | 382 | 563 | 0 | 0 | 270 | 546 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 9 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | 190 | - | - | - | - | - |
| Veh in Median Storage, # | - | 2 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 0 | 16 | 0 | 159 | 415 | 612 | 0 | 0 | 293 | 593 |

| Major/Minor | Minor1 | | | Major1 | | | Major2 | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 2032 | 2328 | 612 | 886 | 0 | - | - | - | 0 |
| Stage 1 | 1442 | 1442 | - | - | - | - | - | - | - |
| Stage 2 | 590 | 886 | - | - | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.52 | 6.22 | 4.12 | - | - | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 2.218 | - | - | - | - | - |
| Pot Cap-1 Maneuver | 63 | 37 | 493 | 764 | - | 0 | 0 | - | - |
| Stage 1 | 218 | 198 | - | - | - | 0 | 0 | - | - |
| Stage 2 | 554 | 363 | - | - | - | 0 | 0 | - | - |
| Platoon blocked, % | | | | | - | | | - | - |
| Mov Cap-1 Maneuver | 29 | 0 | 493 | 764 | - | - | - | - | - |
| Mov Cap-2 Maneuver | 29 | 0 | - | - | - | - | - | - | - |
| Stage 1 | 100 | 0 | - | - | - | - | - | - | - |
| Stage 2 | 554 | 0 | - | - | - | - | - | - | - |

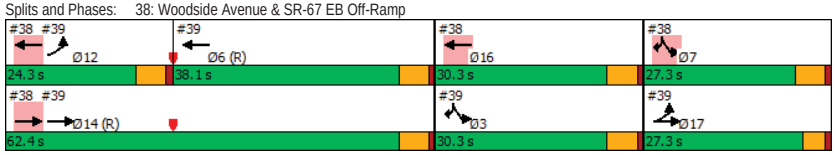
| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 86 | 6.1 | 0 |
| HCM LOS | F | | |

| Minor Lane/Major Mvmt | NBL | NBTWBLn1 | SBT | SBR |
|---|---|---|---|---|
| Capacity (veh/h) | 764 | - 198 | - | - |
| HCM Lane V/C Ratio | 0.543 | - 0.884 | - | - |
| HCM Control Delay (s) | 15.2 | - 86 | - | - |
| HCM Lane LOS | C | - F | - | - |
| HCM 95th %tile Q(veh) | 3.3 | - 6.8 | - | - |

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR | Ø3 | Ø6 | Ø12 | Ø16 | Ø17 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 284 | 163 | 0 | 505 | 125 | | | | | |
| Future Volume (vph) | 0 | 284 | 163 | 0 | 505 | 125 | | | | | |
| Confl. Peds. (#/hr) | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | | | |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | | | | | |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| Parking (#/hr) | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | | | | | | |
| Shared Lane Traffic (%) | | | | | | | | | | | |
| Turn Type | | NA | NA | | Prot | Prot | | | | | |
| Protected Phases | | 14 | 12 16 | | 7 | 7 | 3 | 6 | 12 | 16 | 17 |
| Permitted Phases | | | | | | | | | | | |
| Detector Phase | | 14 | 12 16 | | 7 | 7 | | | | | |
| Switch Phase | | | | | | | | | | | |
| Minimum Initial (s) | | 4.0 | | | 8.0 | 8.0 | 5.0 | 5.0 | 5.0 | 2.0 | 5.0 |
| Minimum Split (s) | | 20.0 | | | 27.3 | 27.3 | 30.3 | 29.3 | 24.3 | 20.0 | 9.2 |
| Total Split (s) | | 62.4 | | | 27.3 | 27.3 | 30.3 | 38.1 | 24.3 | 30.3 | 27.3 |
| Total Split (%) | | 52.0% | | | 22.8% | 22.8% | 25% | 32% | 20% | 25% | 23% |
| Yellow Time (s) | | 4.3 | | | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 3.2 |
| All-Red Time (s) | | 1.0 | | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | | 0.0 | | | 0.0 | 0.0 | | | | | |
| Total Lost Time (s) | | 5.3 | | | 5.3 | 5.3 | | | | | |
| Lead/Lag | | | | | | | | Lag | Lead | | |
| Lead-Lag Optimize? | | | | | | | | Yes | Yes | | |
| Recall Mode | | C-Max | | | Max | Max | None | C-Max | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 0 (0%), Referenced to phase 6:WBT and 14:EBT, Start of Green |
| Natural Cycle: 125 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 38: Woodside Avenue & SR-67 EB Off-Ramp






Existing AM
38: Woodside Avenue & SR-67 EB Off-Ramp
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 284 | 163 | 0 | 505 | 125 |
| Future Volume (vph) | 0 | 284 | 163 | 0 | 505 | 125 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 5.3 | 5.3 | | 5.3 | 5.3 |
| Lane Util. Factor | | 0.95 | 1.00 | | 0.97 | 1.00 |
| Frt | | 1.00 | 1.00 | | 1.00 | 0.85 |
| Flt Protected | | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | | 3539 | 1863 | | 3433 | 1583 |
| Flt Permitted | | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (perm) | | 3539 | 1863 | | 3433 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 309 | 177 | 0 | 549 | 136 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 42 |
| Lane Group Flow (vph) | 0 | 309 | 177 | 0 | 549 | 94 |
| Turn Type | | NA | NA | | Prot | Prot |
| Protected Phases | | 14 | 12 16 | | 7 | 7 |
| Permitted Phases | | | | | | |
| Actuated Green, G (s) | | 57.1 | 36.0 | | 25.1 | 25.1 |
| Effective Green, g (s) | | 57.1 | 36.0 | | 25.1 | 25.1 |
| Actuated g/C Ratio | | 0.48 | 0.30 | | 0.21 | 0.21 |
| Clearance Time (s) | | 5.3 | | | 5.3 | 5.3 |
| Vehicle Extension (s) | | 1.0 | | | 3.0 | 3.0 |
| Lane Grp Cap (vph) | | 1683 | 558 | | 718 | 331 |
| v/s Ratio Prot | | c0.09 | c0.10 | | c0.16 | 0.06 |
| v/s Ratio Perm | | | | | | |
| v/c Ratio | | 0.18 | 0.32 | | 0.76 | 0.28 |
| Uniform Delay, d1 | | 18.1 | 32.5 | | 44.7 | 39.9 |
| Progression Factor | | 1.00 | 1.25 | | 1.00 | 1.00 |
| Incremental Delay, d2 | | 0.2 | 0.2 | | 7.6 | 2.1 |
| Delay (s) | | 18.3 | 40.7 | | 52.3 | 42.0 |
| Level of Service | | B | D | | D | D |
| Approach Delay (s) | | 18.3 | 40.7 | | 50.2 | |
| Approach LOS | | B | D | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 40.4 | HCM 2000 Level of Service | D |
| HCM 2000 Volume to Capacity ratio | 0.38 | | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 21.2 |
| Intersection Capacity Utilization | 31.8% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

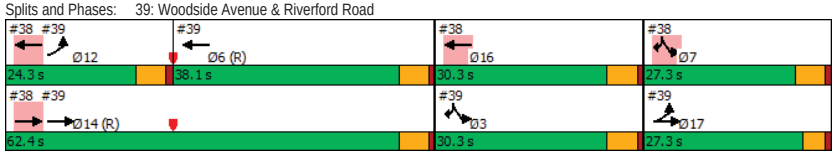
c Critical Lane Group

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\1 Existing AM.syn

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR | Ø7 | Ø12 | Ø14 | Ø16 | Ø17 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | |
| Traffic Volume (vph) | 451 | 338 | 124 | 494 | 246 | 39 | | | | | |
| Future Volume (vph) | 451 | 338 | 124 | 494 | 246 | 39 | | | | | |
| Confl. Peds. (#/hr) | | | | | | 1 | | | | | |
| Confl. Bikes (#/hr) | | | | 1 | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | | | |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | | | | | |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| Parking (#/hr) | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | | | | | | |
| Shared Lane Traffic (%) | | | | | | | | | | | |
| Turn Type | Prot | NA | NA | | Prot | Prot | | | | | |
| Protected Phases | 12 17 | 14 17 | 6 | | 3 | 3 | 7 | 12 | 14 | 16 | 17 |
| Permitted Phases | | | | | | | | | | | |
| Detector Phase | 12 17 | 14 17 | 6 | | 3 | 3 | | | | | |
| Switch Phase | | | | | | | | | | | |
| Minimum Initial (s) | | | 5.0 | | 5.0 | 5.0 | 8.0 | 5.0 | 4.0 | 2.0 | 5.0 |
| Minimum Split (s) | | | 29.3 | | 30.3 | 30.3 | 27.3 | 24.3 | 20.0 | 20.0 | 9.2 |
| Total Split (s) | | | 38.1 | | 30.3 | 30.3 | 27.3 | 24.3 | 62.4 | 30.3 | 27.3 |
| Total Split (%) | | | 31.8% | | 25.3% | 25.3% | 23% | 20% | 52% | 25% | 23% |
| Yellow Time (s) | | | 4.3 | | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 3.2 |
| All-Red Time (s) | | | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | | | 0.0 | | 0.0 | 0.0 | | | | | |
| Total Lost Time (s) | | | 5.3 | | 5.3 | 5.3 | | | | | |
| Lead/Lag | | | Lag | | | | | Lead | | | |
| Lead-Lag Optimize? | | | Yes | | | | | Yes | | | |
| Recall Mode | | | C-Max | | None | None | Max | None | C-Max | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 0 (0%), Referenced to phase 6:WBT and 14:EBT, Start of Green |
| Natural Cycle: 125 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 39: Woodside Avenue & Riverford Road






Existing AM
39: Woodside Avenue & Riverford Road
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 451 | 338 | 124 | 494 | 246 | 39 |
| Future Volume (vph) | 451 | 338 | 124 | 494 | 246 | 39 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.3 | 5.3 | 5.3 | | 5.3 | 5.3 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.98 | | 1.00 | 1.00 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.89 | | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | 1770 | 1863 | 1634 | | 1770 | 1583 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (perm) | 1770 | 1863 | 1634 | | 1770 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 490 | 367 | 135 | 537 | 267 | 42 |
| RTOR Reduction (vph) | 0 | 0 | 112 | 0 | 0 | 30 |
| Lane Group Flow (vph) | 490 | 367 | 560 | 0 | 267 | 12 |
| Confl. Peds. (#/hr) | | | | | | 1 |
| Confl. Bikes (#/hr) | | | | 1 | | |
| Turn Type | Prot | NA | NA | | Prot | Prot |
| Protected Phases | 12 17 | 14 17 | 6 | | 3 | 3 |
| Permitted Phases | | | | | | |
| Actuated Green, G (s) | 44.5 | 87.5 | 37.7 | | 21.9 | 21.9 |
| Effective Green, g (s) | 40.3 | 83.3 | 37.7 | | 21.9 | 21.9 |
| Actuated g/C Ratio | 0.34 | 0.69 | 0.31 | | 0.18 | 0.18 |
| Clearance Time (s) | | | 5.3 | | 5.3 | 5.3 |
| Vehicle Extension (s) | | | 3.0 | | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 594 | 1293 | 513 | | 323 | 288 |
| v/s Ratio Prot | c0.28 | 0.20 | c0.34 | | c0.15 | 0.01 |
| v/s Ratio Perm | | | | | | |
| v/c Ratio | 0.82 | 0.28 | 1.09 | | 0.83 | 0.04 |
| Uniform Delay, d1 | 36.6 | 7.0 | 41.1 | | 47.2 | 40.4 |
| Progression Factor | 0.33 | 0.08 | 1.00 | | 1.00 | 1.00 |
| Incremental Delay, d2 | 7.8 | 0.1 | 66.6 | | 15.7 | 0.1 |
| Delay (s) | 19.9 | 0.7 | 107.8 | | 63.0 | 40.5 |
| Level of Service | B | A | F | | E | D |
| Approach Delay (s) | | 11.6 | 107.8 | | 59.9 | |
| Approach LOS | | B | F | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 54.9 | HCM 2000 Level of Service | D |
| HCM 2000 Volume to Capacity ratio | 0.94 | | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 21.2 |
| Intersection Capacity Utilization | 89.1% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

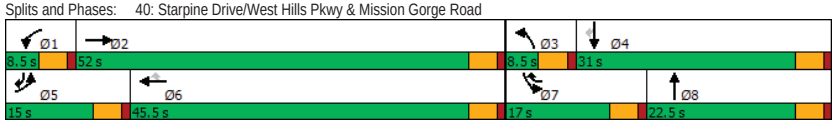
Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\1 Existing AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 232 | 372 | 5 | 10 | 1030 | 540 | 4 | 6 | 9 | 105 | 3 | 281 |
| Future Volume (vph) | 232 | 372 | 5 | 10 | 1030 | 540 | 4 | 6 | 9 | 105 | 3 | 281 |
| Confl. Peds. (#/hr) | | | 3 | | | 1 | | | 1 | | | |
| Confl. Bikes (#/hr) | | | 2 | | | 6 | | | | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Prot | NA | | Prot | NA | pm+ov |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 5 |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 5 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 29.5 | | 8.5 | 29.5 | 8.5 | 8.5 | 22.5 | | 8.5 | 29.5 | 8.5 |
| Total Split (s) | 15.0 | 52.0 | | 8.5 | 45.5 | 17.0 | 8.5 | 22.5 | | 17.0 | 31.0 | 15.0 |
| Total Split (%) | 15.0% | 52.0% | | 8.5% | 45.5% | 17.0% | 8.5% | 22.5% | | 17.0% | 31.0% | 15.0% |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | Lead |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | Min | | None | Min | None | None | None | | None | None | None |

**Intersection Summary**

Cycle Length: 100
Actuated Cycle Length: 66.8
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

Splits and Phases: 40: Starpine Drive/West Hills Pkwy & Mission Gorge Road






Existing AM
40: Starpine Drive/West Hills Pkwy & Mission Gorge Road
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 232 | 372 | 5 | 10 | 1030 | 540 | 4 | 6 | 9 | 105 | 3 | 281 |
| Future Volume (veh/h) | 232 | 372 | 5 | 10 | 1030 | 540 | 4 | 6 | 9 | 105 | 3 | 281 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 1.00 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 252 | 404 | 5 | 11 | 1120 | 587 | 4 | 7 | 10 | 114 | 3 | 305 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 361 | 2021 | 25 | 20 | 1667 | 823 | 8 | 64 | 91 | 198 | 271 | 685 |
| Arrive On Green | 0.10 | 0.56 | 0.56 | 0.01 | 0.47 | 0.47 | 0.00 | 0.09 | 0.09 | 0.06 | 0.14 | 0.14 |
| Sat Flow, veh/h | 3456 | 3593 | 44 | 1781 | 3554 | 1561 | 1781 | 695 | 993 | 3456 | 1870 | 2720 |
| Grp Volume(v), veh/h | 252 | 200 | 209 | 11 | 1120 | 587 | 4 | 0 | 17 | 114 | 3 | 305 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1861 | 1781 | 1777 | 1561 | 1781 | 0 | 1688 | 1728 | 1870 | 1360 |
| Q Serve(g_s), s | 4.6 | 3.6 | 3.6 | 0.4 | 15.9 | 18.5 | 0.1 | 0.0 | 0.6 | 2.1 | 0.1 | 6.2 |
| Cycle Q Clear(g_c), s | 4.6 | 3.6 | 3.6 | 0.4 | 15.9 | 18.5 | 0.1 | 0.0 | 0.6 | 2.1 | 0.1 | 6.2 |
| Prop In Lane | 1.00 | | 0.02 | 1.00 | | 1.00 | 1.00 | | 0.59 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 361 | 999 | 1047 | 20 | 1667 | 823 | 8 | 0 | 155 | 198 | 271 | 685 |
| V/C Ratio(X) | 0.70 | 0.20 | 0.20 | 0.56 | 0.67 | 0.71 | 0.52 | 0.00 | 0.11 | 0.58 | 0.01 | 0.44 |
| Avail Cap(c_a), veh/h | 559 | 1301 | 1362 | 110 | 2245 | 1077 | 110 | 0 | 468 | 666 | 764 | 1402 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 28.1 | 7.0 | 7.0 | 31.9 | 13.4 | 11.7 | 32.2 | 0.0 | 27.0 | 29.8 | 23.8 | 20.6 |
| Incr Delay (d2), s/veh | 2.4 | 0.1 | 0.1 | 22.3 | 0.5 | 1.5 | 46.1 | 0.0 | 0.3 | 2.6 | 0.0 | 0.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.8 | 0.9 | 0.9 | 0.3 | 4.9 | 5.7 | 0.2 | 0.0 | 0.2 | 0.9 | 0.0 | 1.9 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 30.5 | 7.1 | 7.1 | 54.2 | 13.8 | 13.2 | 78.3 | 0.0 | 27.3 | 32.5 | 23.8 | 21.0 |
| LnGrp LOS | C | A | A | D | B | B | E | A | C | C | C | C |
| Approach Vol, veh/h | | 661 | | | 1718 | | | 21 | | | 422 | |
| Approach Delay, s/veh | | 16.0 | | | 13.9 | | | 37.1 | | | 24.1 | |
| Approach LOS | | B | | | B | | | D | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.2 | 41.0 | 4.8 | 13.9 | 11.3 | 34.9 | 8.2 | 10.5 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 4.0 | 47.5 | 4.0 | 26.5 | 10.5 | 41.0 | 12.5 | 18.0 |
| Max Q Clear Time (g_c+I1), s | 2.4 | 5.6 | 2.1 | 8.2 | 6.6 | 20.5 | 4.1 | 2.6 |
| Green Ext Time (p_c), s | 0.0 | 2.1 | 0.0 | 1.1 | 0.3 | 9.9 | 0.2 | 0.0 |

**Intersection Summary**

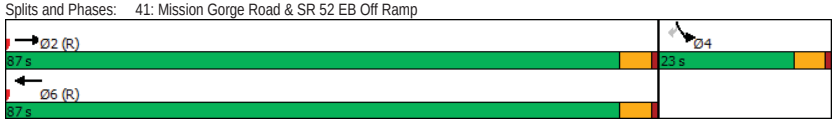
| | |
|---|---|
| HCM 6th Ctrl Delay | 16.1 |
| HCM 6th LOS | B |

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\1 Existing AM.syn

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 876 | 1293 | 0 | 116 | 13 |
| Future Volume (vph) | 0 | 876 | 1293 | 0 | 116 | 13 |
| Confl. Peds. (#/hr) | | | | | | |
| Confl. Bikes (#/hr) | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | | NA | NA | | Prot | Perm |
| Protected Phases | | 2 | 6 | | 4 | |
| Permitted Phases | | | | | | 4 |
| Detector Phase | | 2 | 6 | | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | | 6.0 | 11.0 | | 10.0 | 10.0 |
| Minimum Split (s) | | 20.0 | 20.0 | | 20.0 | 20.0 |
| Total Split (s) | | 87.0 | 87.0 | | 23.0 | 23.0 |
| Total Split (%) | | 79.1% | 79.1% | | 20.9% | 20.9% |
| Yellow Time (s) | | 4.4 | 4.4 | | 4.1 | 4.1 |
| All-Red Time (s) | | 1.0 | 1.0 | | 1.0 | 1.0 |
| Lost Time Adjust (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | | 5.4 | 5.4 | | 5.1 | 5.1 |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | | C-Min | C-Min | | None | None |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 110 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green, Master Intersection |
| Natural Cycle: 50 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 41: Mission Gorge Road & SR 52 EB Off Ramp








| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 876 | 1293 | 0 | 116 | 13 |
| Future Volume (veh/h) | 0 | 876 | 1293 | 0 | 116 | 13 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 0 | 1870 | 1870 | 0 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 952 | 1405 | 0 | 126 | 14 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 0 | 2 | 2 | 0 | 2 | 2 |
| Cap, veh/h | 0 | 2896 | 2896 | 0 | 310 | 142 |
| Arrive On Green | 0.00 | 0.81 | 1.00 | 0.00 | 0.09 | 0.09 |
| Sat Flow, veh/h | 0 | 3741 | 3741 | 0 | 3456 | 1585 |
| Grp Volume(v), veh/h | 0 | 952 | 1405 | 0 | 126 | 14 |
| Grp Sat Flow(s),veh/h/ln | 0 | 1777 | 1777 | 0 | 1728 | 1585 |
| Q Serve(g_s), s | 0.0 | 7.5 | 0.0 | 0.0 | 3.8 | 0.9 |
| Cycle Q Clear(g_c), s | 0.0 | 7.5 | 0.0 | 0.0 | 3.8 | 0.9 |
| Prop In Lane | 0.00 | | | 0.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 0 | 2896 | 2896 | 0 | 310 | 142 |
| V/C Ratio(X) | 0.00 | 0.33 | 0.49 | 0.00 | 0.41 | 0.10 |
| Avail Cap(c_a), veh/h | 0 | 2896 | 2896 | 0 | 562 | 258 |
| HCM Platoon Ratio | 1.00 | 1.00 | 2.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.00 | 1.00 | 0.81 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 0.0 | 2.6 | 0.0 | 0.0 | 47.3 | 46.0 |
| Incr Delay (d2), s/veh | 0.0 | 0.3 | 0.5 | 0.0 | 0.9 | 0.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 1.9 | 0.2 | 0.0 | 1.7 | 0.4 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 2.9 | 0.5 | 0.0 | 48.2 | 46.3 |
| LnGrp LOS | A | A | A | A | D | D |
| Approach Vol, veh/h | | 952 | 1405 | | 140 | |
| Approach Delay, s/veh | | 2.9 | 0.5 | | 48.0 | |
| Approach LOS | | A | A | | D | |

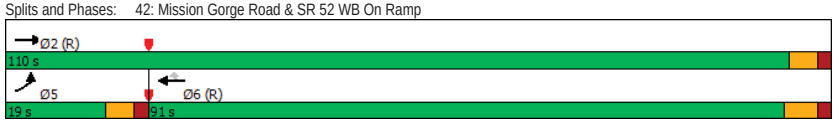
| Timer - Assigned Phs | 2 | 4 | 6 |
|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 95.0 | 15.0 | 95.0 |
| Change Period (Y+Rc), s | 5.4 | 5.1 | 5.4 |
| Max Green Setting (Gmax), s | 81.6 | 17.9 | 81.6 |
| Max Q Clear Time (g_c+I1), s | 9.5 | 5.8 | 2.0 |
| Green Ext Time (p_c), s | 8.9 | 0.3 | 15.4 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 4.1 | |
| HCM 6th LOS | A | |

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 59 | 881 | 1247 | 786 | 0 | 0 |
| Future Volume (vph) | 59 | 881 | 1247 | 786 | 0 | 0 |
| Confl. Peds. (#/hr) | | | | | | |
| Confl. Bikes (#/hr) | | | | 2 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | |
| Shared Lane Traffic (%) | | | | 22% | | |
| Turn Type | Prot | NA | NA | Perm | | |
| Protected Phases | 5 | 2 | 6 | | | |
| Permitted Phases | | | | 6 | | |
| Detector Phase | 5 | 2 | 6 | 6 | | |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 10.0 | 10.0 | | |
| Minimum Split (s) | 10.7 | 21.0 | 22.4 | 22.4 | | |
| Total Split (s) | 19.0 | 110.0 | 91.0 | 91.0 | | |
| Total Split (%) | 17.3% | 100.0% | 82.7% | 82.7% | | |
| Yellow Time (s) | 3.7 | 3.7 | 4.4 | 4.4 | | |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | | |
| Total Lost Time (s) | 5.7 | 5.7 | 6.4 | 6.4 | | |
| Lead/Lag | Lead | | Lag | Lag | | |
| Lead-Lag Optimize? | Yes | | Yes | Yes | | |
| Recall Mode | None | C-Min | C-Min | C-Min | | |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 110 |
| Offset: 32 (29%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 50 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 42: Mission Gorge Road & SR 52 WB On Ramp






Existing AM
42: Mission Gorge Road & SR 52 WB On Ramp
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 59 | 881 | 1247 | 786 | 0 | 0 |
| Future Volume (veh/h) | 59 | 881 | 1247 | 786 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 0.98 | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Work Zone On Approach | | No | No | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | | |
| Adj Flow Rate, veh/h | 64 | 958 | 1532 | 736 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | | |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | | |
| Cap, veh/h | 82 | 3347 | 3156 | 1310 | | |
| Arrive On Green | 0.09 | 1.00 | 1.00 | 1.00 | | |
| Sat Flow, veh/h | 1781 | 3647 | 3741 | 1552 | | |
| Grp Volume(v), veh/h | 64 | 958 | 1532 | 736 | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1870 | 1552 | | |
| Q Serve(g_s), s | 3.9 | 0.0 | 0.0 | 0.0 | | |
| Cycle Q Clear(g_c), s | 3.9 | 0.0 | 0.0 | 0.0 | | |
| Prop In Lane | 1.00 | | | 1.00 | | |
| Lane Grp Cap(c), veh/h | 82 | 3347 | 3156 | 1310 | | |
| V/C Ratio(X) | 0.78 | 0.29 | 0.49 | 0.56 | | |
| Avail Cap(c_a), veh/h | 215 | 3370 | 3156 | 1310 | | |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 2.00 | | |
| Upstream Filter(I) | 0.95 | 0.95 | 0.80 | 0.80 | | |
| Uniform Delay (d), s/veh | 49.4 | 0.0 | 0.0 | 0.0 | | |
| Incr Delay (d2), s/veh | 13.8 | 0.2 | 0.4 | 1.4 | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | | |
| %ile BackOfQ(50%),veh/ln | 1.9 | 0.1 | 0.2 | 0.5 | | |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 63.1 | 0.2 | 0.4 | 1.4 | | |
| LnGrp LOS | E | A | A | A | | |
| Approach Vol, veh/h | | 1022 | 2268 | | | |
| Approach Delay, s/veh | | 4.1 | 0.7 | | | |
| Approach LOS | | A | A | | | |

| Timer - Assigned Phs | 2 | | | 5 | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 110.0 | | | 10.8 | 99.2 |
| Change Period (Y+Rc), s | * 6.4 | | | * 5.7 | 6.4 |
| Max Green Setting (Gmax), s | * 1E2 | | | * 13 | 84.6 |
| Max Q Clear Time (g_c+I1), s | 2.0 | | | 5.9 | 2.0 |
| Green Ext Time (p_c), s | 2.3 | | | 0.1 | 29.2 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 1.8 |
| HCM 6th LOS | A |

| Notes |
|---|
| User approved volume balancing among the lanes for turning movement. |
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. |

Fanita Ranch
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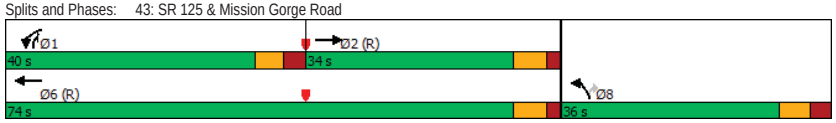
| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 647 | 247 | 768 | 1178 | 672 | 818 |
| Future Volume (vph) | 647 | 247 | 768 | 1178 | 672 | 818 |
| Confl. Peds. (#/hr) | | 11 | | | | |
| Confl. Bikes (#/hr) | | 3 | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | NA | | Prot | NA | Prot | pm+ov |
| Protected Phases | 2 | | 1 | 6 | 8 | 1 |
| Permitted Phases | | | | | | 8 |
| Detector Phase | 2 | | 1 | 6 | 8 | 1 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 11.0 | | 5.0 | 10.0 | 5.0 | 5.0 |
| Minimum Split (s) | 17.4 | | 11.7 | 20.0 | 20.0 | 11.7 |
| Total Split (s) | 34.0 | | 40.0 | 74.0 | 36.0 | 40.0 |
| Total Split (%) | 30.9% | | 36.4% | 67.3% | 32.7% | 36.4% |
| Yellow Time (s) | 4.4 | | 3.7 | 4.4 | 4.1 | 3.7 |
| All-Red Time (s) | 2.0 | | 3.0 | 2.0 | 3.0 | 3.0 |
| Lost Time Adjust (s) | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.4 | | 6.7 | 6.4 | 7.1 | 6.7 |
| Lead/Lag | Lag | | Lead | | | Lead |
| Lead-Lag Optimize? | Yes | | Yes | | | Yes |
| Recall Mode | C-Max | | None | C-Max | None | None |

**Intersection Summary**

Cycle Length: 110
Actuated Cycle Length: 110
Offset: 29 (26%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated

Splits and Phases: 43: SR 125 & Mission Gorge Road






Existing AM
43: SR 125 & Mission Gorge Road
Fanita Ranch
06/06/2019

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 647 | 247 | 768 | 1178 | 672 | 818 |
| Future Volume (veh/h) | 647 | 247 | 768 | 1178 | 672 | 818 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | 0.96 | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 703 | 268 | 835 | 1280 | 730 | 889 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 1045 | 391 | 939 | 3176 | 882 | 1470 |
| Arrive On Green | 0.58 | 0.58 | 0.09 | 0.21 | 0.26 | 0.26 |
| Sat Flow, veh/h | 3777 | 1351 | 3456 | 5274 | 3456 | 2790 |
| Grp Volume(v), veh/h | 662 | 309 | 835 | 1280 | 730 | 889 |
| Grp Sat Flow(s),veh/h/ln | 1702 | 1557 | 1728 | 1702 | 1728 | 1395 |
| Q Serve(g_s), s | 14.8 | 15.2 | 26.3 | 23.9 | 21.9 | 24.3 |
| Cycle Q Clear(g_c), s | 14.8 | 15.2 | 26.3 | 23.9 | 21.9 | 24.3 |
| Prop In Lane | | 0.87 | 1.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 985 | 451 | 939 | 3176 | 882 | 1470 |
| V/C Ratio(X) | 0.67 | 0.69 | 0.89 | 0.40 | 0.83 | 0.60 |
| Avail Cap(c_a), veh/h | 985 | 451 | 1046 | 3176 | 908 | 1491 |
| HCM Platoon Ratio | 2.00 | 2.00 | 0.33 | 0.33 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.97 | 0.97 | 0.80 | 0.80 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 19.6 | 19.7 | 48.4 | 26.0 | 38.7 | 18.1 |
| Incr Delay (d2), s/veh | 3.5 | 8.0 | 7.3 | 0.3 | 6.3 | 0.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 4.6 | 4.8 | 13.1 | 10.9 | 10.0 | 7.7 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 23.1 | 27.6 | 55.8 | 26.3 | 45.0 | 18.8 |
| LnGrp LOS | C | C | E | C | D | B |
| Approach Vol, veh/h | 971 | | | 2115 | 1619 | |
| Approach Delay, s/veh | 24.6 | | | 37.9 | 30.6 | |
| Approach LOS | C | | | D | C | |

| Timer - Assigned Phs | 1 | 2 | | | 6 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 36.6 | 38.2 | | | 74.8 | 35.2 |
| Change Period (Y+Rc), s | * 6.7 | 6.4 | | | 6.4 | 7.1 |
| Max Green Setting (Gmax), s | * 33 | 27.6 | | | 67.6 | 28.9 |
| Max Q Clear Time (g_c+I1), s | 28.3 | 17.2 | | | 25.9 | 26.3 |
| Green Ext Time (p_c), s | 1.6 | 4.5 | | | 11.5 | 1.7 |

**Intersection Summary**

| | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 32.6 | |
| HCM 6th LOS | | C | |

**Notes**

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Fanita Ranch
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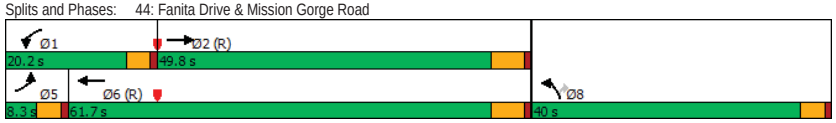
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 7 | 995 | 394 | 279 | 1277 | 0 | 723 | 0 | 307 | 0 | 0 | 0 |
| Future Volume (vph) | 7 | 995 | 394 | 279 | 1277 | 0 | 723 | 0 | 307 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | | | 4 | | | | | | | | | |
| Confl. Bikes (#/hr) | | | 2 | | | | | | 2 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | | Perm | | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | | | | | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | | 8 | | | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 7.0 | | 7.0 | | | |
| Minimum Split (s) | 8.2 | 33.3 | | 8.2 | 20.0 | | 34.2 | | 34.2 | | | |
| Total Split (s) | 8.3 | 49.8 | | 20.2 | 61.7 | | 40.0 | | 40.0 | | | |
| Total Split (%) | 7.5% | 45.3% | | 18.4% | 56.1% | | 36.4% | | 36.4% | | | |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | | 3.2 | | 3.2 | | | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | | 1.0 | | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | | 0.0 | | | |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | | 4.2 | | 4.2 | | | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | | None | | | |

**Intersection Summary**

Cycle Length: 110
Actuated Cycle Length: 110
Offset: 52 (47%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 44: Fanita Drive & Mission Gorge Road






Existing AM
44: Fanita Drive & Mission Gorge Road
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 7 | 995 | 394 | 279 | 1277 | 0 | 723 | 0 | 307 | 0 | 0 | 0 |
| Future Volume (veh/h) | 7 | 995 | 394 | 279 | 1277 | 0 | 723 | 0 | 307 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 1.00 | 1.00 | | 1.00 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 0 | 1870 | 0 | 1870 | | | |
| Adj Flow Rate, veh/h | 8 | 1082 | 428 | 303 | 1388 | 0 | 786 | 0 | 334 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 0 | 2 | 0 | 2 | | | |
| Cap, veh/h | 14 | 1779 | 703 | 372 | 3055 | 0 | 930 | 0 | 427 | | | |
| Arrive On Green | 0.00 | 0.16 | 0.16 | 0.04 | 0.20 | 0.00 | 0.27 | 0.00 | 0.27 | | | |
| Sat Flow, veh/h | 1781 | 3567 | 1411 | 3456 | 5274 | 0 | 3456 | 0 | 1585 | | | |
| Grp Volume(v), veh/h | 8 | 1033 | 477 | 303 | 1388 | 0 | 786 | 0 | 334 | | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1702 | 1573 | 1728 | 1702 | 0 | 1728 | 0 | 1585 | | | |
| Q Serve(g_s), s | 0.5 | 31.0 | 31.0 | 9.6 | 26.4 | 0.0 | 23.7 | 0.0 | 21.5 | | | |
| Cycle Q Clear(g_c), s | 0.5 | 31.0 | 31.0 | 9.6 | 26.4 | 0.0 | 23.7 | 0.0 | 21.5 | | | |
| Prop In Lane | 1.00 | | 0.90 | 1.00 | | 0.00 | 1.00 | | 1.00 | | | |
| Lane Grp Cap(c), veh/h | 14 | 1698 | 784 | 372 | 3055 | 0 | 930 | 0 | 427 | | | |
| V/C Ratio(X) | 0.57 | 0.61 | 0.61 | 0.82 | 0.45 | 0.00 | 0.84 | 0.00 | 0.78 | | | |
| Avail Cap(c_a), veh/h | 66 | 1698 | 784 | 503 | 3055 | 0 | 1125 | 0 | 516 | | | |
| HCM Platoon Ratio | 0.33 | 0.33 | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 0.76 | 0.76 | 0.76 | 0.78 | 0.78 | 0.00 | 1.00 | 0.00 | 1.00 | | | |
| Uniform Delay (d), s/veh | 54.7 | 36.0 | 36.0 | 52.0 | 28.3 | 0.0 | 38.0 | 0.0 | 37.2 | | | |
| Incr Delay (d2), s/veh | 24.7 | 1.2 | 2.7 | 4.3 | 0.4 | 0.0 | 5.4 | 0.0 | 6.8 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ln | 0.3 | 14.3 | 13.5 | 4.5 | 12.0 | 0.0 | 10.4 | 0.0 | 8.8 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 79.4 | 37.2 | 38.6 | 56.2 | 28.7 | 0.0 | 43.4 | 0.0 | 44.0 | | | |
| LnGrp LOS | E | D | D | E | C | A | D | A | D | | | |
| Approach Vol, veh/h | | 1518 | | | 1691 | | | 1120 | | | | |
| Approach Delay, s/veh | | 37.9 | | | 33.6 | | | 43.6 | | | | |
| Approach LOS | | D | | | C | | | D | | | | |

| Timer - Assigned Phs | 1 | 2 | | 5 | 6 | | 8 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 16.0 | 60.2 | | 5.1 | 71.1 | | 33.8 | | | | | |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | | * 4.2 | 5.3 | | 4.2 | | | | | |
| Max Green Setting (Gmax), s | * 16 | 44.5 | | * 4.1 | 56.4 | | 35.8 | | | | | |
| Max Q Clear Time (g_c+I1), s | 11.6 | 33.0 | | 2.5 | 28.4 | | 25.7 | | | | | |
| Green Ext Time (p_c), s | 0.2 | 7.8 | | 0.0 | 12.9 | | 4.0 | | | | | |

**Intersection Summary**

| | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 37.7 | |
| HCM 6th LOS | | D | |

**Notes**

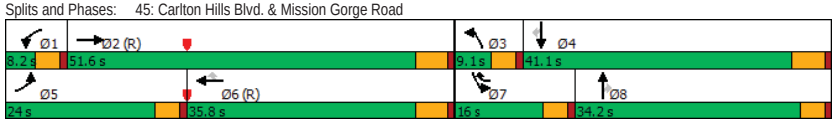
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\1 Existing AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 661 | 648 | 22 | 13 | 646 | 394 | 38 | 38 | 8 | 357 | 16 | 861 |
| Future Volume (vph) | 661 | 648 | 22 | 13 | 646 | 394 | 38 | 38 | 8 | 357 | 16 | 861 |
| Confl. Peds. (#/hr) | | | 13 | | | 3 | | | 5 | | | 5 |
| Confl. Bikes (#/hr) | | | 2 | | | 2 | | | 3 | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | 49% |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | 6 | | | 8 | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | 8 | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 23.3 | | 8.2 | 34.3 | 8.2 | 8.2 | 34.2 | 34.2 | 8.2 | 32.4 | 32.4 |
| Total Split (s) | 24.0 | 51.6 | | 8.2 | 35.8 | 16.0 | 9.1 | 34.2 | 34.2 | 16.0 | 41.1 | 41.1 |
| Total Split (%) | 21.8% | 46.9% | | 7.5% | 32.5% | 14.5% | 8.3% | 31.1% | 31.1% | 14.5% | 37.4% | 37.4% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | 3.2 | 3.2 | 3.2 | 3.2 | 3.2 | 4.4 | 4.4 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | 4.2 | 4.2 | 4.2 | 4.2 | 4.2 | 5.4 | 5.4 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | C-Min | | None | C-Min | None | None | None | None | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 110 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 115 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 45: Carlton Hills Blvd. & Mission Gorge Road






Existing AM
45: Carlton Hills Blvd. & Mission Gorge Road
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 661 | 648 | 22 | 13 | 646 | 394 | 38 | 38 | 8 | 357 | 16 | 861 |
| Future Volume (veh/h) | 661 | 648 | 22 | 13 | 646 | 394 | 38 | 38 | 8 | 357 | 16 | 861 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 718 | 704 | 24 | 14 | 702 | 428 | 41 | 41 | 9 | 388 | 0 | 854 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 622 | 2457 | 83 | 23 | 1623 | 666 | 52 | 414 | 343 | 382 | 0 | 930 |
| Arrive On Green | 0.06 | 0.16 | 0.16 | 0.00 | 0.10 | 0.10 | 0.03 | 0.22 | 0.22 | 0.11 | 0.00 | 0.30 |
| Sat Flow, veh/h | 3456 | 5064 | 172 | 1781 | 5106 | 1559 | 1781 | 1870 | 1551 | 3563 | 0 | 3107 |
| Grp Volume(v), veh/h | 718 | 472 | 256 | 14 | 702 | 428 | 41 | 41 | 9 | 388 | 0 | 854 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1702 | 1832 | 1781 | 1702 | 1559 | 1781 | 1870 | 1551 | 1781 | 0 | 1554 |
| Q Serve(g_s), s | 19.8 | 13.4 | 13.5 | 0.9 | 14.2 | 25.0 | 2.5 | 1.9 | 0.5 | 11.8 | 0.0 | 29.2 |
| Cycle Q Clear(g_c), s | 19.8 | 13.4 | 13.5 | 0.9 | 14.2 | 25.0 | 2.5 | 1.9 | 0.5 | 11.8 | 0.0 | 29.2 |
| Prop In Lane | 1.00 | | 0.09 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 622 | 1652 | 889 | 23 | 1623 | 666 | 52 | 414 | 343 | 382 | 0 | 930 |
| V/C Ratio(X) | 1.15 | 0.29 | 0.29 | 0.62 | 0.43 | 0.64 | 0.78 | 0.10 | 0.03 | 1.02 | 0.00 | 0.92 |
| Avail Cap(c_a), veh/h | 622 | 1652 | 889 | 65 | 1623 | 666 | 79 | 510 | 423 | 382 | 0 | 1008 |
| HCM Platoon Ratio | 0.33 | 0.33 | 0.33 | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.73 | 0.73 | 0.73 | 0.92 | 0.92 | 0.92 | 1.00 | 1.00 | 1.00 | 0.61 | 0.00 | 0.61 |
| Uniform Delay (d), s/veh | 51.7 | 29.4 | 29.5 | 54.5 | 39.9 | 33.3 | 53.0 | 34.1 | 33.6 | 49.1 | 0.0 | 37.3 |
| Incr Delay (d2), s/veh | 82.7 | 0.3 | 0.6 | 9.2 | 0.8 | 4.4 | 24.3 | 0.0 | 0.0 | 39.8 | 0.0 | 8.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 16.3 | 6.2 | 6.7 | 0.4 | 6.6 | 11.2 | 1.5 | 0.9 | 0.2 | 7.3 | 0.0 | 12.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 134.4 | 29.7 | 30.0 | 63.7 | 40.7 | 37.7 | 77.4 | 34.1 | 33.6 | 88.9 | 0.0 | 45.5 |
| LnGrp LOS | F | C | C | E | D | D | E | C | C | F | A | D |
| Approach Vol, veh/h | | 1446 | | | 1144 | | | 91 | | | 1242 | |
| Approach Delay, s/veh | | 81.8 | | | 39.8 | | | 53.6 | | | 59.1 | |
| Approach LOS | | F | | | D | | | D | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.6 | 58.7 | 7.4 | 38.3 | 24.0 | 40.3 | 16.0 | 29.7 |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | * 4.2 | 5.4 | * 4.2 | 5.3 | * 4.2 | * 5.4 |
| Max Green Setting (Gmax), s | * 4 | 46.3 | * 4.9 | 35.7 | * 20 | 30.5 | * 12 | * 30 |
| Max Q Clear Time (g_c+I1), s | 2.9 | 15.5 | 4.5 | 31.2 | 21.8 | 27.0 | 13.8 | 3.9 |
| Green Ext Time (p_c), s | 0.0 | 5.4 | 0.0 | 1.7 | 0.0 | 2.7 | 0.0 | 0.1 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 61.7 |
| HCM 6th LOS | E |

| Notes |
|---|
| User approved volume balancing among the lanes for turning movement. |
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. |

Fanita Ranch
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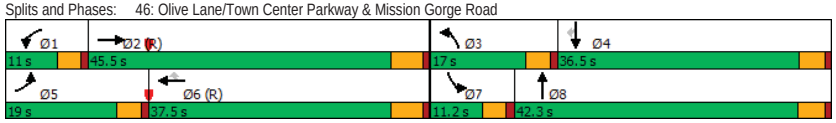
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 252 | 518 | 125 | 37 | 682 | 89 | 203 | 118 | 33 | 90 | 84 | 285 |
| Future Volume (vph) | 252 | 518 | 125 | 37 | 682 | 89 | 203 | 118 | 33 | 90 | 84 | 285 |
| Confl. Peds. (#/hr) | | | 5 | | | 8 | | | 11 | | | 3 |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | Perm | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | 10.0 | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 26.3 | | 8.2 | 36.3 | 36.3 | 8.2 | 34.6 | | 8.2 | 36.5 | 36.5 |
| Total Split (s) | 19.0 | 45.5 | | 11.0 | 37.5 | 37.5 | 17.0 | 42.3 | | 11.2 | 36.5 | 36.5 |
| Total Split (%) | 17.3% | 41.4% | | 10.0% | 34.1% | 34.1% | 15.5% | 38.5% | | 10.2% | 33.2% | 33.2% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | 4.3 | 3.2 | 3.6 | | 3.2 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | 5.3 | 4.2 | 4.6 | | 4.2 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | C-Min | | None | C-Min | C-Min | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 110 |
| Offset: 40 (36%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 90 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 46: Olive Lane/Town Center Parkway & Mission Gorge Road






Existing AM
46: Olive Lane/Town Center Parkway & Mission Gorge Road
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 252 | 518 | 125 | 37 | 682 | 89 | 203 | 118 | 33 | 90 | 84 | 285 |
| Future Volume (veh/h) | 252 | 518 | 125 | 37 | 682 | 89 | 203 | 118 | 33 | 90 | 84 | 285 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.99 | 1.00 | | 0.97 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 274 | 563 | 136 | 40 | 741 | 97 | 221 | 128 | 36 | 98 | 91 | 310 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 333 | 2248 | 531 | 51 | 2441 | 754 | 284 | 300 | 84 | 152 | 331 | 492 |
| Arrive On Green | 0.19 | 1.00 | 1.00 | 0.03 | 0.48 | 0.48 | 0.08 | 0.22 | 0.22 | 0.04 | 0.18 | 0.18 |
| Sat Flow, veh/h | 3456 | 4120 | 974 | 1781 | 5106 | 1577 | 3456 | 1394 | 392 | 3456 | 1870 | 2776 |
| Grp Volume(v), veh/h | 274 | 463 | 236 | 40 | 741 | 97 | 221 | 0 | 164 | 98 | 91 | 310 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1702 | 1690 | 1781 | 1702 | 1577 | 1728 | 0 | 1786 | 1728 | 1870 | 1388 |
| Q Serve(g_s), s | 8.4 | 0.0 | 0.0 | 2.5 | 9.7 | 3.8 | 6.9 | 0.0 | 8.7 | 3.1 | 4.6 | 11.4 |
| Cycle Q Clear(g_c), s | 8.4 | 0.0 | 0.0 | 2.5 | 9.7 | 3.8 | 6.9 | 0.0 | 8.7 | 3.1 | 4.6 | 11.4 |
| Prop In Lane | 1.00 | | 0.58 | 1.00 | | 1.00 | 1.00 | | 0.22 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 333 | 1857 | 922 | 51 | 2441 | 754 | 284 | 0 | 385 | 152 | 331 | 492 |
| V/C Ratio(X) | 0.82 | 0.25 | 0.26 | 0.79 | 0.30 | 0.13 | 0.78 | 0.00 | 0.43 | 0.64 | 0.27 | 0.63 |
| Avail Cap(c_a), veh/h | 465 | 1857 | 922 | 110 | 2441 | 754 | 402 | 0 | 612 | 220 | 544 | 807 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.93 | 0.93 | 0.93 | 0.75 | 0.75 | 0.75 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 43.5 | 0.0 | 0.0 | 53.1 | 17.5 | 16.0 | 49.5 | 0.0 | 37.3 | 51.7 | 39.1 | 41.9 |
| Incr Delay (d2), s/veh | 5.4 | 0.3 | 0.6 | 7.2 | 0.2 | 0.3 | 3.7 | 0.0 | 1.1 | 1.7 | 0.8 | 2.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 3.4 | 0.1 | 0.2 | 1.2 | 3.7 | 1.4 | 3.1 | 0.0 | 3.9 | 1.4 | 2.2 | 4.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 48.9 | 0.3 | 0.6 | 60.3 | 17.8 | 16.2 | 53.2 | 0.0 | 38.3 | 53.4 | 40.0 | 44.4 |
| LnGrp LOS | D | A | A | E | B | B | D | A | D | D | D | D |
| Approach Vol, veh/h | | 973 | | | 878 | | | 385 | | | 499 | |
| Approach Delay, s/veh | | 14.1 | | | 19.5 | | | 46.9 | | | 45.4 | |
| Approach LOS | | B | | | B | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.3 | 65.3 | 13.2 | 24.1 | 14.8 | 57.9 | 9.0 | 28.3 |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | * 4.2 | * 4.6 | * 4.2 | 5.3 | * 4.2 | 4.6 |
| Max Green Setting (Gmax), s | * 6.8 | 40.2 | * 13 | * 32 | * 15 | 32.2 | * 7 | 37.7 |
| Max Q Clear Time (g_c+I1), s | 4.5 | 2.0 | 8.9 | 13.4 | 10.4 | 11.7 | 5.1 | 10.7 |
| Green Ext Time (p_c), s | 0.0 | 5.7 | 0.2 | 3.1 | 0.2 | 7.4 | 0.0 | 1.3 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 26.2 | |
| HCM 6th LOS | C | |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Fanita Ranch
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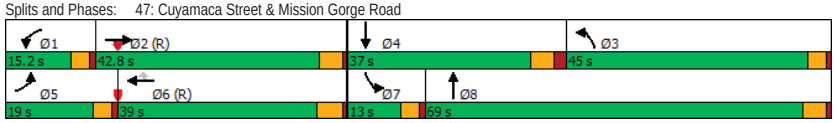
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 121 | 368 | 278 | 134 | 459 | 128 | 668 | 494 | 109 | 100 | 449 | 68 |
| Future Volume (vph) | 121 | 368 | 278 | 134 | 459 | 128 | 668 | 494 | 109 | 100 | 449 | 68 |
| Confl. Peds. (#/hr) | | | 11 | | | 14 | | | 19 | | | 16 |
| Confl. Bikes (#/hr) | | | 4 | | | | | | | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | 10.0 | 4.0 | 7.0 | | 4.0 | 15.0 | |
| Minimum Split (s) | 19.0 | 34.8 | 34.8 | 8.2 | 34.3 | 34.3 | 8.2 | 38.0 | | 8.2 | 37.0 | |
| Total Split (s) | 19.0 | 42.8 | 42.8 | 15.2 | 39.0 | 39.0 | 45.0 | 69.0 | | 13.0 | 37.0 | |
| Total Split (%) | 13.6% | 30.6% | 30.6% | 10.9% | 27.9% | 27.9% | 32.1% | 49.3% | | 9.3% | 26.4% | |
| Yellow Time (s) | 3.2 | 3.8 | 3.8 | 3.2 | 4.3 | 4.3 | 3.2 | 4.0 | | 3.2 | 4.0 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 2.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.2 | 4.8 | 4.8 | 4.2 | 5.3 | 5.3 | 4.2 | 5.0 | | 4.2 | 6.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lag | Lag | | Lead | Lead | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | C-Min | C-Min | None | C-Min | C-Min | None | None | | None | None | |

**Intersection Summary**

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green, Master Intersection
Natural Cycle: 120
Control Type: Actuated-Coordinated

Splits and Phases: 47: Cuyamaca Street & Mission Gorge Road








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 121 | 368 | 278 | 134 | 459 | 128 | 668 | 494 | 109 | 100 | 449 | 68 |
| Future Volume (veh/h) | 121 | 368 | 278 | 134 | 459 | 128 | 668 | 494 | 109 | 100 | 449 | 68 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 0.96 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1683 | 1683 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 132 | 400 | 302 | 146 | 499 | 139 | 726 | 537 | 118 | 109 | 488 | 74 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 181 | 1939 | 588 | 194 | 1958 | 601 | 789 | 1003 | 219 | 155 | 846 | 125 |
| Arrive On Green | 0.05 | 0.38 | 0.38 | 0.06 | 0.38 | 0.38 | 0.23 | 0.39 | 0.39 | 0.04 | 0.19 | 0.19 |
| Sat Flow, veh/h | 3456 | 5106 | 1549 | 3456 | 5106 | 1568 | 3456 | 2601 | 569 | 3456 | 4461 | 661 |
| Grp Volume(v), veh/h | 132 | 400 | 302 | 146 | 499 | 139 | 726 | 329 | 326 | 109 | 370 | 192 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1702 | 1549 | 1728 | 1702 | 1568 | 1728 | 1599 | 1571 | 1728 | 1702 | 1718 |
| Q Serve(g_s), s | 5.3 | 7.4 | 10.8 | 5.8 | 9.3 | 8.4 | 28.7 | 22.3 | 22.5 | 4.4 | 13.8 | 14.3 |
| Cycle Q Clear(g_c), s | 5.3 | 7.4 | 10.8 | 5.8 | 9.3 | 8.4 | 28.7 | 22.3 | 22.5 | 4.4 | 13.8 | 14.3 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.36 | 1.00 | | 0.38 |
| Lane Grp Cap(c), veh/h | 181 | 1939 | 588 | 194 | 1958 | 601 | 789 | 617 | 606 | 155 | 645 | 326 |
| V/C Ratio(X) | 0.73 | 0.21 | 0.51 | 0.75 | 0.25 | 0.23 | 0.92 | 0.53 | 0.54 | 0.70 | 0.57 | 0.59 |
| Avail Cap(c_a), veh/h | 365 | 1939 | 588 | 272 | 1958 | 601 | 1007 | 731 | 718 | 217 | 754 | 380 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.97 | 0.97 | 0.97 | 0.98 | 0.98 | 0.98 | 0.84 | 0.84 | 0.84 | 0.99 | 0.99 | 0.99 |
| Uniform Delay (d), s/veh | 65.4 | 29.2 | 8.8 | 65.1 | 29.5 | 29.2 | 52.8 | 33.3 | 33.3 | 65.9 | 51.6 | 51.8 |
| Incr Delay (d2), s/veh | 2.0 | 0.2 | 3.1 | 4.0 | 0.3 | 0.9 | 8.7 | 0.9 | 1.0 | 2.2 | 2.3 | 4.9 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.4 | 3.0 | 4.0 | 2.7 | 3.9 | 3.3 | 13.3 | 8.8 | 8.7 | 2.0 | 6.1 | 6.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 67.4 | 29.5 | 11.9 | 69.1 | 29.8 | 30.1 | 61.5 | 34.2 | 34.3 | 68.1 | 53.9 | 56.7 |
| LnGrp LOS | E | C | B | E | C | C | E | C | C | E | D | E |
| Approach Vol, veh/h | | 834 | | | 784 | | | 1381 | | | 671 | |
| Approach Delay, s/veh | | 29.1 | | | 37.2 | | | 48.6 | | | 57.0 | |
| Approach LOS | | C | | | D | | | D | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 12.1 | 58.5 | 36.9 | 32.5 | 11.5 | 59.0 | 10.5 | 59.0 |
| Change Period (Y+Rc), s | * 4.2 | * 5.3 | 5.0 | * 6 | * 4.2 | 5.3 | * 4.2 | 5.0 |
| Max Green Setting (Gmax), s | * 11 | * 38 | 40.8 | * 31 | * 15 | 33.7 | * 8.8 | 64.0 |
| Max Q Clear Time (g_c+I1), s | 7.8 | 12.8 | 30.7 | 16.3 | 7.3 | 11.3 | 6.4 | 24.5 |
| Green Ext Time (p_c), s | 0.1 | 9.2 | 1.2 | 5.7 | 0.1 | 6.0 | 0.0 | 7.1 |

**Intersection Summary**

| | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 43.3 | |
| HCM 6th LOS | | D | |

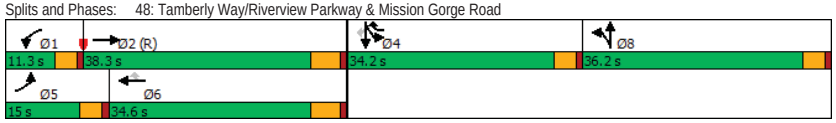
**Notes**

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 114 | 383 | 10 | 39 | 636 | 220 | 35 | 8 | 17 | 85 | 19 | 33 |
| Future Volume (vph) | 114 | 383 | 10 | 39 | 636 | 220 | 35 | 8 | 17 | 85 | 19 | 33 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | 1 | | | 3 | | | | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | 39% | | |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Split | NA | | Split | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 4 | 8 | 8 | | 4 | 4 | |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 4 | 8 | 8 | | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | 7.0 | 4.0 | 4.0 | | 7.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 23.3 | | 8.2 | 34.3 | 34.2 | 36.2 | 36.2 | | 34.2 | 34.2 | 34.2 |
| Total Split (s) | 15.0 | 38.3 | | 11.3 | 34.6 | 34.2 | 36.2 | 36.2 | | 34.2 | 34.2 | 34.2 |
| Total Split (%) | 12.5% | 31.9% | | 9.4% | 28.8% | 28.5% | 30.2% | 30.2% | | 28.5% | 28.5% | 28.5% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | 3.2 | 3.2 | 3.2 | | 3.2 | 3.2 | 3.2 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | 4.2 | 4.2 | 4.2 | | 4.2 | 4.2 | 4.2 |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | Min | None | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 0 (0%), Referenced to phase 2:EBT, Start of Green |
| Natural Cycle: 115 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 48: Tamberly Way/Riverview Parkway & Mission Gorge Road








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 114 | 383 | 10 | 39 | 636 | 220 | 35 | 8 | 17 | 85 | 19 | 33 |
| Future Volume (veh/h) | 114 | 383 | 10 | 39 | 636 | 220 | 35 | 8 | 17 | 85 | 19 | 33 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.99 | 1.00 | | 1.00 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 124 | 416 | 11 | 42 | 691 | 239 | 38 | 9 | 18 | 107 | 0 | 36 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 149 | 3724 | 98 | 54 | 3446 | 1147 | 61 | 19 | 38 | 206 | 0 | 90 |
| Arrive On Green | 0.08 | 0.73 | 0.73 | 0.03 | 0.67 | 0.67 | 0.03 | 0.03 | 0.03 | 0.06 | 0.00 | 0.06 |
| Sat Flow, veh/h | 1781 | 5112 | 135 | 1781 | 5106 | 1564 | 1781 | 557 | 1113 | 3563 | 0 | 1560 |
| Grp Volume(v), veh/h | 124 | 276 | 151 | 42 | 691 | 239 | 38 | 0 | 27 | 107 | 0 | 36 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1702 | 1843 | 1781 | 1702 | 1564 | 1781 | 0 | 1670 | 1781 | 0 | 1560 |
| Q Serve(g_s), s | 8.2 | 2.9 | 2.9 | 2.8 | 6.1 | 5.8 | 2.5 | 0.0 | 1.9 | 3.5 | 0.0 | 2.7 |
| Cycle Q Clear(g_c), s | 8.2 | 2.9 | 2.9 | 2.8 | 6.1 | 5.8 | 2.5 | 0.0 | 1.9 | 3.5 | 0.0 | 2.7 |
| Prop In Lane | 1.00 | | 0.07 | 1.00 | | 1.00 | 1.00 | | 0.67 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 149 | 2480 | 1342 | 54 | 3446 | 1147 | 61 | 0 | 57 | 206 | 0 | 90 |
| V/C Ratio(X) | 0.83 | 0.11 | 0.11 | 0.78 | 0.20 | 0.21 | 0.62 | 0.00 | 0.47 | 0.52 | 0.00 | 0.40 |
| Avail Cap(c_a), veh/h | 160 | 2480 | 1342 | 105 | 3446 | 1147 | 475 | 0 | 445 | 891 | 0 | 390 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.97 | 0.97 | 0.97 | 0.98 | 0.98 | 0.98 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 54.1 | 4.8 | 4.8 | 57.8 | 7.3 | 5.1 | 57.2 | 0.0 | 56.9 | 54.9 | 0.0 | 54.5 |
| Incr Delay (d2), s/veh | 25.0 | 0.1 | 0.2 | 8.6 | 0.0 | 0.1 | 3.8 | 0.0 | 2.2 | 0.8 | 0.0 | 1.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 4.7 | 0.9 | 1.0 | 1.4 | 2.0 | 2.2 | 1.2 | 0.0 | 0.8 | 1.6 | 0.0 | 1.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 79.1 | 4.9 | 5.0 | 66.4 | 7.4 | 5.2 | 61.0 | 0.0 | 59.1 | 55.7 | 0.0 | 55.6 |
| LnGrp LOS | E | A | A | E | A | A | E | A | E | E | A | E |
| Approach Vol, veh/h | | 551 | | | 972 | | | 65 | | | 143 | |
| Approach Delay, s/veh | | 21.6 | | | 9.4 | | | 60.2 | | | 55.6 | |
| Approach LOS | | C | | | A | | | E | | | E | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.8 | 92.7 | | 11.1 | 14.3 | 86.3 | | 8.3 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | | * 4.2 | * 4.2 | 5.3 | | 4.2 | | | | |
| Max Green Setting (Gmax), s | * 7.1 | 33.0 | | * 30 | * 11 | 29.3 | | 32.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 4.8 | 4.9 | | 5.5 | 10.2 | 8.1 | | 4.5 | | | | |
| Green Ext Time (p_c), s | 0.0 | 4.7 | | 0.2 | 0.0 | 8.6 | | 0.1 | | | | |

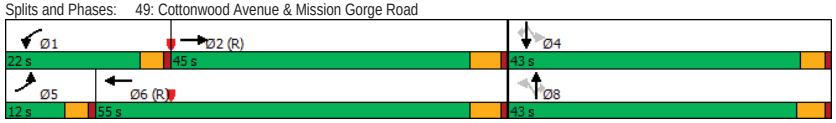
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 19.0 | |
| HCM 6th LOS | B | |

| Notes |
|---|
| User approved volume balancing among the lanes for turning movement. |
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 7 | 378 | 52 | 56 | 819 | 2 | 83 | 4 | 50 | 7 | 8 | 22 |
| Future Volume (vph) | 7 | 378 | 52 | 56 | 819 | 2 | 83 | 4 | 50 | 7 | 8 | 22 |
| Confl. Peds. (#/hr) | | | 6 | | | 19 | | | 1 | | | 4 |
| Confl. Bikes (#/hr) | | | 2 | | | 1 | | | | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Perm | NA | Perm | Perm | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | 8 | 4 | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | 8 | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 4.0 | 4.0 | 4.0 | 7.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 23.3 | | 8.2 | 24.3 | | 33.8 | 33.8 | 33.8 | 32.2 | 32.2 | 32.2 |
| Total Split (s) | 12.0 | 45.0 | | 22.0 | 55.0 | | 43.0 | 43.0 | 43.0 | 43.0 | 43.0 | 43.0 |
| Total Split (%) | 10.9% | 40.9% | | 20.0% | 50.0% | | 39.1% | 39.1% | 39.1% | 39.1% | 39.1% | 39.1% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | | 3.8 | 3.8 | 3.8 | 3.2 | 3.2 | 3.2 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | | | 4.8 | 4.8 | | 4.2 | 4.2 |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | None | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 110 |
| Offset: 21 (19%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 70 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 49: Cottonwood Avenue & Mission Gorge Road






Existing AM
49: Cottonwood Avenue & Mission Gorge Road
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 7 | 378 | 52 | 56 | 819 | 2 | 83 | 4 | 50 | 7 | 8 | 22 |
| Future Volume (veh/h) | 7 | 378 | 52 | 56 | 819 | 2 | 83 | 4 | 50 | 7 | 8 | 22 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.96 | 1.00 | | 1.00 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 8 | 411 | 57 | 61 | 890 | 2 | 90 | 4 | 54 | 8 | 9 | 24 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 14 | 2145 | 290 | 78 | 2680 | 6 | 65 | 2 | 558 | 49 | 39 | 549 |
| Arrive On Green | 0.01 | 0.47 | 0.47 | 0.09 | 1.00 | 1.00 | 0.35 | 0.35 | 0.35 | 0.35 | 0.35 | 0.35 |
| Sat Flow, veh/h | 1781 | 4530 | 613 | 1781 | 5260 | 12 | 4 | 4 | 1584 | 1 | 110 | 1557 |
| Grp Volume(v), veh/h | 8 | 306 | 162 | 61 | 576 | 316 | 94 | 0 | 54 | 17 | 0 | 24 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1702 | 1739 | 1781 | 1702 | 1868 | 8 | 0 | 1584 | 111 | 0 | 1557 |
| Q Serve(g_s), s | 0.5 | 5.7 | 5.9 | 3.7 | 0.0 | 0.0 | 0.1 | 0.0 | 2.5 | 0.1 | 0.0 | 1.1 |
| Cycle Q Clear(g_c), s | 0.5 | 5.7 | 5.9 | 3.7 | 0.0 | 0.0 | 38.8 | 0.0 | 2.5 | 38.8 | 0.0 | 1.1 |
| Prop In Lane | 1.00 | | 0.35 | 1.00 | | 0.01 | 0.96 | | 1.00 | 0.47 | | 1.00 |
| Lane Grp Cap(c), veh/h | 14 | 1612 | 824 | 78 | 1735 | 952 | 67 | 0 | 558 | 87 | 0 | 549 |
| V/C Ratio(X) | 0.57 | 0.19 | 0.20 | 0.78 | 0.33 | 0.33 | 1.40 | 0.00 | 0.10 | 0.19 | 0.00 | 0.04 |
| Avail Cap(c_a), veh/h | 126 | 1612 | 824 | 288 | 1735 | 952 | 67 | 0 | 558 | 88 | 0 | 549 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.99 | 0.99 | 0.99 | 0.71 | 0.71 | 0.71 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 54.4 | 16.8 | 16.8 | 49.6 | 0.0 | 0.0 | 54.1 | 0.0 | 23.9 | 29.3 | 0.0 | 23.4 |
| Incr Delay (d2), s/veh | 12.6 | 0.3 | 0.5 | 4.4 | 0.4 | 0.7 | 249.9 | 0.0 | 0.0 | 0.4 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.3 | 2.2 | 2.4 | 1.7 | 0.1 | 0.2 | 6.5 | 0.0 | 1.0 | 0.3 | 0.0 | 0.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 67.0 | 17.0 | 17.3 | 54.0 | 0.4 | 0.7 | 304.0 | 0.0 | 23.9 | 29.7 | 0.0 | 23.4 |
| LnGrp LOS | E | B | B | D | A | A | F | A | C | C | A | C |
| Approach Vol, veh/h | | 476 | | | 953 | | | 148 | | | 41 | |
| Approach Delay, s/veh | | 18.0 | | | 3.9 | | | 201.8 | | | 26.0 | |
| Approach LOS | | B | | | A | | | F | | | C | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 9.0 | 57.4 | | 43.6 | 5.1 | 61.3 | | 43.6 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | | * 4.8 | * 4.2 | 5.3 | | * 4.8 | | | | |
| Max Green Setting (Gmax), s | * 18 | 39.7 | | * 39 | * 7.8 | 49.7 | | * 38 | | | | |
| Max Q Clear Time (g_c+I1), s | 5.7 | 7.9 | | 40.8 | 2.5 | 2.0 | | 40.8 | | | | |
| Green Ext Time (p_c), s | 0.0 | 2.5 | | 0.0 | 0.0 | 10.2 | | 0.0 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 26.7 | |
| HCM 6th LOS | C | |

Notes

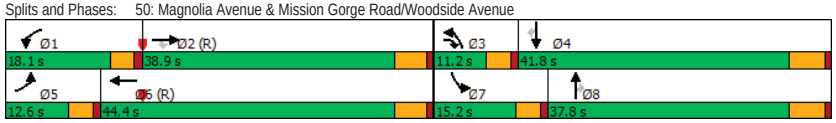
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\1 Existing AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 116 | 210 | 118 | 371 | 539 | 236 | 171 | 738 | 352 | 237 | 1037 | 200 |
| Future Volume (vph) | 116 | 210 | 118 | 371 | 539 | 236 | 171 | 738 | 352 | 237 | 1037 | 200 |
| Confl. Peds. (#/hr) | | | 6 | | | 11 | | | 19 | | | 6 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | | | | 8 | | | 4 |
| Detector Phase | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | 8 | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 4.0 | 4.0 | 10.0 | | 4.0 | 7.0 | 7.0 | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 38.3 | 8.2 | 8.2 | 35.3 | | 8.2 | 34.7 | 34.7 | 8.2 | 35.7 | 35.7 |
| Total Split (s) | 12.6 | 38.9 | 11.2 | 18.1 | 44.4 | | 11.2 | 37.8 | 37.8 | 15.2 | 41.8 | 41.8 |
| Total Split (%) | 11.5% | 35.4% | 10.2% | 16.5% | 40.4% | | 10.2% | 34.4% | 34.4% | 13.8% | 38.0% | 38.0% |
| Yellow Time (s) | 3.2 | 4.3 | 3.2 | 3.2 | 4.3 | | 3.2 | 4.7 | 4.7 | 3.2 | 4.7 | 4.7 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | 4.2 | 4.2 | 5.3 | | 4.2 | 5.7 | 5.7 | 4.2 | 5.7 | 5.7 |
| Lead/Lag | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | C-Min | None | None | C-Min | | None | None | None | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 110 |
| Offset: 24 (22%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 105 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 50: Magnolia Avenue & Mission Gorge Road/Woodside Avenue






Existing AM
50: Magnolia Avenue & Mission Gorge Road/Woodside Avenue
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 116 | 210 | 118 | 371 | 539 | 236 | 171 | 738 | 352 | 237 | 1037 | 200 |
| Future Volume (veh/h) | 116 | 210 | 118 | 371 | 539 | 236 | 171 | 738 | 352 | 237 | 1037 | 200 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 126 | 228 | 128 | 403 | 586 | 231 | 186 | 802 | 345 | 258 | 1127 | 195 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 183 | 1085 | 582 | 437 | 941 | 370 | 220 | 1066 | 466 | 318 | 1166 | 517 |
| Arrive On Green | 0.09 | 0.51 | 0.51 | 0.13 | 0.38 | 0.38 | 0.13 | 0.60 | 0.60 | 0.09 | 0.33 | 0.33 |
| Sat Flow, veh/h | 3456 | 3554 | 1576 | 3456 | 2484 | 977 | 3456 | 3554 | 1555 | 3456 | 3554 | 1576 |
| Grp Volume(v), veh/h | 126 | 228 | 128 | 403 | 419 | 398 | 186 | 802 | 345 | 258 | 1127 | 195 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1576 | 1728 | 1777 | 1684 | 1728 | 1777 | 1555 | 1728 | 1777 | 1576 |
| Q Serve(g_s), s | 3.9 | 3.9 | 4.6 | 12.7 | 21.1 | 21.1 | 5.8 | 18.1 | 17.6 | 8.1 | 34.3 | 10.4 |
| Cycle Q Clear(g_c), s | 3.9 | 3.9 | 4.6 | 12.7 | 21.1 | 21.1 | 5.8 | 18.1 | 17.6 | 8.1 | 34.3 | 10.4 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.58 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 183 | 1085 | 582 | 437 | 673 | 638 | 220 | 1066 | 466 | 318 | 1166 | 517 |
| V/C Ratio(X) | 0.69 | 0.21 | 0.22 | 0.92 | 0.62 | 0.62 | 0.85 | 0.75 | 0.74 | 0.81 | 0.97 | 0.38 |
| Avail Cap(c_a), veh/h | 264 | 1085 | 582 | 437 | 673 | 638 | 220 | 1066 | 466 | 346 | 1166 | 517 |
| HCM Platoon Ratio | 1.67 | 1.67 | 1.67 | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.91 | 0.91 | 0.91 | 0.85 | 0.85 | 0.85 |
| Uniform Delay (d), s/veh | 49.3 | 19.7 | 16.5 | 47.5 | 27.8 | 27.8 | 47.5 | 19.0 | 18.9 | 49.0 | 36.4 | 28.3 |
| Incr Delay (d2), s/veh | 1.7 | 0.4 | 0.9 | 24.7 | 4.3 | 4.6 | 22.2 | 3.0 | 6.1 | 10.0 | 16.9 | 0.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.7 | 1.6 | 1.6 | 6.8 | 9.4 | 9.0 | 3.0 | 5.1 | 4.8 | 3.8 | 16.7 | 3.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 51.0 | 20.1 | 17.3 | 72.2 | 32.0 | 32.3 | 69.7 | 22.0 | 25.0 | 59.0 | 53.3 | 28.8 |
| LnGrp LOS | D | C | B | E | C | C | E | C | C | E | D | C |
| Approach Vol, veh/h | | 482 | | | 1220 | | | 1333 | | | 1580 | |
| Approach Delay, s/veh | | 27.4 | | | 45.4 | | | 29.4 | | | 51.2 | |
| Approach LOS | | C | | | D | | | C | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 18.1 | 38.9 | 11.2 | 41.8 | 10.0 | 47.0 | 14.3 | 38.7 |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | * 4.2 | 5.7 | * 4.2 | 5.3 | * 4.2 | 5.7 |
| Max Green Setting (Gmax), s | * 14 | 33.6 | * 7 | 36.1 | * 8.4 | 39.1 | * 11 | 32.1 |
| Max Q Clear Time (g_c+I1), s | 14.7 | 6.6 | 7.8 | 36.3 | 5.9 | 23.1 | 10.1 | 20.1 |
| Green Ext Time (p_c), s | 0.0 | 2.2 | 0.0 | 0.0 | 0.0 | 7.1 | 0.1 | 6.5 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 40.9 | |
| HCM 6th LOS | D | |

| Notes |
|---|
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. |

Fanita Ranch
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| Intersection | |
|---|---|
| Intersection Delay, s/veh | 26 |
| Intersection LOS | D |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 6 | 132 | 332 | 9 | 0 | 294 | 0 | 0 | 9 | 526 | 36 |
| Future Vol, veh/h | 0 | 6 | 132 | 332 | 9 | 0 | 294 | 0 | 0 | 9 | 526 | 36 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 7 | 143 | 361 | 10 | 0 | 320 | 0 | 0 | 10 | 572 | 39 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 2 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay | 14.3 | 31 | 31.5 | 22.9 |
| HCM LOS | B | D | D | C |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 97% | 3% | 0% |
| Vol Thru, % | 0% | 100% | 4% | 3% | 97% | 88% |
| Vol Right, % | 0% | 0% | 96% | 0% | 0% | 12% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 294 | 0 | 138 | 341 | 272 | 299 |
| LT Vol | 294 | 0 | 0 | 332 | 9 | 0 |
| Through Vol | 0 | 0 | 6 | 9 | 263 | 263 |
| RT Vol | 0 | 0 | 132 | 0 | 0 | 36 |
| Lane Flow Rate | 320 | 0 | 150 | 371 | 296 | 325 |
| Geometry Grp | 7 | 7 | 2 | 2 | 7 | 7 |
| Degree of Util (X) | 0.742 | 0 | 0.32 | 0.764 | 0.617 | 0.67 |
| Departure Headway (Hd) | 8.363 | 7.846 | 7.672 | 7.541 | 7.517 | 7.423 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 435 | 0 | 470 | 482 | 482 | 488 |
| Service Time | 6.071 | 5.553 | 5.71 | 5.541 | 5.241 | 5.137 |
| HCM Lane V/C Ratio | 0.736 | 0 | 0.319 | 0.77 | 0.614 | 0.666 |
| HCM Control Delay | 31.5 | 10.6 | 14.3 | 31 | 21.6 | 24 |
| HCM Lane LOS | D | N | B | D | C | C |
| HCM 95th-tile Q | 6 | 0 | 1.4 | 6.6 | 4.1 | 4.9 |

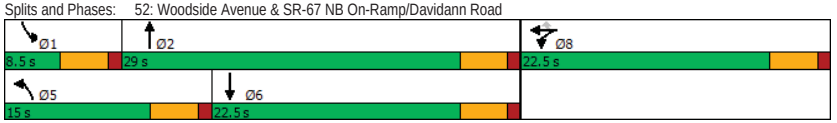




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 0 | 45 | 4 | 3 | 172 | 195 | 20 | 2 | 276 | 2 |
| Future Volume (vph) | 0 | 0 | 0 | 45 | 4 | 3 | 172 | 195 | 20 | 2 | 276 | 2 |
| Confl. Peds. (#/hr) | | | | | | | | | 1 | | | |
| Confl. Bikes (#/hr) | | | | | | 2 | | | 2 | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | | | | Split | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | | | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | 8 | | | | | | |
| Detector Phase | | | | 8 | 8 | 8 | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | | | | 22.5 | 22.5 | 22.5 | 8.5 | 22.5 | | 8.5 | 22.5 | |
| Total Split (s) | | | | 22.5 | 22.5 | 22.5 | 15.0 | 29.0 | | 8.5 | 22.5 | |
| Total Split (%) | | | | 37.5% | 37.5% | 37.5% | 25.0% | 48.3% | | 14.2% | 37.5% | |
| Yellow Time (s) | | | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | | | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | | | | | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | | | | | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | | | | None | None | None | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 36.2 |
| Natural Cycle: 60 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 52: Woodside Avenue & SR-67 NB On-Ramp/Davidann Road



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 45 | 4 | 3 | 172 | 195 | 20 | 2 | 276 | 2 |
| Future Volume (veh/h) | 0 | 0 | 0 | 45 | 4 | 3 | 172 | 195 | 20 | 2 | 276 | 2 |
| Initial Q (Qb), veh | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | | | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.97 |
| Parking Bus, Adj | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | | | | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | | | | 49 | 4 | 3 | 187 | 212 | 22 | 2 | 300 | 2 |
| Peak Hour Factor | | | | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | | | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | | | | 85 | 7 | 80 | 247 | 682 | 71 | 7 | 508 | 3 |
| Arrive On Green | | | | 0.05 | 0.05 | 0.05 | 0.14 | 0.41 | 0.41 | 0.00 | 0.27 | 0.27 |
| Sat Flow, veh/h | | | | 1653 | 135 | 1546 | 1781 | 1662 | 172 | 1781 | 1855 | 12 |
| Grp Volume(v), veh/h | | | | 53 | 0 | 3 | 187 | 0 | 234 | 2 | 0 | 302 |
| Grp Sat Flow(s),veh/h/ln | | | | 1788 | 0 | 1546 | 1781 | 0 | 1835 | 1781 | 0 | 1868 |
| Q Serve(g_s), s | | | | 0.7 | 0.0 | 0.0 | 2.5 | 0.0 | 2.2 | 0.0 | 0.0 | 3.5 |
| Cycle Q Clear(g_c), s | | | | 0.7 | 0.0 | 0.0 | 2.5 | 0.0 | 2.2 | 0.0 | 0.0 | 3.5 |
| Prop In Lane | | | | 0.92 | | 1.00 | 1.00 | | 0.09 | 1.00 | | 0.01 |
| Lane Grp Cap(c), veh/h | | | | 92 | 0 | 80 | 247 | 0 | 753 | 7 | 0 | 512 |
| V/C Ratio(X) | | | | 0.58 | 0.00 | 0.04 | 0.76 | 0.00 | 0.31 | 0.28 | 0.00 | 0.59 |
| Avail Cap(c_a), veh/h | | | | 1277 | 0 | 1104 | 742 | 0 | 1784 | 283 | 0 | 1334 |
| HCM Platoon Ratio | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | | | | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | | | | 11.7 | 0.0 | 11.4 | 10.4 | 0.0 | 5.0 | 12.5 | 0.0 | 7.9 |
| Incr Delay (d2), s/veh | | | | 5.6 | 0.0 | 0.2 | 4.7 | 0.0 | 0.2 | 20.4 | 0.0 | 1.1 |
| Initial Q Delay(d3),s/veh | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | | 0.3 | 0.0 | 0.0 | 1.0 | 0.0 | 0.4 | 0.0 | 0.0 | 0.9 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | 17.3 | 0.0 | 11.5 | 15.1 | 0.0 | 5.3 | 32.9 | 0.0 | 9.0 |
| LnGrp LOS | | | | B | A | B | B | A | A | C | A | A |
| Approach Vol, veh/h | | | | | 56 | | | 421 | | | 304 | |
| Approach Delay, s/veh | | | | | 17.0 | | | 9.6 | | | 9.2 | |
| Approach LOS | | | | | B | | | A | | | A | |

| Timer - Assigned Phs | 1 | 2 | | | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 4.6 | 14.8 | | | 8.0 | 11.4 | | 5.8 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 4.0 | 24.5 | | | 10.5 | 18.0 | | 18.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.0 | 4.2 | | | 4.5 | 5.5 | | 2.7 | | | | |
| Green Ext Time (p_c), s | 0.0 | 1.3 | | | 0.2 | 1.4 | | 0.2 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 10.0 |
| HCM 6th LOS | | A |





| Intersection | |
|---|---|
| Int Delay, s/veh | 8.3 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 94 | 508 | 563 | 0 | 0 | 694 |
| Future Vol, veh/h | 94 | 508 | 563 | 0 | 0 | 694 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | 300 | - | - | - | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 102 | 552 | 612 | 0 | 0 | 754 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 989 | 306 | 0 | - | - | - |
| Stage 1 | 612 | - | - | - | - | - |
| Stage 2 | 377 | - | - | - | - | - |
| Critical Hdwy | 6.84 | 6.8 | - | - | - | - |
| Critical Hdwy Stg 1 | 5.84 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.84 | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 3.32 | - | - | - | - |
| Pot Cap-1 Maneuver | 244 | 698 | - | 0 | 0 | - |
| Stage 1 | 504 | - | - | 0 | 0 | - |
| Stage 2 | 663 | - | - | 0 | 0 | - |
| Platoon blocked, % | | | - | | | - |
| Mov Cap-1 Maneuver | 244 | 698 | - | - | - | - |
| Mov Cap-2 Maneuver | 369 | - | - | - | - | - |
| Stage 1 | 504 | - | - | - | - | - |
| Stage 2 | 663 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 25.5 | 0 | 0 |
| HCM LOS | D | | |

| Minor Lane/Major Mvmt | NBT | WBLn1 | WBLn2 | SBT |
|---|---|---|---|---|
| Capacity (veh/h) | - | 369 | 698 | - |
| HCM Lane V/C Ratio | - | 0.277 | 0.791 | - |
| HCM Control Delay (s) | - | 18.5 | 26.8 | - |
| HCM Lane LOS | - | C | D | - |
| HCM 95th %tile Q(veh) | - | 1.1 | 7.9 | - |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 563 | 196 | 416 | 372 |
| Future Volume (Veh/h) | 0 | 0 | 563 | 196 | 416 | 372 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 0 | 612 | 213 | 452 | 404 |
| Pedestrians | 2 | | | | | |
| Lane Width (ft) | 0.0 | | | | | |
| Walking Speed (ft/s) | 4.0 | | | | | |
| Percent Blockage | 0 | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | 769 | | | 1029 |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 1826 | 414 | | | 827 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 1826 | 414 | | | 827 | |
| tC, single (s) | 6.8 | 6.9 | | | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 100 | 100 | | | 43 | |
| cM capacity (veh/h) | 30 | 587 | | | 800 | |

| Direction, Lane # | NB 1 | NB 2 | SB 1 | SB 2 | SB 3 |
|---|---|---|---|---|---|
| Volume Total | 408 | 417 | 452 | 202 | 202 |
| Volume Left | 0 | 0 | 452 | 0 | 0 |
| Volume Right | 0 | 213 | 0 | 0 | 0 |
| cSH | 1700 | 1700 | 800 | 1700 | 1700 |
| Volume to Capacity | 0.24 | 0.25 | 0.57 | 0.12 | 0.12 |
| Queue Length 95th (ft) | 0 | 0 | 90 | 0 | 0 |
| Control Delay (s) | 0.0 | 0.0 | 15.2 | 0.0 | 0.0 |
| Lane LOS | | | C | | |
| Approach Delay (s) | 0.0 | | 8.0 | | |
| Approach LOS | | | | | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Average Delay | | 4.1 | | |
| Intersection Capacity Utilization | | 53.7% | ICU Level of Service | A |
| Analysis Period (min) | | 15 | | |

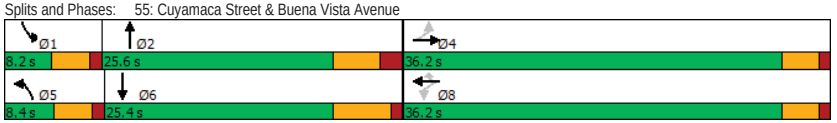




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 10 | 2 | 12 | 151 | 1 | 52 | 43 | 1263 | 152 | 29 | 976 | 27 |
| Future Volume (vph) | 10 | 2 | 12 | 151 | 1 | 52 | 43 | 1263 | 152 | 29 | 976 | 27 |
| Confl. Peds. (#/hr) | | | 3 | | | 7 | | | 5 | | | 2 |
| Confl. Bikes (#/hr) | | | 1 | | | 4 | | | 3 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Perm | NA | | Perm | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | 8 | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | 8 | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 10.0 | | 4.0 | 10.0 | |
| Minimum Split (s) | 36.2 | 36.2 | | 34.2 | 34.2 | 34.2 | 8.2 | 24.0 | | 8.2 | 24.0 | |
| Total Split (s) | 36.2 | 36.2 | | 36.2 | 36.2 | 36.2 | 8.4 | 25.6 | | 8.2 | 25.4 | |
| Total Split (%) | 51.7% | 51.7% | | 51.7% | 51.7% | 51.7% | 12.0% | 36.6% | | 11.7% | 36.3% | |
| Yellow Time (s) | 3.2 | 3.2 | | 3.2 | 3.2 | 3.2 | 3.2 | 4.0 | | 3.2 | 4.9 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 2.0 | | 1.0 | 1.1 | |
| Lost Time Adjust (s) | | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | | 4.2 | | | 4.2 | 4.2 | 4.2 | 6.0 | | 4.2 | 6.0 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | None | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 70 |
| Actuated Cycle Length: 47.3 |
| Natural Cycle: 75 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 55: Cuyamaca Street & Buena Vista Avenue



Existing AM
55: Cuyamaca Street & Buena Vista Avenue

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 10 | 2 | 12 | 151 | 1 | 52 | 43 | 1263 | 152 | 29 | 976 | 27 |
| Future Volume (veh/h) | 10 | 2 | 12 | 151 | 1 | 52 | 43 | 1263 | 152 | 29 | 976 | 27 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 0.99 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 11 | 2 | 13 | 164 | 1 | 57 | 47 | 1373 | 165 | 32 | 1061 | 29 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 191 | 62 | 130 | 470 | 2 | 297 | 72 | 1999 | 240 | 53 | 2165 | 59 |
| Arrive On Green | 0.19 | 0.19 | 0.19 | 0.19 | 0.19 | 0.19 | 0.04 | 0.43 | 0.43 | 0.03 | 0.42 | 0.42 |
| Sat Flow, veh/h | 355 | 320 | 676 | 1550 | 9 | 1542 | 1781 | 4603 | 553 | 1781 | 5109 | 140 |
| Grp Volume(v), veh/h | 26 | 0 | 0 | 165 | 0 | 57 | 47 | 1015 | 523 | 32 | 707 | 383 |
| Grp Sat Flow(s),veh/h/ln | 1352 | 0 | 0 | 1560 | 0 | 1542 | 1781 | 1702 | 1752 | 1781 | 1702 | 1845 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.3 | 1.1 | 10.1 | 10.1 | 0.7 | 6.3 | 6.3 |
| Cycle Q Clear(g_c), s | 3.5 | 0.0 | 0.0 | 3.5 | 0.0 | 1.3 | 1.1 | 10.1 | 10.1 | 0.7 | 6.3 | 6.3 |
| Prop In Lane | 0.42 | | 0.50 | 0.99 | | 1.00 | 1.00 | | 0.32 | 1.00 | | 0.08 |
| Lane Grp Cap(c), veh/h | 383 | 0 | 0 | 472 | 0 | 297 | 72 | 1478 | 761 | 53 | 1442 | 782 |
| V/C Ratio(X) | 0.07 | 0.00 | 0.00 | 0.35 | 0.00 | 0.19 | 0.66 | 0.69 | 0.69 | 0.61 | 0.49 | 0.49 |
| Avail Cap(c_a), veh/h | 1223 | 0 | 0 | 1268 | 0 | 1177 | 178 | 1592 | 819 | 170 | 1575 | 854 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 13.9 | 0.0 | 0.0 | 15.1 | 0.0 | 14.2 | 19.8 | 9.6 | 9.6 | 20.1 | 8.8 | 8.8 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 0.0 | 0.2 | 0.0 | 0.1 | 3.8 | 1.3 | 2.6 | 4.1 | 0.4 | 0.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.2 | 0.0 | 0.0 | 1.2 | 0.0 | 0.4 | 0.5 | 2.8 | 3.1 | 0.3 | 1.7 | 1.9 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 13.9 | 0.0 | 0.0 | 15.2 | 0.0 | 14.3 | 23.6 | 10.9 | 12.1 | 24.2 | 9.2 | 9.5 |
| LnGrp LOS | B | A | A | B | A | B | C | B | B | C | A | A |
| Approach Vol, veh/h | | 26 | | | 222 | | | 1585 | | | 1122 | |
| Approach Delay, s/veh | | 13.9 | | | 15.0 | | | 11.7 | | | 9.7 | |
| Approach LOS | | B | | | B | | | B | | | A | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.4 | 24.2 | | 12.3 | 5.9 | 23.8 | | 12.3 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 6.0 | | * 4.2 | * 4.2 | * 6 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | * 4 | 19.6 | | * 32 | * 4.2 | * 19 | | * 32 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.7 | 12.1 | | 5.5 | 3.1 | 8.3 | | 5.5 | | | | |
| Green Ext Time (p_c), s | 0.0 | 6.1 | | 0.1 | 0.0 | 6.6 | | 0.7 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 11.2 |
| HCM 6th LOS | | B |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



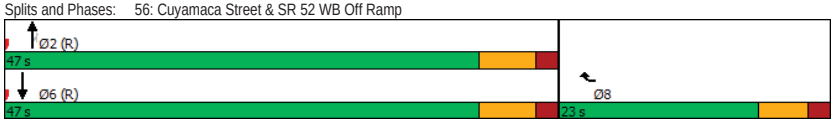
Existing AM
56: Cuyamaca Street & SR 52 WB Off Ramp

Fanita Ranch
06/06/2019

| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 778 | 761 | 185 | 0 | 1256 |
| Future Volume (vph) | 0 | 778 | 761 | 185 | 0 | 1256 |
| Confl. Peds. (#/hr) | | | | 9 | | |
| Confl. Bikes (#/hr) | | | | 3 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | 0% | | | 0% |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | | Prot | NA | Perm | | NA |
| Protected Phases | | 8 | 2 | | | 6 |
| Permitted Phases | | | | 2 | | |
| Detector Phase | | 8 | 2 | 2 | | 6 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | | 5.0 | 14.0 | 14.0 | | 14.0 |
| Minimum Split (s) | | 20.0 | 45.8 | 45.8 | | 45.8 |
| Total Split (s) | | 23.0 | 47.0 | 47.0 | | 47.0 |
| Total Split (%) | | 32.9% | 67.1% | 67.1% | | 67.1% |
| Yellow Time (s) | | 4.1 | 4.8 | 4.8 | | 4.8 |
| All-Red Time (s) | | 2.0 | 2.0 | 2.0 | | 2.0 |
| Lost Time Adjust (s) | | 0.0 | 0.0 | 0.0 | | 0.0 |
| Total Lost Time (s) | | 6.1 | 6.8 | 6.8 | | 6.8 |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | | None | C-Max | C-Max | | C-Max |

| Intersection Summary |
|---|
| Cycle Length: 70 |
| Actuated Cycle Length: 70 |
| Offset: 22 (31%), Referenced to phase 2:NBT and 6:SBT, Start of Green |
| Natural Cycle: 70 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 56: Cuyamaca Street & SR 52 WB Off Ramp



Existing AM
56: Cuyamaca Street & SR 52 WB Off Ramp

Fanita Ranch
06/06/2019

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 778 | 761 | 185 | 0 | 1256 |
| Future Volume (veh/h) | 0 | 778 | 761 | 185 | 0 | 1256 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | | 0.97 | 1.00 | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | No | | | No |
| Adj Sat Flow, veh/h/ln | 0 | 1870 | 1870 | 1870 | 0 | 1870 |
| Adj Flow Rate, veh/h | 0 | 846 | 827 | 201 | 0 | 1365 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 0 | 2 | 2 | 2 | 0 | 2 |
| Cap, veh/h | 0 | 0 | 4610 | 1394 | 0 | 4610 |
| Arrive On Green | 0.00 | 0.00 | 0.30 | 0.30 | 0.00 | 0.90 |
| Sat Flow, veh/h | 0 | | 5274 | 1544 | 0 | 5443 |
| Grp Volume(v), veh/h | 0.0 | | 827 | 201 | 0 | 1365 |
| Grp Sat Flow(s),veh/h/ln | | | 1702 | 1544 | 0 | 1702 |
| Q Serve(g_s), s | | | 8.4 | 6.7 | 0.0 | 2.5 |
| Cycle Q Clear(g_c), s | | | 8.4 | 6.7 | 0.0 | 2.5 |
| Prop In Lane | | | | 1.00 | 0.00 | |
| Lane Grp Cap(c), veh/h | | | 4610 | 1394 | 0 | 4610 |
| V/C Ratio(X) | | | 0.18 | 0.14 | 0.00 | 0.30 |
| Avail Cap(c_a), veh/h | | | 4610 | 1394 | 0 | 4610 |
| HCM Platoon Ratio | | | 0.33 | 0.33 | 1.00 | 1.00 |
| Upstream Filter(I) | | | 1.00 | 1.00 | 0.00 | 0.92 |
| Uniform Delay (d), s/veh | | | 5.3 | 4.7 | 0.0 | 0.5 |
| Incr Delay (d2), s/veh | | | 0.1 | 0.2 | 0.0 | 0.2 |
| Initial Q Delay(d3),s/veh | | | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | 0.0 | 0.1 | 0.0 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | | | 5.4 | 5.0 | 0.0 | 0.6 |
| LnGrp LOS | | | A | A | A | A |
| Approach Vol, veh/h | | | 1028 | | | 1365 |
| Approach Delay, s/veh | | | 5.3 | | | 0.6 |
| Approach LOS | | | A | | | A |

| Timer - Assigned Phs | | 2 | | | | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 70.0 | | | | 70.0 |
| Change Period (Y+Rc), s | | 6.8 | | | | 6.8 |
| Max Green Setting (Gmax), s | | 40.2 | | | | 40.2 |
| Max Q Clear Time (g_c+I1), s | | 10.4 | | | | 4.5 |
| Green Ext Time (p_c), s | | 7.2 | | | | 13.2 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 2.6 |
| HCM 6th LOS | A |



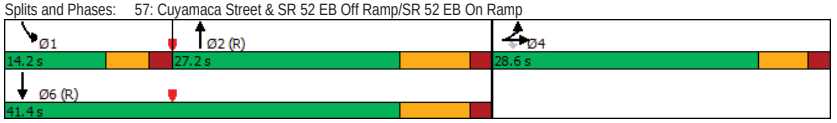
Existing AM
57: Cuyamaca Street & SR 52 EB Off Ramp/SR 52 EB On Ramp

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 247 | 2 | 471 | 0 | 0 | 0 | 0 | 699 | 84 | 280 | 669 | 0 |
| Future Volume (vph) | 247 | 2 | 471 | 0 | 0 | 0 | 0 | 699 | 84 | 280 | 669 | 0 |
| Confl. Peds. (#/hr) | | | | | | | | | 5 | | | 24 |
| Confl. Bikes (#/hr) | | | | | | | | | 2 | | | 9 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | 50% | | | | | | | | | | | |
| Turn Type | Split | NA | Perm | | | | | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | | | | | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | | | | |
| Detector Phase | 4 | 4 | 4 | | | | | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | | | | | 11.0 | | 5.0 | 12.0 | |
| Minimum Split (s) | 22.1 | 22.1 | 22.1 | | | | | 27.0 | | 10.7 | 32.0 | |
| Total Split (s) | 28.6 | 28.6 | 28.6 | | | | | 27.2 | | 14.2 | 41.4 | |
| Total Split (%) | 40.9% | 40.9% | 40.9% | | | | | 38.9% | | 20.3% | 59.1% | |
| Yellow Time (s) | 4.1 | 4.1 | 4.1 | | | | | 6.0 | | 3.7 | 6.0 | |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | | | | | 2.0 | | 2.0 | 2.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | | | | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 6.1 | 6.1 | 6.1 | | | | | 8.0 | | 5.7 | 8.0 | |
| Lead/Lag | | | | | | | | Lag | | Lead | | |
| Lead-Lag Optimize? | | | | | | | | Yes | | Yes | | |
| Recall Mode | None | None | None | | | | | C-Min | | None | C-Min | |

| Intersection Summary |
|---|
| Cycle Length: 70 |
| Actuated Cycle Length: 70 |
| Offset: 10 (14%), Referenced to phase 2:NBT and 6:SBT, Start of Green |
| Natural Cycle: 65 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 57: Cuyamaca Street & SR 52 EB Off Ramp/SR 52 EB On Ramp



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 247 | 2 | 471 | 0 | 0 | 0 | 0 | 699 | 84 | 280 | 669 | 0 |
| Future Volume (veh/h) | 247 | 2 | 471 | 0 | 0 | 0 | 0 | 699 | 84 | 280 | 669 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | | | | 1.00 | | 0.98 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | | | | 0 | 1870 | 1870 | 1870 | 1870 | 0 |
| Adj Flow Rate, veh/h | 269 | 0 | 512 | | | | 0 | 760 | 91 | 304 | 727 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | | | | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | | | | 0 | 2 | 2 | 2 | 2 | 0 |
| Cap, veh/h | 1145 | 0 | 509 | | | | 0 | 1292 | 153 | 400 | 1696 | 0 |
| Arrive On Green | 0.32 | 0.00 | 0.32 | | | | 0.00 | 0.37 | 0.37 | 0.04 | 0.16 | 0.00 |
| Sat Flow, veh/h | 3563 | 0 | 1585 | | | | 0 | 4783 | 548 | 3456 | 3647 | 0 |
| Grp Volume(v), veh/h | 269 | 0 | 512 | | | | 0 | 559 | 292 | 304 | 727 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1585 | | | | 0 | 1702 | 1759 | 1728 | 1777 | 0 |
| Q Serve(g_s), s | 3.9 | 0.0 | 22.5 | | | | 0.0 | 9.2 | 9.4 | 6.1 | 12.9 | 0.0 |
| Cycle Q Clear(g_c), s | 3.9 | 0.0 | 22.5 | | | | 0.0 | 9.2 | 9.4 | 6.1 | 12.9 | 0.0 |
| Prop In Lane | 1.00 | | 1.00 | | | | 0.00 | | 0.31 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 1145 | 0 | 509 | | | | 0 | 953 | 492 | 400 | 1696 | 0 |
| V/C Ratio(X) | 0.23 | 0.00 | 1.00 | | | | 0.00 | 0.59 | 0.59 | 0.76 | 0.43 | 0.00 |
| Avail Cap(c_a), veh/h | 1145 | 0 | 509 | | | | 0 | 953 | 492 | 420 | 1696 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.33 | 1.33 | 0.33 | 0.33 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | | | | 0.00 | 0.94 | 0.94 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | 17.4 | 0.0 | 23.8 | | | | 0.0 | 18.7 | 18.8 | 32.7 | 20.9 | 0.0 |
| Incr Delay (d2), s/veh | 0.1 | 0.0 | 41.1 | | | | 0.0 | 2.5 | 4.9 | 6.6 | 0.8 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.5 | 0.0 | 13.5 | | | | 0.0 | 3.4 | 3.9 | 2.9 | 6.2 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 17.5 | 0.0 | 64.8 | | | | 0.0 | 21.2 | 23.6 | 39.3 | 21.7 | 0.0 |
| LnGrp LOS | B | A | F | | | | A | C | C | D | C | A |
| Approach Vol, veh/h | | 781 | | | | | | 851 | | | 1031 | |
| Approach Delay, s/veh | | 48.6 | | | | | | 22.0 | | | 26.9 | |
| Approach LOS | | D | | | | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | 4 | 6 |
|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 13.8 | 27.6 | 28.6 | 41.4 |
| Change Period (Y+Rc), s | * 5.7 | 8.0 | 6.1 | 8.0 |
| Max Green Setting (Gmax), s | * 8.5 | 19.2 | 22.5 | 33.4 |
| Max Q Clear Time (g_c+I1), s | 8.1 | 11.4 | 24.5 | 14.9 |
| Green Ext Time (p_c), s | 0.0 | 3.3 | 0.0 | 4.7 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 31.7 |
| HCM 6th LOS | C |

Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

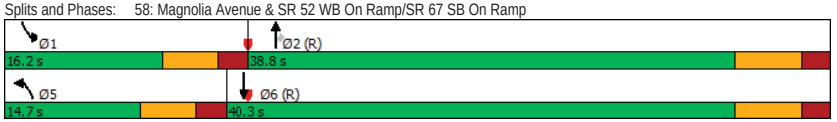




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 269 | 1160 | 134 | 546 | 576 | 237 |
| Future Volume (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 269 | 1160 | 134 | 546 | 576 | 237 |
| Confl. Peds. (#/hr) | | | | | | | | | 5 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | | | | | | | Prot | NA | Perm | Prot | NA | |
| Protected Phases | | | | | | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | | | 2 | | | |
| Detector Phase | | | | | | | 5 | 2 | 2 | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | | | | | | 5.0 | 6.0 | 6.0 | 5.0 | 7.0 | |
| Minimum Split (s) | | | | | | | 10.7 | 38.4 | 38.4 | 10.7 | 39.4 | |
| Total Split (s) | | | | | | | 14.7 | 38.8 | 38.8 | 16.2 | 40.3 | |
| Total Split (%) | | | | | | | 26.7% | 70.5% | 70.5% | 29.5% | 73.3% | |
| Yellow Time (s) | | | | | | | 3.7 | 4.4 | 4.4 | 3.7 | 4.4 | |
| All-Red Time (s) | | | | | | | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | |
| Lost Time Adjust (s) | | | | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | | | | | | | 5.7 | 6.4 | 6.4 | 5.7 | 6.4 | |
| Lead/Lag | | | | | | | Lead | Lag | Lag | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | Yes | Yes | Yes | |
| Recall Mode | | | | | | | None | C-Max | C-Max | None | C-Max | |

| Intersection Summary |
|---|
| Cycle Length: 55 |
| Actuated Cycle Length: 55 |
| Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green |
| Natural Cycle: 60 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 58: Magnolia Avenue & SR 52 WB On Ramp/SR 67 SB On Ramp



Existing AM
58: Magnolia Avenue & SR 52 WB On Ramp/SR 67 SB On Ramp

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 0 | 0 | 0 | 269 | 1160 | 134 | 546 | 576 | 237 |
| Future Volume (veh/h) | 0 | 0 | 0 | 0 | 0 | 0 | 269 | 1160 | 134 | 546 | 576 | 237 |
| Initial Q (Qb), veh | | | | | | | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | | | | | | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | | | | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | | | | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | | | | | | | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | | | | | | | 292 | 1261 | 146 | 593 | 626 | 258 |
| Peak Hour Factor | | | | | | | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | | | | | | | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | | | | | | | 401 | 3008 | 911 | 660 | 1617 | 666 |
| Arrive On Green | | | | | | | 0.23 | 1.00 | 1.00 | 0.32 | 1.00 | 1.00 |
| Sat Flow, veh/h | | | | | | | 3456 | 5106 | 1546 | 3456 | 2436 | 1003 |
| Grp Volume(v), veh/h | | | | | | | 292 | 1261 | 146 | 593 | 457 | 427 |
| Grp Sat Flow(s),veh/h/ln | | | | | | | 1728 | 1702 | 1546 | 1728 | 1777 | 1662 |
| Q Serve(g_s), s | | | | | | | 4.3 | 0.0 | 0.0 | 9.0 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | | | | | | | 4.3 | 0.0 | 0.0 | 9.0 | 0.0 | 0.0 |
| Prop In Lane | | | | | | | 1.00 | | 1.00 | 1.00 | | 0.60 |
| Lane Grp Cap(c), veh/h | | | | | | | 401 | 3008 | 911 | 660 | 1180 | 1104 |
| V/C Ratio(X) | | | | | | | 0.73 | 0.42 | 0.16 | 0.90 | 0.39 | 0.39 |
| Avail Cap(c_a), veh/h | | | | | | | 565 | 3008 | 911 | 660 | 1180 | 1104 |
| HCM Platoon Ratio | | | | | | | 2.00 | 2.00 | 2.00 | 1.67 | 1.67 | 1.67 |
| Upstream Filter(I) | | | | | | | 0.65 | 0.65 | 0.65 | 0.38 | 0.38 | 0.38 |
| Uniform Delay (d), s/veh | | | | | | | 20.3 | 0.0 | 0.0 | 18.2 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | | | | | | | 0.9 | 0.3 | 0.2 | 6.6 | 0.4 | 0.4 |
| Initial Q Delay(d3),s/veh | | | | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | | | | | 1.5 | 0.1 | 0.1 | 3.2 | 0.1 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | | | | 21.2 | 0.3 | 0.2 | 24.8 | 0.4 | 0.4 |
| LnGrp LOS | | | | | | | C | A | A | C | A | A |
| Approach Vol, veh/h | | | | | | | | 1699 | | | 1477 | |
| Approach Delay, s/veh | | | | | | | | 3.9 | | | 10.2 | |
| Approach LOS | | | | | | | | A | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 5 | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 16.2 | 38.8 | | 12.1 | 42.9 |
| Change Period (Y+Rc), s | * 5.7 | 6.4 | | * 5.7 | 6.4 |
| Max Green Setting (Gmax), s | * 11 | 32.4 | | * 9 | 33.9 |
| Max Q Clear Time (g_c+I1), s | 11.0 | 2.0 | | 6.3 | 2.0 |
| Green Ext Time (p_c), s | 0.0 | 12.0 | | 0.2 | 5.9 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 6.8 |
| HCM 6th LOS | A |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



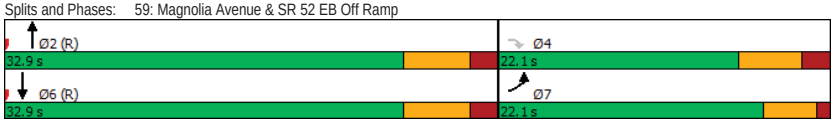
Existing AM
59: Magnolia Avenue & SR 52 EB Off Ramp

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 205 | 192 | 0 | 1358 | 576 | 0 |
| Future Volume (vph) | 205 | 192 | 0 | 1358 | 576 | 0 |
| Confl. Peds. (#/hr) | | | | | | |
| Confl. Bikes (#/hr) | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | | NA | NA | |
| Protected Phases | 7 | | | 2 | 6 | |
| Permitted Phases | | 4 | | | | |
| Detector Phase | 7 | 4 | | 2 | 6 | |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 5.0 | | 5.0 | 5.0 | |
| Minimum Split (s) | 8.5 | 22.1 | | 22.4 | 27.4 | |
| Total Split (s) | 22.1 | 22.1 | | 32.9 | 32.9 | |
| Total Split (%) | 40.2% | 40.2% | | 59.8% | 59.8% | |
| Yellow Time (s) | 3.5 | 4.1 | | 4.4 | 4.4 | |
| All-Red Time (s) | 1.0 | 2.0 | | 2.0 | 2.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 6.1 | | 6.4 | 6.4 | |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | None | None | | C-Max | C-Max | |

| Intersection Summary |
|---|
| Cycle Length: 55 |
| Actuated Cycle Length: 55 |
| Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green |
| Natural Cycle: 60 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 59: Magnolia Avenue & SR 52 EB Off Ramp



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 205 | 192 | 0 | 1358 | 576 | 0 |
| Future Volume (veh/h) | 205 | 192 | 0 | 1358 | 576 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 0 | 1870 | 1870 | 0 |
| Adj Flow Rate, veh/h | 223 | 209 | 0 | 1476 | 626 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 0 | 2 | 2 | 0 |
| Cap, veh/h | 318 | 283 | 0 | 2215 | 2215 | 0 |
| Arrive On Green | 0.18 | 0.18 | 0.00 | 0.62 | 1.00 | 0.00 |
| Sat Flow, veh/h | 1781 | 1585 | 0 | 3741 | 3741 | 0 |
| Grp Volume(v), veh/h | 223 | 209 | 0 | 1476 | 626 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 0 | 1777 | 1777 | 0 |
| Q Serve(g_s), s | 6.5 | 6.9 | 0.0 | 14.7 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 6.5 | 6.9 | 0.0 | 14.7 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | 1.00 | 0.00 | | | 0.00 |
| Lane Grp Cap(c), veh/h | 318 | 283 | 0 | 2215 | 2215 | 0 |
| V/C Ratio(X) | 0.70 | 0.74 | 0.00 | 0.67 | 0.28 | 0.00 |
| Avail Cap(c_a), veh/h | 570 | 507 | 0 | 2215 | 2215 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 2.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.71 | 0.92 | 0.00 |
| Uniform Delay (d), s/veh | 21.2 | 21.4 | 0.0 | 6.7 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 2.8 | 3.8 | 0.0 | 1.1 | 0.3 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.7 | 2.6 | 0.0 | 3.1 | 0.1 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 24.0 | 25.1 | 0.0 | 7.8 | 0.3 | 0.0 |
| LnGrp LOS | C | C | A | A | A | A |
| Approach Vol, veh/h | 432 | | | 1476 | 626 | |
| Approach Delay, s/veh | 24.6 | | | 7.8 | 0.3 | |
| Approach LOS | C | | | A | A | |

| Timer - Assigned Phs | | 2 | | 4 | | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 40.7 | | 14.3 | | 40.7 |
| Change Period (Y+Rc), s | | 6.4 | | 4.5 | | 6.4 |
| Max Green Setting (Gmax), s | | 26.5 | | 17.6 | | 26.5 |
| Max Q Clear Time (g_c+I1), s | | 16.7 | | 8.9 | | 2.0 |
| Green Ext Time (p_c), s | | 6.4 | | 1.0 | | 4.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 8.8 |
| HCM 6th LOS | A |

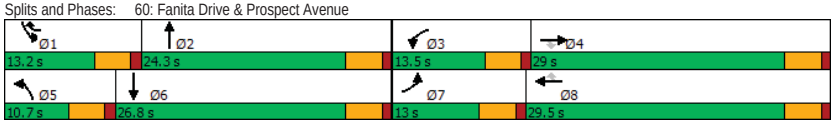




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 146 | 55 | 51 | 71 | 166 | 265 | 70 | 299 | 59 | 155 | 133 | 93 |
| Future Volume (vph) | 146 | 55 | 51 | 71 | 166 | 265 | 70 | 299 | 59 | 155 | 133 | 93 |
| Confl. Peds. (#/hr) | | | 5 | | | 3 | | | 4 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | 1 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | pm+ov | Prot | NA | | Prot | NA | |
| Protected Phases | 7 | 4 | | 3 | 8 | 1 | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | | | | |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | 1 | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | 8.5 | 24.5 | 24.5 | 8.5 | 29.5 | 8.5 | 8.5 | 22.5 | | 8.5 | 24.5 | |
| Total Split (s) | 13.0 | 29.0 | 29.0 | 13.5 | 29.5 | 13.2 | 10.7 | 24.3 | | 13.2 | 26.8 | |
| Total Split (%) | 16.3% | 36.3% | 36.3% | 16.9% | 36.9% | 16.5% | 13.4% | 30.4% | | 16.5% | 33.5% | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | None | None | None | None | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 80 |
| Actuated Cycle Length: 66.6 |
| Natural Cycle: 90 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 60: Fanita Drive & Prospect Avenue



Existing AM
60: Fanita Drive & Prospect Avenue

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 146 | 55 | 51 | 71 | 166 | 265 | 70 | 299 | 59 | 155 | 133 | 93 |
| Future Volume (veh/h) | 146 | 55 | 51 | 71 | 166 | 265 | 70 | 299 | 59 | 155 | 133 | 93 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 159 | 60 | 55 | 77 | 180 | 288 | 76 | 325 | 64 | 168 | 145 | 101 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 200 | 523 | 441 | 99 | 417 | 534 | 97 | 385 | 76 | 210 | 656 | 428 |
| Arrive On Green | 0.11 | 0.28 | 0.28 | 0.06 | 0.22 | 0.22 | 0.05 | 0.26 | 0.26 | 0.12 | 0.32 | 0.32 |
| Sat Flow, veh/h | 1781 | 1870 | 1577 | 1781 | 1870 | 1558 | 1781 | 1509 | 297 | 1781 | 2058 | 1342 |
| Grp Volume(v), veh/h | 159 | 60 | 55 | 77 | 180 | 288 | 76 | 0 | 389 | 168 | 124 | 122 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1577 | 1781 | 1870 | 1558 | 1781 | 0 | 1806 | 1781 | 1777 | 1624 |
| Q Serve(g_s), s | 5.4 | 1.5 | 1.6 | 2.6 | 5.1 | 9.2 | 2.6 | 0.0 | 12.6 | 5.7 | 3.1 | 3.4 |
| Cycle Q Clear(g_c), s | 5.4 | 1.5 | 1.6 | 2.6 | 5.1 | 9.2 | 2.6 | 0.0 | 12.6 | 5.7 | 3.1 | 3.4 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.16 | 1.00 | | 0.83 |
| Lane Grp Cap(c), veh/h | 200 | 523 | 441 | 99 | 417 | 534 | 97 | 0 | 461 | 210 | 566 | 517 |
| V/C Ratio(X) | 0.79 | 0.11 | 0.12 | 0.78 | 0.43 | 0.54 | 0.78 | 0.00 | 0.84 | 0.80 | 0.22 | 0.24 |
| Avail Cap(c_a), veh/h | 246 | 743 | 626 | 260 | 758 | 819 | 179 | 0 | 580 | 251 | 643 | 587 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 26.7 | 16.5 | 16.6 | 28.7 | 20.6 | 16.4 | 28.8 | 0.0 | 21.8 | 26.5 | 15.4 | 15.5 |
| Incr Delay (d2), s/veh | 13.6 | 0.1 | 0.1 | 12.2 | 0.7 | 0.8 | 12.8 | 0.0 | 9.1 | 14.2 | 0.2 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.9 | 0.6 | 0.5 | 1.4 | 2.1 | 3.0 | 1.4 | 0.0 | 5.8 | 3.0 | 1.1 | 1.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 40.3 | 16.6 | 16.7 | 41.0 | 21.3 | 17.3 | 41.6 | 0.0 | 30.9 | 40.7 | 15.6 | 15.7 |
| LnGrp LOS | D | B | B | D | C | B | D | A | C | D | B | B |
| Approach Vol, veh/h | | 274 | | | 545 | | | 465 | | | 414 | |
| Approach Delay, s/veh | | 30.4 | | | 22.0 | | | 32.6 | | | 25.8 | |
| Approach LOS | | C | | | C | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 11.8 | 20.2 | 7.9 | 21.7 | 7.9 | 24.1 | 11.4 | 18.2 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 8.7 | 19.8 | 9.0 | 24.5 | 6.2 | 22.3 | 8.5 | 25.0 |
| Max Q Clear Time (g_c+I1), s | 7.7 | 14.6 | 4.6 | 3.6 | 4.6 | 5.4 | 7.4 | 11.2 |
| Green Ext Time (p_c), s | 0.0 | 1.0 | 0.0 | 0.4 | 0.0 | 1.1 | 0.0 | 1.7 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 27.2 |
| HCM 6th LOS | C |



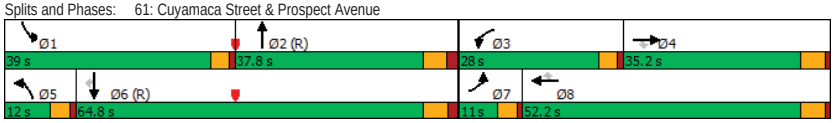
Existing AM
61: Cuyamaca Street & Prospect Avenue

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 19 | 52 | 47 | 146 | 47 | 295 | 30 | 513 | 66 | 234 | 863 | 48 |
| Future Volume (vph) | 19 | 52 | 47 | 146 | 47 | 295 | 30 | 513 | 66 | 234 | 863 | 48 |
| Confl. Peds. (#/hr) | | | 20 | | | 8 | | | 8 | | | 4 |
| Confl. Bikes (#/hr) | | | 1 | | | 4 | | | 4 | | | 7 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | | | | 6 |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | 8 | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 7.0 | 7.0 | 4.0 | 7.0 | 7.0 | 4.0 | 10.0 | | 4.0 | 10.0 | 10.0 |
| Minimum Split (s) | 8.2 | 35.2 | 35.2 | 8.2 | 36.2 | 36.2 | 8.2 | 33.0 | | 8.2 | 31.0 | 31.0 |
| Total Split (s) | 11.0 | 35.2 | 35.2 | 28.0 | 52.2 | 52.2 | 12.0 | 37.8 | | 39.0 | 64.8 | 64.8 |
| Total Split (%) | 7.9% | 25.1% | 25.1% | 20.0% | 37.3% | 37.3% | 8.6% | 27.0% | | 27.9% | 46.3% | 46.3% |
| Yellow Time (s) | 3.2 | 4.2 | 4.2 | 3.2 | 4.2 | 4.2 | 3.2 | 4.0 | | 3.2 | 4.1 | 4.1 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 2.0 | | 1.0 | 1.9 | 1.9 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.2 | 5.2 | 4.2 | 5.2 | 5.2 | 4.2 | 6.0 | | 4.2 | 6.0 | 6.0 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | None | None | C-Min | | None | C-Min | C-Min |

| Intersection Summary |
|---|
| Cycle Length: 140 |
| Actuated Cycle Length: 140 |
| Offset: 26 (19%), Referenced to phase 2:NBT and 6:SBT, Start of Green |
| Natural Cycle: 100 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 61: Cuyamaca Street & Prospect Avenue



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 19 | 52 | 47 | 146 | 47 | 295 | 30 | 513 | 66 | 234 | 863 | 48 |
| Future Volume (veh/h) | 19 | 52 | 47 | 146 | 47 | 295 | 30 | 513 | 66 | 234 | 863 | 48 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.94 | 1.00 | | 0.97 | 1.00 | | 0.97 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 21 | 57 | 51 | 159 | 51 | 321 | 33 | 558 | 72 | 254 | 938 | 52 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 28 | 257 | 205 | 183 | 797 | 346 | 42 | 2126 | 270 | 275 | 2118 | 929 |
| Arrive On Green | 0.02 | 0.14 | 0.14 | 0.10 | 0.22 | 0.22 | 0.02 | 0.47 | 0.47 | 0.31 | 1.00 | 1.00 |
| Sat Flow, veh/h | 1781 | 1870 | 1496 | 1781 | 3554 | 1543 | 1781 | 4568 | 580 | 1781 | 3554 | 1559 |
| Grp Volume(v), veh/h | 21 | 57 | 51 | 159 | 51 | 321 | 33 | 413 | 217 | 254 | 938 | 52 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1496 | 1781 | 1777 | 1543 | 1781 | 1702 | 1744 | 1781 | 1777 | 1559 |
| Q Serve(g_s), s | 1.6 | 3.8 | 4.3 | 12.3 | 1.6 | 28.5 | 2.6 | 10.3 | 10.6 | 19.3 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 1.6 | 3.8 | 4.3 | 12.3 | 1.6 | 28.5 | 2.6 | 10.3 | 10.6 | 19.3 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.33 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 28 | 257 | 205 | 183 | 797 | 346 | 42 | 1584 | 812 | 275 | 2118 | 929 |
| V/C Ratio(X) | 0.74 | 0.22 | 0.25 | 0.87 | 0.06 | 0.93 | 0.78 | 0.26 | 0.27 | 0.92 | 0.44 | 0.06 |
| Avail Cap(c_a), veh/h | 87 | 401 | 321 | 303 | 1193 | 518 | 99 | 1584 | 812 | 443 | 2118 | 929 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 2.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 0.92 | 0.92 | 0.92 | 1.00 | 1.00 | 1.00 | 0.76 | 0.76 | 0.76 |
| Uniform Delay (d), s/veh | 68.6 | 53.7 | 53.9 | 61.8 | 42.7 | 53.2 | 68.0 | 22.8 | 22.8 | 47.6 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 13.0 | 0.5 | 0.7 | 6.7 | 0.0 | 14.4 | 11.1 | 0.4 | 0.8 | 10.1 | 0.5 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.8 | 1.8 | 1.6 | 5.9 | 0.7 | 12.3 | 1.3 | 4.3 | 4.6 | 8.1 | 0.2 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 81.6 | 54.2 | 54.6 | 68.5 | 42.8 | 67.6 | 79.1 | 23.2 | 23.6 | 57.7 | 0.5 | 0.1 |
| LnGrp LOS | F | D | D | E | D | E | E | C | C | E | A | A |
| Approach Vol, veh/h | | 129 | | | 531 | | | 663 | | | 1244 | |
| Approach Delay, s/veh | | 58.8 | | | 65.5 | | | 26.1 | | | 12.2 | |
| Approach LOS | | E | | | E | | | C | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 25.8 | 71.2 | 18.6 | 24.4 | 7.5 | 89.5 | 6.4 | 36.6 |
| Change Period (Y+Rc), s | * 4.2 | 6.0 | * 4.2 | 5.2 | * 4.2 | * 6 | * 4.2 | 5.2 |
| Max Green Setting (Gmax), s | * 35 | 31.8 | * 24 | 30.0 | * 7.8 | * 59 | * 6.8 | 47.0 |
| Max Q Clear Time (g_c+I1), s | 21.3 | 12.6 | 14.3 | 6.3 | 4.6 | 2.0 | 3.6 | 30.5 |
| Green Ext Time (p_c), s | 0.3 | 5.4 | 0.1 | 0.4 | 0.0 | 12.8 | 0.0 | 0.9 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 29.1 |
| HCM 6th LOS | C |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

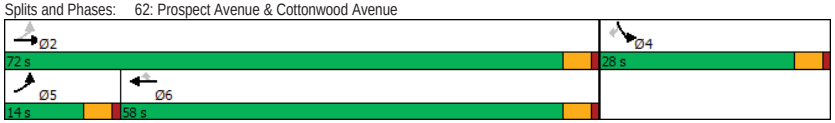




| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 59 | 167 | 399 | 102 | 62 | 114 |
| Future Volume (vph) | 59 | 167 | 399 | 102 | 62 | 114 |
| Confl. Peds. (#/hr) | | | | 3 | | 6 |
| Confl. Bikes (#/hr) | | | | 1 | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | pm+pt | NA | NA | Perm | Prot | Perm |
| Protected Phases | 5 | 2 | 6 | | 4 | |
| Permitted Phases | 2 | | | 6 | | 4 |
| Detector Phase | 5 | 2 | 6 | 6 | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 |
| Total Split (s) | 14.0 | 72.0 | 58.0 | 58.0 | 28.0 | 28.0 |
| Total Split (%) | 14.0% | 72.0% | 58.0% | 58.0% | 28.0% | 28.0% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | | Lag | Lag | | |
| Lead-Lag Optimize? | Yes | | Yes | Yes | | |
| Recall Mode | None | Min | Min | Min | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 44.5 |
| Natural Cycle: 55 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 62: Prospect Avenue & Cottonwood Avenue



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 59 | 167 | 399 | 102 | 62 | 114 |
| Future Volume (veh/h) | 59 | 167 | 399 | 102 | 62 | 114 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 0.98 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 64 | 182 | 434 | 111 | 67 | 124 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 492 | 1074 | 691 | 571 | 224 | 200 |
| Arrive On Green | 0.06 | 0.57 | 0.37 | 0.37 | 0.13 | 0.13 |
| Sat Flow, veh/h | 1781 | 1870 | 1870 | 1545 | 1781 | 1585 |
| Grp Volume(v), veh/h | 64 | 182 | 434 | 111 | 67 | 124 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1870 | 1545 | 1781 | 1585 |
| Q Serve(g_s), s | 0.6 | 1.4 | 5.7 | 1.5 | 1.0 | 2.2 |
| Cycle Q Clear(g_c), s | 0.6 | 1.4 | 5.7 | 1.5 | 1.0 | 2.2 |
| Prop In Lane | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 492 | 1074 | 691 | 571 | 224 | 200 |
| V/C Ratio(X) | 0.13 | 0.17 | 0.63 | 0.19 | 0.30 | 0.62 |
| Avail Cap(c_a), veh/h | 957 | 4203 | 3331 | 2752 | 1394 | 1240 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 5.1 | 3.0 | 7.8 | 6.4 | 11.9 | 12.4 |
| Incr Delay (d2), s/veh | 0.1 | 0.1 | 0.9 | 0.2 | 0.7 | 3.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.1 | 0.1 | 1.4 | 0.3 | 0.4 | 0.2 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 5.2 | 3.1 | 8.7 | 6.6 | 12.7 | 15.6 |
| LnGrp LOS | A | A | A | A | B | B |
| Approach Vol, veh/h | | 246 | 545 | | 191 | |
| Approach Delay, s/veh | | 3.6 | 8.3 | | 14.6 | |
| Approach LOS | | A | A | | B | |
| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 |
| Phs Duration (G+Y+Rc), s | | 21.8 | | 8.3 | 6.2 | 15.6 |
| Change Period (Y+Rc), s | | 4.5 | | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | | 67.5 | | 23.5 | 9.5 | 53.5 |
| Max Q Clear Time (g_c+I1), s | | 3.4 | | 4.2 | 2.6 | 7.7 |
| Green Ext Time (p_c), s | | 1.1 | | 0.5 | 0.1 | 3.3 |
| Intersection Summary | | | | | | |
| HCM 6th Ctrl Delay | | | 8.3 | | | |
| HCM 6th LOS | | | A | | | |

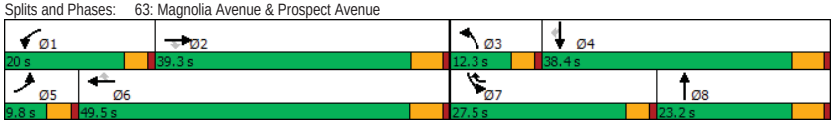




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 65 | 91 | 67 | 147 | 406 | 1129 | 28 | 164 | 41 | 316 | 341 | 111 |
| Future Volume (vph) | 65 | 91 | 67 | 147 | 406 | 1129 | 28 | 164 | 41 | 316 | 341 | 111 |
| Confl. Peds. (#/hr) | | | 1 | | | 1 | | | 2 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | pm+ov | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | 4.0 | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 39.3 | 39.3 | 8.2 | 37.4 | 8.2 | 8.2 | 23.2 | | 8.2 | 36.2 | 36.2 |
| Total Split (s) | 9.8 | 39.3 | 39.3 | 20.0 | 49.5 | 27.5 | 12.3 | 23.2 | | 27.5 | 38.4 | 38.4 |
| Total Split (%) | 8.9% | 35.7% | 35.7% | 18.2% | 45.0% | 25.0% | 11.2% | 21.1% | | 25.0% | 34.9% | 34.9% |
| Yellow Time (s) | 3.2 | 4.3 | 4.3 | 3.2 | 4.4 | 3.2 | 3.2 | 4.2 | | 3.2 | 4.2 | 4.2 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | 5.3 | 4.2 | 5.4 | 4.2 | 4.2 | 5.2 | | 4.2 | 5.2 | 5.2 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | Min | Min | None | Min | None | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 72.7 |
| Natural Cycle: 95 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 63: Magnolia Avenue & Prospect Avenue



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 65 | 91 | 67 | 147 | 406 | 1129 | 28 | 164 | 41 | 316 | 341 | 111 |
| Future Volume (veh/h) | 65 | 91 | 67 | 147 | 406 | 1129 | 28 | 164 | 41 | 316 | 341 | 111 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.98 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 71 | 99 | 73 | 160 | 441 | 1227 | 30 | 178 | 45 | 343 | 371 | 121 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 144 | 733 | 620 | 202 | 1647 | 1671 | 44 | 286 | 70 | 471 | 757 | 333 |
| Arrive On Green | 0.04 | 0.39 | 0.39 | 0.11 | 0.46 | 0.46 | 0.02 | 0.10 | 0.10 | 0.14 | 0.21 | 0.21 |
| Sat Flow, veh/h | 3456 | 1870 | 1584 | 1781 | 3554 | 2787 | 1781 | 2815 | 691 | 3456 | 3554 | 1563 |
| Grp Volume(v), veh/h | 71 | 99 | 73 | 160 | 441 | 1227 | 30 | 110 | 113 | 343 | 371 | 121 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1870 | 1584 | 1781 | 1777 | 1393 | 1781 | 1777 | 1729 | 1728 | 1777 | 1563 |
| Q Serve(g_s), s | 1.5 | 2.5 | 2.2 | 6.5 | 5.6 | 23.3 | 1.2 | 4.4 | 4.6 | 7.0 | 6.8 | 4.9 |
| Cycle Q Clear(g_c), s | 1.5 | 2.5 | 2.2 | 6.5 | 5.6 | 23.3 | 1.2 | 4.4 | 4.6 | 7.0 | 6.8 | 4.9 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.40 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 144 | 733 | 620 | 202 | 1647 | 1671 | 44 | 181 | 176 | 471 | 757 | 333 |
| V/C Ratio(X) | 0.49 | 0.14 | 0.12 | 0.79 | 0.27 | 0.73 | 0.68 | 0.61 | 0.64 | 0.73 | 0.49 | 0.36 |
| Avail Cap(c_a), veh/h | 262 | 861 | 729 | 381 | 2122 | 2044 | 195 | 433 | 422 | 1090 | 1598 | 703 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 34.6 | 14.4 | 14.3 | 31.9 | 12.1 | 10.6 | 35.7 | 31.8 | 31.9 | 30.6 | 25.5 | 24.8 |
| Incr Delay (d2), s/veh | 2.6 | 0.1 | 0.1 | 6.9 | 0.1 | 1.1 | 16.5 | 3.3 | 3.9 | 2.2 | 0.5 | 0.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.7 | 1.0 | 0.7 | 3.1 | 2.1 | 6.1 | 0.7 | 2.0 | 2.1 | 3.0 | 2.8 | 1.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 37.3 | 14.5 | 14.4 | 38.8 | 12.2 | 11.7 | 52.2 | 35.1 | 35.7 | 32.8 | 26.0 | 25.5 |
| LnGrp LOS | D | B | B | D | B | B | D | D | D | C | C | C |
| Approach Vol, veh/h | | 243 | | | 1828 | | | 253 | | | 835 | |
| Approach Delay, s/veh | | 21.1 | | | 14.2 | | | 37.4 | | | 28.7 | |
| Approach LOS | | C | | | B | | | D | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 12.6 | 34.3 | 6.0 | 20.9 | 7.3 | 39.6 | 14.3 | 12.7 |
| Change Period (Y+Rc), s | * 4.2 | * 5.4 | * 4.2 | 5.2 | * 4.2 | 5.4 | * 4.2 | 5.2 |
| Max Green Setting (Gmax), s | * 16 | * 34 | * 8.1 | 33.2 | * 5.6 | 44.1 | * 23 | 18.0 |
| Max Q Clear Time (g_c+I1), s | 8.5 | 4.5 | 3.2 | 8.8 | 3.5 | 25.3 | 9.0 | 6.6 |
| Green Ext Time (p_c), s | 0.2 | 0.8 | 0.0 | 2.9 | 0.0 | 9.0 | 1.0 | 0.9 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 20.4 |
| HCM 6th LOS | C |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

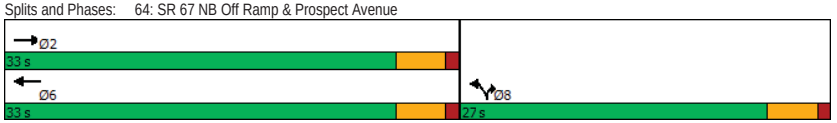




| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 448 | 0 | 0 | 937 | 745 | 41 |
| Future Volume (vph) | 448 | 0 | 0 | 937 | 745 | 41 |
| Confl. Peds. (#/hr) | | | | | | |
| Confl. Bikes (#/hr) | | 1 | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | NA | | | NA | Prot | Prot |
| Protected Phases | 2 | | | 6 | 8 | 8 |
| Permitted Phases | | | | | | |
| Detector Phase | 2 | | | 6 | 8 | 8 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 5.0 | | | 10.0 | 5.0 | 5.0 |
| Minimum Split (s) | 20.6 | | | 20.6 | 20.6 | 20.6 |
| Total Split (s) | 33.0 | | | 33.0 | 27.0 | 27.0 |
| Total Split (%) | 55.0% | | | 55.0% | 45.0% | 45.0% |
| Yellow Time (s) | 3.6 | | | 3.6 | 3.6 | 3.6 |
| All-Red Time (s) | 1.0 | | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.6 | | | 4.6 | 4.6 | 4.6 |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | Min | | | Min | None | None |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 46.2 |
| Natural Cycle: 45 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 64: SR 67 NB Off Ramp & Prospect Avenue



| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 448 | 0 | 0 | 937 | 745 | 41 |
| Future Volume (veh/h) | 448 | 0 | 0 | 937 | 745 | 41 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | 1.00 | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 0 | 0 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 487 | 0 | 0 | 1018 | 810 | 45 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 0 | 0 | 2 | 2 | 2 |
| Cap, veh/h | 1606 | 0 | 0 | 1606 | 1059 | 486 |
| Arrive On Green | 0.45 | 0.00 | 0.00 | 0.45 | 0.31 | 0.31 |
| Sat Flow, veh/h | 3741 | 0 | 0 | 3741 | 3456 | 1585 |
| Grp Volume(v), veh/h | 487 | 0 | 0 | 1018 | 810 | 45 |
| Grp Sat Flow(s),veh/h/ln | 1777 | 0 | 0 | 1777 | 1728 | 1585 |
| Q Serve(g_s), s | 3.3 | 0.0 | 0.0 | 8.4 | 8.1 | 0.8 |
| Cycle Q Clear(g_c), s | 3.3 | 0.0 | 0.0 | 8.4 | 8.1 | 0.8 |
| Prop In Lane | | 0.00 | 0.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 1606 | 0 | 0 | 1606 | 1059 | 486 |
| V/C Ratio(X) | 0.30 | 0.00 | 0.00 | 0.63 | 0.76 | 0.09 |
| Avail Cap(c_a), veh/h | 2650 | 0 | 0 | 2650 | 2033 | 932 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 6.6 | 0.0 | 0.0 | 8.0 | 12.0 | 9.4 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 0.0 | 0.4 | 0.4 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.8 | 0.0 | 0.0 | 2.0 | 2.4 | 0.2 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 6.7 | 0.0 | 0.0 | 8.4 | 12.4 | 9.5 |
| LnGrp LOS | A | A | A | A | B | A |
| Approach Vol, veh/h | 487 | | | 1018 | 855 | |
| Approach Delay, s/veh | 6.7 | | | 8.4 | 12.2 | |
| Approach LOS | A | | | A | B | |

| Timer - Assigned Phs | 2 | | | | 6 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 21.8 | | | | 21.8 | 16.3 |
| Change Period (Y+Rc), s | 4.6 | | | | 4.6 | 4.6 |
| Max Green Setting (Gmax), s | 28.4 | | | | 28.4 | 22.4 |
| Max Q Clear Time (g_c+I1), s | 5.3 | | | | 10.4 | 10.1 |
| Green Ext Time (p_c), s | 2.1 | | | | 6.8 | 1.6 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 9.5 |
| HCM 6th LOS | | A |

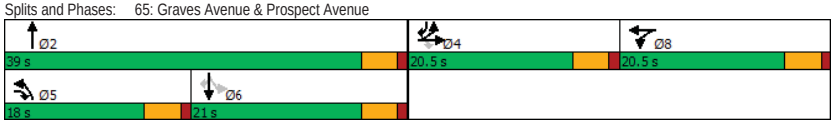




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 106 | 11 | 372 | 3 | 5 | 1 | 621 | 18 | 6 | 1 | 63 | 311 |
| Future Volume (vph) | 106 | 11 | 372 | 3 | 5 | 1 | 621 | 18 | 6 | 1 | 63 | 311 |
| Confl. Peds. (#/hr) | | | 1 | | | 1 | | | 12 | | | |
| Confl. Bikes (#/hr) | | | 3 | | | | | | 1 | | | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | 45% | | | | | | | | | | | |
| Turn Type | Split | NA | pm+ov | Split | NA | | Prot | NA | | Perm | NA | pm+ov |
| Protected Phases | 4 | 4 | 5 | 8 | 8 | | 5 | 2 | | | 6 | 4 |
| Permitted Phases | | | 4 | | | | | | | 6 | | 6 |
| Detector Phase | 4 | 4 | 5 | 8 | 8 | | 5 | 2 | | 6 | 6 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 20.5 | 20.5 | 8.5 | 20.5 | 20.5 | | 8.5 | 20.5 | | 20.5 | 20.5 | 20.5 |
| Total Split (s) | 20.5 | 20.5 | 18.0 | 20.5 | 20.5 | | 18.0 | 39.0 | | 21.0 | 21.0 | 20.5 |
| Total Split (%) | 25.6% | 25.6% | 22.5% | 25.6% | 25.6% | | 22.5% | 48.8% | | 26.3% | 26.3% | 25.6% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | | | 4.5 | 4.5 |
| Lead/Lag | | | Lead | | | | Lead | | | Lag | Lag | |
| Lead-Lag Optimize? | | | Yes | | | | Yes | | | Yes | Yes | |
| Recall Mode | None | None | None | None | None | | None | Min | | Min | Min | None |

| Intersection Summary |
|---|
| Cycle Length: 80 |
| Actuated Cycle Length: 44.2 |
| Natural Cycle: 80 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 65: Graves Avenue & Prospect Avenue



Existing AM
65: Graves Avenue & Prospect Avenue

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 106 | 11 | 372 | 3 | 5 | 1 | 621 | 18 | 6 | 1 | 63 | 311 |
| Future Volume (veh/h) | 106 | 11 | 372 | 3 | 5 | 1 | 621 | 18 | 6 | 1 | 63 | 311 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 1.00 | 1.00 | | 0.97 | 0.97 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 124 | 0 | 404 | 3 | 5 | 1 | 675 | 20 | 7 | 1 | 68 | 338 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 845 | 0 | 726 | 20 | 17 | 3 | 785 | 676 | 236 | 65 | 390 | 703 |
| Arrive On Green | 0.24 | 0.00 | 0.24 | 0.01 | 0.01 | 0.01 | 0.23 | 0.52 | 0.52 | 0.21 | 0.21 | 0.21 |
| Sat Flow, veh/h | 3563 | 0 | 1543 | 1781 | 1512 | 302 | 3456 | 1311 | 459 | 6 | 1862 | 1561 |
| Grp Volume(v), veh/h | 124 | 0 | 404 | 3 | 0 | 6 | 675 | 0 | 27 | 69 | 0 | 338 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1543 | 1781 | 0 | 1814 | 1728 | 0 | 1770 | 1868 | 0 | 1561 |
| Q Serve(g_s), s | 1.6 | 0.0 | 10.9 | 0.1 | 0.0 | 0.2 | 10.7 | 0.0 | 0.4 | 0.0 | 0.0 | 8.7 |
| Cycle Q Clear(g_c), s | 1.6 | 0.0 | 10.9 | 0.1 | 0.0 | 0.2 | 10.7 | 0.0 | 0.4 | 1.7 | 0.0 | 8.7 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.17 | 1.00 | | 0.26 | 0.01 | | 1.00 |
| Lane Grp Cap(c), veh/h | 845 | 0 | 726 | 20 | 0 | 21 | 785 | 0 | 912 | 455 | 0 | 703 |
| V/C Ratio(X) | 0.15 | 0.00 | 0.56 | 0.15 | 0.00 | 0.29 | 0.86 | 0.00 | 0.03 | 0.15 | 0.00 | 0.48 |
| Avail Cap(c_a), veh/h | 996 | 0 | 791 | 498 | 0 | 507 | 815 | 0 | 1067 | 602 | 0 | 826 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 17.2 | 0.0 | 11.1 | 28.0 | 0.0 | 28.0 | 21.2 | 0.0 | 6.8 | 18.6 | 0.0 | 11.2 |
| Incr Delay (d2), s/veh | 0.1 | 0.0 | 0.7 | 3.2 | 0.0 | 7.4 | 9.0 | 0.0 | 0.0 | 0.2 | 0.0 | 0.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.6 | 0.0 | 3.2 | 0.1 | 0.0 | 0.1 | 4.9 | 0.0 | 0.1 | 0.7 | 0.0 | 4.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 17.3 | 0.0 | 11.8 | 31.2 | 0.0 | 35.4 | 30.3 | 0.0 | 6.8 | 18.7 | 0.0 | 11.7 |
| LnGrp LOS | B | A | B | C | A | D | C | A | A | B | A | B |
| Approach Vol, veh/h | | 528 | | | 9 | | | 702 | | | 407 | |
| Approach Delay, s/veh | | 13.1 | | | 34.0 | | | 29.4 | | | 12.9 | |
| Approach LOS | | B | | | C | | | C | | | B | |

| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 34.0 | | 18.1 | 17.5 | 16.5 | | 5.2 | | | | |
| Change Period (Y+Rc), s | | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | | 34.5 | | 16.0 | 13.5 | 16.5 | | 16.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 2.4 | | 12.9 | 12.7 | 10.7 | | 2.2 | | | | |
| Green Ext Time (p_c), s | | 0.1 | | 0.7 | 0.3 | 0.8 | | 0.0 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 20.1 |
| HCM 6th LOS | | C |

Notes

User approved volume balancing among the lanes for turning movement.



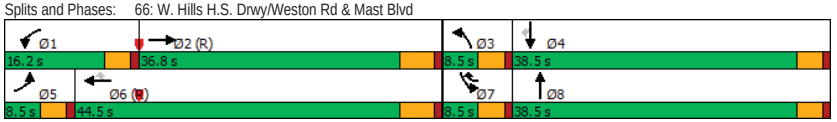
Existing AM
66: W. Hills H.S. Drwy/Weston Rd & Mast Blvd

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 372 | 44 | 88 | 1566 | 0 | 16 | 0 | 78 | 0 | 0 | 0 |
| Future Volume (vph) | 0 | 372 | 44 | 88 | 1566 | 0 | 16 | 0 | 78 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Prot | NA | | Prot | | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | 4.0 | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.5 | 22.5 | | 8.5 | 27.3 | 8.5 | 8.5 | 38.5 | | 8.5 | 33.5 | 33.5 |
| Total Split (s) | 8.5 | 36.8 | | 16.2 | 44.5 | 8.5 | 8.5 | 38.5 | | 8.5 | 38.5 | 38.5 |
| Total Split (%) | 8.5% | 36.8% | | 16.2% | 44.5% | 8.5% | 8.5% | 38.5% | | 8.5% | 38.5% | 38.5% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | 3.2 | 3.2 | 3.2 | | 3.2 | 3.2 | 3.2 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | 4.2 | 4.2 | 4.2 | | 4.2 | 4.2 | 4.2 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | C-Min | | None | C-Min | None | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 84 (84%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 115 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 66: W. Hills H.S. Drwy/Weston Rd & Mast Blvd



Existing AM
66: W. Hills H.S. Drwy/Weston Rd & Mast Blvd

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 372 | 44 | 88 | 1566 | 0 | 16 | 0 | 78 | 0 | 0 | 0 |
| Future Volume (veh/h) | 0 | 372 | 44 | 88 | 1566 | 0 | 16 | 0 | 78 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 404 | 48 | 96 | 1702 | 0 | 17 | 0 | 85 | 0 | 0 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 2 | 2311 | 273 | 122 | 2958 | 1253 | 27 | 0 | 115 | 2 | 29 | 25 |
| Arrive On Green | 0.00 | 1.00 | 1.00 | 0.09 | 1.00 | 0.00 | 0.02 | 0.00 | 0.07 | 0.00 | 0.00 | 0.00 |
| Sat Flow, veh/h | 1781 | 3201 | 378 | 1781 | 3554 | 1585 | 1781 | 0 | 1585 | 1781 | 1870 | 1585 |
| Grp Volume(v), veh/h | 0 | 223 | 229 | 96 | 1702 | 0 | 17 | 0 | 85 | 0 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1802 | 1781 | 1777 | 1585 | 1781 | 0 | 1585 | 1781 | 1870 | 1585 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.0 | 5.3 | 0.0 | 4.2 | 0.9 | 0.0 | 5.3 | 0.0 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 0.0 | 0.0 | 0.0 | 5.3 | 0.0 | 4.2 | 0.9 | 0.0 | 5.3 | 0.0 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | | 0.21 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 2 | 1283 | 1301 | 122 | 2958 | 1253 | 27 | 0 | 115 | 2 | 29 | 25 |
| V/C Ratio(X) | 0.00 | 0.17 | 0.18 | 0.79 | 0.58 | 0.00 | 0.63 | 0.00 | 0.74 | 0.00 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 77 | 1283 | 1301 | 214 | 2958 | 1253 | 77 | 0 | 544 | 77 | 642 | 544 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 1.33 | 1.33 | 1.33 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.00 | 1.00 | 1.00 | 0.89 | 0.89 | 0.00 | 1.00 | 0.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 0.0 | 0.0 | 0.0 | 44.7 | 0.0 | 0.0 | 49.0 | 0.0 | 45.4 | 0.0 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 0.0 | 0.3 | 0.3 | 9.6 | 0.7 | 0.0 | 22.1 | 0.0 | 8.9 | 0.0 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.1 | 0.1 | 2.6 | 0.3 | 0.0 | 0.6 | 0.0 | 2.3 | 0.0 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 0.3 | 0.3 | 54.3 | 0.7 | 0.0 | 71.1 | 0.0 | 54.4 | 0.0 | 0.0 | 0.0 |
| LnGrp LOS | A | A | A | D | A | A | E | A | D | A | A | A |
| Approach Vol, veh/h | | 452 | | | 1798 | | | 102 | | | 0 | |
| Approach Delay, s/veh | | 0.3 | | | 3.6 | | | 57.1 | | | 0.0 | |
| Approach LOS | | A | | | A | | | E | | | | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 11.0 | 77.5 | 5.7 | 5.7 | 0.0 | 88.5 | 0.0 | 11.5 |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | * 4.2 | * 4.2 | * 4.2 | 5.3 | * 4.2 | * 4.2 |
| Max Green Setting (Gmax), s | * 12 | 31.5 | * 4.3 | * 34 | * 4.3 | 39.2 | * 4.3 | * 34 |
| Max Q Clear Time (g_c+I1), s | 7.3 | 2.0 | 2.9 | 0.0 | 0.0 | 6.2 | 0.0 | 7.3 |
| Green Ext Time (p_c), s | 0.1 | 2.6 | 0.0 | 0.0 | 0.0 | 17.0 | 0.0 | 0.5 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 5.3 |
| HCM 6th LOS | A |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 7.9 |
| Intersection LOS | A |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 1 | 3 | 34 | 20 | 0 | 3 | 81 | 3 | 34 | 0 | 6 | 2 |
| Future Vol, veh/h | 1 | 3 | 34 | 20 | 0 | 3 | 81 | 3 | 34 | 0 | 6 | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 1 | 3 | 37 | 22 | 0 | 3 | 88 | 3 | 37 | 0 | 7 | 2 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 3 | 3 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 3 | 3 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 3 | 3 | 1 | 1 |
| HCM Control Delay | 7.2 | 8.1 | 8.1 | 7.3 |
| HCM LOS | A | A | A | A |

| Lane | NBLn1 | NBLn2 | NBLn3 | EBLn1 | WBLn1 | SBLn1 | SBLn2 | SBLn3 |
|---|---|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 3% | 87% | 0% | 0% | 0% |
| Vol Thru, % | 0% | 100% | 0% | 8% | 0% | 100% | 100% | 0% |
| Vol Right, % | 0% | 0% | 100% | 89% | 13% | 0% | 0% | 100% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 81 | 3 | 34 | 38 | 23 | 0 | 6 | 2 |
| LT Vol | 81 | 0 | 0 | 1 | 20 | 0 | 0 | 0 |
| Through Vol | 0 | 3 | 0 | 3 | 0 | 0 | 6 | 0 |
| RT Vol | 0 | 0 | 34 | 34 | 3 | 0 | 0 | 2 |
| Lane Flow Rate | 88 | 3 | 37 | 41 | 25 | 0 | 7 | 2 |
| Geometry Grp | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| Degree of Util (X) | 0.126 | 0.004 | 0.041 | 0.049 | 0.036 | 0 | 0.009 | 0.002 |
| Departure Headway (Hd) | 5.156 | 4.655 | 3.954 | 4.275 | 5.24 | 4.715 | 4.715 | 4.014 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 692 | 765 | 899 | 843 | 687 | 0 | 750 | 878 |
| Service Time | 2.909 | 2.408 | 1.707 | 1.975 | 2.941 | 2.503 | 2.503 | 1.801 |
| HCM Lane V/C Ratio | 0.127 | 0.004 | 0.041 | 0.049 | 0.036 | 0 | 0.009 | 0.002 |
| HCM Control Delay | 8.7 | 7.4 | 6.9 | 7.2 | 8.1 | 7.5 | 7.5 | 6.8 |
| HCM Lane LOS | A | A | A | A | A | N | A | A |
| HCM 95th-tile Q | 0.4 | 0 | 0.1 | 0.2 | 0.1 | 0 | 0 | 0 |





| Intersection | |
|---|---|
| Int Delay, s/veh | 3.5 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 62 | 1 | 0 | 101 | 1 | 0 |
| Future Vol, veh/h | 62 | 1 | 0 | 101 | 1 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 1 | 1 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 67 | 1 | 0 | 110 | 1 | 0 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 58 | 56 | 0 | 0 | 111 | 0 |
| Stage 1 | 56 | - | - | - | - | - |
| Stage 2 | 2 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | - | - | 4.12 | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | - | - | 2.218 | - |
| Pot Cap-1 Maneuver | 949 | 1011 | - | - | 1479 | - |
| Stage 1 | 967 | - | - | - | - | - |
| Stage 2 | 1021 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 947 | 1010 | - | - | 1478 | - |
| Mov Cap-2 Maneuver | 947 | - | - | - | - | - |
| Stage 1 | 965 | - | - | - | - | - |
| Stage 2 | 1021 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 9.1 | 0 | 7.4 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | SBL | SBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 948 | 1478 | - |
| HCM Lane V/C Ratio | - | - | 0.072 | 0.001 | - |
| HCM Control Delay (s) | - | - | 9.1 | 7.4 | 0 |
| HCM Lane LOS | - | - | A | A | A |
| HCM 95th %tile Q(veh) | - | - | 0.2 | 0 | - |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 9 |
| Intersection LOS | A |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 1 | 7 | 108 | 2 | 11 | 7 | 33 | 232 | 3 | 14 | 2 |
| Future Vol, veh/h | 0 | 1 | 7 | 108 | 2 | 11 | 7 | 33 | 232 | 3 | 14 | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 1 | 8 | 117 | 2 | 12 | 8 | 36 | 252 | 3 | 15 | 2 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay | 7.3 | 8.8 | 9.2 | 8 |
| HCM LOS | A | A | A | A |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 89% | 100% | 0% |
| Vol Thru, % | 0% | 12% | 12% | 2% | 0% | 88% |
| Vol Right, % | 0% | 88% | 88% | 9% | 0% | 12% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 7 | 265 | 8 | 121 | 3 | 16 |
| LT Vol | 7 | 0 | 0 | 108 | 3 | 0 |
| Through Vol | 0 | 33 | 1 | 2 | 0 | 14 |
| RT Vol | 0 | 232 | 7 | 11 | 0 | 2 |
| Lane Flow Rate | 8 | 288 | 9 | 132 | 3 | 17 |
| Geometry Grp | 7 | 7 | 2 | 2 | 7 | 7 |
| Degree of Util (X) | 0.011 | 0.343 | 0.01 | 0.174 | 0.005 | 0.024 |
| Departure Headway (Hd) | 5.407 | 4.29 | 4.276 | 4.768 | 5.618 | 5.027 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 664 | 841 | 837 | 754 | 639 | 714 |
| Service Time | 3.119 | 2.002 | 2.302 | 2.787 | 3.337 | 2.746 |
| HCM Lane V/C Ratio | 0.012 | 0.342 | 0.011 | 0.175 | 0.005 | 0.024 |
| HCM Control Delay | 8.2 | 9.2 | 7.3 | 8.8 | 8.4 | 7.9 |
| HCM Lane LOS | A | A | A | A | A | A |
| HCM 95th-tile Q | 0 | 1.5 | 0 | 0.6 | 0 | 0.1 |

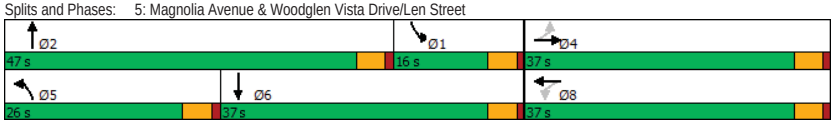




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 13 | 32 | 79 | 31 | 7 | 7 | 79 | 347 | 44 | 3 | 230 | 8 |
| Future Volume (vph) | 13 | 32 | 79 | 31 | 7 | 7 | 79 | 347 | 44 | 3 | 230 | 8 |
| Confl. Peds. (#/hr) | 4 | | 6 | 6 | | 4 | 8 | | | | | 8 |
| Confl. Bikes (#/hr) | | | 5 | | | 4 | | | 4 | | | 5 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Perm | NA | | Perm | NA | | Prot | NA | | Prot | NA | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 26.5 | 26.5 | | 26.5 | 26.5 | | 11.5 | 22.5 | | 11.5 | 22.5 | |
| Total Split (s) | 37.0 | 37.0 | | 37.0 | 37.0 | | 26.0 | 47.0 | | 16.0 | 37.0 | |
| Total Split (%) | 37.0% | 37.0% | | 37.0% | 37.0% | | 26.0% | 47.0% | | 16.0% | 37.0% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | | | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lead | | Lag | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 38 |
| Natural Cycle: 65 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 5: Magnolia Avenue & Woodglen Vista Drive/Len Street



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 13 | 32 | 79 | 31 | 7 | 7 | 79 | 347 | 44 | 3 | 230 | 8 |
| Future Volume (veh/h) | 13 | 32 | 79 | 31 | 7 | 7 | 79 | 347 | 44 | 3 | 230 | 8 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 0.99 | | 0.98 | 0.99 | | 0.98 | 1.00 | | 0.96 | 1.00 | | 0.96 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 14 | 35 | 86 | 34 | 8 | 8 | 86 | 377 | 48 | 3 | 250 | 9 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 539 | 97 | 238 | 325 | 76 | 40 | 210 | 841 | 106 | 175 | 862 | 31 |
| Arrive On Green | 0.21 | 0.21 | 0.21 | 0.21 | 0.21 | 0.21 | 0.12 | 0.27 | 0.27 | 0.10 | 0.25 | 0.25 |
| Sat Flow, veh/h | 1387 | 471 | 1157 | 645 | 368 | 193 | 1781 | 3157 | 398 | 1781 | 3493 | 125 |
| Grp Volume(v), veh/h | 14 | 0 | 121 | 50 | 0 | 0 | 86 | 211 | 214 | 3 | 127 | 132 |
| Grp Sat Flow(s),veh/h/ln | 1387 | 0 | 1627 | 1205 | 0 | 0 | 1781 | 1777 | 1779 | 1781 | 1777 | 1841 |
| Q Serve(g_s), s | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 0.0 | 1.4 | 3.1 | 3.2 | 0.0 | 1.8 | 1.8 |
| Cycle Q Clear(g_c), s | 0.2 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | 1.4 | 3.1 | 3.2 | 0.0 | 1.8 | 1.8 |
| Prop In Lane | 1.00 | | 0.71 | 0.68 | | 0.16 | 1.00 | | 0.22 | 1.00 | | 0.07 |
| Lane Grp Cap(c), veh/h | 539 | 0 | 335 | 440 | 0 | 0 | 210 | 473 | 474 | 175 | 439 | 455 |
| V/C Ratio(X) | 0.03 | 0.00 | 0.36 | 0.11 | 0.00 | 0.00 | 0.41 | 0.45 | 0.45 | 0.02 | 0.29 | 0.29 |
| Avail Cap(c_a), veh/h | 1689 | 0 | 1684 | 1580 | 0 | 0 | 1219 | 2404 | 2407 | 652 | 1839 | 1905 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 10.0 | 0.0 | 10.7 | 10.2 | 0.0 | 0.0 | 12.8 | 9.6 | 9.6 | 12.8 | 9.6 | 9.6 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 0.7 | 0.1 | 0.0 | 0.0 | 1.3 | 0.7 | 0.7 | 0.0 | 0.4 | 0.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.1 | 0.0 | 0.6 | 0.2 | 0.0 | 0.0 | 0.5 | 0.8 | 0.8 | 0.0 | 0.5 | 0.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 10.0 | 0.0 | 11.4 | 10.3 | 0.0 | 0.0 | 14.1 | 10.2 | 10.3 | 12.8 | 9.9 | 9.9 |
| LnGrp LOS | B | A | B | B | A | A | B | B | B | B | A | A |
| Approach Vol, veh/h | | 135 | | | 50 | | | 511 | | | 262 | |
| Approach Delay, s/veh | | 11.2 | | | 10.3 | | | 10.9 | | | 10.0 | |
| Approach LOS | | B | | | B | | | B | | | A | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.6 | 12.9 | | 11.0 | 8.2 | 12.3 | | 11.0 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 11.5 | 42.5 | | 32.5 | 21.5 | 32.5 | | 32.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.0 | 5.2 | | 4.0 | 3.4 | 3.8 | | 4.0 | | | | |
| Green Ext Time (p_c), s | 0.0 | 2.5 | | 0.8 | 0.2 | 1.4 | | 0.2 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 10.7 |
| HCM 6th LOS | | B |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 11.8 |
| Intersection LOS | B |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 1 | 1 | 5 | 99 | 8 | 3 | 13 | 276 | 106 | 3 | 134 | 0 |
| Future Vol, veh/h | 1 | 1 | 5 | 99 | 8 | 3 | 13 | 276 | 106 | 3 | 134 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 1 | 1 | 5 | 108 | 9 | 3 | 14 | 300 | 115 | 3 | 146 | 0 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |

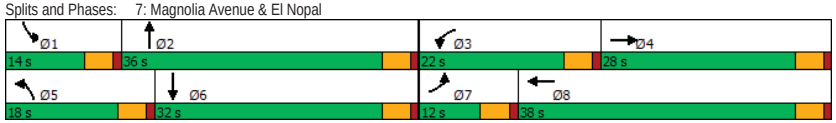
| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay | 8.2 | 9.8 | 13.3 | 9.4 |
| HCM LOS | A | A | B | A |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 14% | 90% | 100% | 0% |
| Vol Thru, % | 0% | 72% | 14% | 7% | 0% | 100% |
| Vol Right, % | 0% | 28% | 71% | 3% | 0% | 0% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 13 | 382 | 7 | 110 | 3 | 134 |
| LT Vol | 13 | 0 | 1 | 99 | 3 | 0 |
| Through Vol | 0 | 276 | 1 | 8 | 0 | 134 |
| RT Vol | 0 | 106 | 5 | 3 | 0 | 0 |
| Lane Flow Rate | 14 | 415 | 8 | 120 | 3 | 146 |
| Geometry Grp | 7 | 7 | 2 | 2 | 7 | 7 |
| Degree of Util (X) | 0.022 | 0.557 | 0.011 | 0.182 | 0.005 | 0.213 |
| Departure Headway (Hd) | 5.526 | 4.828 | 5.114 | 5.48 | 5.761 | 5.257 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 647 | 747 | 694 | 652 | 619 | 680 |
| Service Time | 3.265 | 2.567 | 3.191 | 3.536 | 3.512 | 3.008 |
| HCM Lane V/C Ratio | 0.022 | 0.556 | 0.012 | 0.184 | 0.005 | 0.215 |
| HCM Control Delay | 8.4 | 13.5 | 8.2 | 9.8 | 8.5 | 9.4 |
| HCM Lane LOS | A | B | A | A | A | A |
| HCM 95th-tile Q | 0.1 | 3.5 | 0 | 0.7 | 0 | 0.8 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 6 | 69 | 60 | 142 | 106 | 66 | 92 | 403 | 199 | 54 | 287 | 9 |
| Future Volume (vph) | 6 | 69 | 60 | 142 | 106 | 66 | 92 | 403 | 199 | 54 | 287 | 9 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | 1 | | | 1 | | | 3 | | | 5 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | | Prot | NA | |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 11.5 | 26.5 | | 11.5 | 25.5 | | 11.5 | 22.5 | | 11.5 | 22.5 | |
| Total Split (s) | 12.0 | 28.0 | | 22.0 | 38.0 | | 18.0 | 36.0 | | 14.0 | 32.0 | |
| Total Split (%) | 12.0% | 28.0% | | 22.0% | 38.0% | | 18.0% | 36.0% | | 14.0% | 32.0% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 60.7 |
| Natural Cycle: 75 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 7: Magnolia Avenue & El Nopal








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 6 | 69 | 60 | 142 | 106 | 66 | 92 | 403 | 199 | 54 | 287 | 9 |
| Future Volume (veh/h) | 6 | 69 | 60 | 142 | 106 | 66 | 92 | 403 | 199 | 54 | 287 | 9 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 7 | 75 | 65 | 154 | 115 | 72 | 100 | 438 | 216 | 59 | 312 | 10 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 23 | 129 | 112 | 223 | 271 | 169 | 189 | 664 | 324 | 140 | 920 | 29 |
| Arrive On Green | 0.01 | 0.14 | 0.14 | 0.12 | 0.25 | 0.25 | 0.11 | 0.29 | 0.29 | 0.08 | 0.26 | 0.26 |
| Sat Flow, veh/h | 1781 | 918 | 796 | 1781 | 1070 | 670 | 1781 | 2294 | 1119 | 1781 | 3511 | 112 |
| Grp Volume(v), veh/h | 7 | 0 | 140 | 154 | 0 | 187 | 100 | 338 | 316 | 59 | 157 | 165 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1714 | 1781 | 0 | 1739 | 1781 | 1777 | 1637 | 1781 | 1777 | 1846 |
| Q Serve(g_s), s | 0.2 | 0.0 | 3.8 | 4.1 | 0.0 | 4.4 | 2.6 | 8.2 | 8.4 | 1.6 | 3.5 | 3.6 |
| Cycle Q Clear(g_c), s | 0.2 | 0.0 | 3.8 | 4.1 | 0.0 | 4.4 | 2.6 | 8.2 | 8.4 | 1.6 | 3.5 | 3.6 |
| Prop In Lane | 1.00 | | 0.46 | 1.00 | | 0.39 | 1.00 | | 0.68 | 1.00 | | 0.06 |
| Lane Grp Cap(c), veh/h | 23 | 0 | 242 | 223 | 0 | 440 | 189 | 514 | 473 | 140 | 466 | 484 |
| V/C Ratio(X) | 0.30 | 0.00 | 0.58 | 0.69 | 0.00 | 0.43 | 0.53 | 0.66 | 0.67 | 0.42 | 0.34 | 0.34 |
| Avail Cap(c_a), veh/h | 272 | 0 | 819 | 634 | 0 | 1185 | 489 | 1138 | 1049 | 344 | 994 | 1033 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 24.0 | 0.0 | 19.8 | 20.6 | 0.0 | 15.4 | 20.8 | 15.3 | 15.4 | 21.6 | 14.7 | 14.7 |
| Incr Delay (d2), s/veh | 7.1 | 0.0 | 2.2 | 3.8 | 0.0 | 0.7 | 2.3 | 1.4 | 1.6 | 2.0 | 0.4 | 0.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.1 | 0.0 | 1.5 | 1.8 | 0.0 | 1.7 | 1.1 | 2.9 | 2.7 | 0.6 | 1.2 | 1.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 31.2 | 0.0 | 22.0 | 24.4 | 0.0 | 16.0 | 23.1 | 16.8 | 17.0 | 23.6 | 15.1 | 15.1 |
| LnGrp LOS | C | A | C | C | A | B | C | B | B | C | B | B |
| Approach Vol, veh/h | | 147 | | | 341 | | | 754 | | | 381 | |
| Approach Delay, s/veh | | 22.4 | | | 19.8 | | | 17.7 | | | 16.4 | |
| Approach LOS | | C | | | B | | | B | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 8.4 | 18.7 | 10.6 | 11.4 | 9.7 | 17.4 | 5.1 | 16.9 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 9.5 | 31.5 | 17.5 | 23.5 | 13.5 | 27.5 | 7.5 | 33.5 |
| Max Q Clear Time (g_c+I1), s | 3.6 | 10.4 | 6.1 | 5.8 | 4.6 | 5.6 | 2.2 | 6.4 |
| Green Ext Time (p_c), s | 0.0 | 3.9 | 0.3 | 0.7 | 0.1 | 1.6 | 0.0 | 1.2 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 18.3 |
| HCM 6th LOS | B |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 14.9 |
| Intersection LOS | B |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 242 | 11 | 151 | 286 | 9 | 194 |
| Future Vol, veh/h | 242 | 11 | 151 | 286 | 9 | 194 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 263 | 12 | 164 | 311 | 10 | 211 |
| Number of Lanes | 1 | 1 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB |
|---|---|---|---|
| Opposing Approach | WB | EB | |
| Opposing Lanes | 1 | 2 | 0 |
| Conflicting Approach Left | | NB | EB |
| Conflicting Lanes Left | 0 | 1 | 2 |
| Conflicting Approach Right | NB | | WB |
| Conflicting Lanes Right | 1 | 0 | 1 |
| HCM Control Delay | 12.2 | 18.4 | 10.8 |
| HCM LOS | B | C | B |

| Lane | NBLn1 | EBLn1 | EBLn2 | WBLn1 |
|---|---|---|---|---|
| Vol Left, % | 4% | 0% | 0% | 35% |
| Vol Thru, % | 0% | 100% | 0% | 65% |
| Vol Right, % | 96% | 0% | 100% | 0% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 203 | 242 | 11 | 437 |
| LT Vol | 9 | 0 | 0 | 151 |
| Through Vol | 0 | 242 | 0 | 286 |
| RT Vol | 194 | 0 | 11 | 0 |
| Lane Flow Rate | 221 | 263 | 12 | 475 |
| Geometry Grp | 2 | 7 | 7 | 5 |
| Degree of Util (X) | 0.323 | 0.414 | 0.016 | 0.68 |
| Departure Headway (Hd) | 5.269 | 5.671 | 4.962 | 5.155 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 682 | 637 | 721 | 708 |
| Service Time | 3.307 | 3.401 | 2.692 | 3.155 |
| HCM Lane V/C Ratio | 0.324 | 0.413 | 0.017 | 0.671 |
| HCM Control Delay | 10.8 | 12.4 | 7.8 | 18.4 |
| HCM Lane LOS | B | B | A | C |
| HCM 95th-tile Q | 1.4 | 2 | 0 | 5.4 |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 8.2 |
| Intersection LOS | A |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 52 | 20 | 127 | 91 | 7 | 75 |
| Future Vol, veh/h | 52 | 20 | 127 | 91 | 7 | 75 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 57 | 22 | 138 | 99 | 8 | 82 |
| Number of Lanes | 1 | 0 | 1 | 0 | 0 | 1 |

| Approach | WB | NB | SB |
|---|---|---|---|
| Opposing Approach | | SB | NB |
| Opposing Lanes | 0 | 1 | 1 |
| Conflicting Approach Left | NB | | WB |
| Conflicting Lanes Left | 1 | 0 | 1 |
| Conflicting Approach Right | SB | WB | |
| Conflicting Lanes Right | 1 | 1 | 0 |
| HCM Control Delay | 8.1 | 8.3 | 7.9 |
| HCM LOS | A | A | A |

| Lane | NBLn1 | WBLn1 | SBLn1 |
|---|---|---|---|
| Vol Left, % | 0% | 72% | 9% |
| Vol Thru, % | 58% | 0% | 91% |
| Vol Right, % | 42% | 28% | 0% |
| Sign Control | Stop | Stop | Stop |
| Traffic Vol by Lane | 218 | 72 | 82 |
| LT Vol | 0 | 52 | 7 |
| Through Vol | 127 | 0 | 75 |
| RT Vol | 91 | 20 | 0 |
| Lane Flow Rate | 237 | 78 | 89 |
| Geometry Grp | 1 | 1 | 1 |
| Degree of Util (X) | 0.256 | 0.1 | 0.108 |
| Departure Headway (Hd) | 3.889 | 4.6 | 4.373 |
| Convergence, Y/N | Yes | Yes | Yes |
| Cap | 910 | 783 | 824 |
| Service Time | 1.975 | 2.604 | 2.373 |
| HCM Lane V/C Ratio | 0.26 | 0.1 | 0.108 |
| HCM Control Delay | 8.3 | 8.1 | 7.9 |
| HCM Lane LOS | A | A | A |
| HCM 95th-tile Q | 1 | 0.3 | 0.4 |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 9.2 |
| Intersection LOS | A |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 3 | 15 | 160 | 11 | 6 | 5 | 151 | 45 | 24 | 3 | 31 | 3 |
| Future Vol, veh/h | 3 | 15 | 160 | 11 | 6 | 5 | 151 | 45 | 24 | 3 | 31 | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 3 | 16 | 174 | 12 | 7 | 5 | 164 | 49 | 26 | 3 | 34 | 3 |
| Number of Lanes | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 2 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 2 | 2 | 3 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 3 | 2 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 3 | 2 | 1 | 2 |
| HCM Control Delay | 8.8 | 8.8 | 9.7 | 8.7 |
| HCM LOS | A | A | A | A |

| Lane | NBLn1 | NBLn2 | NBLn3 | EBLn1 | EBLn2 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 17% | 0% | 50% | 100% | 0% |
| Vol Thru, % | 0% | 100% | 38% | 83% | 0% | 27% | 0% | 91% |
| Vol Right, % | 0% | 0% | 62% | 0% | 100% | 23% | 0% | 9% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 151 | 30 | 39 | 18 | 160 | 22 | 3 | 34 |
| LT Vol | 151 | 0 | 0 | 3 | 0 | 11 | 3 | 0 |
| Through Vol | 0 | 30 | 15 | 15 | 0 | 6 | 0 | 31 |
| RT Vol | 0 | 0 | 24 | 0 | 160 | 5 | 0 | 3 |
| Lane Flow Rate | 164 | 33 | 42 | 20 | 174 | 24 | 3 | 37 |
| Geometry Grp | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| Degree of Util (X) | 0.26 | 0.047 | 0.056 | 0.03 | 0.226 | 0.038 | 0.006 | 0.057 |
| Departure Headway (Hd) | 5.706 | 5.204 | 4.771 | 5.466 | 4.682 | 5.788 | 6.136 | 5.57 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 629 | 686 | 748 | 655 | 765 | 616 | 581 | 640 |
| Service Time | 3.453 | 2.951 | 2.518 | 3.202 | 2.418 | 3.548 | 3.895 | 3.329 |
| HCM Lane V/C Ratio | 0.261 | 0.048 | 0.056 | 0.031 | 0.227 | 0.039 | 0.005 | 0.058 |
| HCM Control Delay | 10.5 | 8.2 | 7.8 | 8.4 | 8.8 | 8.8 | 8.9 | 8.7 |
| HCM Lane LOS | B | A | A | A | A | A | A | A |
| HCM 95th-tile Q | 1 | 0.1 | 0.2 | 0.1 | 0.9 | 0.1 | 0 | 0.2 |





| Intersection | |
|---|---|
| Int Delay, s/veh | 5.1 |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 9 | 33 | 35 | 31 | 0 | 15 |
| Future Vol, veh/h | 9 | 33 | 35 | 31 | 0 | 15 |
| Conflicting Peds, #/hr | 4 | 1 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | 150 | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 10 | 36 | 38 | 34 | 0 | 16 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 122 | 9 | 16 | 0 | - | 0 |
| Stage 1 | 8 | - | - | - | - | - |
| Stage 2 | 114 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | 4.12 | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | 2.218 | - | - | - |
| Pot Cap-1 Maneuver | 873 | 1073 | 1602 | - | - | - |
| Stage 1 | 1015 | - | - | - | - | - |
| Stage 2 | 911 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 852 | 1072 | 1602 | - | - | - |
| Mov Cap-2 Maneuver | 852 | - | - | - | - | - |
| Stage 1 | 991 | - | - | - | - | - |
| Stage 2 | 911 | - | - | - | - | - |

| Approach | EB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 8.7 | 3.9 | 0 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1602 | - | 1016 | - | - |
| HCM Lane V/C Ratio | 0.024 | - | 0.045 | - | - |
| HCM Control Delay (s) | 7.3 | - | 8.7 | - | - |
| HCM Lane LOS | A | - | A | - | - |
| HCM 95th %tile Q(veh) | 0.1 | - | 0.1 | - | - |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 13.3 |
| Intersection LOS | B |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 6 | 54 | 2 | 2 | 9 | 407 | 63 | 2 | 217 | 3 |
| Future Vol, veh/h | 0 | 0 | 6 | 54 | 2 | 2 | 9 | 407 | 63 | 2 | 217 | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 7 | 59 | 2 | 2 | 10 | 442 | 68 | 2 | 236 | 3 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 3 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 3 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 3 | 2 | 1 | 1 |
| HCM Control Delay | 8.6 | 10.4 | 14.2 | 12.1 |
| HCM LOS | A | B | B | B |

| Lane | NBLn1 | NBLn2 | NBLn3 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 0% | 93% | 100% | 0% |
| Vol Thru, % | 0% | 100% | 0% | 0% | 3% | 0% | 99% |
| Vol Right, % | 0% | 0% | 100% | 100% | 3% | 0% | 1% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 9 | 407 | 63 | 6 | 58 | 2 | 220 |
| LT Vol | 9 | 0 | 0 | 0 | 54 | 2 | 0 |
| Through Vol | 0 | 407 | 0 | 0 | 2 | 0 | 217 |
| RT Vol | 0 | 0 | 63 | 6 | 2 | 0 | 3 |
| Lane Flow Rate | 10 | 442 | 68 | 7 | 63 | 2 | 239 |
| Geometry Grp | 7 | 7 | 7 | 7 | 7 | 8 | 8 |
| Degree of Util (X) | 0.015 | 0.613 | 0.081 | 0.011 | 0.118 | 0.004 | 0.383 |
| Departure Headway (Hd) | 5.488 | 4.985 | 4.282 | 5.814 | 6.727 | 6.271 | 5.76 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 651 | 721 | 833 | 619 | 529 | 568 | 622 |
| Service Time | 3.233 | 2.73 | 2.026 | 3.514 | 4.518 | 4.04 | 3.528 |
| HCM Lane V/C Ratio | 0.015 | 0.613 | 0.082 | 0.011 | 0.119 | 0.004 | 0.384 |
| HCM Control Delay | 8.3 | 15.4 | 7.4 | 8.6 | 10.4 | 9.1 | 12.1 |
| HCM Lane LOS | A | C | A | A | B | A | B |
| HCM 95th-tile Q | 0 | 4.2 | 0.3 | 0 | 0.4 | 0 | 1.8 |





| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 80 | 20 | 758 | 156 | 28 | 525 |
| Future Volume (vph) | 80 | 20 | 758 | 156 | 28 | 525 |
| Confl. Peds. (#/hr) | | 8 | | 6 | | |
| Confl. Bikes (#/hr) | | | | 5 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | 0% | | | 0% |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | NA | | Prot | NA |
| Protected Phases | 8 | | 2 | | 1 | 6 |
| Permitted Phases | | 8 | | | | |
| Detector Phase | 8 | 8 | 2 | | 1 | 6 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | | 8.5 | 20.5 |
| Total Split (s) | 22.6 | 22.6 | 28.4 | | 9.0 | 37.4 |
| Total Split (%) | 37.7% | 37.7% | 47.3% | | 15.0% | 62.3% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Lead/Lag | | | Lag | | Lead | |
| Lead-Lag Optimize? | | | Yes | | Yes | |
| Recall Mode | None | None | Min | | None | Min |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 40.8 |
| Natural Cycle: 60 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 13: Magnolia Avenue & 2nd Street

| Movement | WBL | WBR | NBT | NBR | SBL | SBT | |
|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | |
| Traffic Volume (veh/h) | 80 | 20 | 758 | 156 | 28 | 525 | |
| Future Volume (veh/h) | 80 | 20 | 758 | 156 | 28 | 525 | |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | | 0.97 | 1.00 | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Work Zone On Approach | No | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | |
| Adj Flow Rate, veh/h | 87 | 22 | 824 | 170 | 30 | 571 | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | |
| Cap, veh/h | 140 | 124 | 1334 | 275 | 52 | 2246 | |
| Arrive On Green | 0.08 | 0.08 | 0.46 | 0.46 | 0.03 | 0.63 | |
| Sat Flow, veh/h | 1781 | 1585 | 3009 | 601 | 1781 | 3647 | |
| Grp Volume(v), veh/h | 87 | 22 | 502 | 492 | 30 | 571 | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 1777 | 1740 | 1781 | 1777 | |
| Q Serve(g_s), s | 1.5 | 0.4 | 6.6 | 6.6 | 0.5 | 2.2 | |
| Cycle Q Clear(g_c), s | 1.5 | 0.4 | 6.6 | 6.6 | 0.5 | 2.2 | |
| Prop In Lane | 1.00 | 1.00 | | 0.35 | 1.00 | | |
| Lane Grp Cap(c), veh/h | 140 | 124 | 813 | 796 | 52 | 2246 | |
| V/C Ratio(X) | 0.62 | 0.18 | 0.62 | 0.62 | 0.57 | 0.25 | |
| Avail Cap(c_a), veh/h | 1037 | 923 | 1366 | 1338 | 258 | 3762 | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Uniform Delay (d), s/veh | 13.9 | 13.4 | 6.4 | 6.4 | 14.9 | 2.5 | |
| Incr Delay (d2), s/veh | 4.5 | 0.7 | 0.8 | 0.8 | 9.5 | 0.1 | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| %ile BackOfQ(50%),veh/ln | 0.6 | 0.1 | 1.1 | 1.1 | 0.3 | 0.0 | |
| Unsig. Movement Delay, s/veh | | | | | | | |
| LnGrp Delay(d),s/veh | 18.3 | 14.1 | 7.1 | 7.2 | 24.4 | 2.6 | |
| LnGrp LOS | B | B | A | A | C | A | |
| Approach Vol, veh/h | 109 | | 994 | | | 601 | |
| Approach Delay, s/veh | 17.5 | | 7.1 | | | 3.7 | |
| Approach LOS | B | | A | | | A | |

| Timer - Assigned Phs | 1 | 2 | | | | 6 | 8 |
|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.4 | 18.7 | | | | 24.1 | 6.9 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 4.5 | 23.9 | | | | 32.9 | 18.1 |
| Max Q Clear Time (g_c+I1), s | 2.5 | 8.6 | | | | 4.2 | 3.5 |
| Green Ext Time (p_c), s | 0.0 | 5.5 | | | | 3.8 | 0.2 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 6.6 |
| HCM 6th LOS | A |

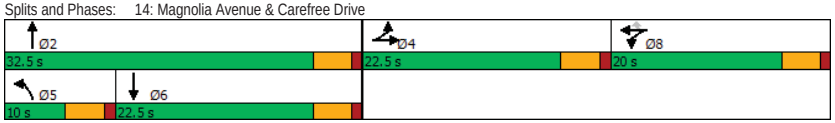




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 6 | 0 | 51 | 4 | 0 | 0 | 76 | 910 | 0 | 0 | 577 | 8 |
| Future Volume (vph) | 6 | 0 | 51 | 4 | 0 | 0 | 76 | 910 | 0 | 0 | 577 | 8 |
| Confl. Peds. (#/hr) | | | 22 | | | | | | 8 | | | 12 |
| Confl. Bikes (#/hr) | | | 4 | | | | | | | | | 6 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | 50% | | | | | | | | |
| Turn Type | Split | NA | | Split | NA | Perm | Prot | NA | | | NA | |
| Protected Phases | 4 | 4 | | 8 | 8 | | 5 | 2 | | | 6 | |
| Permitted Phases | | | | | | 8 | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | 8 | 5 | 2 | | | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | | 4.0 | |
| Minimum Split (s) | 22.5 | 22.5 | | 20.0 | 20.0 | 20.0 | 8.5 | 22.5 | | | 22.5 | |
| Total Split (s) | 22.5 | 22.5 | | 20.0 | 20.0 | 20.0 | 10.0 | 32.5 | | | 22.5 | |
| Total Split (%) | 30.0% | 30.0% | | 26.7% | 26.7% | 26.7% | 13.3% | 43.3% | | | 30.0% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | 0.0 | |
| Total Lost Time (s) | | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | | 4.5 | |
| Lead/Lag | | | | | | | Lead | | | | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | | | | Yes | |
| Recall Mode | None | None | | None | None | None | None | Min | | | Min | |

| Intersection Summary |
|---|
| Cycle Length: 75 |
| Actuated Cycle Length: 42.2 |
| Natural Cycle: 75 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 14: Magnolia Avenue & Carefree Drive



Existing PM
14: Magnolia Avenue & Carefree Drive

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 6 | 0 | 51 | 4 | 0 | 0 | 76 | 910 | 0 | 0 | 577 | 8 |
| Future Volume (veh/h) | 6 | 0 | 51 | 4 | 0 | 0 | 76 | 910 | 0 | 0 | 577 | 8 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.93 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.95 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 0 | 0 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 7 | 0 | 55 | 4 | 0 | 0 | 83 | 989 | 0 | 0 | 627 | 9 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 0 | 0 | 2 | 2 |
| Cap, veh/h | 17 | 0 | 133 | 16 | 0 | 7 | 114 | 1768 | 0 | 0 | 1078 | 15 |
| Arrive On Green | 0.10 | 0.00 | 0.10 | 0.00 | 0.00 | 0.00 | 0.06 | 0.50 | 0.00 | 0.00 | 0.30 | 0.30 |
| Sat Flow, veh/h | 169 | 0 | 1329 | 3563 | 0 | 1585 | 1781 | 3647 | 0 | 0 | 3677 | 51 |
| Grp Volume(v), veh/h | 62 | 0 | 0 | 4 | 0 | 0 | 83 | 989 | 0 | 0 | 311 | 325 |
| Grp Sat Flow(s),veh/h/ln | 1498 | 0 | 0 | 1781 | 0 | 1585 | 1781 | 1777 | 0 | 0 | 1777 | 1858 |
| Q Serve(g_s), s | 1.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.6 | 6.6 | 0.0 | 0.0 | 5.0 | 5.0 |
| Cycle Q Clear(g_c), s | 1.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.6 | 6.6 | 0.0 | 0.0 | 5.0 | 5.0 |
| Prop In Lane | 0.11 | | 0.89 | 1.00 | | 1.00 | 1.00 | | 0.00 | 0.00 | | 0.03 |
| Lane Grp Cap(c), veh/h | 150 | 0 | 0 | 16 | 0 | 7 | 114 | 1768 | 0 | 0 | 535 | 559 |
| V/C Ratio(X) | 0.41 | 0.00 | 0.00 | 0.26 | 0.00 | 0.00 | 0.73 | 0.56 | 0.00 | 0.00 | 0.58 | 0.58 |
| Avail Cap(c_a), veh/h | 795 | 0 | 0 | 1628 | 0 | 724 | 289 | 2933 | 0 | 0 | 943 | 986 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 14.3 | 0.0 | 0.0 | 16.8 | 0.0 | 0.0 | 15.6 | 5.9 | 0.0 | 0.0 | 10.0 | 10.0 |
| Incr Delay (d2), s/veh | 1.8 | 0.0 | 0.0 | 8.5 | 0.0 | 0.0 | 8.6 | 0.3 | 0.0 | 0.0 | 1.0 | 1.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.7 | 1.0 | 0.0 | 0.0 | 1.4 | 1.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 16.1 | 0.0 | 0.0 | 25.3 | 0.0 | 0.0 | 24.1 | 6.2 | 0.0 | 0.0 | 11.1 | 11.0 |
| LnGrp LOS | B | A | A | C | A | A | C | A | A | A | B | B |
| Approach Vol, veh/h | | 62 | | | 4 | | | 1072 | | | 636 | |
| Approach Delay, s/veh | | 16.1 | | | 25.3 | | | 7.6 | | | 11.0 | |
| Approach LOS | | B | | | C | | | A | | | B | |
| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 21.4 | | 7.9 | 6.7 | 14.7 | | 4.6 | | | | |
| Change Period (Y+Rc), s | | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | | 28.0 | | 18.0 | 5.5 | 18.0 | | 15.5 | | | | |
| Max Q Clear Time (g_c+I1), s | | 8.6 | | 3.3 | 3.6 | 7.0 | | 2.0 | | | | |
| Green Ext Time (p_c), s | | 6.6 | | 0.2 | 0.0 | 2.7 | | 0.0 | | | | |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 9.2 |
| HCM 6th LOS | A |

Notes

User approved volume balancing among the lanes for turning movement.



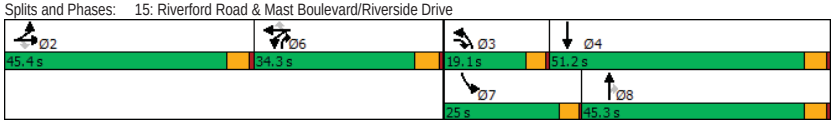
Existing PM
15: Riverford Road & Mast Boulevard/Riverside Drive

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 15 | 7 | 31 | 506 | 38 | 284 | 65 | 239 | 450 | 192 | 180 | 22 |
| Future Volume (vph) | 15 | 7 | 31 | 506 | 38 | 284 | 65 | 239 | 450 | 192 | 180 | 22 |
| Confl. Peds. (#/hr) | | | | | | | | | 4 | | | |
| Confl. Bikes (#/hr) | | | 3 | | | 1 | | | 3 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Split | NA | pm+ov | Split | NA | Perm | Prot | NA | pm+ov | Prot | NA | |
| Protected Phases | 2 | 2 | 3 | 6 | 6 | | 3 | 8 | 6 | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | 8 | | | |
| Detector Phase | 2 | 2 | 3 | 6 | 6 | 6 | 3 | 8 | 6 | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 6.0 | 6.0 | 5.0 | 4.0 | 4.0 | 4.0 | 5.0 | 6.0 | 4.0 | 4.0 | 6.0 | |
| Minimum Split (s) | 45.3 | 45.3 | 9.1 | 34.3 | 34.3 | 34.3 | 9.1 | 45.3 | 34.3 | 8.6 | 49.9 | |
| Total Split (s) | 45.4 | 45.4 | 19.1 | 34.3 | 34.3 | 34.3 | 19.1 | 45.3 | 34.3 | 25.0 | 51.2 | |
| Total Split (%) | 30.3% | 30.3% | 12.7% | 22.9% | 22.9% | 22.9% | 12.7% | 30.2% | 22.9% | 16.7% | 34.1% | |
| Yellow Time (s) | 4.3 | 4.3 | 3.6 | 4.3 | 4.3 | 4.3 | 3.6 | 3.9 | 4.3 | 3.6 | 3.9 | |
| All-Red Time (s) | 1.0 | 1.0 | 0.5 | 1.0 | 1.0 | 1.0 | 0.5 | 1.0 | 1.0 | 0.5 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 5.3 | 5.3 | 4.1 | 5.3 | 5.3 | 5.3 | 4.1 | 4.9 | 5.3 | 4.1 | 4.9 | |
| Lead/Lag | | | Lead | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | Yes | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | None | None | None | None | None | Min | None | None | Min | |

| Intersection Summary | |
|---|---|
| Cycle Length: 150 | |
| Actuated Cycle Length: 89.9 | |
| Natural Cycle: 140 | |
| Control Type: Actuated-Uncoordinated | |

Splits and Phases: 15: Riverford Road & Mast Boulevard/Riverside Drive



Existing PM
15: Riverford Road & Mast Boulevard/Riverside Drive

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 15 | 7 | 31 | 506 | 38 | 284 | 65 | 239 | 450 | 192 | 180 | 22 |
| Future Volume (veh/h) | 15 | 7 | 31 | 506 | 38 | 284 | 65 | 239 | 450 | 192 | 180 | 22 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 16 | 8 | 34 | 550 | 41 | 309 | 71 | 260 | 489 | 209 | 196 | 24 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 99 | 198 | 295 | 867 | 891 | 389 | 92 | 546 | 852 | 256 | 626 | 77 |
| Arrive On Green | 0.06 | 0.06 | 0.06 | 0.25 | 0.25 | 0.25 | 0.05 | 0.29 | 0.29 | 0.14 | 0.38 | 0.38 |
| Sat Flow, veh/h | 1781 | 3554 | 2695 | 3456 | 3554 | 1551 | 1781 | 1870 | 1556 | 1781 | 1632 | 200 |
| Grp Volume(v), veh/h | 16 | 8 | 34 | 550 | 41 | 309 | 71 | 260 | 489 | 209 | 0 | 220 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1347 | 1728 | 1777 | 1551 | 1781 | 1870 | 1556 | 1781 | 0 | 1831 |
| Q Serve(g_s), s | 0.7 | 0.2 | 0.9 | 10.8 | 0.7 | 14.2 | 3.0 | 8.7 | 15.9 | 8.7 | 0.0 | 6.4 |
| Cycle Q Clear(g_c), s | 0.7 | 0.2 | 0.9 | 10.8 | 0.7 | 14.2 | 3.0 | 8.7 | 15.9 | 8.7 | 0.0 | 6.4 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.11 |
| Lane Grp Cap(c), veh/h | 99 | 198 | 295 | 867 | 891 | 389 | 92 | 546 | 852 | 256 | 0 | 703 |
| V/C Ratio(X) | 0.16 | 0.04 | 0.12 | 0.63 | 0.05 | 0.79 | 0.77 | 0.48 | 0.57 | 0.82 | 0.00 | 0.31 |
| Avail Cap(c_a), veh/h | 940 | 1875 | 1566 | 1318 | 1356 | 592 | 352 | 994 | 1225 | 490 | 0 | 1116 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 34.2 | 34.0 | 30.7 | 25.4 | 21.6 | 26.6 | 35.6 | 22.1 | 11.6 | 31.6 | 0.0 | 16.4 |
| Incr Delay (d2), s/veh | 0.8 | 0.1 | 0.2 | 0.8 | 0.0 | 4.3 | 12.4 | 0.6 | 0.6 | 6.3 | 0.0 | 0.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.3 | 0.1 | 0.3 | 4.2 | 0.3 | 5.4 | 1.6 | 3.7 | 8.8 | 4.0 | 0.0 | 2.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 34.9 | 34.0 | 30.8 | 26.1 | 21.6 | 30.9 | 48.0 | 22.8 | 12.2 | 37.8 | 0.0 | 16.7 |
| LnGrp LOS | C | C | C | C | C | C | D | C | B | D | A | B |
| Approach Vol, veh/h | | 58 | | | 900 | | | 820 | | | 429 | |
| Approach Delay, s/veh | | 32.4 | | | 27.6 | | | 18.7 | | | 27.0 | |
| Approach LOS | | C | | | C | | | B | | | C | |

| Timer - Assigned Phs | 2 | 3 | 4 | | 6 | 7 | 8 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 9.5 | 8.0 | 34.1 | | 24.4 | 15.0 | 27.1 | | | | | |
| Change Period (Y+Rc), s | 5.3 | 4.1 | 4.9 | | 5.3 | 4.1 | 4.9 | | | | | |
| Max Green Setting (Gmax), s | 40.1 | 15.0 | 46.3 | | 29.0 | 20.9 | 40.4 | | | | | |
| Max Q Clear Time (g_c+I1), s | 2.9 | 5.0 | 8.4 | | 16.2 | 10.7 | 17.9 | | | | | |
| Green Ext Time (p_c), s | 0.2 | 0.1 | 1.4 | | 2.9 | 0.4 | 3.5 | | | | | |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 24.3 |
| HCM 6th LOS | C |

HCM 6th Signalized Intersection Summary
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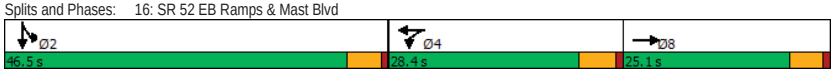
Existing PM
16: SR 52 EB Ramps & Mast Blvd

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 5 | 8 | 214 | 0 | 0 | 0 | 0 | 0 | 1127 | 1 | 6 |
| Future Volume (vph) | 0 | 5 | 8 | 214 | 0 | 0 | 0 | 0 | 0 | 1127 | 1 | 6 |
| Confl. Peds. (#/hr) | | | 5 | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | 50% | | |
| Turn Type | | NA | | Split | | | | | | Split | NA | |
| Protected Phases | | 8 | | 4 | 4 | | | | | 2 | 2 | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | | 8 | | 4 | 4 | | | | | 2 | 2 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | 7.0 | | 8.0 | 8.0 | | | | | 5.0 | 5.0 | |
| Minimum Split (s) | | 25.1 | | 28.4 | 28.4 | | | | | 32.3 | 32.3 | |
| Total Split (s) | | 25.1 | | 28.4 | 28.4 | | | | | 46.5 | 46.5 | |
| Total Split (%) | | 25.1% | | 28.4% | 28.4% | | | | | 46.5% | 46.5% | |
| Yellow Time (s) | | 4.1 | | 4.4 | 4.4 | | | | | 4.1 | 4.1 | |
| All-Red Time (s) | | 1.0 | | 1.0 | 1.0 | | | | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | | 0.0 | 0.0 | | | | | 0.0 | 0.0 | |
| Total Lost Time (s) | | 5.1 | | 5.4 | 5.4 | | | | | 5.1 | 5.1 | |
| Lead/Lag | | | | | | | | | | | | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Recall Mode | | None | | None | None | | | | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 65.7 |
| Natural Cycle: 90 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 16: SR 52 EB Ramps & Mast Blvd




Timings
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Existing PM
16: SR 52 EB Ramps & Mast Blvd

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 5 | 8 | 214 | 0 | 0 | 0 | 0 | 0 | 1127 | 1 | 6 |
| Future Volume (veh/h) | 0 | 5 | 8 | 214 | 0 | 0 | 0 | 0 | 0 | 1127 | 1 | 6 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | | | | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 1.00 | | | | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | | | | No | |
| Adj Sat Flow, veh/h/ln | 0 | 1870 | 1870 | 1870 | 1870 | 0 | | | | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 5 | 9 | 233 | 0 | 0 | | | | 1232 | 0 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 0 | 2 | 2 | 2 | 2 | 0 | | | | 2 | 2 | 2 |
| Cap, veh/h | 0 | 23 | 41 | 305 | 320 | 0 | | | | 1618 | 849 | 0 |
| Arrive On Green | 0.00 | 0.04 | 0.04 | 0.17 | 0.00 | 0.00 | | | | 0.45 | 0.00 | 0.00 |
| Sat Flow, veh/h | 0 | 595 | 1070 | 1781 | 1870 | 0 | | | | 3563 | 1870 | 0 |
| Grp Volume(v), veh/h | 0 | 0 | 14 | 233 | 0 | 0 | | | | 1232 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 0 | 0 | 1665 | 1781 | 1870 | 0 | | | | 1781 | 1870 | 0 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.4 | 5.8 | 0.0 | 0.0 | | | | 13.4 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 0.0 | 0.0 | 0.4 | 5.8 | 0.0 | 0.0 | | | | 13.4 | 0.0 | 0.0 |
| Prop In Lane | 0.00 | | 0.64 | 1.00 | | 0.00 | | | | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 0 | 0 | 63 | 305 | 320 | 0 | | | | 1618 | 849 | 0 |
| V/C Ratio(X) | 0.00 | 0.00 | 0.22 | 0.76 | 0.00 | 0.00 | | | | 0.76 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 0 | 0 | 719 | 885 | 929 | 0 | | | | 3184 | 1672 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | | | | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 0.0 | 0.0 | 21.6 | 18.3 | 0.0 | 0.0 | | | | 10.5 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 0.6 | 4.0 | 0.0 | 0.0 | | | | 0.8 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.0 | 0.1 | 2.4 | 0.0 | 0.0 | | | | 4.1 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 0.0 | 22.3 | 22.3 | 0.0 | 0.0 | | | | 11.3 | 0.0 | 0.0 |
| LnGrp LOS | A | A | C | C | A | A | | | | B | A | A |
| Approach Vol, veh/h | | 14 | | | 233 | | | | | | 1232 | |
| Approach Delay, s/veh | | 22.3 | | | 22.3 | | | | | | 11.3 | |
| Approach LOS | | C | | | C | | | | | | B | |

| Timer - Assigned Phs | 2 | 4 | 8 |
|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 26.1 | 13.3 | 6.9 |
| Change Period (Y+Rc), s | 5.1 | 5.4 | 5.1 |
| Max Green Setting (Gmax), s | 41.4 | 23.0 | 20.0 |
| Max Q Clear Time (g_c+I1), s | 15.4 | 7.8 | 2.4 |
| Green Ext Time (p_c), s | 5.7 | 0.6 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 13.1 |
| HCM 6th LOS | B |

Notes

User approved volume balancing among the lanes for turning movement.



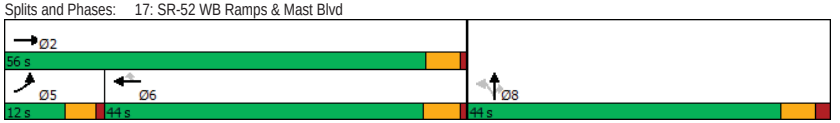
Existing PM
17: SR-52 WB Ramps & Mast Blvd

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 5 | 1127 | 0 | 0 | 214 | 312 | 0 | 3 | 495 | 0 | 0 | 0 |
| Future Volume (vph) | 5 | 1127 | 0 | 0 | 214 | 312 | 0 | 3 | 495 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | | | 6 | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | 4 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | 21% | | | 50% | | | |
| Turn Type | Prot | NA | | | NA | Perm | | NA | Perm | | | |
| Protected Phases | 5 | 2 | | | 6 | | | 8 | | | | |
| Permitted Phases | | | | | | 6 | 8 | | 8 | | | |
| Detector Phase | 5 | 2 | | | 6 | 6 | 8 | 8 | 8 | | | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 10.0 | | | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | | | |
| Minimum Split (s) | 11.7 | 38.6 | | | 28.4 | 28.4 | 43.1 | 43.1 | 43.1 | | | |
| Total Split (s) | 12.0 | 56.0 | | | 44.0 | 44.0 | 44.0 | 44.0 | 44.0 | | | |
| Total Split (%) | 12.0% | 56.0% | | | 44.0% | 44.0% | 44.0% | 44.0% | 44.0% | | | |
| Yellow Time (s) | 3.7 | 4.1 | | | 4.4 | 4.4 | 4.1 | 4.1 | 4.1 | | | |
| All-Red Time (s) | 1.0 | 1.0 | | | 1.0 | 1.0 | 2.0 | 2.0 | 2.0 | | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | 0.0 | | | |
| Total Lost Time (s) | 4.7 | 5.1 | | | 5.4 | 5.4 | | 6.1 | 6.1 | | | |
| Lead/Lag | Lead | | | | Lag | Lag | | | | | | |
| Lead-Lag Optimize? | Yes | | | | Yes | Yes | | | | | | |
| Recall Mode | None | Min | | | Min | Min | None | None | None | | | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 59.9 |
| Natural Cycle: 85 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 17: SR-52 WB Ramps & Mast Blvd



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 5 | 1127 | 0 | 0 | 214 | 312 | 0 | 3 | 495 | 0 | 0 | 0 |
| Future Volume (veh/h) | 5 | 1127 | 0 | 0 | 214 | 312 | 0 | 3 | 495 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.99 | 1.00 | | 1.00 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.99 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 0 | 0 | 1870 | 1945 | 1870 | 1870 | 1870 | | | |
| Adj Flow Rate, veh/h | 5 | 1225 | 0 | 0 | 312 | 286 | 0 | 0 | 540 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | |
| Percent Heavy Veh, % | 2 | 2 | 0 | 0 | 2 | 2 | 2 | 2 | 2 | | | |
| Cap, veh/h | 17 | 1884 | 0 | 0 | 788 | 685 | 0 | 420 | 721 | | | |
| Arrive On Green | 0.01 | 0.53 | 0.00 | 0.00 | 0.42 | 0.42 | 0.00 | 0.00 | 0.23 | | | |
| Sat Flow, veh/h | 1781 | 3647 | 0 | 0 | 1870 | 1625 | 0 | 1848 | 3170 | | | |
| Grp Volume(v), veh/h | 5 | 1225 | 0 | 0 | 312 | 286 | 0 | 0 | 540 | | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 0 | 0 | 1870 | 1625 | 0 | 1848 | 1585 | | | |
| Q Serve(g_s), s | 0.1 | 11.7 | 0.0 | 0.0 | 5.5 | 5.9 | 0.0 | 0.0 | 7.5 | | | |
| Cycle Q Clear(g_c), s | 0.1 | 11.7 | 0.0 | 0.0 | 5.5 | 5.9 | 0.0 | 0.0 | 7.5 | | | |
| Prop In Lane | 1.00 | | 0.00 | 0.00 | | 1.00 | 0.00 | | 1.00 | | | |
| Lane Grp Cap(c), veh/h | 17 | 1884 | 0 | 0 | 788 | 685 | 0 | 420 | 721 | | | |
| V/C Ratio(X) | 0.30 | 0.65 | 0.00 | 0.00 | 0.40 | 0.42 | 0.00 | 0.00 | 0.75 | | | |
| Avail Cap(c_a), veh/h | 274 | 3814 | 0 | 0 | 1522 | 1323 | 0 | 1477 | 2533 | | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | | | |
| Uniform Delay (d), s/veh | 23.3 | 8.0 | 0.0 | 0.0 | 9.5 | 9.6 | 0.0 | 0.0 | 17.1 | | | |
| Incr Delay (d2), s/veh | 3.6 | 0.4 | 0.0 | 0.0 | 0.3 | 0.4 | 0.0 | 0.0 | 0.6 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ln | 0.1 | 3.0 | 0.0 | 0.0 | 1.8 | 1.6 | 0.0 | 0.0 | 2.4 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 27.0 | 8.4 | 0.0 | 0.0 | 9.8 | 10.0 | 0.0 | 0.0 | 17.7 | | | |
| LnGrp LOS | C | A | A | A | A | B | A | A | B | | | |
| Approach Vol, veh/h | | 1230 | | | 598 | | | 540 | | | | |
| Approach Delay, s/veh | | 8.5 | | | 9.9 | | | 17.7 | | | | |
| Approach LOS | | A | | | A | | | B | | | | |
| Timer - Assigned Phs | | 2 | | | 5 | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 30.5 | | | 5.1 | 25.4 | | 16.9 | | | | |
| Change Period (Y+Rc), s | | * 5.4 | | | * 4.7 | 5.4 | | 6.1 | | | | |
| Max Green Setting (Gmax), s | | * 51 | | | * 7.3 | 38.6 | | 37.9 | | | | |
| Max Q Clear Time (g_c+I1), s | | 13.7 | | | 2.1 | 7.9 | | 9.5 | | | | |
| Green Ext Time (p_c), s | | 11.4 | | | 0.0 | 3.0 | | 1.3 | | | | |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 10.9 |
| HCM 6th LOS | B |

**Notes**

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

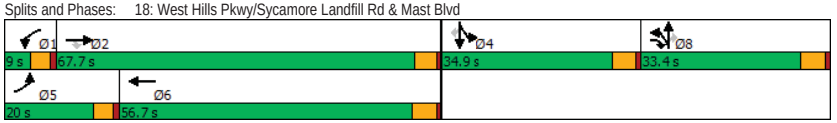




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 2 | 1128 | 450 | 105 | 309 | 0 | 190 | 1 | 308 | 0 | 3 | 16 |
| Future Volume (vph) | 2 | 1128 | 450 | 105 | 309 | 0 | 190 | 1 | 308 | 0 | 3 | 16 |
| Confl. Peds. (#/hr) | | | 12 | | | | | | | | | 4 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | 50% | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | | Split | NA | Perm | | NA | Perm |
| Protected Phases | 5 | 2 | 8 | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Permitted Phases | | | 2 | | | | | | 8 | | | 4 |
| Detector Phase | 5 | 2 | 8 | 1 | 6 | | 8 | 8 | 8 | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 10.0 | 10.0 | 4.0 | 10.0 | | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| Minimum Split (s) | 20.0 | 34.9 | 33.4 | 8.4 | 35.2 | | 33.4 | 33.4 | 33.4 | 34.9 | 34.9 | 34.9 |
| Total Split (s) | 20.0 | 67.7 | 33.4 | 9.0 | 56.7 | | 33.4 | 33.4 | 33.4 | 34.9 | 34.9 | 34.9 |
| Total Split (%) | 13.8% | 46.7% | 23.0% | 6.2% | 39.1% | | 23.0% | 23.0% | 23.0% | 24.1% | 24.1% | 24.1% |
| Yellow Time (s) | 3.4 | 3.9 | 4.4 | 3.4 | 4.2 | | 4.4 | 4.4 | 4.4 | 3.9 | 3.9 | 3.9 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.4 | 4.9 | 5.4 | 4.4 | 5.2 | | 5.4 | 5.4 | 5.4 | | 4.9 | 4.9 |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | Min | None | None | Min | | None | None | None | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 145 |
| Actuated Cycle Length: 79.1 |
| Natural Cycle: 125 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 18: West Hills Pkwy/Sycamore Landfill Rd & Mast Blvd



Existing PM
18: West Hills Pkwy/Sycamore Landfill Rd & Mast Blvd

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 2 | 1128 | 450 | 105 | 309 | 0 | 190 | 1 | 308 | 0 | 3 | 16 |
| Future Volume (veh/h) | 2 | 1128 | 450 | 105 | 309 | 0 | 190 | 1 | 308 | 0 | 3 | 16 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 2 | 1226 | 489 | 114 | 336 | 0 | 208 | 0 | 302 | 0 | 3 | 17 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 126 | 1689 | 1098 | 161 | 1603 | 0 | 787 | 0 | 350 | 0 | 105 | 88 |
| Arrive On Green | 0.07 | 0.48 | 0.48 | 0.05 | 0.45 | 0.00 | 0.22 | 0.00 | 0.22 | 0.00 | 0.06 | 0.06 |
| Sat Flow, veh/h | 1781 | 3554 | 1573 | 3456 | 3647 | 0 | 3563 | 0 | 1585 | 0 | 1870 | 1566 |
| Grp Volume(v), veh/h | 2 | 1226 | 489 | 114 | 336 | 0 | 208 | 0 | 302 | 0 | 3 | 17 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1573 | 1728 | 1777 | 0 | 1781 | 0 | 1585 | 0 | 1870 | 1566 |
| Q Serve(g_s), s | 0.1 | 27.4 | 13.6 | 3.2 | 5.7 | 0.0 | 4.8 | 0.0 | 18.2 | 0.0 | 0.2 | 1.0 |
| Cycle Q Clear(g_c), s | 0.1 | 27.4 | 13.6 | 3.2 | 5.7 | 0.0 | 4.8 | 0.0 | 18.2 | 0.0 | 0.2 | 1.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.00 | 1.00 | | 1.00 | 0.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 126 | 1689 | 1098 | 161 | 1603 | 0 | 787 | 0 | 350 | 0 | 105 | 88 |
| V/C Ratio(X) | 0.02 | 0.73 | 0.45 | 0.71 | 0.21 | 0.00 | 0.26 | 0.00 | 0.86 | 0.00 | 0.03 | 0.19 |
| Avail Cap(c_a), veh/h | 281 | 2255 | 1348 | 161 | 1849 | 0 | 1008 | 0 | 448 | 0 | 567 | 475 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 42.8 | 20.8 | 6.6 | 46.5 | 16.5 | 0.0 | 31.9 | 0.0 | 37.1 | 0.0 | 44.1 | 44.6 |
| Incr Delay (d2), s/veh | 0.0 | 1.0 | 0.4 | 11.7 | 0.1 | 0.0 | 0.3 | 0.0 | 14.4 | 0.0 | 0.1 | 1.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 10.6 | 8.0 | 1.6 | 2.2 | 0.0 | 2.0 | 0.0 | 8.1 | 0.0 | 0.1 | 0.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 42.8 | 21.8 | 7.0 | 58.3 | 16.6 | 0.0 | 32.2 | 0.0 | 51.5 | 0.0 | 44.2 | 45.6 |
| LnGrp LOS | D | C | A | E | B | A | C | A | D | A | D | D |
| Approach Vol, veh/h | | 1717 | | | 450 | | | 510 | | | 20 | |
| Approach Delay, s/veh | | 17.6 | | | 27.2 | | | 43.6 | | | 45.4 | |
| Approach LOS | | B | | | C | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 9.0 | 52.2 | | 10.5 | 11.4 | 49.8 | | 27.3 | | | | |
| Change Period (Y+Rc), s | 4.4 | * 5.2 | | 4.9 | 4.4 | 5.2 | | 5.4 | | | | |
| Max Green Setting (Gmax), s | 4.6 | * 63 | | 30.0 | 15.6 | 51.5 | | 28.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 5.2 | 29.4 | | 3.0 | 2.1 | 7.7 | | 20.2 | | | | |
| Green Ext Time (p_c), s | 0.0 | 17.7 | | 0.0 | 0.0 | 4.4 | | 1.7 | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | | 24.3 |
| HCM 6th LOS | | | C |

Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Existing PM
19: West Hills H.S. Drwy & Mast Blvd

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 6 | 1120 | 20 | 13 | 382 | 0 | 46 | 0 | 57 | 0 | 0 | 0 |
| Future Volume (vph) | 6 | 1120 | 20 | 13 | 382 | 0 | 46 | 0 | 57 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | 4 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Split | NA | | | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | | | | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | | | | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | | | | |
| Minimum Split (s) | 8.5 | 22.5 | | 8.5 | 20.5 | | 31.5 | 31.5 | | | | |
| Total Split (s) | 9.0 | 58.0 | | 9.0 | 58.0 | | 33.0 | 33.0 | | | | |
| Total Split (%) | 9.0% | 58.0% | | 9.0% | 58.0% | | 33.0% | 33.0% | | | | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | | | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | | |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | | 4.5 | | | | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | | | | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 70 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 19: West Hills H.S. Drwy & Mast Blvd

Existing PM
19: West Hills H.S. Drwy & Mast Blvd

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 6 | 1120 | 20 | 13 | 382 | 0 | 46 | 0 | 57 | 0 | 0 | 0 |
| Future Volume (veh/h) | 6 | 1120 | 20 | 13 | 382 | 0 | 46 | 0 | 57 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 0 | 1900 | 1870 | 1900 | | | |
| Adj Flow Rate, veh/h | 7 | 1217 | 22 | 14 | 415 | 0 | 50 | 0 | 62 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 0 | 0 | 2 | 0 | | | |
| Cap, veh/h | 13 | 2732 | 49 | 23 | 2739 | 0 | 65 | 0 | 80 | | | |
| Arrive On Green | 0.01 | 0.77 | 0.77 | 0.00 | 0.25 | 0.00 | 0.09 | 0.00 | 0.09 | | | |
| Sat Flow, veh/h | 1781 | 3571 | 65 | 1781 | 3647 | 0 | 744 | 0 | 923 | | | |
| Grp Volume(v), veh/h | 7 | 605 | 634 | 14 | 415 | 0 | 112 | 0 | 0 | | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1859 | 1781 | 1777 | 0 | 1667 | 0 | 0 | | | |
| Q Serve(g_s), s | 0.4 | 12.1 | 12.2 | 0.8 | 9.1 | 0.0 | 6.6 | 0.0 | 0.0 | | | |
| Cycle Q Clear(g_c), s | 0.4 | 12.1 | 12.2 | 0.8 | 9.1 | 0.0 | 6.6 | 0.0 | 0.0 | | | |
| Prop In Lane | 1.00 | | 0.03 | 1.00 | | 0.00 | 0.45 | | 0.55 | | | |
| Lane Grp Cap(c), veh/h | 13 | 1359 | 1422 | 23 | 2739 | 0 | 145 | 0 | 0 | | | |
| V/C Ratio(X) | 0.56 | 0.45 | 0.45 | 0.61 | 0.15 | 0.00 | 0.77 | 0.00 | 0.00 | | | |
| Avail Cap(c_a), veh/h | 80 | 1359 | 1422 | 80 | 2739 | 0 | 475 | 0 | 0 | | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 0.59 | 0.59 | 0.59 | 0.99 | 0.99 | 0.00 | 1.00 | 0.00 | 0.00 | | | |
| Uniform Delay (d), s/veh | 49.5 | 4.2 | 4.2 | 49.5 | 11.9 | 0.0 | 44.7 | 0.0 | 0.0 | | | |
| Incr Delay (d2), s/veh | 20.7 | 0.6 | 0.6 | 23.2 | 0.1 | 0.0 | 8.4 | 0.0 | 0.0 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ln | 0.2 | 3.2 | 3.3 | 0.5 | 3.4 | 0.0 | 3.0 | 0.0 | 0.0 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 70.2 | 4.8 | 4.8 | 72.7 | 12.0 | 0.0 | 53.1 | 0.0 | 0.0 | | | |
| LnGrp LOS | E | A | A | E | B | A | D | A | A | | | |
| Approach Vol, veh/h | | 1246 | | | 429 | | | 112 | | | | |
| Approach Delay, s/veh | | 5.2 | | | 14.0 | | | 53.1 | | | | |
| Approach LOS | | A | | | B | | | D | | | | |
| Timer - Assigned Phs | 1 | 2 | | | 5 | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 5.8 | 81.0 | | | 5.2 | 81.6 | | 13.2 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 4.5 | 53.5 | | | 4.5 | 53.5 | | 28.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.8 | 14.2 | | | 2.4 | 11.1 | | 8.6 | | | | |
| Green Ext Time (p_c), s | 0.0 | 10.0 | | | 0.0 | 2.8 | | 0.5 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | 10.3 | | | | | | | | | |
| HCM 6th LOS | | | B | | | | | | | | | |

HCM 6th Signalized Intersection Summary
N:\2462\Analysis\Intersections\Synchro\2 Existing PM.syn

Existing PM
20: Medina Drive & Mast Blvd

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 35 | 1061 | 32 | 5 | 349 | 25 | 12 | 3 | 14 | 18 | 4 | 27 |
| Future Volume (vph) | 35 | 1061 | 32 | 5 | 349 | 25 | 12 | 3 | 14 | 18 | 4 | 27 |
| Confl. Peds. (#/hr) | | | 2 | | | | | | 2 | | | |
| Confl. Bikes (#/hr) | | | 2 | | | 5 | | | 2 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Perm | NA | | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | | 4 | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 22.0 | | 8.2 | 22.0 | | 32.2 | 32.2 | | 32.2 | 32.2 | |
| Total Split (s) | 12.0 | 58.0 | | 9.0 | 55.0 | | 33.0 | 33.0 | | 33.0 | 33.0 | |
| Total Split (%) | 12.0% | 58.0% | | 9.0% | 55.0% | | 33.0% | 33.0% | | 33.0% | 33.0% | |
| Yellow Time (s) | 3.2 | 5.1 | | 3.2 | 4.3 | | 3.2 | 3.2 | | 3.2 | 3.2 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | 0.0 | |
| Total Lost Time (s) | 4.2 | 6.1 | | 4.2 | 5.3 | | | 4.2 | | | 4.2 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 70 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 20: Medina Drive & Mast Blvd

Timings
N:\2462\Analysis\Intersections\Synchro\2 Existing PM.syn

Existing PM
20: Medina Drive & Mast Blvd

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 35 | 1061 | 32 | 5 | 349 | 25 | 12 | 3 | 14 | 18 | 4 | 27 |
| Future Volume (veh/h) | 35 | 1061 | 32 | 5 | 349 | 25 | 12 | 3 | 14 | 18 | 4 | 27 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.97 | 0.99 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 38 | 1153 | 35 | 5 | 379 | 27 | 13 | 3 | 15 | 20 | 4 | 29 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 48 | 2746 | 83 | 9 | 2550 | 181 | 81 | 27 | 54 | 79 | 20 | 59 |
| Arrive On Green | 0.05 | 1.00 | 1.00 | 0.01 | 1.00 | 1.00 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 |
| Sat Flow, veh/h | 1781 | 3518 | 107 | 1781 | 3360 | 238 | 430 | 396 | 774 | 422 | 287 | 858 |
| Grp Volume(v), veh/h | 38 | 582 | 606 | 5 | 200 | 206 | 31 | 0 | 0 | 53 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1848 | 1781 | 1777 | 1821 | 1600 | 0 | 0 | 1568 | 0 | 0 |
| Q Serve(g_s), s | 2.1 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.3 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 2.1 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 | 1.7 | 0.0 | 0.0 | 3.1 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | | 0.06 | 1.00 | | 0.13 | 0.42 | | 0.48 | 0.38 | | 0.55 |
| Lane Grp Cap(c), veh/h | 48 | 1387 | 1443 | 9 | 1348 | 1382 | 162 | 0 | 0 | 158 | 0 | 0 |
| V/C Ratio(X) | 0.79 | 0.42 | 0.42 | 0.54 | 0.15 | 0.15 | 0.19 | 0.00 | 0.00 | 0.34 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 139 | 1387 | 1443 | 86 | 1348 | 1382 | 488 | 0 | 0 | 491 | 0 | 0 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.83 | 0.83 | 0.83 | 0.99 | 0.99 | 0.99 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 47.0 | 0.0 | 0.0 | 49.4 | 0.0 | 0.0 | 44.1 | 0.0 | 0.0 | 44.7 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 21.1 | 0.8 | 0.7 | 16.9 | 0.2 | 0.2 | 0.2 | 0.0 | 0.0 | 0.5 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.2 | 0.3 | 0.3 | 0.2 | 0.1 | 0.1 | 0.7 | 0.0 | 0.0 | 1.3 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 68.2 | 0.8 | 0.7 | 66.2 | 0.2 | 0.2 | 44.3 | 0.0 | 0.0 | 45.2 | 0.0 | 0.0 |
| LnGrp LOS | E | A | A | E | A | A | D | A | A | D | A | A |
| Approach Vol, veh/h | | 1226 | | | 411 | | | 31 | | | 53 | |
| Approach Delay, s/veh | | 2.9 | | | 1.0 | | | 44.3 | | | 45.2 | |
| Approach LOS | | A | | | A | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 4.7 | 84.2 | | 11.1 | 6.9 | 82.0 | | 11.1 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 6.1 | | * 4.2 | * 4.2 | * 6.1 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | * 4.8 | 51.9 | | * 29 | * 7.8 | * 50 | | * 29 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.3 | 2.0 | | 5.1 | 4.1 | 2.0 | | 3.7 | | | | |
| Green Ext Time (p_c), s | 0.0 | 17.7 | | 0.1 | 0.0 | 4.1 | | 0.1 | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | | 4.5 |
| HCM 6th LOS | | | A |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



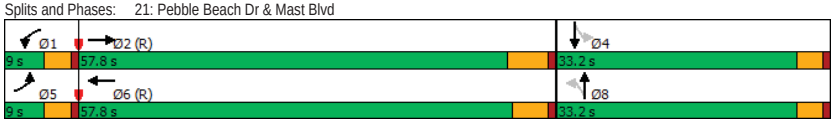
Existing PM
21: Pebble Beach Dr & Mast Blvd

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 7 | 1035 | 13 | 6 | 346 | 47 | 10 | 3 | 13 | 49 | 0 | 12 |
| Future Volume (vph) | 7 | 1035 | 13 | 6 | 346 | 47 | 10 | 3 | 13 | 49 | 0 | 12 |
| Confl. Peds. (#/hr) | | | 9 | | | | | | 1 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Perm | NA | | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | | 4 | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 23.9 | | 8.2 | 23.3 | | 33.2 | 33.2 | | 32.2 | 32.2 | |
| Total Split (s) | 9.0 | 57.8 | | 9.0 | 57.8 | | 33.2 | 33.2 | | 33.2 | 33.2 | |
| Total Split (%) | 9.0% | 57.8% | | 9.0% | 57.8% | | 33.2% | 33.2% | | 33.2% | 33.2% | |
| Yellow Time (s) | 3.2 | 4.9 | | 3.2 | 4.3 | | 3.2 | 3.2 | | 3.2 | 3.2 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | 0.0 | |
| Total Lost Time (s) | 4.2 | 5.9 | | 4.2 | 5.3 | | | 4.2 | | | 4.2 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Max | | None | C-Max | | None | None | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 75 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 21: Pebble Beach Dr & Mast Blvd



Existing PM
21: Pebble Beach Dr & Mast Blvd

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 7 | 1035 | 13 | 6 | 346 | 47 | 10 | 3 | 13 | 49 | 0 | 12 |
| Future Volume (veh/h) | 7 | 1035 | 13 | 6 | 346 | 47 | 10 | 3 | 13 | 49 | 0 | 12 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 8 | 1125 | 14 | 7 | 376 | 51 | 11 | 3 | 14 | 53 | 0 | 13 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 14 | 2810 | 35 | 13 | 2458 | 331 | 78 | 29 | 57 | 143 | 4 | 20 |
| Arrive On Green | 0.02 | 1.00 | 1.00 | 0.01 | 1.00 | 1.00 | 0.07 | 0.07 | 0.07 | 0.07 | 0.00 | 0.07 |
| Sat Flow, veh/h | 1781 | 3594 | 45 | 1781 | 3147 | 424 | 406 | 428 | 834 | 1154 | 58 | 297 |
| Grp Volume(v), veh/h | 8 | 556 | 583 | 7 | 211 | 216 | 28 | 0 | 0 | 66 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1862 | 1781 | 1777 | 1794 | 1667 | 0 | 0 | 1509 | 0 | 0 |
| Q Serve(g_s), s | 0.4 | 0.0 | 0.0 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.6 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 0.4 | 0.0 | 0.0 | 0.4 | 0.0 | 0.0 | 1.5 | 0.0 | 0.0 | 4.1 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | | 0.02 | 1.00 | | 0.24 | 0.39 | | 0.50 | 0.80 | | 0.20 |
| Lane Grp Cap(c), veh/h | 14 | 1389 | 1456 | 13 | 1388 | 1401 | 164 | 0 | 0 | 168 | 0 | 0 |
| V/C Ratio(X) | 0.56 | 0.40 | 0.40 | 0.56 | 0.15 | 0.15 | 0.17 | 0.00 | 0.00 | 0.39 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 86 | 1389 | 1456 | 86 | 1388 | 1401 | 503 | 0 | 0 | 484 | 0 | 0 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.91 | 0.91 | 0.91 | 0.98 | 0.98 | 0.98 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 49.0 | 0.0 | 0.0 | 49.1 | 0.0 | 0.0 | 44.2 | 0.0 | 0.0 | 45.2 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 11.3 | 0.8 | 0.7 | 13.2 | 0.2 | 0.2 | 0.2 | 0.0 | 0.0 | 0.6 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.2 | 0.3 | 0.3 | 0.2 | 0.1 | 0.1 | 0.7 | 0.0 | 0.0 | 1.6 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 60.3 | 0.8 | 0.7 | 62.3 | 0.2 | 0.2 | 44.3 | 0.0 | 0.0 | 45.8 | 0.0 | 0.0 |
| LnGrp LOS | E | A | A | E | A | A | D | A | A | D | A | A |
| Approach Vol, veh/h | | 1147 | | | 434 | | | 28 | | | 66 | |
| Approach Delay, s/veh | | 1.2 | | | 1.2 | | | 44.3 | | | 45.8 | |
| Approach LOS | | A | | | A | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 4.9 | 84.1 | | 11.0 | 5.0 | 84.0 | | 11.0 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 5.9 | | * 4.2 | * 4.2 | * 5.9 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | * 4.8 | 51.9 | | * 29 | * 4.8 | * 53 | | * 29 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.4 | 2.0 | | 6.1 | 2.4 | 2.0 | | 3.5 | | | | |
| Green Ext Time (p_c), s | 0.0 | 19.5 | | 0.2 | 0.0 | 6.1 | | 0.1 | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | | 3.7 |
| HCM 6th LOS | | | A |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



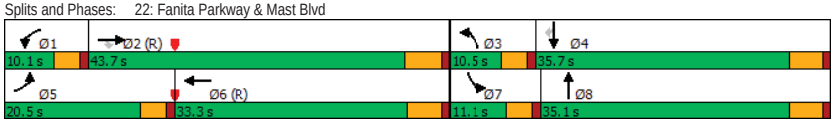
Existing PM
22: Fanita Parkway & Mast Blvd

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 143 | 926 | 49 | 26 | 368 | 49 | 33 | 45 | 29 | 43 | 31 | 50 |
| Future Volume (vph) | 143 | 926 | 49 | 26 | 368 | 49 | 33 | 45 | 29 | 43 | 31 | 50 |
| Confl. Peds. (#/hr) | | | 12 | | | 1 | | | 3 | | | 5 |
| Confl. Bikes (#/hr) | | | | | | 5 | | | 1 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | | | | | | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 27.5 | 27.5 | 8.2 | 28.1 | | 8.2 | 35.1 | | 8.2 | 28.1 | 28.1 |
| Total Split (s) | 20.5 | 43.7 | 43.7 | 10.1 | 33.3 | | 10.5 | 35.1 | | 11.1 | 35.7 | 35.7 |
| Total Split (%) | 20.5% | 43.7% | 43.7% | 10.1% | 33.3% | | 10.5% | 35.1% | | 11.1% | 35.7% | 35.7% |
| Yellow Time (s) | 3.2 | 4.5 | 4.5 | 3.2 | 4.1 | | 3.2 | 4.1 | | 3.2 | 4.1 | 4.1 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.5 | 5.5 | 4.2 | 5.1 | | 4.2 | 5.1 | | 4.2 | 5.1 | 5.1 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | C-Max | C-Max | None | C-Max | | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 14.1 (14%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 80 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 22: Fanita Parkway & Mast Blvd



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 143 | 926 | 49 | 26 | 368 | 49 | 33 | 45 | 29 | 43 | 31 | 50 |
| Future Volume (veh/h) | 143 | 926 | 49 | 26 | 368 | 49 | 33 | 45 | 29 | 43 | 31 | 50 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 155 | 1007 | 53 | 28 | 400 | 53 | 36 | 49 | 32 | 47 | 34 | 54 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 184 | 2338 | 1033 | 39 | 1813 | 238 | 45 | 101 | 66 | 60 | 197 | 162 |
| Arrive On Green | 0.21 | 1.00 | 1.00 | 0.04 | 1.00 | 1.00 | 0.03 | 0.10 | 0.10 | 0.03 | 0.11 | 0.11 |
| Sat Flow, veh/h | 1781 | 3554 | 1571 | 1781 | 3147 | 414 | 1781 | 1045 | 683 | 1781 | 1870 | 1541 |
| Grp Volume(v), veh/h | 155 | 1007 | 53 | 28 | 225 | 228 | 36 | 0 | 81 | 47 | 34 | 54 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1571 | 1781 | 1777 | 1784 | 1781 | 0 | 1728 | 1781 | 1870 | 1541 |
| Q Serve(g_s), s | 8.4 | 0.0 | 0.0 | 1.6 | 0.0 | 0.0 | 2.0 | 0.0 | 4.4 | 2.6 | 1.7 | 3.3 |
| Cycle Q Clear(g_c), s | 8.4 | 0.0 | 0.0 | 1.6 | 0.0 | 0.0 | 2.0 | 0.0 | 4.4 | 2.6 | 1.7 | 3.3 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.23 | 1.00 | | 0.40 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 184 | 2338 | 1033 | 39 | 1023 | 1027 | 45 | 0 | 167 | 60 | 197 | 162 |
| V/C Ratio(X) | 0.84 | 0.43 | 0.05 | 0.73 | 0.22 | 0.22 | 0.80 | 0.00 | 0.48 | 0.78 | 0.17 | 0.33 |
| Avail Cap(c_a), veh/h | 290 | 2338 | 1033 | 105 | 1023 | 1027 | 112 | 0 | 518 | 123 | 572 | 471 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.92 | 0.92 | 0.92 | 0.94 | 0.94 | 0.94 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 38.9 | 0.0 | 0.0 | 47.5 | 0.0 | 0.0 | 48.5 | 0.0 | 42.8 | 47.9 | 40.8 | 41.5 |
| Incr Delay (d2), s/veh | 9.1 | 0.5 | 0.1 | 16.5 | 0.5 | 0.5 | 20.4 | 0.0 | 7.7 | 15.0 | 1.3 | 3.9 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 3.7 | 0.2 | 0.0 | 0.8 | 0.1 | 0.1 | 1.1 | 0.0 | 2.2 | 1.4 | 0.8 | 1.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 48.0 | 0.5 | 0.1 | 64.1 | 0.5 | 0.5 | 68.9 | 0.0 | 50.5 | 62.9 | 42.1 | 45.3 |
| LnGrp LOS | D | A | A | E | A | A | E | A | D | E | D | D |
| Approach Vol, veh/h | | 1215 | | | 481 | | | 117 | | | 135 | |
| Approach Delay, s/veh | | 6.6 | | | 4.2 | | | 56.1 | | | 50.7 | |
| Approach LOS | | A | | | A | | | E | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 6.4 | 71.3 | 6.7 | 15.6 | 14.5 | 63.1 | 7.6 | 14.8 |
| Change Period (Y+Rc), s | * 4.2 | 5.5 | * 4.2 | 5.1 | * 4.2 | * 5.5 | * 4.2 | 5.1 |
| Max Green Setting (Gmax), s | * 5.9 | 38.2 | * 6.3 | 30.6 | * 16 | * 28 | * 6.9 | 30.0 |
| Max Q Clear Time (g_c+I1), s | 3.6 | 2.0 | 4.0 | 5.3 | 10.4 | 2.0 | 4.6 | 6.4 |
| Green Ext Time (p_c), s | 0.0 | 19.8 | 0.0 | 0.8 | 0.1 | 7.2 | 0.0 | 0.8 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 12.0 |
| HCM 6th LOS | B |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

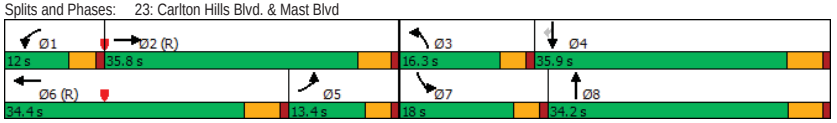




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 63 | 808 | 72 | 98 | 288 | 98 | 91 | 225 | 177 | 186 | 175 | 40 |
| Future Volume (vph) | 63 | 808 | 72 | 98 | 288 | 98 | 91 | 225 | 177 | 186 | 175 | 40 |
| Confl. Peds. (#/hr) | | | 3 | | | 7 | | | 11 | | | 8 |
| Confl. Bikes (#/hr) | | | 4 | | | 2 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 33.1 | | 8.2 | 32.4 | | 8.2 | 34.2 | | 8.2 | 32.4 | 32.4 |
| Total Split (s) | 13.4 | 35.8 | | 12.0 | 34.4 | | 16.3 | 34.2 | | 18.0 | 35.9 | 35.9 |
| Total Split (%) | 13.4% | 35.8% | | 12.0% | 34.4% | | 16.3% | 34.2% | | 18.0% | 35.9% | 35.9% |
| Yellow Time (s) | 3.2 | 4.1 | | 3.2 | 4.4 | | 3.2 | 4.2 | | 3.2 | 4.4 | 4.4 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.1 | | 4.2 | 5.4 | | 4.2 | 5.2 | | 4.2 | 5.4 | 5.4 |
| Lead/Lag | Lag | Lag | | Lead | Lead | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | C-Min | | None | C-Min | | None | Min | | None | Min | Min |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 85 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 23: Carlton Hills Blvd. & Mast Blvd



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 63 | 808 | 72 | 98 | 288 | 98 | 91 | 225 | 177 | 186 | 175 | 40 |
| Future Volume (veh/h) | 63 | 808 | 72 | 98 | 288 | 98 | 91 | 225 | 177 | 186 | 175 | 40 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 68 | 878 | 78 | 107 | 313 | 107 | 99 | 245 | 192 | 202 | 190 | 43 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 465 | 1298 | 115 | 135 | 509 | 170 | 125 | 404 | 303 | 233 | 964 | 426 |
| Arrive On Green | 0.09 | 0.13 | 0.13 | 0.02 | 0.06 | 0.06 | 0.07 | 0.21 | 0.21 | 0.13 | 0.27 | 0.27 |
| Sat Flow, veh/h | 1781 | 3296 | 293 | 1781 | 2596 | 868 | 1781 | 1921 | 1440 | 1781 | 3554 | 1571 |
| Grp Volume(v), veh/h | 68 | 473 | 483 | 107 | 212 | 208 | 99 | 226 | 211 | 202 | 190 | 43 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1812 | 1781 | 1777 | 1688 | 1781 | 1777 | 1584 | 1781 | 1777 | 1571 |
| Q Serve(g_s), s | 3.5 | 25.4 | 25.4 | 6.0 | 11.6 | 12.0 | 5.5 | 11.5 | 12.1 | 11.1 | 4.1 | 1.0 |
| Cycle Q Clear(g_c), s | 3.5 | 25.4 | 25.4 | 6.0 | 11.6 | 12.0 | 5.5 | 11.5 | 12.1 | 11.1 | 4.1 | 1.0 |
| Prop In Lane | 1.00 | | 0.16 | 1.00 | | 0.51 | 1.00 | | 0.91 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 465 | 700 | 714 | 135 | 349 | 331 | 125 | 374 | 334 | 233 | 964 | 426 |
| V/C Ratio(X) | 0.15 | 0.68 | 0.68 | 0.79 | 0.61 | 0.63 | 0.79 | 0.60 | 0.63 | 0.87 | 0.20 | 0.10 |
| Avail Cap(c_a), veh/h | 465 | 700 | 714 | 139 | 515 | 490 | 216 | 515 | 459 | 246 | 1084 | 479 |
| HCM Platoon Ratio | 0.33 | 0.33 | 0.33 | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.90 | 0.90 | 0.90 | 0.98 | 0.98 | 0.98 | 0.74 | 0.74 | 0.74 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 35.4 | 37.4 | 37.4 | 48.0 | 43.0 | 43.2 | 45.8 | 35.7 | 36.0 | 42.6 | 28.1 | 6.8 |
| Incr Delay (d2), s/veh | 0.0 | 4.7 | 4.6 | 23.3 | 7.5 | 8.6 | 3.1 | 3.4 | 4.2 | 24.0 | 0.4 | 0.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.5 | 12.9 | 13.1 | 3.6 | 6.2 | 6.1 | 2.5 | 5.2 | 5.0 | 6.3 | 1.8 | 0.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 35.4 | 42.1 | 42.0 | 71.2 | 50.6 | 51.8 | 48.9 | 39.0 | 40.2 | 66.6 | 28.5 | 7.2 |
| LnGrp LOS | D | D | D | E | D | D | D | D | D | E | C | A |
| Approach Vol, veh/h | | 1024 | | | 527 | | | 536 | | | 435 | |
| Approach Delay, s/veh | | 41.6 | | | 55.2 | | | 41.3 | | | 44.1 | |
| Approach LOS | | D | | | E | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 11.8 | 44.5 | 11.2 | 32.5 | 31.2 | 25.0 | 17.3 | 26.5 |
| Change Period (Y+Rc), s | * 4.2 | 5.1 | * 4.2 | 5.4 | 5.1 | * 5.4 | * 4.2 | * 5.4 |
| Max Green Setting (Gmax), s | * 7.8 | 30.7 | * 12 | 30.5 | 9.2 | * 29 | * 14 | * 29 |
| Max Q Clear Time (g_c+I1), s | 8.0 | 27.4 | 7.5 | 6.1 | 5.5 | 14.0 | 13.1 | 14.1 |
| Green Ext Time (p_c), s | 0.0 | 2.5 | 0.0 | 3.2 | 0.0 | 4.5 | 0.0 | 4.5 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 44.8 |
| HCM 6th LOS | | D |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

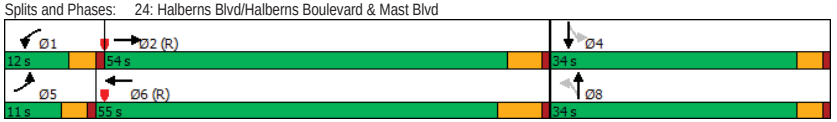




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 24 | 990 | 44 | 38 | 478 | 44 | 29 | 56 | 124 | 45 | 37 | 18 |
| Future Volume (vph) | 24 | 990 | 44 | 38 | 478 | 44 | 29 | 56 | 124 | 45 | 37 | 18 |
| Confl. Peds. (#/hr) | | | 1 | | | 5 | | | 1 | | | 2 |
| Confl. Bikes (#/hr) | | | 1 | | | 1 | | | 1 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Perm | NA | | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | | 4 | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 29.2 | | 8.2 | 28.3 | | 32.2 | 32.2 | | 32.2 | 32.2 | |
| Total Split (s) | 11.0 | 54.0 | | 12.0 | 55.0 | | 34.0 | 34.0 | | 34.0 | 34.0 | |
| Total Split (%) | 11.0% | 54.0% | | 12.0% | 55.0% | | 34.0% | 34.0% | | 34.0% | 34.0% | |
| Yellow Time (s) | 3.2 | 4.2 | | 3.2 | 5.3 | | 3.2 | 3.2 | | 3.2 | 3.2 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.2 | 5.2 | | 4.2 | 6.3 | | 4.2 | 4.2 | | 4.2 | 4.2 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Max | | None | C-Max | | None | None | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 70 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 24: Halberns Blvd/Halberns Boulevard & Mast Blvd



Existing PM
24: Halberns Blvd/Halberns Boulevard & Mast Blvd

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 24 | 990 | 44 | 38 | 478 | 44 | 29 | 56 | 124 | 45 | 37 | 18 |
| Future Volume (veh/h) | 24 | 990 | 44 | 38 | 478 | 44 | 29 | 56 | 124 | 45 | 37 | 18 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.99 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 26 | 1076 | 48 | 41 | 520 | 48 | 32 | 61 | 135 | 49 | 40 | 20 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 37 | 2237 | 100 | 52 | 2149 | 198 | 271 | 91 | 201 | 151 | 209 | 104 |
| Arrive On Green | 0.04 | 1.00 | 1.00 | 0.01 | 0.22 | 0.22 | 0.18 | 0.18 | 0.18 | 0.18 | 0.18 | 0.18 |
| Sat Flow, veh/h | 1781 | 3463 | 154 | 1781 | 3282 | 302 | 1339 | 512 | 1134 | 1186 | 1175 | 587 |
| Grp Volume(v), veh/h | 26 | 552 | 572 | 41 | 281 | 287 | 32 | 0 | 196 | 49 | 0 | 60 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1840 | 1781 | 1777 | 1807 | 1339 | 0 | 1646 | 1186 | 0 | 1762 |
| Q Serve(g_s), s | 1.4 | 0.0 | 0.0 | 2.3 | 13.1 | 13.1 | 2.1 | 0.0 | 11.1 | 4.0 | 0.0 | 2.9 |
| Cycle Q Clear(g_c), s | 1.4 | 0.0 | 0.0 | 2.3 | 13.1 | 13.1 | 5.0 | 0.0 | 11.1 | 15.1 | 0.0 | 2.9 |
| Prop In Lane | 1.00 | | 0.08 | 1.00 | | 0.17 | 1.00 | | 0.69 | 1.00 | | 0.33 |
| Lane Grp Cap(c), veh/h | 37 | 1148 | 1189 | 52 | 1163 | 1183 | 271 | 0 | 292 | 151 | 0 | 313 |
| V/C Ratio(X) | 0.71 | 0.48 | 0.48 | 0.79 | 0.24 | 0.24 | 0.12 | 0.00 | 0.67 | 0.32 | 0.00 | 0.19 |
| Avail Cap(c_a), veh/h | 121 | 1148 | 1189 | 139 | 1163 | 1183 | 432 | 0 | 491 | 294 | 0 | 525 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.64 | 0.64 | 0.64 | 0.91 | 0.91 | 0.91 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 47.6 | 0.0 | 0.0 | 49.2 | 18.7 | 18.7 | 37.1 | 0.0 | 38.4 | 45.4 | 0.0 | 35.0 |
| Incr Delay (d2), s/veh | 5.9 | 0.9 | 0.9 | 8.5 | 0.4 | 0.4 | 0.1 | 0.0 | 1.0 | 0.5 | 0.0 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.7 | 0.3 | 0.3 | 1.1 | 6.3 | 6.4 | 0.7 | 0.0 | 4.5 | 1.2 | 0.0 | 1.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 53.5 | 0.9 | 0.9 | 57.7 | 19.1 | 19.1 | 37.2 | 0.0 | 39.4 | 45.9 | 0.0 | 35.1 |
| LnGrp LOS | D | A | A | E | B | B | D | A | D | D | A | D |
| Approach Vol, veh/h | | 1150 | | | 609 | | | 228 | | | 109 | |
| Approach Delay, s/veh | | 2.1 | | | 21.7 | | | 39.1 | | | 40.0 | |
| Approach LOS | | A | | | C | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.1 | 70.9 | | 22.0 | 6.3 | 71.8 | | 22.0 | | | | |
| Change Period (Y+Rc), s | * 4.2 | * 6.3 | | * 4.2 | * 4.2 | 6.3 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | * 7.8 | * 49 | | * 30 | * 6.8 | 48.7 | | * 30 | | | | |
| Max Q Clear Time (g_c+I1), s | 4.3 | 2.0 | | 17.1 | 3.4 | 15.1 | | 13.1 | | | | |
| Green Ext Time (p_c), s | 0.0 | 20.5 | | 0.2 | 0.0 | 7.5 | | 0.7 | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | | 13.8 |
| HCM 6th LOS | | | B |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
N:\2462\Analysis\Intersections\Synchro\2 Existing PM.syn

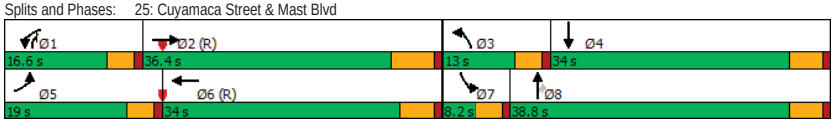
Existing PM
25: Cuyamaca Street & Mast Blvd

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 195 | 633 | 254 | 302 | 281 | 17 | 238 | 279 | 415 | 12 | 187 | 118 |
| Future Volume (vph) | 195 | 633 | 254 | 302 | 281 | 17 | 238 | 279 | 415 | 12 | 187 | 118 |
| Confl. Peds. (#/hr) | | | 11 | | | 3 | | | | | | 3 |
| Confl. Bikes (#/hr) | | | 2 | | | 2 | | | | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | | Prot | NA | pm+ov | Prot | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | 1 | 7 | 4 | |
| Permitted Phases | | | 2 | | | | | | 8 | | | |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | | 3 | 8 | 1 | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | | 4.0 | 7.0 | 4.0 | 4.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 34.3 | 34.3 | 8.2 | 32.3 | | 8.2 | 33.1 | 8.2 | 8.2 | 34.0 | |
| Total Split (s) | 19.0 | 36.4 | 36.4 | 16.6 | 34.0 | | 13.0 | 38.8 | 16.6 | 8.2 | 34.0 | |
| Total Split (%) | 19.0% | 36.4% | 36.4% | 16.6% | 34.0% | | 13.0% | 38.8% | 16.6% | 8.2% | 34.0% | |
| Yellow Time (s) | 3.2 | 5.3 | 5.3 | 3.2 | 4.3 | | 3.2 | 4.1 | 3.2 | 3.2 | 4.0 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.2 | 6.3 | 6.3 | 4.2 | 5.3 | | 4.2 | 5.1 | 4.2 | 4.2 | 5.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | |
| Recall Mode | None | C-Min | C-Min | None | C-Min | | None | None | None | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 21 (21%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 95 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 25: Cuyamaca Street & Mast Blvd




Timings
N:\2462\Analysis\Intersections\Synchro\2 Existing PM.syn

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 195 | 633 | 254 | 302 | 281 | 17 | 238 | 279 | 415 | 12 | 187 | 118 |
| Future Volume (veh/h) | 195 | 633 | 254 | 302 | 281 | 17 | 238 | 279 | 415 | 12 | 187 | 118 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 1.00 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 212 | 688 | 276 | 328 | 305 | 18 | 259 | 303 | 451 | 13 | 203 | 128 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 242 | 1376 | 601 | 393 | 1244 | 73 | 304 | 1027 | 638 | 22 | 452 | 271 |
| Arrive On Green | 0.18 | 0.51 | 0.51 | 0.11 | 0.37 | 0.37 | 0.09 | 0.29 | 0.29 | 0.01 | 0.21 | 0.21 |
| Sat Flow, veh/h | 1781 | 3554 | 1551 | 3456 | 3407 | 200 | 3456 | 3554 | 1585 | 1781 | 2121 | 1271 |
| Grp Volume(v), veh/h | 212 | 688 | 276 | 328 | 158 | 165 | 259 | 303 | 451 | 13 | 168 | 163 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1551 | 1728 | 1777 | 1831 | 1728 | 1777 | 1585 | 1781 | 1777 | 1615 |
| Q Serve(g_s), s | 11.6 | 12.6 | 11.3 | 9.3 | 6.2 | 6.3 | 7.4 | 6.6 | 23.8 | 0.7 | 8.2 | 8.8 |
| Cycle Q Clear(g_c), s | 11.6 | 12.6 | 11.3 | 9.3 | 6.2 | 6.3 | 7.4 | 6.6 | 23.8 | 0.7 | 8.2 | 8.8 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.11 | 1.00 | | 1.00 | 1.00 | | 0.79 |
| Lane Grp Cap(c), veh/h | 242 | 1376 | 601 | 393 | 649 | 668 | 304 | 1027 | 638 | 22 | 378 | 344 |
| V/C Ratio(X) | 0.88 | 0.50 | 0.46 | 0.83 | 0.24 | 0.25 | 0.85 | 0.30 | 0.71 | 0.60 | 0.44 | 0.47 |
| Avail Cap(c_a), veh/h | 264 | 1376 | 601 | 429 | 649 | 668 | 304 | 1198 | 715 | 71 | 515 | 468 |
| HCM Platoon Ratio | 1.33 | 1.33 | 1.33 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.89 | 0.89 | 0.89 | 0.98 | 0.98 | 0.98 | 0.74 | 0.74 | 0.74 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 40.1 | 17.9 | 17.6 | 43.4 | 22.1 | 22.1 | 45.0 | 27.6 | 24.9 | 49.2 | 34.2 | 34.4 |
| Incr Delay (d2), s/veh | 21.6 | 1.2 | 2.2 | 11.2 | 0.9 | 0.9 | 14.9 | 0.2 | 2.4 | 9.6 | 1.3 | 1.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 6.1 | 4.6 | 3.9 | 4.5 | 2.6 | 2.7 | 3.7 | 2.8 | 8.9 | 0.4 | 3.6 | 3.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 61.7 | 19.1 | 19.9 | 54.5 | 23.0 | 23.0 | 59.9 | 27.8 | 27.4 | 58.8 | 35.5 | 36.0 |
| LnGrp LOS | E | B | B | D | C | C | E | C | C | E | D | D |
| Approach Vol, veh/h | | 1176 | | | 651 | | | 1013 | | | 344 | |
| Approach Delay, s/veh | | 27.0 | | | 38.9 | | | 35.8 | | | 36.6 | |
| Approach LOS | | C | | | D | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 15.6 | 45.0 | 13.0 | 26.4 | 17.8 | 42.8 | 5.4 | 34.0 |
| Change Period (Y+Rc), s | * 4.2 | 6.3 | * 4.2 | * 5.1 | * 4.2 | * 6.3 | * 4.2 | 5.1 |
| Max Green Setting (Gmax), s | * 12 | 30.1 | * 8.8 | * 29 | * 15 | * 29 | * 4 | 33.7 |
| Max Q Clear Time (g_c+I1), s | 11.3 | 14.6 | 9.4 | 10.8 | 13.6 | 8.3 | 2.7 | 25.8 |
| Green Ext Time (p_c), s | 0.1 | 6.8 | 0.0 | 2.7 | 0.0 | 2.1 | 0.0 | 3.1 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 33.3 |
| HCM 6th LOS | C |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.





| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 951 | 28 | 103 | 608 | 16 | 117 |
| Future Volume (vph) | 951 | 28 | 103 | 608 | 16 | 117 |
| Confl. Peds. (#/hr) | | 12 | | | | 20 |
| Confl. Bikes (#/hr) | | 4 | | | | 8 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | NA | | Prot | NA | Prot | Perm |
| Protected Phases | 2 | | 1 | 6 | 8 | |
| Permitted Phases | | | | | | 8 |
| Detector Phase | 2 | | 1 | 6 | 8 | 8 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 22.5 | | 8.5 | 20.5 | 22.5 | 22.5 |
| Total Split (s) | 55.0 | | 20.0 | 75.0 | 25.0 | 25.0 |
| Total Split (%) | 55.0% | | 20.0% | 75.0% | 25.0% | 25.0% |
| Yellow Time (s) | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lag | | Lead | | | |
| Lead-Lag Optimize? | Yes | | Yes | | | |
| Recall Mode | Min | | None | Min | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 56.5 |
| Natural Cycle: 60 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 26: Park Center Drive & Mast Blvd

Existing PM
26: Park Center Drive & Mast Blvd

Fanita Ranch
06/06/2019

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 951 | 28 | 103 | 608 | 16 | 117 |
| Future Volume (veh/h) | 951 | 28 | 103 | 608 | 16 | 117 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | 0.96 | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 1034 | 30 | 112 | 661 | 17 | 127 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 1653 | 48 | 147 | 2363 | 194 | 172 |
| Arrive On Green | 0.47 | 0.47 | 0.08 | 0.67 | 0.11 | 0.11 |
| Sat Flow, veh/h | 3616 | 102 | 1781 | 3647 | 1781 | 1585 |
| Grp Volume(v), veh/h | 522 | 542 | 112 | 661 | 17 | 127 |
| Grp Sat Flow(s),veh/h/ln | 1777 | 1848 | 1781 | 1777 | 1781 | 1585 |
| Q Serve(g_s), s | 8.8 | 8.8 | 2.4 | 3.0 | 0.3 | 3.1 |
| Cycle Q Clear(g_c), s | 8.8 | 8.8 | 2.4 | 3.0 | 0.3 | 3.1 |
| Prop In Lane | | 0.06 | 1.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 834 | 867 | 147 | 2363 | 194 | 172 |
| V/C Ratio(X) | 0.63 | 0.63 | 0.76 | 0.28 | 0.09 | 0.74 |
| Avail Cap(c_a), veh/h | 2255 | 2345 | 694 | 6296 | 918 | 817 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 7.9 | 7.9 | 17.9 | 2.7 | 16.0 | 17.2 |
| Incr Delay (d2), s/veh | 0.8 | 0.7 | 7.9 | 0.1 | 0.2 | 6.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.1 | 2.1 | 1.1 | 0.2 | 0.1 | 1.2 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 8.7 | 8.7 | 25.8 | 2.8 | 16.1 | 23.2 |
| LnGrp LOS | A | A | C | A | B | C |
| Approach Vol, veh/h | 1064 | | | 773 | 144 | |
| Approach Delay, s/veh | 8.7 | | | 6.1 | 22.3 | |
| Approach LOS | A | | | A | C | |

| Timer - Assigned Phs | 1 | 2 | | | | 6 | 8 |
|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.8 | 23.2 | | | | 31.0 | 8.8 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 15.5 | 50.5 | | | | 70.5 | 20.5 |
| Max Q Clear Time (g_c+I1), s | 4.4 | 10.8 | | | | 5.0 | 5.1 |
| Green Ext Time (p_c), s | 0.2 | 7.9 | | | | 4.9 | 0.3 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 8.7 |
| HCM 6th LOS | A |

HCM 6th Signalized Intersection Summary
N:\2462\Analysis\Intersections\Synchro\2 Existing PM.syn

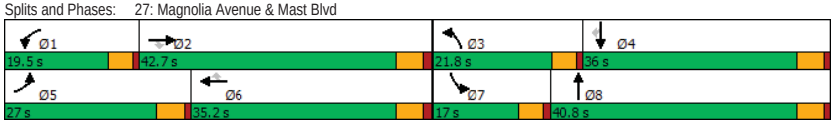
Existing PM
27: Magnolia Avenue & Mast Blvd

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 400 | 239 | 248 | 102 | 133 | 27 | 286 | 509 | 100 | 81 | 398 | 215 |
| Future Volume (vph) | 400 | 239 | 248 | 102 | 133 | 27 | 286 | 509 | 100 | 81 | 398 | 215 |
| Confl. Peds. (#/hr) | | | 14 | | | 20 | | | 3 | | | 24 |
| Confl. Bikes (#/hr) | | | 1 | | | 4 | | | 2 | | | 6 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 11.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 9.0 | | 7.0 | 9.0 | 9.0 |
| Minimum Split (s) | 16.0 | 34.5 | 34.5 | 11.5 | 34.5 | 34.5 | 11.5 | 35.0 | | 11.5 | 36.0 | 36.0 |
| Total Split (s) | 27.0 | 42.7 | 42.7 | 19.5 | 35.2 | 35.2 | 21.8 | 40.8 | | 17.0 | 36.0 | 36.0 |
| Total Split (%) | 22.5% | 35.6% | 35.6% | 16.3% | 29.3% | 29.3% | 18.2% | 34.0% | | 14.2% | 30.0% | 30.0% |
| Yellow Time (s) | 4.0 | 4.0 | 4.0 | 3.5 | 4.0 | 4.0 | 3.5 | 4.0 | | 3.5 | 4.0 | 4.0 |
| All-Red Time (s) | 1.0 | 1.5 | 1.5 | 1.0 | 1.5 | 1.5 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 5.0 | 5.5 | 5.5 | 4.5 | 5.5 | 5.5 | 4.5 | 5.0 | | 4.5 | 5.0 | 5.0 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | Min | Min | None | Min | Min | None | Min | | None | Min | Min |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 79.5 |
| Natural Cycle: 100 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 27: Magnolia Avenue & Mast Blvd




Timings
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Existing PM
27: Magnolia Avenue & Mast Blvd

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 400 | 239 | 248 | 102 | 133 | 27 | 286 | 509 | 100 | 81 | 398 | 215 |
| Future Volume (veh/h) | 400 | 239 | 248 | 102 | 133 | 27 | 286 | 509 | 100 | 81 | 398 | 215 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.95 | 1.00 | | 0.98 | 1.00 | | 0.96 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 435 | 260 | 270 | 111 | 145 | 29 | 311 | 553 | 109 | 88 | 433 | 234 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 577 | 972 | 422 | 151 | 656 | 279 | 412 | 885 | 174 | 141 | 922 | 393 |
| Arrive On Green | 0.17 | 0.27 | 0.27 | 0.08 | 0.18 | 0.18 | 0.12 | 0.30 | 0.30 | 0.08 | 0.26 | 0.26 |
| Sat Flow, veh/h | 3456 | 3554 | 1541 | 1781 | 3554 | 1508 | 3456 | 2952 | 580 | 1781 | 3554 | 1515 |
| Grp Volume(v), veh/h | 435 | 260 | 270 | 111 | 145 | 29 | 311 | 332 | 330 | 88 | 433 | 234 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1541 | 1781 | 1777 | 1508 | 1728 | 1777 | 1755 | 1781 | 1777 | 1515 |
| Q Serve(g_s), s | 8.9 | 4.3 | 11.4 | 4.5 | 2.6 | 1.2 | 6.5 | 11.9 | 12.0 | 3.6 | 7.6 | 10.0 |
| Cycle Q Clear(g_c), s | 8.9 | 4.3 | 11.4 | 4.5 | 2.6 | 1.2 | 6.5 | 11.9 | 12.0 | 3.6 | 7.6 | 10.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.33 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 577 | 972 | 422 | 151 | 656 | 279 | 412 | 533 | 526 | 141 | 922 | 393 |
| V/C Ratio(X) | 0.75 | 0.27 | 0.64 | 0.73 | 0.22 | 0.10 | 0.75 | 0.62 | 0.63 | 0.63 | 0.47 | 0.60 |
| Avail Cap(c_a), veh/h | 1025 | 1782 | 773 | 360 | 1423 | 604 | 806 | 858 | 847 | 300 | 1485 | 633 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 29.4 | 21.1 | 23.7 | 33.1 | 25.7 | 25.1 | 31.6 | 22.4 | 22.4 | 33.1 | 23.2 | 24.0 |
| Incr Delay (d2), s/veh | 2.4 | 0.2 | 2.0 | 2.6 | 0.2 | 0.2 | 1.1 | 1.2 | 1.2 | 1.7 | 0.4 | 1.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 3.6 | 1.7 | 4.0 | 2.0 | 1.1 | 0.4 | 2.6 | 4.7 | 4.7 | 1.5 | 3.0 | 3.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 31.9 | 21.3 | 25.7 | 35.7 | 25.9 | 25.3 | 32.7 | 23.6 | 23.6 | 34.8 | 23.5 | 25.5 |
| LnGrp LOS | C | C | C | D | C | C | C | C | C | C | C | C |
| Approach Vol, veh/h | | 965 | | | 285 | | | 973 | | | 755 | |
| Approach Delay, s/veh | | 27.3 | | | 29.7 | | | 26.5 | | | 25.4 | |
| Approach LOS | | C | | | C | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 10.8 | 25.8 | 13.3 | 24.2 | 17.4 | 19.2 | 10.4 | 27.2 |
| Change Period (Y+Rc), s | 4.5 | 5.5 | 4.5 | 5.0 | 5.0 | 5.5 | 4.5 | 5.0 |
| Max Green Setting (Gmax), s | 15.0 | 37.2 | 17.3 | 31.0 | 22.0 | 29.7 | 12.5 | 35.8 |
| Max Q Clear Time (g_c+I1), s | 6.5 | 13.4 | 8.5 | 12.0 | 10.9 | 4.6 | 5.6 | 14.0 |
| Green Ext Time (p_c), s | 0.1 | 3.1 | 0.4 | 3.4 | 1.5 | 1.1 | 0.0 | 3.8 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 26.8 |
| HCM 6th LOS | C |



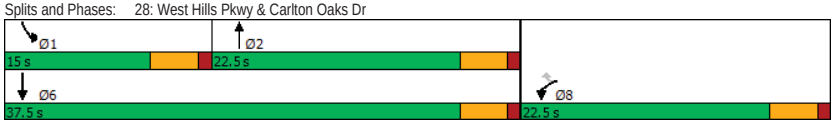
Existing PM
28: West Hills Pkwy & Carlton Oaks Dr

Fanita Ranch
06/06/2019

| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 64 | 121 | 368 | 150 | 249 | 444 |
| Future Volume (vph) | 64 | 121 | 368 | 150 | 249 | 444 |
| Confl. Peds. (#/hr) | | | | 1 | | |
| Confl. Bikes (#/hr) | | 1 | | 5 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | 0% | | | 0% |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | NA | | Prot | NA |
| Protected Phases | 8 | | 2 | | 1 | 6 |
| Permitted Phases | | 8 | | | | |
| Detector Phase | 8 | 8 | 2 | | 1 | 6 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | | 8.5 | 20.5 |
| Total Split (s) | 22.5 | 22.5 | 22.5 | | 15.0 | 37.5 |
| Total Split (%) | 37.5% | 37.5% | 37.5% | | 25.0% | 62.5% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Lead/Lag | | | Lag | | Lead | |
| Lead-Lag Optimize? | | | Yes | | Yes | |
| Recall Mode | None | None | Min | | None | Min |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 44.7 |
| Natural Cycle: 60 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 28: West Hills Pkwy & Carlton Oaks Dr



| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 64 | 121 | 368 | 150 | 249 | 444 |
| Future Volume (veh/h) | 64 | 121 | 368 | 150 | 249 | 444 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | | 0.97 | 1.00 | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | No | | | No |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 70 | 132 | 400 | 163 | 271 | 483 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 185 | 290 | 689 | 277 | 349 | 2192 |
| Arrive On Green | 0.10 | 0.10 | 0.28 | 0.28 | 0.20 | 0.62 |
| Sat Flow, veh/h | 1781 | 2790 | 2545 | 985 | 1781 | 3647 |
| Grp Volume(v), veh/h | 70 | 132 | 288 | 275 | 271 | 483 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1395 | 1777 | 1659 | 1781 | 1777 |
| Q Serve(g_s), s | 1.2 | 1.4 | 4.5 | 4.6 | 4.6 | 1.9 |
| Cycle Q Clear(g_c), s | 1.2 | 1.4 | 4.5 | 4.6 | 4.6 | 1.9 |
| Prop In Lane | 1.00 | 1.00 | | 0.59 | 1.00 | |
| Lane Grp Cap(c), veh/h | 185 | 290 | 499 | 466 | 349 | 2192 |
| V/C Ratio(X) | 0.38 | 0.46 | 0.58 | 0.59 | 0.78 | 0.22 |
| Avail Cap(c_a), veh/h | 995 | 1559 | 993 | 927 | 581 | 3640 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 13.5 | 13.6 | 9.9 | 10.0 | 12.3 | 2.7 |
| Incr Delay (d2), s/veh | 1.3 | 1.1 | 1.1 | 1.2 | 3.7 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.4 | 0.4 | 1.1 | 1.1 | 1.5 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 14.7 | 14.7 | 11.0 | 11.2 | 16.0 | 2.8 |
| LnGrp LOS | B | B | B | B | B | A |
| Approach Vol, veh/h | 202 | | 563 | | | 754 |
| Approach Delay, s/veh | 14.7 | | 11.1 | | | 7.5 |
| Approach LOS | B | | B | | | A |

| Timer - Assigned Phs | 1 | 2 | | | 6 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 10.8 | 13.6 | | | 24.4 | 7.8 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 10.5 | 18.0 | | | 33.0 | 18.0 |
| Max Q Clear Time (g_c+I1), s | 6.6 | 6.6 | | | 3.9 | 3.4 |
| Green Ext Time (p_c), s | 0.3 | 2.4 | | | 3.0 | 0.6 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 9.8 |
| HCM 6th LOS | A |

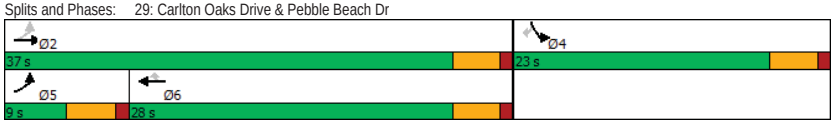




| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 10 | 346 | 268 | 35 | 24 | 7 |
| Future Volume (vph) | 10 | 346 | 268 | 35 | 24 | 7 |
| Confl. Peds. (#/hr) | | | | 8 | | |
| Confl. Bikes (#/hr) | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | pm+pt | NA | NA | Perm | Prot | Perm |
| Protected Phases | 5 | 2 | 6 | | 4 | |
| Permitted Phases | 2 | | | 6 | | 4 |
| Detector Phase | 5 | 2 | 6 | 6 | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 |
| Total Split (s) | 9.0 | 37.0 | 28.0 | 28.0 | 23.0 | 23.0 |
| Total Split (%) | 15.0% | 61.7% | 46.7% | 46.7% | 38.3% | 38.3% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | | Lag | Lag | | |
| Lead-Lag Optimize? | Yes | | Yes | Yes | | |
| Recall Mode | None | Min | Min | Min | None | None |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 35.3 |
| Natural Cycle: 55 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 29: Carlton Oaks Drive & Pebble Beach Dr



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 10 | 346 | 268 | 35 | 24 | 7 |
| Future Volume (veh/h) | 10 | 346 | 268 | 35 | 24 | 7 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 0.99 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 11 | 376 | 291 | 38 | 26 | 8 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 559 | 1010 | 589 | 493 | 61 | 54 |
| Arrive On Green | 0.01 | 0.54 | 0.32 | 0.32 | 0.03 | 0.03 |
| Sat Flow, veh/h | 1781 | 1870 | 1870 | 1565 | 1781 | 1585 |
| Grp Volume(v), veh/h | 11 | 376 | 291 | 38 | 26 | 8 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1870 | 1565 | 1781 | 1585 |
| Q Serve(g_s), s | 0.1 | 2.4 | 2.7 | 0.4 | 0.3 | 0.1 |
| Cycle Q Clear(g_c), s | 0.1 | 2.4 | 2.7 | 0.4 | 0.3 | 0.1 |
| Prop In Lane | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 559 | 1010 | 589 | 493 | 61 | 54 |
| V/C Ratio(X) | 0.02 | 0.37 | 0.49 | 0.08 | 0.43 | 0.15 |
| Avail Cap(c_a), veh/h | 918 | 2877 | 2080 | 1740 | 1560 | 1388 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 4.1 | 2.8 | 5.9 | 5.1 | 10.0 | 9.9 |
| Incr Delay (d2), s/veh | 0.0 | 0.2 | 0.6 | 0.1 | 4.7 | 1.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.1 | 0.5 | 0.1 | 0.2 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 4.1 | 3.0 | 6.5 | 5.1 | 14.7 | 11.1 |
| LnGrp LOS | A | A | A | A | B | B |
| Approach Vol, veh/h | | 387 | 329 | | 34 | |
| Approach Delay, s/veh | | 3.1 | 6.4 | | 13.8 | |
| Approach LOS | | A | A | | B | |

| Timer - Assigned Phs | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 15.9 | | 5.2 | 4.8 | 11.2 |
| Change Period (Y+Rc), s | 4.5 | | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 32.5 | | 18.5 | 4.5 | 23.5 |
| Max Q Clear Time (g_c+I1), s | 4.4 | | 2.3 | 2.1 | 4.7 |
| Green Ext Time (p_c), s | 2.3 | | 0.0 | 0.0 | 1.7 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 5.0 |
| HCM 6th LOS | A |

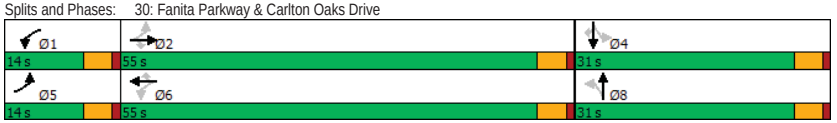




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 39 | 322 | 2 | 9 | 254 | 61 | 2 | 0 | 8 | 88 | 1 | 27 |
| Future Volume (vph) | 39 | 322 | 2 | 9 | 254 | 61 | 2 | 0 | 8 | 88 | 1 | 27 |
| Confl. Peds. (#/hr) | | | 7 | | | 9 | | | 9 | | | 7 |
| Confl. Bikes (#/hr) | | | 3 | | | 1 | | | 1 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | pm+pt | NA | Perm | pm+pt | NA | Perm | Perm | NA | | Perm | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | 2 | | 2 | 6 | | 6 | 8 | | | 4 | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 8 | 8 | | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | | 7.0 | 7.0 | 7.0 |
| Minimum Split (s) | 11.5 | 26.5 | 26.5 | 11.5 | 20.5 | 20.5 | 22.5 | 22.5 | | 22.5 | 22.5 | 22.5 |
| Total Split (s) | 14.0 | 55.0 | 55.0 | 14.0 | 55.0 | 55.0 | 31.0 | 31.0 | | 31.0 | 31.0 | 31.0 |
| Total Split (%) | 14.0% | 55.0% | 55.0% | 14.0% | 55.0% | 55.0% | 31.0% | 31.0% | | 31.0% | 31.0% | 31.0% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | | | | | | |
| Recall Mode | None | Min | Min | None | Min | Min | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 40.1 |
| Natural Cycle: 65 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 30: Fanita Parkway & Carlton Oaks Drive



Existing PM
30: Fanita Parkway & Carlton Oaks Drive

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 39 | 322 | 2 | 9 | 254 | 61 | 2 | 0 | 8 | 88 | 1 | 27 |
| Future Volume (veh/h) | 39 | 322 | 2 | 9 | 254 | 61 | 2 | 0 | 8 | 88 | 1 | 27 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 0.99 | | 0.97 | 0.99 | | 0.96 | 0.98 | | 0.96 | 0.98 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 42 | 350 | 2 | 10 | 276 | 66 | 2 | 0 | 9 | 96 | 1 | 29 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 528 | 615 | 503 | 458 | 520 | 424 | 168 | 31 | 239 | 510 | 355 | 297 |
| Arrive On Green | 0.07 | 0.33 | 0.33 | 0.02 | 0.28 | 0.28 | 0.19 | 0.00 | 0.19 | 0.19 | 0.19 | 0.19 |
| Sat Flow, veh/h | 1781 | 1870 | 1532 | 1781 | 1870 | 1526 | 114 | 165 | 1259 | 1374 | 1870 | 1562 |
| Grp Volume(v), veh/h | 42 | 350 | 2 | 10 | 276 | 66 | 11 | 0 | 0 | 96 | 1 | 29 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1532 | 1781 | 1870 | 1526 | 1539 | 0 | 0 | 1374 | 1870 | 1562 |
| Q Serve(g_s), s | 0.5 | 4.5 | 0.0 | 0.1 | 3.6 | 1.0 | 0.0 | 0.0 | 0.0 | 1.6 | 0.0 | 0.4 |
| Cycle Q Clear(g_c), s | 0.5 | 4.5 | 0.0 | 0.1 | 3.6 | 1.0 | 0.2 | 0.0 | 0.0 | 1.7 | 0.0 | 0.4 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 0.18 | | 0.82 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 528 | 615 | 503 | 458 | 520 | 424 | 438 | 0 | 0 | 510 | 355 | 297 |
| V/C Ratio(X) | 0.08 | 0.57 | 0.00 | 0.02 | 0.53 | 0.16 | 0.03 | 0.00 | 0.00 | 0.19 | 0.00 | 0.10 |
| Avail Cap(c_a), veh/h | 984 | 3237 | 2650 | 1005 | 3237 | 2641 | 1507 | 0 | 0 | 1496 | 1698 | 1418 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 6.6 | 8.1 | 6.6 | 7.4 | 8.9 | 7.9 | 9.6 | 0.0 | 0.0 | 10.3 | 9.6 | 9.8 |
| Incr Delay (d2), s/veh | 0.1 | 0.8 | 0.0 | 0.0 | 0.8 | 0.2 | 0.0 | 0.0 | 0.0 | 0.2 | 0.0 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.1 | 1.1 | 0.0 | 0.0 | 1.0 | 0.2 | 0.0 | 0.0 | 0.0 | 0.4 | 0.0 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 6.7 | 8.9 | 6.6 | 7.4 | 9.8 | 8.1 | 9.7 | 0.0 | 0.0 | 10.4 | 9.6 | 9.9 |
| LnGrp LOS | A | A | A | A | A | A | A | A | A | B | A | A |
| Approach Vol, veh/h | | 394 | | | 352 | | | 11 | | | 126 | |
| Approach Delay, s/veh | | 8.7 | | | 9.4 | | | 9.7 | | | 10.3 | |
| Approach LOS | | A | | | A | | | A | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.0 | 14.1 | | 10.0 | 6.5 | 12.6 | | 10.0 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 9.5 | 50.5 | | 26.5 | 9.5 | 50.5 | | 26.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.1 | 6.5 | | 3.7 | 2.5 | 5.6 | | 2.2 | | | | |
| Green Ext Time (p_c), s | 0.0 | 2.2 | | 0.3 | 0.0 | 1.9 | | 0.0 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 9.2 |
| HCM 6th LOS | | A |

HCM 6th Signalized Intersection Summary
N:\2462\Analysis\Intersections\Synchro\2 Existing PM.syn

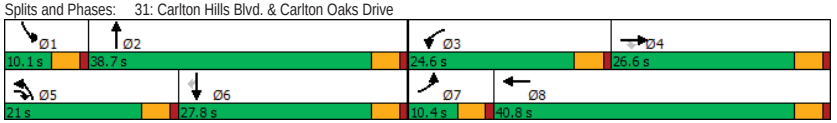
Existing PM
31: Carlton Hills Blvd. & Carlton Oaks Drive

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 26 | 177 | 277 | 184 | 81 | 14 | 317 | 567 | 238 | 22 | 331 | 15 |
| Future Volume (vph) | 26 | 177 | 277 | 184 | 81 | 14 | 317 | 567 | 238 | 22 | 331 | 15 |
| Confl. Peds. (#/hr) | | | 9 | | | 1 | | | 6 | | | 4 |
| Confl. Bikes (#/hr) | | | 5 | | | 3 | | | 1 | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 7 | 4 | 5 | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | | | | 6 |
| Detector Phase | 7 | 4 | 5 | 3 | 8 | | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 26.5 | 8.5 | 8.5 | 26.5 | | 8.5 | 22.5 | | 8.5 | 22.5 | 22.5 |
| Total Split (s) | 10.4 | 26.6 | 21.0 | 24.6 | 40.8 | | 21.0 | 38.7 | | 10.1 | 27.8 | 27.8 |
| Total Split (%) | 10.4% | 26.6% | 21.0% | 24.6% | 40.8% | | 21.0% | 38.7% | | 10.1% | 27.8% | 27.8% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | | None | Min | | None | Min | Min |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 74.7 |
| Natural Cycle: 80 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 31: Carlton Hills Blvd. & Carlton Oaks Drive




Timings
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Existing PM
31: Carlton Hills Blvd. & Carlton Oaks Drive

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 26 | 177 | 277 | 184 | 81 | 14 | 317 | 567 | 238 | 22 | 331 | 15 |
| Future Volume (veh/h) | 26 | 177 | 277 | 184 | 81 | 14 | 317 | 567 | 238 | 22 | 331 | 15 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 28 | 192 | 301 | 200 | 88 | 15 | 345 | 616 | 259 | 24 | 360 | 16 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 43 | 416 | 561 | 252 | 1032 | 172 | 477 | 819 | 344 | 39 | 787 | 344 |
| Arrive On Green | 0.02 | 0.22 | 0.22 | 0.14 | 0.34 | 0.34 | 0.14 | 0.34 | 0.34 | 0.02 | 0.22 | 0.22 |
| Sat Flow, veh/h | 1781 | 1870 | 1539 | 1781 | 3042 | 506 | 3456 | 2424 | 1018 | 1781 | 3554 | 1554 |
| Grp Volume(v), veh/h | 28 | 192 | 301 | 200 | 50 | 53 | 345 | 451 | 424 | 24 | 360 | 16 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1539 | 1781 | 1777 | 1770 | 1728 | 1777 | 1665 | 1781 | 1777 | 1554 |
| Q Serve(g_s), s | 1.0 | 5.8 | 10.1 | 7.1 | 1.3 | 1.3 | 6.2 | 14.7 | 14.7 | 0.9 | 5.7 | 0.5 |
| Cycle Q Clear(g_c), s | 1.0 | 5.8 | 10.1 | 7.1 | 1.3 | 1.3 | 6.2 | 14.7 | 14.7 | 0.9 | 5.7 | 0.5 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.29 | 1.00 | | 0.61 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 43 | 416 | 561 | 252 | 603 | 601 | 477 | 601 | 563 | 39 | 787 | 344 |
| V/C Ratio(X) | 0.64 | 0.46 | 0.54 | 0.79 | 0.08 | 0.09 | 0.72 | 0.75 | 0.75 | 0.62 | 0.46 | 0.05 |
| Avail Cap(c_a), veh/h | 161 | 635 | 741 | 550 | 991 | 987 | 876 | 933 | 875 | 153 | 1272 | 556 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 31.5 | 21.9 | 16.6 | 27.0 | 14.6 | 14.6 | 26.9 | 19.1 | 19.1 | 31.6 | 21.9 | 19.9 |
| Incr Delay (d2), s/veh | 14.8 | 0.8 | 0.8 | 5.6 | 0.1 | 0.1 | 2.1 | 1.9 | 2.1 | 15.3 | 0.4 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.6 | 2.5 | 3.4 | 3.2 | 0.5 | 0.5 | 2.5 | 5.7 | 5.3 | 0.5 | 2.2 | 0.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 46.3 | 22.7 | 17.4 | 32.6 | 14.7 | 14.7 | 29.0 | 21.0 | 21.2 | 46.9 | 22.4 | 20.0 |
| LnGrp LOS | D | C | B | C | B | B | C | C | C | D | C | B |
| Approach Vol, veh/h | | 521 | | | 303 | | | 1220 | | | 400 | |
| Approach Delay, s/veh | | 20.9 | | | 26.5 | | | 23.3 | | | 23.7 | |
| Approach LOS | | C | | | C | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.9 | 26.5 | 13.7 | 19.0 | 13.5 | 18.9 | 6.1 | 26.6 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 5.6 | 34.2 | 20.1 | 22.1 | 16.5 | 23.3 | 5.9 | 36.3 |
| Max Q Clear Time (g_c+I1), s | 2.9 | 16.7 | 9.1 | 12.1 | 8.2 | 7.7 | 3.0 | 3.3 |
| Green Ext Time (p_c), s | 0.0 | 5.3 | 0.4 | 1.6 | 0.8 | 2.0 | 0.0 | 0.5 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 23.3 |
| HCM 6th LOS | C |

HCM 6th Signalized Intersection Summary
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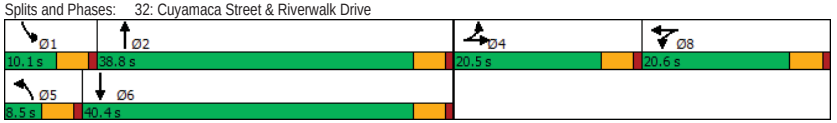
Existing PM
32: Cuyamaca Street & Riverwalk Drive

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 17 | 6 | 15 | 118 | 0 | 32 | 13 | 950 | 174 | 78 | 880 | 1 |
| Future Volume (vph) | 17 | 6 | 15 | 118 | 0 | 32 | 13 | 950 | 174 | 78 | 880 | 1 |
| Confl. Peds. (#/hr) | | | 7 | | | 5 | | | 15 | | | 5 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | 3 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Split | NA | | Split | NA | | Prot | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | 20.5 | 20.5 | | 20.5 | 20.5 | | 8.5 | 20.5 | | 8.5 | 20.5 | |
| Total Split (s) | 20.5 | 20.5 | | 20.6 | 20.6 | | 8.5 | 38.8 | | 10.1 | 40.4 | |
| Total Split (%) | 22.8% | 22.8% | | 22.9% | 22.9% | | 9.4% | 43.1% | | 11.2% | 44.9% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 90 |
| Actuated Cycle Length: 67.5 |
| Natural Cycle: 90 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 32: Cuyamaca Street & Riverwalk Drive




Timings
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Existing PM
32: Cuyamaca Street & Riverwalk Drive

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 17 | 6 | 15 | 118 | 0 | 32 | 13 | 950 | 174 | 78 | 880 | 1 |
| Future Volume (veh/h) | 17 | 6 | 15 | 118 | 0 | 32 | 13 | 950 | 174 | 78 | 880 | 1 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.97 | 1.00 | | 0.96 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 18 | 7 | 16 | 128 | 0 | 35 | 14 | 1033 | 189 | 85 | 957 | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 84 | 23 | 54 | 195 | 0 | 169 | 25 | 1368 | 250 | 108 | 1843 | 2 |
| Arrive On Green | 0.05 | 0.05 | 0.05 | 0.11 | 0.00 | 0.11 | 0.01 | 0.46 | 0.46 | 0.06 | 0.51 | 0.51 |
| Sat Flow, veh/h | 1781 | 495 | 1131 | 1781 | 0 | 1542 | 1781 | 2980 | 544 | 1781 | 3643 | 4 |
| Grp Volume(v), veh/h | 18 | 0 | 23 | 128 | 0 | 35 | 14 | 615 | 607 | 85 | 467 | 491 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1627 | 1781 | 0 | 1542 | 1781 | 1777 | 1747 | 1781 | 1777 | 1870 |
| Q Serve(g_s), s | 0.5 | 0.0 | 0.8 | 3.8 | 0.0 | 1.2 | 0.4 | 15.9 | 16.0 | 2.6 | 9.8 | 9.8 |
| Cycle Q Clear(g_c), s | 0.5 | 0.0 | 0.8 | 3.8 | 0.0 | 1.2 | 0.4 | 15.9 | 16.0 | 2.6 | 9.8 | 9.8 |
| Prop In Lane | 1.00 | | 0.70 | 1.00 | | 1.00 | 1.00 | | 0.31 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 84 | 0 | 77 | 195 | 0 | 169 | 25 | 815 | 802 | 108 | 899 | 946 |
| V/C Ratio(X) | 0.21 | 0.00 | 0.30 | 0.66 | 0.00 | 0.21 | 0.56 | 0.75 | 0.76 | 0.78 | 0.52 | 0.52 |
| Avail Cap(c_a), veh/h | 512 | 0 | 468 | 515 | 0 | 446 | 128 | 1095 | 1076 | 179 | 1146 | 1206 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 25.5 | 0.0 | 25.6 | 23.8 | 0.0 | 22.6 | 27.3 | 12.5 | 12.5 | 25.8 | 9.2 | 9.2 |
| Incr Delay (d2), s/veh | 1.2 | 0.0 | 2.1 | 3.7 | 0.0 | 0.6 | 18.3 | 2.1 | 2.2 | 11.6 | 0.5 | 0.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.2 | 0.0 | 0.3 | 1.7 | 0.0 | 0.4 | 0.3 | 5.4 | 5.4 | 1.4 | 3.0 | 3.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 26.8 | 0.0 | 27.8 | 27.5 | 0.0 | 23.2 | 45.6 | 14.5 | 14.7 | 37.4 | 9.7 | 9.7 |
| LnGrp LOS | C | A | C | C | A | C | D | B | B | D | A | A |
| Approach Vol, veh/h | | 41 | | | 163 | | | 1236 | | | 1043 | |
| Approach Delay, s/veh | | 27.3 | | | 26.6 | | | 14.9 | | | 11.9 | |
| Approach LOS | | C | | | C | | | B | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.9 | 30.0 | | 7.1 | 5.3 | 32.7 | | 10.6 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 5.6 | 34.3 | | 16.0 | 4.0 | 35.9 | | 16.1 | | | | |
| Max Q Clear Time (g_c+I1), s | 4.6 | 18.0 | | 2.8 | 2.4 | 11.8 | | 5.8 | | | | |
| Green Ext Time (p_c), s | 0.0 | 7.5 | | 0.1 | 0.0 | 6.4 | | 0.4 | | | | |

| Intersection Summary | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HCM 6th Ctrl Delay | | | 14.6 | | | | | | | | | |
| HCM 6th LOS | | | B | | | | | | | | | |

HCM 6th Signalized Intersection Summary
N:\2462\Analysis\Intersections\Synchro\2 Existing PM.syn

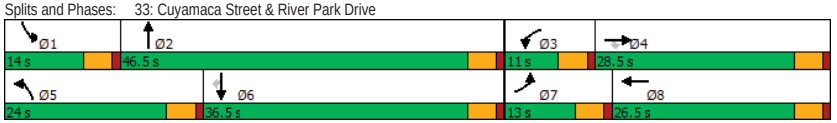
Existing PM
33: Cuyamaca Street & River Park Drive

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 84 | 21 | 103 | 59 | 11 | 33 | 241 | 953 | 82 | 96 | 863 | 48 |
| Future Volume (vph) | 84 | 21 | 103 | 59 | 11 | 33 | 241 | 953 | 82 | 96 | 863 | 48 |
| Confl. Peds. (#/hr) | | | 3 | | | 5 | | | 6 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | | | | 6 |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 26.5 | 26.5 | 8.5 | 26.5 | | 8.5 | 22.5 | | 8.5 | 26.5 | 26.5 |
| Total Split (s) | 13.0 | 28.5 | 28.5 | 11.0 | 26.5 | | 24.0 | 46.5 | | 14.0 | 36.5 | 36.5 |
| Total Split (%) | 13.0% | 28.5% | 28.5% | 11.0% | 26.5% | | 24.0% | 46.5% | | 14.0% | 36.5% | 36.5% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | | None | Min | | None | Min | Min |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 73.3 |
| Natural Cycle: 90 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 33: Cuyamaca Street & River Park Drive




Timings
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Existing PM
33: Cuyamaca Street & River Park Drive

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 84 | 21 | 103 | 59 | 11 | 33 | 241 | 953 | 82 | 96 | 863 | 48 |
| Future Volume (veh/h) | 84 | 21 | 103 | 59 | 11 | 33 | 241 | 953 | 82 | 96 | 863 | 48 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 91 | 23 | 112 | 64 | 12 | 36 | 262 | 1036 | 89 | 104 | 938 | 52 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 118 | 228 | 192 | 81 | 41 | 124 | 321 | 1533 | 132 | 135 | 1278 | 569 |
| Arrive On Green | 0.07 | 0.12 | 0.12 | 0.05 | 0.10 | 0.10 | 0.18 | 0.46 | 0.46 | 0.08 | 0.36 | 0.36 |
| Sat Flow, veh/h | 1781 | 1870 | 1573 | 1781 | 407 | 1222 | 1781 | 3303 | 284 | 1781 | 3554 | 1581 |
| Grp Volume(v), veh/h | 91 | 23 | 112 | 64 | 0 | 48 | 262 | 557 | 568 | 104 | 938 | 52 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1573 | 1781 | 0 | 1629 | 1781 | 1777 | 1810 | 1781 | 1777 | 1581 |
| Q Serve(g_s), s | 3.1 | 0.7 | 4.1 | 2.2 | 0.0 | 1.7 | 8.7 | 15.1 | 15.1 | 3.5 | 14.1 | 1.3 |
| Cycle Q Clear(g_c), s | 3.1 | 0.7 | 4.1 | 2.2 | 0.0 | 1.7 | 8.7 | 15.1 | 15.1 | 3.5 | 14.1 | 1.3 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.75 | 1.00 | | 0.16 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 118 | 228 | 192 | 81 | 0 | 166 | 321 | 825 | 840 | 135 | 1278 | 569 |
| V/C Ratio(X) | 0.77 | 0.10 | 0.58 | 0.79 | 0.00 | 0.29 | 0.82 | 0.68 | 0.68 | 0.77 | 0.73 | 0.09 |
| Avail Cap(c_a), veh/h | 246 | 730 | 614 | 188 | 0 | 583 | 565 | 1213 | 1236 | 275 | 1849 | 822 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 28.3 | 24.0 | 25.5 | 29.1 | 0.0 | 25.6 | 24.2 | 12.9 | 12.9 | 27.9 | 17.1 | 13.0 |
| Incr Delay (d2), s/veh | 10.3 | 0.2 | 2.8 | 15.5 | 0.0 | 1.0 | 5.1 | 1.0 | 1.0 | 9.0 | 0.9 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.6 | 0.3 | 1.6 | 1.2 | 0.0 | 0.7 | 3.8 | 5.1 | 5.2 | 1.7 | 5.1 | 0.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 38.6 | 24.2 | 28.3 | 44.5 | 0.0 | 26.5 | 29.4 | 13.8 | 13.8 | 36.9 | 18.0 | 13.1 |
| LnGrp LOS | D | C | C | D | A | C | C | B | B | D | B | B |
| Approach Vol, veh/h | | 226 | | | 112 | | | 1387 | | | 1094 | |
| Approach Delay, s/veh | | 32.0 | | | 36.8 | | | 16.8 | | | 19.6 | |
| Approach LOS | | C | | | D | | | B | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 9.2 | 33.0 | 7.3 | 12.0 | 15.6 | 26.6 | 8.6 | 10.7 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 9.5 | 42.0 | 6.5 | 24.0 | 19.5 | 32.0 | 8.5 | 22.0 |
| Max Q Clear Time (g_c+I1), s | 5.5 | 17.1 | 4.2 | 6.1 | 10.7 | 16.1 | 5.1 | 3.7 |
| Green Ext Time (p_c), s | 0.1 | 8.1 | 0.0 | 0.4 | 0.5 | 6.0 | 0.1 | 0.2 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 19.9 |
| HCM 6th LOS | B |

HCM 6th Signalized Intersection Summary
N:\2462\Analysis\Intersections\Synchro\2 Existing PM.syn

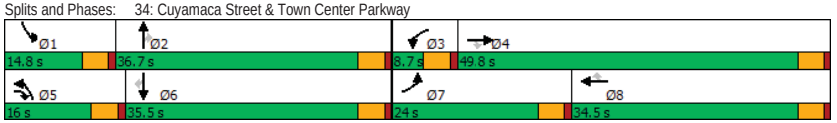
Existing PM
34: Cuyamaca Street & Town Center Parkway

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 630 | 68 | 135 | 43 | 61 | 74 | 372 | 900 | 33 | 152 | 821 | 273 |
| Future Volume (vph) | 630 | 68 | 135 | 43 | 61 | 74 | 372 | 900 | 33 | 152 | 821 | 273 |
| Confl. Peds. (#/hr) | | | 12 | | | 9 | | | 17 | | | 4 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | 2 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 7 | 4 | 5 | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | 2 | | | 6 |
| Detector Phase | 7 | 4 | 5 | 3 | 8 | 8 | 5 | 2 | 2 | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 34.5 | 8.5 | 8.5 | 34.5 | 34.5 | 8.5 | 34.5 | 34.5 | 8.5 | 34.5 | 34.5 |
| Total Split (s) | 24.0 | 49.8 | 16.0 | 8.7 | 34.5 | 34.5 | 16.0 | 36.7 | 36.7 | 14.8 | 35.5 | 35.5 |
| Total Split (%) | 21.8% | 45.3% | 14.5% | 7.9% | 31.4% | 31.4% | 14.5% | 33.4% | 33.4% | 13.5% | 32.3% | 32.3% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lead | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | None | None | Min | Min | None | Min | Min |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 81.8 |
| Natural Cycle: 110 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 34: Cuyamaca Street & Town Center Parkway




Timings
N:\2462\Analysis\Intersections\Synchro\2 Existing PM.syn

Existing PM
34: Cuyamaca Street & Town Center Parkway

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 630 | 68 | 135 | 43 | 61 | 74 | 372 | 900 | 33 | 152 | 821 | 273 |
| Future Volume (veh/h) | 630 | 68 | 135 | 43 | 61 | 74 | 372 | 900 | 33 | 152 | 821 | 273 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.97 | 1.00 | | 0.95 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 685 | 74 | 147 | 47 | 66 | 80 | 404 | 978 | 36 | 165 | 892 | 297 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 766 | 617 | 734 | 110 | 498 | 215 | 474 | 1590 | 469 | 200 | 1464 | 447 |
| Arrive On Green | 0.22 | 0.33 | 0.33 | 0.03 | 0.14 | 0.14 | 0.14 | 0.31 | 0.31 | 0.11 | 0.29 | 0.29 |
| Sat Flow, veh/h | 3456 | 1870 | 1568 | 3456 | 3554 | 1534 | 3456 | 5106 | 1507 | 1781 | 5106 | 1558 |
| Grp Volume(v), veh/h | 685 | 74 | 147 | 47 | 66 | 80 | 404 | 978 | 36 | 165 | 892 | 297 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1870 | 1568 | 1728 | 1777 | 1534 | 1728 | 1702 | 1507 | 1781 | 1702 | 1558 |
| Q Serve(g_s), s | 16.1 | 2.3 | 4.6 | 1.1 | 1.4 | 4.0 | 9.6 | 13.7 | 1.4 | 7.6 | 12.7 | 14.1 |
| Cycle Q Clear(g_c), s | 16.1 | 2.3 | 4.6 | 1.1 | 1.4 | 4.0 | 9.6 | 13.7 | 1.4 | 7.6 | 12.7 | 14.1 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 766 | 617 | 734 | 110 | 498 | 215 | 474 | 1590 | 469 | 200 | 1464 | 447 |
| V/C Ratio(X) | 0.89 | 0.12 | 0.20 | 0.43 | 0.13 | 0.37 | 0.85 | 0.61 | 0.08 | 0.82 | 0.61 | 0.66 |
| Avail Cap(c_a), veh/h | 803 | 1010 | 1064 | 173 | 1271 | 548 | 474 | 1960 | 579 | 219 | 1887 | 576 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 31.7 | 19.6 | 13.2 | 39.9 | 31.6 | 32.7 | 35.4 | 24.6 | 20.4 | 36.4 | 25.9 | 26.4 |
| Incr Delay (d2), s/veh | 12.2 | 0.1 | 0.1 | 2.6 | 0.1 | 1.1 | 14.0 | 0.4 | 0.1 | 20.6 | 0.4 | 1.9 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 7.8 | 1.0 | 1.6 | 0.5 | 0.6 | 1.5 | 4.8 | 5.3 | 0.5 | 4.3 | 4.9 | 5.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 43.9 | 19.7 | 13.3 | 42.5 | 31.7 | 33.8 | 49.4 | 25.0 | 20.4 | 57.0 | 26.3 | 28.3 |
| LnGrp LOS | D | B | B | D | C | C | D | C | C | E | C | C |
| Approach Vol, veh/h | | 906 | | | 193 | | | 1418 | | | 1354 | |
| Approach Delay, s/veh | | 37.0 | | | 35.2 | | | 31.8 | | | 30.5 | |
| Approach LOS | | D | | | D | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 13.9 | 30.6 | 7.2 | 32.2 | 16.0 | 28.6 | 23.1 | 16.2 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 10.3 | 32.2 | 4.2 | 45.3 | 11.5 | 31.0 | 19.5 | 30.0 |
| Max Q Clear Time (g_c+I1), s | 9.6 | 15.7 | 3.1 | 6.6 | 11.6 | 16.1 | 18.1 | 6.0 |
| Green Ext Time (p_c), s | 0.0 | 6.3 | 0.0 | 0.9 | 0.0 | 6.3 | 0.4 | 0.6 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 32.7 |
| HCM 6th LOS | C |



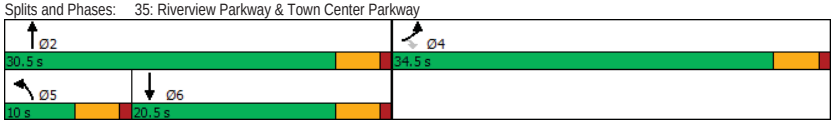
Existing PM
35: Riverview Parkway & Town Center Parkway

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 169 | 142 | 23 | 18 | 0 |
| Future Volume (vph) | 0 | 169 | 142 | 23 | 18 | 0 |
| Confl. Peds. (#/hr) | | | | | | |
| Confl. Bikes (#/hr) | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | Prot | NA | NA | |
| Protected Phases | 4 | | 5 | 2 | 6 | |
| Permitted Phases | | 4 | | | | |
| Detector Phase | 4 | 4 | 5 | 2 | 6 | |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Minimum Split (s) | 34.5 | 34.5 | 8.5 | 25.5 | 20.5 | |
| Total Split (s) | 34.5 | 34.5 | 10.0 | 30.5 | 20.5 | |
| Total Split (%) | 53.1% | 53.1% | 15.4% | 46.9% | 31.5% | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lead/Lag | | | Lead | | Lag | |
| Lead-Lag Optimize? | | | Yes | | Yes | |
| Recall Mode | None | None | None | Min | Min | |

| Intersection Summary |
|---|
| Cycle Length: 65 |
| Actuated Cycle Length: 37 |
| Natural Cycle: 65 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 35: Riverview Parkway & Town Center Parkway



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 169 | 142 | 23 | 18 | 0 |
| Future Volume (veh/h) | 0 | 169 | 142 | 23 | 18 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 184 | 154 | 25 | 20 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 275 | 245 | 194 | 1659 | 598 | 0 |
| Arrive On Green | 0.00 | 0.15 | 0.11 | 0.47 | 0.17 | 0.00 |
| Sat Flow, veh/h | 1781 | 1585 | 1781 | 3647 | 3741 | 0 |
| Grp Volume(v), veh/h | 0 | 184 | 154 | 25 | 20 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 1781 | 1777 | 1777 | 0 |
| Q Serve(g_s), s | 0.0 | 2.6 | 2.0 | 0.1 | 0.1 | 0.0 |
| Cycle Q Clear(g_c), s | 0.0 | 2.6 | 2.0 | 0.1 | 0.1 | 0.0 |
| Prop In Lane | 1.00 | 1.00 | 1.00 | | | 0.00 |
| Lane Grp Cap(c), veh/h | 275 | 245 | 194 | 1659 | 598 | 0 |
| V/C Ratio(X) | 0.00 | 0.75 | 0.79 | 0.02 | 0.03 | 0.00 |
| Avail Cap(c_a), veh/h | 2249 | 2001 | 412 | 3889 | 2393 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | 0.0 | 9.6 | 10.3 | 3.4 | 8.3 | 0.0 |
| Incr Delay (d2), s/veh | 0.0 | 4.6 | 7.1 | 0.0 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 2.6 | 0.9 | 0.0 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 14.2 | 17.4 | 3.4 | 8.3 | 0.0 |
| LnGrp LOS | A | B | B | A | A | A |
| Approach Vol, veh/h | 184 | | | 179 | 20 | |
| Approach Delay, s/veh | 14.2 | | | 15.5 | 8.3 | |
| Approach LOS | B | | | B | A | |

| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 15.6 | | 8.2 | 7.1 | 8.5 |
| Change Period (Y+Rc), s | | 4.5 | | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | | 26.0 | | 30.0 | 5.5 | 16.0 |
| Max Q Clear Time (g_c+I1), s | | 2.1 | | 4.6 | 4.0 | 2.1 |
| Green Ext Time (p_c), s | | 0.1 | | 0.6 | 0.1 | 0.0 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 14.5 |
| HCM 6th LOS | | B |

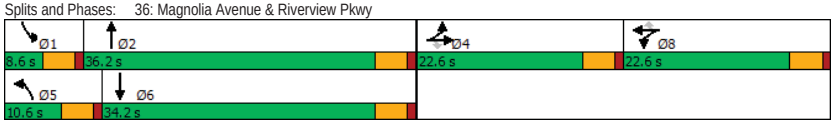




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 1 | 0 | 28 | 47 | 0 | 13 | 56 | 1150 | 44 | 13 | 739 | 7 |
| Future Volume (vph) | 1 | 0 | 28 | 47 | 0 | 13 | 56 | 1150 | 44 | 13 | 739 | 7 |
| Confl. Peds. (#/hr) | | | 8 | | | | | | | | | 1 |
| Confl. Bikes (#/hr) | | | | | | 6 | | | 4 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Split | NA | Perm | Split | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | | | | |
| Detector Phase | 4 | 4 | 4 | 8 | 8 | 8 | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 8.5 | 22.5 | | 8.5 | 22.5 | |
| Total Split (s) | 22.6 | 22.6 | 22.6 | 22.6 | 22.6 | 22.6 | 10.6 | 36.2 | | 8.6 | 34.2 | |
| Total Split (%) | 25.1% | 25.1% | 25.1% | 25.1% | 25.1% | 25.1% | 11.8% | 40.2% | | 9.6% | 38.0% | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | None | None | None | None | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 90 |
| Actuated Cycle Length: 53.8 |
| Natural Cycle: 90 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 36: Magnolia Avenue & Riverview Pkwy



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 1 | 0 | 28 | 47 | 0 | 13 | 56 | 1150 | 44 | 13 | 739 | 7 |
| Future Volume (veh/h) | 1 | 0 | 28 | 47 | 0 | 13 | 56 | 1150 | 44 | 13 | 739 | 7 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.97 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 1 | 0 | 30 | 51 | 0 | 14 | 61 | 1250 | 48 | 14 | 803 | 8 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 84 | 0 | 72 | 88 | 0 | 76 | 84 | 1729 | 66 | 25 | 1670 | 17 |
| Arrive On Green | 0.05 | 0.00 | 0.05 | 0.05 | 0.00 | 0.05 | 0.05 | 0.50 | 0.50 | 0.01 | 0.46 | 0.46 |
| Sat Flow, veh/h | 1781 | 0 | 1542 | 1781 | 0 | 1542 | 1781 | 3486 | 134 | 1781 | 3604 | 36 |
| Grp Volume(v), veh/h | 1 | 0 | 30 | 51 | 0 | 14 | 61 | 637 | 661 | 14 | 396 | 415 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1542 | 1781 | 0 | 1542 | 1781 | 1777 | 1843 | 1781 | 1777 | 1863 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.9 | 1.3 | 0.0 | 0.4 | 1.5 | 12.9 | 12.9 | 0.4 | 7.0 | 7.0 |
| Cycle Q Clear(g_c), s | 0.0 | 0.0 | 0.9 | 1.3 | 0.0 | 0.4 | 1.5 | 12.9 | 12.9 | 0.4 | 7.0 | 7.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.07 | 1.00 | | 0.02 |
| Lane Grp Cap(c), veh/h | 84 | 0 | 72 | 88 | 0 | 76 | 84 | 882 | 914 | 25 | 823 | 863 |
| V/C Ratio(X) | 0.01 | 0.00 | 0.41 | 0.58 | 0.00 | 0.18 | 0.73 | 0.72 | 0.72 | 0.55 | 0.48 | 0.48 |
| Avail Cap(c_a), veh/h | 705 | 0 | 610 | 705 | 0 | 610 | 238 | 1231 | 1277 | 160 | 1154 | 1210 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 20.8 | 0.0 | 21.2 | 21.3 | 0.0 | 20.9 | 21.5 | 9.0 | 9.1 | 22.4 | 8.5 | 8.5 |
| Incr Delay (d2), s/veh | 0.1 | 0.0 | 3.8 | 6.0 | 0.0 | 1.2 | 11.2 | 1.3 | 1.2 | 17.3 | 0.4 | 0.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.0 | 0.4 | 0.6 | 0.0 | 0.2 | 0.8 | 3.3 | 3.5 | 0.2 | 1.7 | 1.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 20.8 | 0.0 | 24.9 | 27.3 | 0.0 | 22.0 | 32.7 | 10.3 | 10.3 | 39.7 | 8.9 | 8.9 |
| LnGrp LOS | C | A | C | C | A | C | C | B | B | D | A | A |
| Approach Vol, veh/h | | 31 | | | 65 | | | 1359 | | | 825 | |
| Approach Delay, s/veh | | 24.8 | | | 26.2 | | | 11.3 | | | 9.4 | |
| Approach LOS | | C | | | C | | | B | | | A | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.2 | 27.2 | | 6.6 | 6.7 | 25.7 | | 6.7 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 4.1 | 31.7 | | 18.1 | 6.1 | 29.7 | | 18.1 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.4 | 14.9 | | 2.9 | 3.5 | 9.0 | | 3.3 | | | | |
| Green Ext Time (p_c), s | 0.0 | 7.8 | | 0.0 | 0.0 | 4.5 | | 0.2 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 11.2 |
| HCM 6th LOS | | B |





| Intersection | |
|---|---|
| Int Delay, s/veh | 4.3 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 0 | 14 | 0 | 71 | 280 | 653 | 0 | 0 | 249 | 656 |
| Future Vol, veh/h | 0 | 0 | 0 | 14 | 0 | 71 | 280 | 653 | 0 | 0 | 249 | 656 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| Sign Control | Free | Free | Free | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | 190 | - | - | - | - | - |
| Veh in Median Storage, # | - | 2 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 0 | 15 | 0 | 77 | 304 | 710 | 0 | 0 | 271 | 713 |

| Major/Minor | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1946 | 2302 | 710 | 984 | 0 | - | - | - | 0 |
| Stage 1 | 1318 | 1318 | - | - | - | - | - | - | - |
| Stage 2 | 628 | 984 | - | - | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.52 | 6.22 | 4.12 | - | - | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 2.218 | - | - | - | - | - |
| Pot Cap-1 Maneuver | 71 | 39 | 434 | 702 | - | 0 | 0 | - | - |
| Stage 1 | 250 | 227 | - | - | - | 0 | 0 | - | - |
| Stage 2 | 532 | 327 | - | - | - | 0 | 0 | - | - |
| Platoon blocked, % | | | | | - | | | - | - |
| Mov Cap-1 Maneuver | 40 | 0 | 434 | 702 | - | - | - | - | - |
| Mov Cap-2 Maneuver | 40 | 0 | - | - | - | - | - | - | - |
| Stage 1 | 142 | 0 | - | - | - | - | - | - | - |
| Stage 2 | 532 | 0 | - | - | - | - | - | - | - |

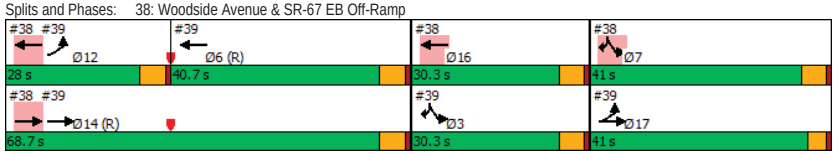
| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 51 | 4.2 | 0 |
| HCM LOS | F | | |

| Minor Lane/Major Mvmt | NBL | NBT | WBLn1 | SBT | SBR |
|---|---|---|---|---|---|
| Capacity (veh/h) | 702 | - | 166 | - | - |
| HCM Lane V/C Ratio | 0.434 | - | 0.557 | - | - |
| HCM Control Delay (s) | 14 | - | 51 | - | - |
| HCM Lane LOS | B | - | F | - | - |
| HCM 95th %tile Q(veh) | 2.2 | - | 2.9 | - | - |

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR | Ø3 | Ø6 | Ø12 | Ø16 | Ø17 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 588 | 134 | 0 | 760 | 112 | | | | | |
| Future Volume (vph) | 0 | 588 | 134 | 0 | 760 | 112 | | | | | |
| Confl. Peds. (#/hr) | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | | | |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | | | | | |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| Parking (#/hr) | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | | | | | | |
| Shared Lane Traffic (%) | | | | | | | | | | | |
| Turn Type | | NA | NA | | Prot | Prot | | | | | |
| Protected Phases | | 14 | 12 16 | | 7 | 7 | 3 | 6 | 12 | 16 | 17 |
| Permitted Phases | | | | | | | | | | | |
| Detector Phase | | 14 | 12 16 | | 7 | 7 | | | | | |
| Switch Phase | | | | | | | | | | | |
| Minimum Initial (s) | | 4.0 | | | 8.0 | 8.0 | 5.0 | 5.0 | 5.0 | 2.0 | 5.0 |
| Minimum Split (s) | | 20.0 | | | 27.3 | 27.3 | 30.3 | 29.3 | 24.3 | 20.0 | 9.2 |
| Total Split (s) | | 68.7 | | | 41.0 | 41.0 | 30.3 | 40.7 | 28.0 | 30.3 | 41.0 |
| Total Split (%) | | 49.1% | | | 29.3% | 29.3% | 22% | 29% | 20% | 22% | 29% |
| Yellow Time (s) | | 4.3 | | | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 3.2 |
| All-Red Time (s) | | 1.0 | | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | | 0.0 | | | 0.0 | 0.0 | | | | | |
| Total Lost Time (s) | | 5.3 | | | 5.3 | 5.3 | | | | | |
| Lead/Lag | | | | | | | | Lag | Lead | | |
| Lead-Lag Optimize? | | | | | | | | Yes | Yes | | |
| Recall Mode | | C-Max | | | Max | Max | None | C-Max | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 140 |
| Actuated Cycle Length: 140 |
| Offset: 0 (0%), Referenced to phase 6:WBT and 14:EBT, Start of Green |
| Natural Cycle: 115 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 38: Woodside Avenue & SR-67 EB Off-Ramp








| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 588 | 134 | 0 | 760 | 112 |
| Future Volume (vph) | 0 | 588 | 134 | 0 | 760 | 112 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 5.3 | 5.3 | | 5.3 | 5.3 |
| Lane Util. Factor | | 0.95 | 1.00 | | 0.97 | 1.00 |
| Frt | | 1.00 | 1.00 | | 1.00 | 0.85 |
| Flt Protected | | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | | 3539 | 1863 | | 3433 | 1583 |
| Flt Permitted | | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (perm) | | 3539 | 1863 | | 3433 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 639 | 146 | 0 | 826 | 122 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 21 |
| Lane Group Flow (vph) | 0 | 639 | 146 | 0 | 826 | 101 |
| Turn Type | | NA | NA | | Prot | Prot |
| Protected Phases | | 14 | 12 16 | | 7 | 7 |
| Permitted Phases | | | | | | |
| Actuated Green, G (s) | | 63.4 | 38.9 | | 39.9 | 39.9 |
| Effective Green, g (s) | | 63.4 | 38.9 | | 39.9 | 39.9 |
| Actuated g/C Ratio | | 0.45 | 0.28 | | 0.28 | 0.28 |
| Clearance Time (s) | | 5.3 | | | 5.3 | 5.3 |
| Vehicle Extension (s) | | 1.0 | | | 3.0 | 3.0 |
| Lane Grp Cap (vph) | | 1602 | 517 | | 978 | 451 |
| v/s Ratio Prot | | c0.18 | c0.08 | | c0.24 | 0.06 |
| v/s Ratio Perm | | | | | | |
| v/c Ratio | | 0.40 | 0.28 | | 0.84 | 0.22 |
| Uniform Delay, d1 | | 25.6 | 39.6 | | 47.1 | 38.2 |
| Progression Factor | | 1.00 | 1.20 | | 1.00 | 1.00 |
| Incremental Delay, d2 | | 0.7 | 0.2 | | 8.9 | 1.1 |
| Delay (s) | | 26.3 | 47.6 | | 56.0 | 39.4 |
| Level of Service | | C | D | | E | D |
| Approach Delay (s) | | 26.3 | 47.6 | | 53.9 | |
| Approach LOS | | C | D | | D | |

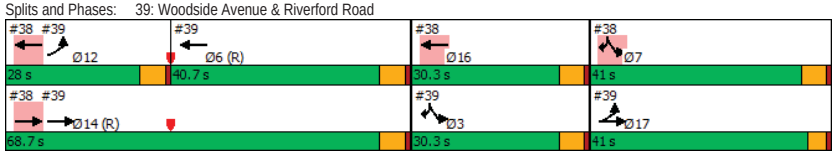
| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 43.2 | HCM 2000 Level of Service | D |
| HCM 2000 Volume to Capacity ratio | 0.55 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 21.2 |
| Intersection Capacity Utilization | 46.8% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR | Ø7 | Ø12 | Ø14 | Ø16 | Ø17 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | |
| Traffic Volume (vph) | 637 | 713 | 104 | 305 | 191 | 34 | | | | | |
| Future Volume (vph) | 637 | 713 | 104 | 305 | 191 | 34 | | | | | |
| Confl. Peds. (#/hr) | | | | | | 2 | | | | | |
| Confl. Bikes (#/hr) | | | | 2 | | 1 | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | | | |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | | | | | |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| Parking (#/hr) | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | | | | | | |
| Shared Lane Traffic (%) | | | | | | | | | | | |
| Turn Type | Prot | NA | NA | | Prot | Prot | | | | | |
| Protected Phases | 12 17 | 14 17 | 6 | | 3 | 3 | 7 | 12 | 14 | 16 | 17 |
| Permitted Phases | | | | | | | | | | | |
| Detector Phase | 12 17 | 14 17 | 6 | | 3 | 3 | | | | | |
| Switch Phase | | | | | | | | | | | |
| Minimum Initial (s) | | | 5.0 | | 5.0 | 5.0 | 8.0 | 5.0 | 4.0 | 2.0 | 5.0 |
| Minimum Split (s) | | | 29.3 | | 30.3 | 30.3 | 27.3 | 24.3 | 20.0 | 20.0 | 9.2 |
| Total Split (s) | | | 40.7 | | 30.3 | 30.3 | 41.0 | 28.0 | 68.7 | 30.3 | 41.0 |
| Total Split (%) | | | 29.1% | | 21.6% | 21.6% | 29% | 20% | 49% | 22% | 29% |
| Yellow Time (s) | | | 4.3 | | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 3.2 |
| All-Red Time (s) | | | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | | | 0.0 | | 0.0 | 0.0 | | | | | |
| Total Lost Time (s) | | | 5.3 | | 5.3 | 5.3 | | | | | |
| Lead/Lag | | | Lag | | | | | Lead | | | |
| Lead-Lag Optimize? | | | Yes | | | | | Yes | | | |
| Recall Mode | | | C-Max | | None | None | Max | None | C-Max | None | None |

| Intersection Summary |
|---|
| Cycle Length: 140 |
| Actuated Cycle Length: 140 |
| Offset: 0 (0%), Referenced to phase 6:WBT and 14:EBT, Start of Green |
| Natural Cycle: 115 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 39: Woodside Avenue & Riverford Road






Existing PM
39: Woodside Avenue & Riverford Road
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 637 | 713 | 104 | 305 | 191 | 34 |
| Future Volume (vph) | 637 | 713 | 104 | 305 | 191 | 34 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.3 | 5.3 | 5.3 | | 5.3 | 5.3 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.98 | | 1.00 | 1.00 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.90 | | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | 1770 | 1863 | 1647 | | 1770 | 1583 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (perm) | 1770 | 1863 | 1647 | | 1770 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 692 | 775 | 113 | 332 | 208 | 37 |
| RTOR Reduction (vph) | 0 | 0 | 72 | 0 | 0 | 30 |
| Lane Group Flow (vph) | 692 | 775 | 373 | 0 | 208 | 7 |
| Confl. Peds. (#/hr) | | | | | | 2 |
| Confl. Bikes (#/hr) | | | | 2 | | 1 |
| Turn Type | Prot | NA | NA | | Prot | Prot |
| Protected Phases | 12 17 | 14 17 | 6 | | 3 | 3 |
| Permitted Phases | | | | | | |
| Actuated Green, G (s) | 63.3 | 108.6 | 40.0 | | 20.8 | 20.8 |
| Effective Green, g (s) | 59.1 | 104.4 | 40.0 | | 20.8 | 20.8 |
| Actuated g/C Ratio | 0.42 | 0.75 | 0.29 | | 0.15 | 0.15 |
| Clearance Time (s) | | | 5.3 | | 5.3 | 5.3 |
| Vehicle Extension (s) | | | 3.0 | | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 747 | 1389 | 470 | | 262 | 235 |
| v/s Ratio Prot | c0.39 | 0.42 | c0.23 | | c0.12 | 0.00 |
| v/s Ratio Perm | | | | | | |
| v/c Ratio | 0.93 | 0.56 | 0.79 | | 0.79 | 0.03 |
| Uniform Delay, d1 | 38.4 | 7.8 | 46.2 | | 57.5 | 51.0 |
| Progression Factor | 0.49 | 0.13 | 1.00 | | 1.00 | 1.00 |
| Incremental Delay, d2 | 14.0 | 0.4 | 12.9 | | 15.1 | 0.1 |
| Delay (s) | 32.9 | 1.4 | 59.1 | | 72.7 | 51.0 |
| Level of Service | C | A | E | | E | D |
| Approach Delay (s) | | 16.2 | 59.1 | | 69.4 | |
| Approach LOS | | B | E | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 31.1 | HCM 2000 Level of Service | C |
| HCM 2000 Volume to Capacity ratio | 0.87 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 21.2 |
| Intersection Capacity Utilization | 84.0% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

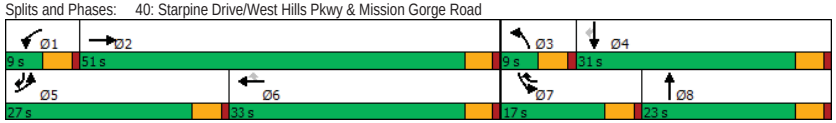
c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 417 | 756 | 10 | 12 | 301 | 131 | 10 | 11 | 28 | 190 | 17 | 283 |
| Future Volume (vph) | 417 | 756 | 10 | 12 | 301 | 131 | 10 | 11 | 28 | 190 | 17 | 283 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | 1 |
| Confl. Bikes (#/hr) | | | 5 | | | 6 | | | | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Prot | NA | | Prot | NA | pm+ov |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 5 |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 5 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 29.5 | | 8.5 | 29.5 | 8.5 | 8.5 | 22.5 | | 8.5 | 29.5 | 8.5 |
| Total Split (s) | 27.0 | 51.0 | | 9.0 | 33.0 | 17.0 | 9.0 | 23.0 | | 17.0 | 31.0 | 27.0 |
| Total Split (%) | 27.0% | 51.0% | | 9.0% | 33.0% | 17.0% | 9.0% | 23.0% | | 17.0% | 31.0% | 27.0% |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | Lead |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | Min | | None | Min | None | None | None | | None | None | None |

**Intersection Summary**

Cycle Length: 100
Actuated Cycle Length: 59
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

Splits and Phases: 40: Starpine Drive/West Hills Pkwy & Mission Gorge Road








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 417 | 756 | 10 | 12 | 301 | 131 | 10 | 11 | 28 | 190 | 17 | 283 |
| Future Volume (veh/h) | 417 | 756 | 10 | 12 | 301 | 131 | 10 | 11 | 28 | 190 | 17 | 283 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.98 | 1.00 | | 1.00 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 453 | 822 | 11 | 13 | 327 | 142 | 11 | 12 | 30 | 207 | 18 | 308 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 686 | 1320 | 18 | 24 | 649 | 448 | 20 | 45 | 112 | 357 | 349 | 1058 |
| Arrive On Green | 0.20 | 0.37 | 0.37 | 0.01 | 0.18 | 0.18 | 0.01 | 0.09 | 0.09 | 0.10 | 0.19 | 0.19 |
| Sat Flow, veh/h | 3456 | 3589 | 48 | 1781 | 3554 | 1554 | 1781 | 474 | 1184 | 3456 | 1870 | 2704 |
| Grp Volume(v), veh/h | 453 | 407 | 426 | 13 | 327 | 142 | 11 | 0 | 42 | 207 | 18 | 308 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1860 | 1781 | 1777 | 1554 | 1781 | 0 | 1657 | 1728 | 1870 | 1352 |
| Q Serve(g_s), s | 5.2 | 8.0 | 8.0 | 0.3 | 3.5 | 3.1 | 0.3 | 0.0 | 1.0 | 2.4 | 0.3 | 3.4 |
| Cycle Q Clear(g_c), s | 5.2 | 8.0 | 8.0 | 0.3 | 3.5 | 3.1 | 0.3 | 0.0 | 1.0 | 2.4 | 0.3 | 3.4 |
| Prop In Lane | 1.00 | | 0.03 | 1.00 | | 1.00 | 1.00 | | 0.71 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 686 | 653 | 684 | 24 | 649 | 448 | 20 | 0 | 157 | 357 | 349 | 1058 |
| V/C Ratio(X) | 0.66 | 0.62 | 0.62 | 0.55 | 0.50 | 0.32 | 0.54 | 0.00 | 0.27 | 0.58 | 0.05 | 0.29 |
| Avail Cap(c_a), veh/h | 1819 | 1933 | 2024 | 188 | 2369 | 1200 | 188 | 0 | 717 | 1011 | 1160 | 2230 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 15.8 | 11.1 | 11.1 | 21.0 | 15.7 | 12.0 | 21.0 | 0.0 | 18.0 | 18.3 | 14.3 | 9.1 |
| Incr Delay (d2), s/veh | 1.1 | 1.0 | 0.9 | 18.0 | 0.6 | 0.4 | 20.3 | 0.0 | 0.9 | 1.5 | 0.1 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.5 | 2.0 | 2.1 | 0.2 | 1.1 | 0.9 | 0.2 | 0.0 | 0.4 | 0.9 | 0.1 | 0.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 16.9 | 12.1 | 12.0 | 38.9 | 16.3 | 12.4 | 41.3 | 0.0 | 18.9 | 19.8 | 14.3 | 9.3 |
| LnGrp LOS | B | B | B | D | B | B | D | A | B | B | B | A |
| Approach Vol, veh/h | | 1286 | | | 482 | | | 53 | | | 533 | |
| Approach Delay, s/veh | | 13.7 | | | 15.8 | | | 23.5 | | | 13.5 | |
| Approach LOS | | B | | | B | | | C | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.1 | 20.2 | 5.0 | 12.5 | 13.0 | 12.3 | 8.9 | 8.5 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 4.5 | 46.5 | 4.5 | 26.5 | 22.5 | 28.5 | 12.5 | 18.5 |
| Max Q Clear Time (g_c+I1), s | 2.3 | 10.0 | 2.3 | 5.4 | 7.2 | 5.5 | 4.4 | 3.0 |
| Green Ext Time (p_c), s | 0.0 | 4.8 | 0.0 | 1.2 | 1.4 | 2.3 | 0.4 | 0.1 |

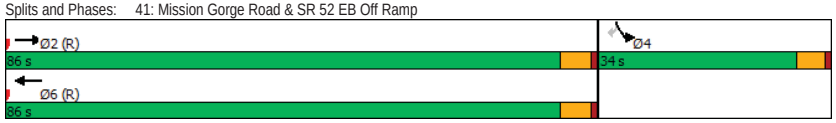
**Intersection Summary**

| | | |
|---|---|---|
| HCM 6th Ctrl Delay | 14.3 | |
| HCM 6th LOS | B | |

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 1050 | 601 | 0 | 281 | 41 |
| Future Volume (vph) | 0 | 1050 | 601 | 0 | 281 | 41 |
| Confl. Peds. (#/hr) | | | | | | |
| Confl. Bikes (#/hr) | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | | NA | NA | | Prot | Perm |
| Protected Phases | | 2 | 6 | | 4 | |
| Permitted Phases | | | | | | 4 |
| Detector Phase | | 2 | 6 | | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | | 6.0 | 11.0 | | 10.0 | 10.0 |
| Minimum Split (s) | | 20.0 | 20.0 | | 20.0 | 20.0 |
| Total Split (s) | | 86.0 | 86.0 | | 34.0 | 34.0 |
| Total Split (%) | | 71.7% | 71.7% | | 28.3% | 28.3% |
| Yellow Time (s) | | 4.4 | 4.4 | | 4.1 | 4.1 |
| All-Red Time (s) | | 1.0 | 1.0 | | 1.0 | 1.0 |
| Lost Time Adjust (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | | 5.4 | 5.4 | | 5.1 | 5.1 |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | | C-Min | C-Min | | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green, Master Intersection |
| Natural Cycle: 45 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 41: Mission Gorge Road & SR 52 EB Off Ramp








| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 1050 | 601 | 0 | 281 | 41 |
| Future Volume (veh/h) | 0 | 1050 | 601 | 0 | 281 | 41 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 0 | 1870 | 1870 | 0 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 1141 | 653 | 0 | 305 | 45 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 0 | 2 | 2 | 0 | 2 | 2 |
| Cap, veh/h | 0 | 2845 | 2845 | 0 | 386 | 177 |
| Arrive On Green | 0.00 | 0.80 | 1.00 | 0.00 | 0.11 | 0.11 |
| Sat Flow, veh/h | 0 | 3741 | 3741 | 0 | 3456 | 1585 |
| Grp Volume(v), veh/h | 0 | 1141 | 653 | 0 | 305 | 45 |
| Grp Sat Flow(s),veh/h/ln | 0 | 1777 | 1777 | 0 | 1728 | 1585 |
| Q Serve(g_s), s | 0.0 | 11.3 | 0.0 | 0.0 | 10.3 | 3.1 |
| Cycle Q Clear(g_c), s | 0.0 | 11.3 | 0.0 | 0.0 | 10.3 | 3.1 |
| Prop In Lane | 0.00 | | | 0.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 0 | 2845 | 2845 | 0 | 386 | 177 |
| V/C Ratio(X) | 0.00 | 0.40 | 0.23 | 0.00 | 0.79 | 0.25 |
| Avail Cap(c_a), veh/h | 0 | 2845 | 2845 | 0 | 832 | 382 |
| HCM Platoon Ratio | 1.00 | 1.00 | 2.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.00 | 1.00 | 0.99 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 0.0 | 3.5 | 0.0 | 0.0 | 51.9 | 48.7 |
| Incr Delay (d2), s/veh | 0.0 | 0.4 | 0.2 | 0.0 | 3.6 | 0.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 3.3 | 0.1 | 0.0 | 4.7 | 1.3 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 3.9 | 0.2 | 0.0 | 55.5 | 49.5 |
| LnGrp LOS | A | A | A | A | E | D |
| Approach Vol, veh/h | | 1141 | 653 | | 350 | |
| Approach Delay, s/veh | | 3.9 | 0.2 | | 54.8 | |
| Approach LOS | | A | A | | D | |

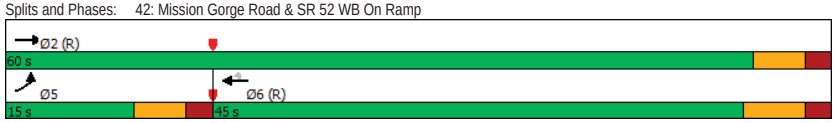
| Timer - Assigned Phs | 2 | | 4 | | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 101.5 | | 18.5 | | 101.5 |
| Change Period (Y+Rc), s | 5.4 | | 5.1 | | 5.4 |
| Max Green Setting (Gmax), s | 80.6 | | 28.9 | | 80.6 |
| Max Q Clear Time (g_c+I1), s | 13.3 | | 12.3 | | 2.0 |
| Green Ext Time (p_c), s | 11.8 | | 1.1 | | 4.8 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 11.1 | |
| HCM 6th LOS | B | |

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 16 | 1253 | 593 | 157 | 0 | 0 |
| Future Volume (vph) | 16 | 1253 | 593 | 157 | 0 | 0 |
| Confl. Peds. (#/hr) | | | | | | |
| Confl. Bikes (#/hr) | | | | 1 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | |
| Shared Lane Traffic (%) | | | | 10% | | |
| Turn Type | Prot | NA | NA | Perm | | |
| Protected Phases | 5 | 2 | 6 | | | |
| Permitted Phases | | | | 6 | | |
| Detector Phase | 5 | 2 | 6 | 6 | | |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 10.0 | 10.0 | | |
| Minimum Split (s) | 10.7 | 21.0 | 22.4 | 22.4 | | |
| Total Split (s) | 15.0 | 60.0 | 45.0 | 45.0 | | |
| Total Split (%) | 25.0% | 100.0% | 75.0% | 75.0% | | |
| Yellow Time (s) | 3.7 | 3.7 | 4.4 | 4.4 | | |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | | |
| Total Lost Time (s) | 5.7 | 5.7 | 6.4 | 6.4 | | |
| Lead/Lag | Lead | | Lag | Lag | | |
| Lead-Lag Optimize? | Yes | | Yes | Yes | | |
| Recall Mode | None | C-Min | C-Min | C-Min | | |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 60 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 40 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 42: Mission Gorge Road & SR 52 WB On Ramp








| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 16 | 1253 | 593 | 157 | 0 | 0 |
| Future Volume (veh/h) | 16 | 1253 | 593 | 157 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 0.98 | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Work Zone On Approach | | No | No | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | | |
| Adj Flow Rate, veh/h | 17 | 1362 | 645 | 171 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | | |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | | |
| Cap, veh/h | 37 | 3175 | 2909 | 1208 | | |
| Arrive On Green | 0.04 | 1.00 | 1.00 | 1.00 | | |
| Sat Flow, veh/h | 1781 | 3647 | 3741 | 1553 | | |
| Grp Volume(v), veh/h | 17 | 1362 | 645 | 171 | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1870 | 1553 | | |
| Q Serve(g_s), s | 0.6 | 0.0 | 0.0 | 0.0 | | |
| Cycle Q Clear(g_c), s | 0.6 | 0.0 | 0.0 | 0.0 | | |
| Prop In Lane | 1.00 | | | 1.00 | | |
| Lane Grp Cap(c), veh/h | 37 | 3175 | 2909 | 1208 | | |
| V/C Ratio(X) | 0.46 | 0.43 | 0.22 | 0.14 | | |
| Avail Cap(c_a), veh/h | 276 | 3216 | 2909 | 1208 | | |
| HCM Platoon Ratio | 2.00 | 2.00 | 1.33 | 1.33 | | |
| Upstream Filter(I) | 0.88 | 0.88 | 0.98 | 0.98 | | |
| Uniform Delay (d), s/veh | 28.4 | 0.0 | 0.0 | 0.0 | | |
| Incr Delay (d2), s/veh | 7.8 | 0.4 | 0.2 | 0.2 | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | | |
| %ile BackOfQ(50%),veh/ln | 0.3 | 0.2 | 0.1 | 0.1 | | |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 36.3 | 0.4 | 0.2 | 0.2 | | |
| LnGrp LOS | D | A | A | A | | |
| Approach Vol, veh/h | | 1379 | 816 | | | |
| Approach Delay, s/veh | | 0.8 | 0.2 | | | |
| Approach LOS | | A | A | | | |

| Timer - Assigned Phs | 2 | | 5 | 6 |
|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 60.0 | | 6.9 | 53.1 |
| Change Period (Y+Rc), s | * 6.4 | | * 5.7 | 6.4 |
| Max Green Setting (Gmax), s | * 54 | | * 9.3 | 38.6 |
| Max Q Clear Time (g_c+I1), s | 2.0 | | 2.6 | 2.0 |
| Green Ext Time (p_c), s | 3.6 | | 0.0 | 5.3 |

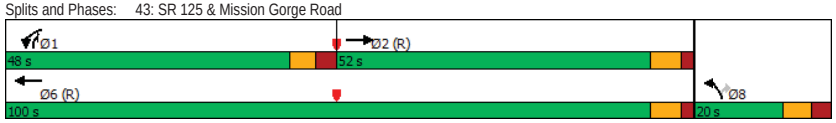
| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 0.6 |
| HCM 6th LOS | A |

| Notes |
|---|
| User approved volume balancing among the lanes for turning movement. |
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. |

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 1037 | 183 | 740 | 675 | 156 | 862 |
| Future Volume (vph) | 1037 | 183 | 740 | 675 | 156 | 862 |
| Confl. Peds. (#/hr) | | 5 | | | | |
| Confl. Bikes (#/hr) | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | NA | | Prot | NA | Prot | pm+ov |
| Protected Phases | 2 | | 1 | 6 | 8 | 1 |
| Permitted Phases | | | | | | 8 |
| Detector Phase | 2 | | 1 | 6 | 8 | 1 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 11.0 | | 5.0 | 10.0 | 5.0 | 5.0 |
| Minimum Split (s) | 17.4 | | 11.7 | 20.0 | 20.0 | 11.7 |
| Total Split (s) | 52.0 | | 48.0 | 100.0 | 20.0 | 48.0 |
| Total Split (%) | 43.3% | | 40.0% | 83.3% | 16.7% | 40.0% |
| Yellow Time (s) | 4.4 | | 3.7 | 4.4 | 4.1 | 3.7 |
| All-Red Time (s) | 2.0 | | 3.0 | 2.0 | 3.0 | 3.0 |
| Lost Time Adjust (s) | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.4 | | 6.7 | 6.4 | 7.1 | 6.7 |
| Lead/Lag | Lag | | Lead | | | Lead |
| Lead-Lag Optimize? | Yes | | Yes | | | Yes |
| Recall Mode | C-Max | | None | C-Max | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 107 (89%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 75 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 43: SR 125 & Mission Gorge Road








| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 1037 | 183 | 740 | 675 | 156 | 862 |
| Future Volume (veh/h) | 1037 | 183 | 740 | 675 | 156 | 862 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | 0.99 | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 1127 | 199 | 804 | 734 | 170 | 937 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 1992 | 352 | 924 | 3983 | 371 | 1046 |
| Arrive On Green | 0.91 | 0.91 | 0.09 | 0.26 | 0.11 | 0.11 |
| Sat Flow, veh/h | 4530 | 770 | 3456 | 5274 | 3456 | 2790 |
| Grp Volume(v), veh/h | 880 | 446 | 804 | 734 | 170 | 937 |
| Grp Sat Flow(s),veh/h/ln | 1702 | 1727 | 1728 | 1702 | 1728 | 1395 |
| Q Serve(g_s), s | 5.5 | 5.5 | 27.6 | 13.4 | 5.5 | 12.9 |
| Cycle Q Clear(g_c), s | 5.5 | 5.5 | 27.6 | 13.4 | 5.5 | 12.9 |
| Prop In Lane | | 0.45 | 1.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 1555 | 789 | 924 | 3983 | 371 | 1046 |
| V/C Ratio(X) | 0.57 | 0.57 | 0.87 | 0.18 | 0.46 | 0.90 |
| Avail Cap(c_a), veh/h | 1555 | 789 | 1189 | 3983 | 371 | 1046 |
| HCM Platoon Ratio | 2.00 | 2.00 | 0.33 | 0.33 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.93 | 0.93 | 0.94 | 0.94 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 3.1 | 3.1 | 52.7 | 14.8 | 50.3 | 35.3 |
| Incr Delay (d2), s/veh | 1.4 | 2.7 | 5.5 | 0.1 | 0.9 | 10.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.4 | 1.7 | 13.5 | 6.1 | 2.4 | 14.1 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 4.4 | 5.8 | 58.2 | 14.9 | 51.1 | 45.5 |
| LnGrp LOS | A | A | E | B | D | D |
| Approach Vol, veh/h | 1326 | | | 1538 | 1107 | |
| Approach Delay, s/veh | 4.9 | | | 37.5 | 46.4 | |
| Approach LOS | A | | | D | D | |

| Timer - Assigned Phs | 1 | 2 | | | 6 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 38.8 | 61.2 | | | 100.0 | 20.0 |
| Change Period (Y+Rc), s | * 6.7 | 6.4 | | | 6.4 | 7.1 |
| Max Green Setting (Gmax), s | * 41 | 45.6 | | | 93.6 | 12.9 |
| Max Q Clear Time (g_c+I1), s | 29.6 | 7.5 | | | 15.4 | 14.9 |
| Green Ext Time (p_c), s | 2.5 | 11.2 | | | 5.6 | 0.0 |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 29.1 | |
| HCM 6th LOS | | C | |

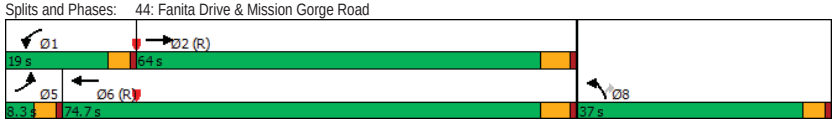
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 5 | 1492 | 406 | 278 | 1060 | 0 | 329 | 0 | 354 | 0 | 0 | 0 |
| Future Volume (vph) | 5 | 1492 | 406 | 278 | 1060 | 0 | 329 | 0 | 354 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | | | 6 | | | | | | | | | |
| Confl. Bikes (#/hr) | | | 4 | | | 3 | | | 3 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | | Perm | | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | | | | | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | | 8 | | | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 7.0 | | 7.0 | | | |
| Minimum Split (s) | 8.2 | 33.3 | | 8.2 | 20.0 | | 34.2 | | 34.2 | | | |
| Total Split (s) | 8.3 | 64.0 | | 19.0 | 74.7 | | 37.0 | | 37.0 | | | |
| Total Split (%) | 6.9% | 53.3% | | 15.8% | 62.3% | | 30.8% | | 30.8% | | | |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | | 3.2 | | 3.2 | | | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | | 1.0 | | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | | 0.0 | | | |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | | 4.2 | | 4.2 | | | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | | None | | | |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 9 (8%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 90 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 44: Fanita Drive & Mission Gorge Road








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 5 | 1492 | 406 | 278 | 1060 | 0 | 329 | 0 | 354 | 0 | 0 | 0 |
| Future Volume (veh/h) | 5 | 1492 | 406 | 278 | 1060 | 0 | 329 | 0 | 354 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 1.00 | 1.00 | | 1.00 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 0 | 1870 | 0 | 1870 | | | |
| Adj Flow Rate, veh/h | 5 | 1622 | 441 | 302 | 1152 | 0 | 358 | 0 | 385 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 0 | 2 | 0 | 2 | | | |
| Cap, veh/h | 9 | 2075 | 554 | 359 | 3164 | 0 | 902 | 0 | 414 | | | |
| Arrive On Green | 0.01 | 0.52 | 0.52 | 0.10 | 0.62 | 0.00 | 0.26 | 0.00 | 0.26 | | | |
| Sat Flow, veh/h | 1781 | 3983 | 1064 | 3456 | 5274 | 0 | 3456 | 0 | 1585 | | | |
| Grp Volume(v), veh/h | 5 | 1382 | 681 | 302 | 1152 | 0 | 358 | 0 | 385 | | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1702 | 1642 | 1728 | 1702 | 0 | 1728 | 0 | 1585 | | | |
| Q Serve(g_s), s | 0.3 | 39.3 | 40.7 | 10.3 | 13.3 | 0.0 | 10.2 | 0.0 | 28.4 | | | |
| Cycle Q Clear(g_c), s | 0.3 | 39.3 | 40.7 | 10.3 | 13.3 | 0.0 | 10.2 | 0.0 | 28.4 | | | |
| Prop In Lane | 1.00 | | 0.65 | 1.00 | | 0.00 | 1.00 | | 1.00 | | | |
| Lane Grp Cap(c), veh/h | 9 | 1773 | 856 | 359 | 3164 | 0 | 902 | 0 | 414 | | | |
| V/C Ratio(X) | 0.55 | 0.78 | 0.80 | 0.84 | 0.36 | 0.00 | 0.40 | 0.00 | 0.93 | | | |
| Avail Cap(c_a), veh/h | 61 | 1773 | 856 | 426 | 3164 | 0 | 945 | 0 | 433 | | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 0.70 | 0.70 | 0.70 | 0.88 | 0.88 | 0.00 | 1.00 | 0.00 | 1.00 | | | |
| Uniform Delay (d), s/veh | 59.6 | 23.2 | 23.5 | 52.8 | 11.2 | 0.0 | 36.5 | 0.0 | 43.3 | | | |
| Incr Delay (d2), s/veh | 31.4 | 2.4 | 5.4 | 9.6 | 0.3 | 0.0 | 0.3 | 0.0 | 26.4 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ln | 0.2 | 15.3 | 16.0 | 4.9 | 4.7 | 0.0 | 4.3 | 0.0 | 13.9 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 91.0 | 25.6 | 28.9 | 62.4 | 11.5 | 0.0 | 36.9 | 0.0 | 69.7 | | | |
| LnGrp LOS | F | C | C | E | B | A | D | A | E | | | |
| Approach Vol, veh/h | | 2068 | | | 1454 | | | 743 | | | | |
| Approach Delay, s/veh | | 26.9 | | | 22.1 | | | 53.9 | | | | |
| Approach LOS | | C | | | C | | | D | | | | |

| Timer - Assigned Phs | 1 | 2 | | 5 | 6 | | 8 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 16.7 | 67.8 | | 4.8 | 79.7 | | 35.5 | | | | | |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | | * 4.2 | 5.3 | | 4.2 | | | | | |
| Max Green Setting (Gmax), s | * 15 | 58.7 | | * 4.1 | 69.4 | | 32.8 | | | | | |
| Max Q Clear Time (g_c+I1), s | 12.3 | 42.7 | | 2.3 | 15.3 | | 30.4 | | | | | |
| Green Ext Time (p_c), s | 0.2 | 12.8 | | 0.0 | 12.2 | | 0.9 | | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 29.9 | |
| HCM 6th LOS | C | |

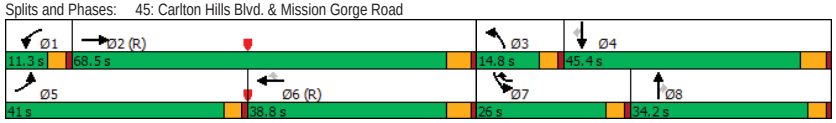
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 658 | 1107 | 67 | 33 | 821 | 471 | 58 | 79 | 22 | 336 | 31 | 510 |
| Future Volume (vph) | 658 | 1107 | 67 | 33 | 821 | 471 | 58 | 79 | 22 | 336 | 31 | 510 |
| Confl. Peds. (#/hr) | | | 8 | | | | | | 8 | | | 2 |
| Confl. Bikes (#/hr) | | | 1 | | | 2 | | | 1 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | 47% |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | 6 | | | 8 | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | 8 | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 23.3 | | 8.2 | 34.3 | 8.2 | 8.2 | 34.2 | 34.2 | 8.2 | 32.4 | 32.4 |
| Total Split (s) | 41.0 | 68.5 | | 11.3 | 38.8 | 26.0 | 14.8 | 34.2 | 34.2 | 26.0 | 45.4 | 45.4 |
| Total Split (%) | 29.3% | 48.9% | | 8.1% | 27.7% | 18.6% | 10.6% | 24.4% | 24.4% | 18.6% | 32.4% | 32.4% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | 3.2 | 3.2 | 3.2 | 3.2 | 3.2 | 4.4 | 4.4 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | 4.2 | 4.2 | 4.2 | 4.2 | 4.2 | 5.4 | 5.4 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | C-Min | | None | C-Min | None | None | None | None | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 140 |
| Actuated Cycle Length: 140 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 115 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 45: Carlton Hills Blvd. & Mission Gorge Road








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 658 | 1107 | 67 | 33 | 821 | 471 | 58 | 79 | 22 | 336 | 31 | 510 |
| Future Volume (veh/h) | 658 | 1107 | 67 | 33 | 821 | 471 | 58 | 79 | 22 | 336 | 31 | 510 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.99 | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 715 | 1203 | 73 | 36 | 892 | 512 | 63 | 86 | 24 | 365 | 0 | 521 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 773 | 2964 | 180 | 46 | 2072 | 821 | 81 | 218 | 178 | 420 | 0 | 597 |
| Arrive On Green | 0.22 | 0.60 | 0.60 | 0.03 | 0.41 | 0.41 | 0.05 | 0.12 | 0.12 | 0.12 | 0.00 | 0.19 |
| Sat Flow, veh/h | 3456 | 4913 | 298 | 1781 | 5106 | 1564 | 1781 | 1870 | 1531 | 3563 | 0 | 3160 |
| Grp Volume(v), veh/h | 715 | 833 | 443 | 36 | 892 | 512 | 63 | 86 | 24 | 365 | 0 | 521 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1702 | 1807 | 1781 | 1702 | 1564 | 1781 | 1870 | 1531 | 1781 | 0 | 1580 |
| Q Serve(g_s), s | 28.4 | 18.0 | 18.0 | 2.8 | 17.6 | 32.5 | 4.9 | 6.0 | 2.0 | 14.1 | 0.0 | 22.4 |
| Cycle Q Clear(g_c), s | 28.4 | 18.0 | 18.0 | 2.8 | 17.6 | 32.5 | 4.9 | 6.0 | 2.0 | 14.1 | 0.0 | 22.4 |
| Prop In Lane | 1.00 | | 0.16 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 773 | 2054 | 1090 | 46 | 2072 | 821 | 81 | 218 | 178 | 420 | 0 | 597 |
| V/C Ratio(X) | 0.93 | 0.41 | 0.41 | 0.78 | 0.43 | 0.62 | 0.78 | 0.39 | 0.13 | 0.87 | 0.00 | 0.87 |
| Avail Cap(c_a), veh/h | 908 | 2054 | 1090 | 90 | 2072 | 821 | 135 | 401 | 328 | 555 | 0 | 903 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.58 | 0.58 | 0.58 | 0.83 | 0.83 | 0.83 | 1.00 | 1.00 | 1.00 | 0.85 | 0.00 | 0.85 |
| Uniform Delay (d), s/veh | 53.2 | 14.6 | 14.6 | 67.8 | 30.0 | 23.6 | 66.1 | 57.3 | 55.5 | 60.7 | 0.0 | 55.1 |
| Incr Delay (d2), s/veh | 8.2 | 0.3 | 0.7 | 8.5 | 0.5 | 3.0 | 15.0 | 0.4 | 0.1 | 8.0 | 0.0 | 5.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 13.0 | 6.8 | 7.3 | 1.4 | 7.2 | 12.6 | 2.6 | 2.9 | 0.8 | 6.8 | 0.0 | 9.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 61.4 | 14.9 | 15.2 | 76.3 | 30.5 | 26.6 | 81.1 | 57.7 | 55.6 | 68.7 | 0.0 | 60.5 |
| LnGrp LOS | E | B | B | E | C | C | F | E | E | E | A | E |
| Approach Vol, veh/h | | 1991 | | | 1440 | | | 173 | | | 886 | |
| Approach Delay, s/veh | | 31.7 | | | 30.3 | | | 66.0 | | | 63.9 | |
| Approach LOS | | C | | | C | | | E | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.8 | 89.8 | 10.5 | 31.9 | 35.5 | 62.1 | 20.7 | 21.7 |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | * 4.2 | 5.4 | * 4.2 | 5.3 | * 4.2 | * 5.4 |
| Max Green Setting (Gmax), s | * 7.1 | 63.2 | * 11 | 40.0 | * 37 | 33.5 | * 22 | * 30 |
| Max Q Clear Time (g_c+I1), s | 4.8 | 20.0 | 6.9 | 24.4 | 30.4 | 34.5 | 16.1 | 8.0 |
| Green Ext Time (p_c), s | 0.0 | 12.2 | 0.0 | 1.9 | 0.9 | 0.0 | 0.4 | 0.3 |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 38.9 | |
| HCM 6th LOS | | D | |

| Notes |
|---|
| User approved volume balancing among the lanes for turning movement. |
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. |

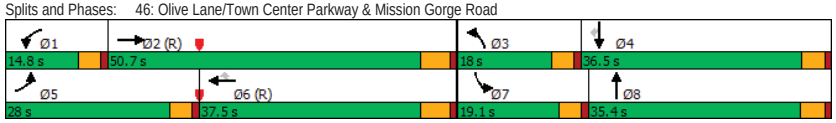
Existing PM
46: Olive Lane/Town Center Parkway & Mission Gorge Road

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 584 | 930 | 103 | 68 | 547 | 317 | 320 | 215 | 48 | 311 | 179 | 503 |
| Future Volume (vph) | 584 | 930 | 103 | 68 | 547 | 317 | 320 | 215 | 48 | 311 | 179 | 503 |
| Confl. Peds. (#/hr) | | | 9 | | | 16 | | | 3 | | | 6 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | Perm | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | 10.0 | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 26.3 | | 8.2 | 36.3 | 36.3 | 8.2 | 34.6 | | 8.2 | 36.5 | 36.5 |
| Total Split (s) | 28.0 | 50.7 | | 14.8 | 37.5 | 37.5 | 18.0 | 35.4 | | 19.1 | 36.5 | 36.5 |
| Total Split (%) | 23.3% | 42.3% | | 12.3% | 31.3% | 31.3% | 15.0% | 29.5% | | 15.9% | 30.4% | 30.4% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | 4.3 | 3.2 | 3.6 | | 3.2 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | 5.3 | 4.2 | 4.6 | | 4.2 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | C-Min | | None | C-Min | C-Min | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 61 (51%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 110 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 46: Olive Lane/Town Center Parkway & Mission Gorge Road






Existing PM
46: Olive Lane/Town Center Parkway & Mission Gorge Road

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 584 | 930 | 103 | 68 | 547 | 317 | 320 | 215 | 48 | 311 | 179 | 503 |
| Future Volume (veh/h) | 584 | 930 | 103 | 68 | 547 | 317 | 320 | 215 | 48 | 311 | 179 | 503 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 1.00 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 635 | 1011 | 112 | 74 | 595 | 345 | 348 | 234 | 52 | 338 | 195 | 547 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 683 | 2059 | 228 | 94 | 1518 | 464 | 397 | 354 | 79 | 393 | 445 | 658 |
| Arrive On Green | 0.20 | 0.44 | 0.44 | 0.05 | 0.30 | 0.30 | 0.12 | 0.24 | 0.24 | 0.11 | 0.24 | 0.24 |
| Sat Flow, veh/h | 3456 | 4660 | 515 | 1781 | 5106 | 1559 | 3456 | 1481 | 329 | 3456 | 1870 | 2769 |
| Grp Volume(v), veh/h | 635 | 738 | 385 | 74 | 595 | 345 | 348 | 0 | 286 | 338 | 195 | 547 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1702 | 1771 | 1781 | 1702 | 1559 | 1728 | 0 | 1810 | 1728 | 1870 | 1384 |
| Q Serve(g_s), s | 21.7 | 18.5 | 18.6 | 4.9 | 11.1 | 24.0 | 11.9 | 0.0 | 17.1 | 11.5 | 10.6 | 22.5 |
| Cycle Q Clear(g_c), s | 21.7 | 18.5 | 18.6 | 4.9 | 11.1 | 24.0 | 11.9 | 0.0 | 17.1 | 11.5 | 10.6 | 22.5 |
| Prop In Lane | 1.00 | | 0.29 | 1.00 | | 1.00 | 1.00 | | 0.18 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 683 | 1504 | 783 | 94 | 1518 | 464 | 397 | 0 | 432 | 393 | 445 | 658 |
| V/C Ratio(X) | 0.93 | 0.49 | 0.49 | 0.78 | 0.39 | 0.74 | 0.88 | 0.00 | 0.66 | 0.86 | 0.44 | 0.83 |
| Avail Cap(c_a), veh/h | 685 | 1504 | 783 | 157 | 1518 | 464 | 397 | 0 | 464 | 429 | 499 | 738 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.86 | 0.86 | 0.86 | 0.79 | 0.79 | 0.79 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 47.3 | 23.9 | 23.9 | 56.1 | 33.5 | 38.0 | 52.3 | 0.0 | 41.3 | 52.2 | 38.9 | 43.5 |
| Incr Delay (d2), s/veh | 17.0 | 1.0 | 1.9 | 4.2 | 0.6 | 8.3 | 18.5 | 0.0 | 3.7 | 14.0 | 1.3 | 8.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 10.7 | 7.4 | 7.9 | 2.3 | 4.6 | 10.2 | 6.2 | 0.0 | 8.1 | 5.8 | 5.1 | 8.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 64.3 | 24.9 | 25.8 | 60.4 | 34.1 | 46.4 | 70.7 | 0.0 | 45.0 | 66.3 | 40.2 | 51.8 |
| LnGrp LOS | E | C | C | E | C | D | E | A | D | E | D | D |
| Approach Vol, veh/h | | 1758 | | | 1014 | | | 634 | | | 1080 | |
| Approach Delay, s/veh | | 39.3 | | | 40.2 | | | 59.1 | | | 54.3 | |
| Approach LOS | | D | | | D | | | E | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 10.6 | 58.3 | 18.0 | 33.1 | 27.9 | 41.0 | 17.8 | 33.3 |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | * 4.2 | * 4.6 | * 4.2 | 5.3 | * 4.2 | 4.6 |
| Max Green Setting (Gmax), s | * 11 | 45.4 | * 14 | * 32 | * 24 | 32.2 | * 15 | 30.8 |
| Max Q Clear Time (g_c+I1), s | 6.9 | 20.6 | 13.9 | 24.5 | 23.7 | 26.0 | 13.5 | 19.1 |
| Green Ext Time (p_c), s | 0.0 | 9.0 | 0.0 | 3.4 | 0.0 | 3.5 | 0.1 | 1.7 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 45.9 | |
| HCM 6th LOS | D | |

Notes

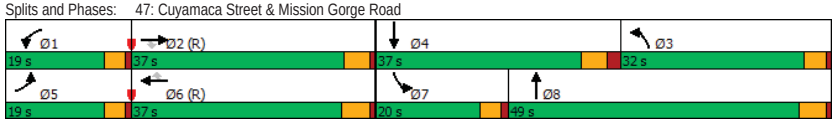
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 263 | 582 | 293 | 257 | 456 | 156 | 534 | 770 | 161 | 275 | 791 | 130 |
| Future Volume (vph) | 263 | 582 | 293 | 257 | 456 | 156 | 534 | 770 | 161 | 275 | 791 | 130 |
| Confl. Peds. (#/hr) | | | 31 | | | 31 | | | 34 | | | 23 |
| Confl. Bikes (#/hr) | | | 4 | | | 2 | | | 3 | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | 10.0 | 4.0 | 7.0 | | 4.0 | 15.0 | |
| Minimum Split (s) | 19.0 | 34.8 | 34.8 | 8.2 | 34.3 | 34.3 | 8.2 | 38.0 | | 8.2 | 37.0 | |
| Total Split (s) | 19.0 | 37.0 | 37.0 | 19.0 | 37.0 | 37.0 | 32.0 | 49.0 | | 20.0 | 37.0 | |
| Total Split (%) | 15.2% | 29.6% | 29.6% | 15.2% | 29.6% | 29.6% | 25.6% | 39.2% | | 16.0% | 29.6% | |
| Yellow Time (s) | 3.2 | 3.8 | 3.8 | 3.2 | 4.3 | 4.3 | 3.2 | 4.0 | | 3.2 | 4.0 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 2.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.2 | 4.8 | 4.8 | 4.2 | 5.3 | 5.3 | 4.2 | 5.0 | | 4.2 | 6.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lag | Lag | | Lead | Lead | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | C-Min | C-Min | None | C-Min | C-Min | None | None | | None | None | |

**Intersection Summary**

Cycle Length: 125
Actuated Cycle Length: 125
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green, Master Intersection
Natural Cycle: 110
Control Type: Actuated-Coordinated

Splits and Phases: 47: Cuyamaca Street & Mission Gorge Road






Existing PM
47: Cuyamaca Street & Mission Gorge Road
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 263 | 582 | 293 | 257 | 456 | 156 | 534 | 770 | 161 | 275 | 791 | 130 |
| Future Volume (veh/h) | 263 | 582 | 293 | 257 | 456 | 156 | 534 | 770 | 161 | 275 | 791 | 130 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.96 | 1.00 | | 0.96 | 1.00 | | 0.96 | 1.00 | | 0.96 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1683 | 1683 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 286 | 633 | 318 | 279 | 496 | 170 | 580 | 837 | 175 | 299 | 860 | 141 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 341 | 1568 | 465 | 334 | 1558 | 463 | 651 | 898 | 188 | 354 | 1071 | 174 |
| Arrive On Green | 0.10 | 0.31 | 0.31 | 0.10 | 0.31 | 0.31 | 0.19 | 0.34 | 0.34 | 0.10 | 0.24 | 0.24 |
| Sat Flow, veh/h | 3456 | 5106 | 1515 | 3456 | 5106 | 1517 | 3456 | 2610 | 546 | 3456 | 4392 | 715 |
| Grp Volume(v), veh/h | 286 | 633 | 318 | 279 | 496 | 170 | 580 | 513 | 499 | 299 | 665 | 336 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1702 | 1515 | 1728 | 1702 | 1517 | 1728 | 1599 | 1556 | 1728 | 1702 | 1704 |
| Q Serve(g_s), s | 10.2 | 12.3 | 14.0 | 9.9 | 9.3 | 11.0 | 20.5 | 38.7 | 38.7 | 10.6 | 23.0 | 23.2 |
| Cycle Q Clear(g_c), s | 10.2 | 12.3 | 14.0 | 9.9 | 9.3 | 11.0 | 20.5 | 38.7 | 38.7 | 10.6 | 23.0 | 23.2 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.35 | 1.00 | | 0.42 |
| Lane Grp Cap(c), veh/h | 341 | 1568 | 465 | 334 | 1558 | 463 | 651 | 550 | 535 | 354 | 830 | 415 |
| V/C Ratio(X) | 0.84 | 0.40 | 0.68 | 0.84 | 0.32 | 0.37 | 0.89 | 0.93 | 0.93 | 0.84 | 0.80 | 0.81 |
| Avail Cap(c_a), veh/h | 409 | 1568 | 465 | 409 | 1558 | 463 | 769 | 563 | 548 | 437 | 844 | 422 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.81 | 0.81 | 0.81 | 0.97 | 0.97 | 0.97 | 0.34 | 0.34 | 0.34 | 0.82 | 0.82 | 0.82 |
| Uniform Delay (d), s/veh | 55.4 | 34.2 | 14.1 | 55.5 | 33.4 | 34.0 | 49.5 | 39.6 | 39.6 | 55.1 | 44.4 | 44.5 |
| Incr Delay (d2), s/veh | 8.9 | 0.6 | 6.5 | 9.7 | 0.5 | 2.2 | 3.9 | 10.1 | 10.3 | 8.4 | 5.7 | 11.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 4.8 | 5.1 | 5.5 | 4.7 | 3.9 | 4.3 | 9.1 | 16.4 | 16.0 | 5.0 | 10.2 | 11.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 64.3 | 34.9 | 20.6 | 65.2 | 33.9 | 36.2 | 53.4 | 49.7 | 49.9 | 63.5 | 50.1 | 55.7 |
| LnGrp LOS | E | C | C | E | C | D | D | D | D | E | D | E |
| Approach Vol, veh/h | | 1237 | | | 945 | | | 1592 | | | 1300 | |
| Approach Delay, s/veh | | 38.0 | | | 43.6 | | | 51.1 | | | 54.6 | |
| Approach LOS | | D | | | D | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 16.3 | 43.7 | 28.5 | 36.5 | 16.5 | 43.5 | 17.0 | 48.0 |
| Change Period (Y+Rc), s | * 4.2 | * 5.3 | 5.0 | * 6 | * 4.2 | 5.3 | * 4.2 | 5.0 |
| Max Green Setting (Gmax), s | * 15 | * 32 | 27.8 | * 31 | * 15 | 31.7 | * 16 | 44.0 |
| Max Q Clear Time (g_c+I1), s | 11.9 | 16.0 | 22.5 | 25.2 | 12.2 | 13.0 | 12.6 | 40.7 |
| Green Ext Time (p_c), s | 0.2 | 9.7 | 0.7 | 4.4 | 0.2 | 5.7 | 0.2 | 2.3 |

**Intersection Summary**

| | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 47.4 | |
| HCM 6th LOS | | D | |

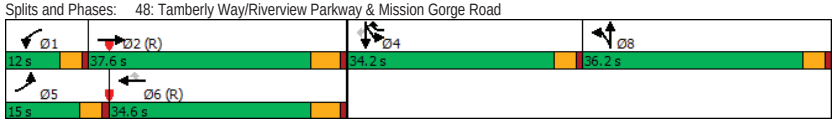
**Notes**

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 72 | 895 | 23 | 42 | 749 | 165 | 43 | 11 | 43 | 243 | 16 | 96 |
| Future Volume (vph) | 72 | 895 | 23 | 42 | 749 | 165 | 43 | 11 | 43 | 243 | 16 | 96 |
| Confl. Peds. (#/hr) | | | 13 | | | 13 | | | 10 | | | 8 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | 2 | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | 47% | | |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Split | NA | | Split | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 4 | 8 | 8 | | 4 | 4 | |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 4 | 8 | 8 | | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | 7.0 | 4.0 | 4.0 | | 7.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 23.3 | | 8.2 | 34.3 | 34.2 | 36.2 | 36.2 | | 34.2 | 34.2 | 34.2 |
| Total Split (s) | 15.0 | 37.6 | | 12.0 | 34.6 | 34.2 | 36.2 | 36.2 | | 34.2 | 34.2 | 34.2 |
| Total Split (%) | 12.5% | 31.3% | | 10.0% | 28.8% | 28.5% | 30.2% | 30.2% | | 28.5% | 28.5% | 28.5% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | 3.2 | 3.2 | 3.2 | | 3.2 | 3.2 | 3.2 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | 4.2 | 4.2 | 4.2 | | 4.2 | 4.2 | 4.2 |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | None | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 34 (28%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 115 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 48: Tamberly Way/Riverview Parkway & Mission Gorge Road








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 72 | 895 | 23 | 42 | 749 | 165 | 43 | 11 | 43 | 243 | 16 | 96 |
| Future Volume (veh/h) | 72 | 895 | 23 | 42 | 749 | 165 | 43 | 11 | 43 | 243 | 16 | 96 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.95 | 1.00 | | 0.96 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 78 | 973 | 25 | 46 | 814 | 179 | 47 | 12 | 47 | 276 | 0 | 104 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 99 | 3149 | 81 | 59 | 3027 | 1106 | 154 | 28 | 108 | 413 | 0 | 177 |
| Arrive On Green | 0.06 | 0.62 | 0.62 | 0.07 | 1.00 | 1.00 | 0.09 | 0.09 | 0.09 | 0.12 | 0.00 | 0.12 |
| Sat Flow, veh/h | 1781 | 5118 | 131 | 1781 | 5106 | 1555 | 1781 | 319 | 1248 | 3563 | 0 | 1528 |
| Grp Volume(v), veh/h | 78 | 647 | 351 | 46 | 814 | 179 | 47 | 0 | 59 | 276 | 0 | 104 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1702 | 1845 | 1781 | 1702 | 1555 | 1781 | 0 | 1567 | 1781 | 0 | 1528 |
| Q Serve(g_s), s | 5.2 | 10.8 | 10.8 | 3.1 | 0.0 | 0.0 | 3.0 | 0.0 | 4.3 | 8.9 | 0.0 | 7.7 |
| Cycle Q Clear(g_c), s | 5.2 | 10.8 | 10.8 | 3.1 | 0.0 | 0.0 | 3.0 | 0.0 | 4.3 | 8.9 | 0.0 | 7.7 |
| Prop In Lane | 1.00 | | 0.07 | 1.00 | | 1.00 | 1.00 | | 0.80 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 99 | 2095 | 1135 | 59 | 3027 | 1106 | 154 | 0 | 135 | 413 | 0 | 177 |
| V/C Ratio(X) | 0.79 | 0.31 | 0.31 | 0.78 | 0.27 | 0.16 | 0.31 | 0.00 | 0.44 | 0.67 | 0.00 | 0.59 |
| Avail Cap(c_a), veh/h | 160 | 2095 | 1135 | 116 | 3027 | 1106 | 475 | 0 | 418 | 891 | 0 | 382 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.82 | 0.82 | 0.82 | 0.98 | 0.98 | 0.98 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 56.0 | 11.0 | 11.0 | 55.6 | 0.0 | 0.0 | 51.4 | 0.0 | 52.0 | 50.8 | 0.0 | 50.3 |
| Incr Delay (d2), s/veh | 4.2 | 0.3 | 0.6 | 7.9 | 0.2 | 0.3 | 0.4 | 0.0 | 0.8 | 0.7 | 0.0 | 1.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.4 | 3.9 | 4.3 | 1.4 | 0.1 | 0.1 | 1.3 | 0.0 | 1.7 | 4.0 | 0.0 | 3.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 60.2 | 11.3 | 11.5 | 63.5 | 0.2 | 0.3 | 51.9 | 0.0 | 52.9 | 51.5 | 0.0 | 51.5 |
| LnGrp LOS | E | B | B | E | A | A | D | A | D | D | A | D |
| Approach Vol, veh/h | | 1076 | | | 1039 | | | 106 | | | 380 | |
| Approach Delay, s/veh | | 14.9 | | | 3.0 | | | 52.4 | | | 51.5 | |
| Approach LOS | | B | | | A | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 8.2 | 79.1 | | 18.1 | 10.9 | 76.4 | | 14.6 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | | * 4.2 | * 4.2 | 5.3 | | 4.2 | | | | |
| Max Green Setting (Gmax), s | * 7.8 | 32.3 | | * 30 | * 11 | 29.3 | | 32.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 5.1 | 12.8 | | 10.9 | 7.2 | 2.0 | | 6.3 | | | | |
| Green Ext Time (p_c), s | 0.0 | 10.0 | | 0.7 | 0.0 | 10.8 | | 0.3 | | | | |

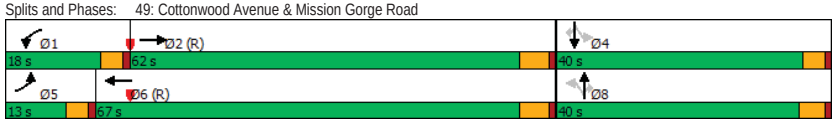
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 17.0 | |
| HCM 6th LOS | B | |

| Notes |
|---|
| User approved volume balancing among the lanes for turning movement. |
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 17 | 1105 | 98 | 54 | 797 | 4 | 90 | 1 | 81 | 3 | 2 | 9 |
| Future Volume (vph) | 17 | 1105 | 98 | 54 | 797 | 4 | 90 | 1 | 81 | 3 | 2 | 9 |
| Confl. Peds. (#/hr) | | | 3 | | | 14 | | | 1 | | | 4 |
| Confl. Bikes (#/hr) | | | 3 | | | 1 | | | 2 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Perm | NA | Perm | Perm | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | 8 | 4 | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | 8 | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 4.0 | 4.0 | 4.0 | 7.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 23.3 | | 8.2 | 24.3 | | 33.8 | 33.8 | 33.8 | 32.2 | 32.2 | 32.2 |
| Total Split (s) | 13.0 | 62.0 | | 18.0 | 67.0 | | 40.0 | 40.0 | 40.0 | 40.0 | 40.0 | 40.0 |
| Total Split (%) | 10.8% | 51.7% | | 15.0% | 55.8% | | 33.3% | 33.3% | 33.3% | 33.3% | 33.3% | 33.3% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | | 3.8 | 3.8 | 3.8 | 3.2 | 3.2 | 3.2 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | | | 4.8 | 4.8 | | 4.2 | 4.2 |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | None | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 44 (37%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 70 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 49: Cottonwood Avenue & Mission Gorge Road






Existing PM
49: Cottonwood Avenue & Mission Gorge Road
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 17 | 1105 | 98 | 54 | 797 | 4 | 90 | 1 | 81 | 3 | 2 | 9 |
| Future Volume (veh/h) | 17 | 1105 | 98 | 54 | 797 | 4 | 90 | 1 | 81 | 3 | 2 | 9 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 0.99 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 18 | 1201 | 107 | 59 | 866 | 4 | 98 | 1 | 88 | 3 | 2 | 10 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 27 | 2571 | 229 | 76 | 2976 | 14 | 60 | 0 | 466 | 48 | 21 | 465 |
| Arrive On Green | 0.03 | 1.00 | 1.00 | 0.08 | 1.00 | 1.00 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 |
| Sat Flow, veh/h | 1781 | 4761 | 424 | 1781 | 5245 | 24 | 0 | 1 | 1562 | 0 | 70 | 1559 |
| Grp Volume(v), veh/h | 18 | 859 | 449 | 59 | 562 | 308 | 99 | 0 | 88 | 5 | 0 | 10 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1702 | 1781 | 1781 | 1702 | 1865 | 1 | 0 | 1562 | 70 | 0 | 1559 |
| Q Serve(g_s), s | 1.2 | 0.0 | 0.0 | 3.9 | 0.0 | 0.0 | 0.0 | 0.0 | 5.0 | 0.0 | 0.0 | 0.5 |
| Cycle Q Clear(g_c), s | 1.2 | 0.0 | 0.0 | 3.9 | 0.0 | 0.0 | 35.8 | 0.0 | 5.0 | 35.8 | 0.0 | 0.5 |
| Prop In Lane | 1.00 | | 0.24 | 1.00 | | 0.01 | 0.99 | | 1.00 | 0.60 | | 1.00 |
| Lane Grp Cap(c), veh/h | 27 | 1838 | 962 | 76 | 1932 | 1058 | 60 | 0 | 466 | 69 | 0 | 465 |
| V/C Ratio(X) | 0.67 | 0.47 | 0.47 | 0.78 | 0.29 | 0.29 | 1.65 | 0.00 | 0.19 | 0.07 | 0.00 | 0.02 |
| Avail Cap(c_a), veh/h | 131 | 1838 | 962 | 205 | 1932 | 1058 | 60 | 0 | 466 | 69 | 0 | 465 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.94 | 0.94 | 0.94 | 0.77 | 0.77 | 0.77 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 57.9 | 0.0 | 0.0 | 54.4 | 0.0 | 0.0 | 59.8 | 0.0 | 31.3 | 34.6 | 0.0 | 29.7 |
| Incr Delay (d2), s/veh | 9.7 | 0.8 | 1.5 | 5.0 | 0.3 | 0.5 | 353.8 | 0.0 | 0.1 | 0.2 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.6 | 0.2 | 0.4 | 1.8 | 0.1 | 0.2 | 7.8 | 0.0 | 1.9 | 0.1 | 0.0 | 0.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 67.6 | 0.8 | 1.5 | 59.3 | 0.3 | 0.5 | 413.7 | 0.0 | 31.4 | 34.7 | 0.0 | 29.7 |
| LnGrp LOS | E | A | A | E | A | A | F | A | C | C | A | C |
| Approach Vol, veh/h | | 1326 | | | 929 | | | 187 | | | 15 | |
| Approach Delay, s/veh | | 2.0 | | | 4.1 | | | 233.8 | | | 31.4 | |
| Approach LOS | | A | | | A | | | F | | | C | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 9.3 | 70.1 | | 40.6 | 6.0 | 73.4 | | 40.6 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | | * 4.8 | * 4.2 | 5.3 | | * 4.8 | | | | |
| Max Green Setting (Gmax), s | * 14 | 56.7 | | * 36 | * 8.8 | 61.7 | | * 35 | | | | |
| Max Q Clear Time (g_c+I1), s | 5.9 | 2.0 | | 37.8 | 3.2 | 2.0 | | 37.8 | | | | |
| Green Ext Time (p_c), s | 0.0 | 9.3 | | 0.0 | 0.0 | 10.1 | | 0.0 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 20.6 | |
| HCM 6th LOS | C | |

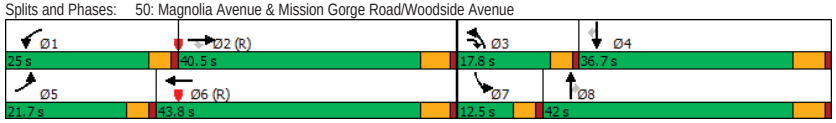
| Notes |
|---|
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 290 | 644 | 269 | 453 | 544 | 171 | 209 | 832 | 432 | 154 | 514 | 162 |
| Future Volume (vph) | 290 | 644 | 269 | 453 | 544 | 171 | 209 | 832 | 432 | 154 | 514 | 162 |
| Confl. Peds. (#/hr) | | | 2 | | | 9 | | | 13 | | | 1 |
| Confl. Bikes (#/hr) | | | 2 | | | 1 | | | 3 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | | | | 8 | | | 4 |
| Detector Phase | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | 8 | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 4.0 | 4.0 | 10.0 | | 4.0 | 7.0 | 7.0 | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 38.3 | 8.2 | 8.2 | 35.3 | | 8.2 | 34.7 | 34.7 | 8.2 | 35.7 | 35.7 |
| Total Split (s) | 21.7 | 40.5 | 17.8 | 25.0 | 43.8 | | 17.8 | 42.0 | 42.0 | 12.5 | 36.7 | 36.7 |
| Total Split (%) | 18.1% | 33.8% | 14.8% | 20.8% | 36.5% | | 14.8% | 35.0% | 35.0% | 10.4% | 30.6% | 30.6% |
| Yellow Time (s) | 3.2 | 4.3 | 3.2 | 3.2 | 4.3 | | 3.2 | 4.7 | 4.7 | 3.2 | 4.7 | 4.7 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | 4.2 | 4.2 | 5.3 | | 4.2 | 5.7 | 5.7 | 4.2 | 5.7 | 5.7 |
| Lead/Lag | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | C-Min | None | None | C-Min | | None | None | None | None | None | None |

**Intersection Summary**

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 71 (59%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 105
Control Type: Actuated-Coordinated

Splits and Phases: 50: Magnolia Avenue & Mission Gorge Road/Woodside Avenue








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 290 | 644 | 269 | 453 | 544 | 171 | 209 | 832 | 432 | 154 | 514 | 162 |
| Future Volume (veh/h) | 290 | 644 | 269 | 453 | 544 | 171 | 209 | 832 | 432 | 154 | 514 | 162 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 315 | 700 | 292 | 492 | 591 | 186 | 227 | 904 | 470 | 167 | 559 | 176 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 369 | 1113 | 621 | 548 | 966 | 303 | 287 | 1075 | 467 | 221 | 1007 | 449 |
| Arrive On Green | 0.21 | 0.63 | 0.63 | 0.16 | 0.37 | 0.37 | 0.03 | 0.10 | 0.10 | 0.06 | 0.28 | 0.28 |
| Sat Flow, veh/h | 3456 | 3554 | 1561 | 3456 | 2647 | 831 | 3456 | 3554 | 1543 | 3456 | 3554 | 1583 |
| Grp Volume(v), veh/h | 315 | 700 | 292 | 492 | 396 | 381 | 227 | 904 | 470 | 167 | 559 | 176 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1561 | 1728 | 1777 | 1701 | 1728 | 1777 | 1543 | 1728 | 1777 | 1583 |
| Q Serve(g_s), s | 10.5 | 14.6 | 11.8 | 16.8 | 21.9 | 22.0 | 7.8 | 30.0 | 36.3 | 5.7 | 16.1 | 10.8 |
| Cycle Q Clear(g_c), s | 10.5 | 14.6 | 11.8 | 16.8 | 21.9 | 22.0 | 7.8 | 30.0 | 36.3 | 5.7 | 16.1 | 10.8 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.49 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 369 | 1113 | 621 | 548 | 649 | 621 | 287 | 1075 | 467 | 221 | 1007 | 449 |
| V/C Ratio(X) | 0.85 | 0.63 | 0.47 | 0.90 | 0.61 | 0.61 | 0.79 | 0.84 | 1.01 | 0.75 | 0.55 | 0.39 |
| Avail Cap(c_a), veh/h | 504 | 1113 | 621 | 599 | 649 | 621 | 392 | 1075 | 467 | 239 | 1007 | 449 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.94 | 0.94 | 0.94 | 1.00 | 1.00 | 1.00 | 0.82 | 0.82 | 0.82 | 0.95 | 0.95 | 0.95 |
| Uniform Delay (d), s/veh | 46.3 | 18.1 | 13.8 | 49.5 | 31.1 | 31.2 | 57.3 | 51.2 | 54.0 | 55.2 | 36.6 | 34.7 |
| Incr Delay (d2), s/veh | 7.5 | 2.5 | 2.4 | 14.7 | 4.3 | 4.5 | 4.2 | 5.3 | 39.5 | 9.7 | 0.8 | 0.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 4.4 | 4.6 | 3.3 | 8.2 | 9.8 | 9.5 | 3.7 | 15.0 | 20.1 | 2.7 | 6.8 | 4.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 53.8 | 20.7 | 16.2 | 64.2 | 35.4 | 35.6 | 61.5 | 56.4 | 93.5 | 64.9 | 37.3 | 35.3 |
| LnGrp LOS | D | C | B | E | D | D | E | E | F | E | D | D |
| Approach Vol, veh/h | | 1307 | | | 1269 | | | 1601 | | | 902 | |
| Approach Delay, s/veh | | 27.6 | | | 46.7 | | | 68.1 | | | 42.0 | |
| Approach LOS | | C | | | D | | | E | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 23.2 | 42.9 | 14.2 | 39.7 | 17.0 | 49.1 | 11.9 | 42.0 |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | * 4.2 | 5.7 | * 4.2 | 5.3 | * 4.2 | 5.7 |
| Max Green Setting (Gmax), s | * 21 | 35.2 | * 14 | 31.0 | * 18 | 38.5 | * 8.3 | 36.3 |
| Max Q Clear Time (g_c+I1), s | 18.8 | 16.6 | 9.8 | 18.1 | 12.5 | 24.0 | 7.7 | 38.3 |
| Green Ext Time (p_c), s | 0.3 | 6.5 | 0.1 | 4.1 | 0.3 | 6.3 | 0.0 | 0.0 |

**Intersection Summary**

| | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 47.7 | |
| HCM 6th LOS | | D | |

**Notes**

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 16 |
| Intersection LOS | C |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 30 | 237 | 215 | 1 | 0 | 176 | 0 | 0 | 10 | 485 | 7 |
| Future Vol, veh/h | 0 | 30 | 237 | 215 | 1 | 0 | 176 | 0 | 0 | 10 | 485 | 7 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 33 | 258 | 234 | 1 | 0 | 191 | 0 | 0 | 11 | 527 | 8 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 2 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay | 15.2 | 15.8 | 16 | 16.4 |
| HCM LOS | C | C | C | C |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 100% | 4% | 0% |
| Vol Thru, % | 0% | 100% | 11% | 0% | 96% | 97% |
| Vol Right, % | 0% | 0% | 89% | 0% | 0% | 3% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 176 | 0 | 267 | 216 | 253 | 250 |
| LT Vol | 176 | 0 | 0 | 215 | 10 | 0 |
| Through Vol | 0 | 0 | 30 | 1 | 243 | 243 |
| RT Vol | 0 | 0 | 237 | 0 | 0 | 7 |
| Lane Flow Rate | 191 | 0 | 290 | 235 | 274 | 271 |
| Geometry Grp | 7 | 7 | 2 | 2 | 7 | 7 |
| Degree of Util (X) | 0.415 | 0 | 0.497 | 0.456 | 0.515 | 0.506 |
| Departure Headway (Hd) | 7.813 | 7.298 | 6.171 | 6.987 | 6.758 | 6.718 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 461 | 0 | 583 | 514 | 532 | 537 |
| Service Time | 5.569 | 5.054 | 4.219 | 5.038 | 4.506 | 4.466 |
| HCM Lane V/C Ratio | 0.414 | 0 | 0.497 | 0.457 | 0.515 | 0.505 |
| HCM Control Delay | 16 | 10.1 | 15.2 | 15.8 | 16.5 | 16.2 |
| HCM Lane LOS | C | N | C | C | C | C |
| HCM 95th-tile Q | 2 | 0 | 2.8 | 2.4 | 2.9 | 2.8 |

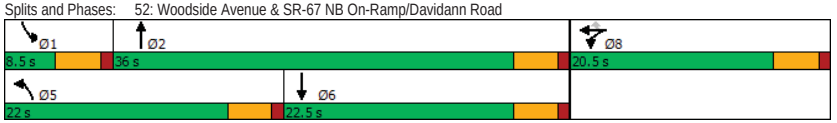




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 0 | 27 | 1 | 8 | 359 | 555 | 58 | 1 | 183 | 2 |
| Future Volume (vph) | 0 | 0 | 0 | 27 | 1 | 8 | 359 | 555 | 58 | 1 | 183 | 2 |
| Confl. Peds. (#/hr) | | | 2 | | | | | | 2 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 2 | | | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | | | | Split | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | | | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | 8 | | | | | | |
| Detector Phase | | | | 8 | 8 | 8 | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | | | | 20.5 | 20.5 | 20.5 | 8.5 | 22.5 | | 8.5 | 22.5 | |
| Total Split (s) | | | | 20.5 | 20.5 | 20.5 | 22.0 | 36.0 | | 8.5 | 22.5 | |
| Total Split (%) | | | | 31.5% | 31.5% | 31.5% | 33.8% | 55.4% | | 13.1% | 34.6% | |
| Yellow Time (s) | | | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | | | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | | | | | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | | | | | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | | | | None | None | None | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 65 |
| Actuated Cycle Length: 38.9 |
| Natural Cycle: 65 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 52: Woodside Avenue & SR-67 NB On-Ramp/Davidann Road



Existing PM
52: Woodside Avenue & SR-67 NB On-Ramp/Davidann Road

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 27 | 1 | 8 | 359 | 555 | 58 | 1 | 183 | 2 |
| Future Volume (veh/h) | 0 | 0 | 0 | 27 | 1 | 8 | 359 | 555 | 58 | 1 | 183 | 2 |
| Initial Q (Qb), veh | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | | | 1.00 | | 1.00 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | | | | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | | | | 29 | 1 | 9 | 390 | 603 | 63 | 1 | 199 | 2 |
| Peak Hour Factor | | | | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | | | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | | | | 64 | 2 | 59 | 509 | 844 | 88 | 6 | 414 | 4 |
| Arrive On Green | | | | 0.04 | 0.04 | 0.04 | 0.29 | 0.51 | 0.51 | 0.00 | 0.22 | 0.22 |
| Sat Flow, veh/h | | | | 1725 | 59 | 1585 | 1781 | 1661 | 174 | 1781 | 1848 | 19 |
| Grp Volume(v), veh/h | | | | 30 | 0 | 9 | 390 | 0 | 666 | 1 | 0 | 201 |
| Grp Sat Flow(s),veh/h/ln | | | | 1784 | 0 | 1585 | 1781 | 0 | 1834 | 1781 | 0 | 1866 |
| Q Serve(g_s), s | | | | 0.5 | 0.0 | 0.2 | 6.0 | 0.0 | 8.3 | 0.0 | 0.0 | 2.8 |
| Cycle Q Clear(g_c), s | | | | 0.5 | 0.0 | 0.2 | 6.0 | 0.0 | 8.3 | 0.0 | 0.0 | 2.8 |
| Prop In Lane | | | | 0.97 | | 1.00 | 1.00 | | 0.09 | 1.00 | | 0.01 |
| Lane Grp Cap(c), veh/h | | | | 66 | 0 | 59 | 509 | 0 | 933 | 6 | 0 | 418 |
| V/C Ratio(X) | | | | 0.45 | 0.00 | 0.15 | 0.77 | 0.00 | 0.71 | 0.17 | 0.00 | 0.48 |
| Avail Cap(c_a), veh/h | | | | 959 | 0 | 852 | 1047 | 0 | 1940 | 239 | 0 | 1128 |
| HCM Platoon Ratio | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | | | | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | | | | 14.0 | 0.0 | 13.9 | 9.7 | 0.0 | 5.6 | 14.8 | 0.0 | 10.0 |
| Incr Delay (d2), s/veh | | | | 4.8 | 0.0 | 1.2 | 2.5 | 0.0 | 1.0 | 12.6 | 0.0 | 0.9 |
| Initial Q Delay(d3),s/veh | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | | 0.2 | 0.0 | 0.1 | 1.9 | 0.0 | 1.5 | 0.0 | 0.0 | 0.9 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | 18.8 | 0.0 | 15.1 | 12.2 | 0.0 | 6.7 | 27.5 | 0.0 | 10.9 |
| LnGrp LOS | | | | B | A | B | B | A | A | C | A | B |
| Approach Vol, veh/h | | | | | 39 | | | 1056 | | | 202 | |
| Approach Delay, s/veh | | | | | 18.0 | | | 8.7 | | | 11.0 | |
| Approach LOS | | | | | B | | | A | | | B | |

| Timer - Assigned Phs | 1 | 2 | | | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 4.5 | 19.6 | | | 13.0 | 11.2 | | 5.6 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 4.0 | 31.5 | | | 17.5 | 18.0 | | 16.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.0 | 10.3 | | | 8.0 | 4.8 | | 2.5 | | | | |
| Green Ext Time (p_c), s | 0.0 | 4.8 | | | 0.9 | 0.8 | | 0.1 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 9.3 |
| HCM 6th LOS | | A |

HCM 6th Signalized Intersection Summary
N:\2462\Analysis\Intersections\Synchro\2 Existing PM.syn

Existing PM
53: Fanita Drive & SR 52 WB Off Ramp

Fanita Ranch
06/06/2019

| Intersection | |
|---|---|
| Int Delay, s/veh | 4.7 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 147 | 370 | 321 | 0 | 0 | 721 |
| Future Vol, veh/h | 147 | 370 | 321 | 0 | 0 | 721 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 1 | 1 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | 300 | - | - | - | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 160 | 402 | 349 | 0 | 0 | 784 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 741 | 175 | 0 | - | - | - |
| Stage 1 | 349 | - | - | - | - | - |
| Stage 2 | 392 | - | - | - | - | - |
| Critical Hdwy | 6.84 | 6.94 | - | - | - | - |
| Critical Hdwy Stg 1 | 5.84 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.84 | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 3.32 | - | - | - | - |
| Pot Cap-1 Maneuver | 352 | 838 | - | 0 | 0 | - |
| Stage 1 | 685 | - | - | 0 | 0 | - |
| Stage 2 | 652 | - | - | 0 | 0 | - |
| Platoon blocked, % | | | - | | | - |
| Mov Cap-1 Maneuver | 352 | 838 | - | - | - | - |
| Mov Cap-2 Maneuver | 465 | - | - | - | - | - |
| Stage 1 | 685 | - | - | - | - | - |
| Stage 2 | 652 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 14.2 | 0 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBT | WBLn1 | WBLn2 | SBT |
|---|---|---|---|---|
| Capacity (veh/h) | - | 465 | 838 | - |
| HCM Lane V/C Ratio | - | 0.344 | 0.48 | - |
| HCM Control Delay (s) | - | 16.7 | 13.2 | - |
| HCM Lane LOS | - | C | B | - |
| HCM 95th %tile Q(veh) | - | 1.5 | 2.6 | - |

HCM 6th TWSC
N:\2462\Analysis\Intersections\Synchro\2 Existing PM.syn

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 321 | 85 | 350 | 518 |
| Future Volume (Veh/h) | 0 | 0 | 321 | 85 | 350 | 518 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 0 | 349 | 92 | 380 | 563 |
| Pedestrians | 1 | | | | | |
| Lane Width (ft) | 0.0 | | | | | |
| Walking Speed (ft/s) | 4.0 | | | | | |
| Percent Blockage | 0 | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | 769 | | | 1029 |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 1438 | 222 | | | 442 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 1438 | 222 | | | 442 | |
| tC, single (s) | 6.8 | 6.9 | | | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 100 | 100 | | | 66 | |
| cM capacity (veh/h) | 82 | 782 | | | 1114 | |

| Direction, Lane # | NB 1 | NB 2 | SB 1 | SB 2 | SB 3 |
|---|---|---|---|---|---|
| Volume Total | 233 | 208 | 380 | 282 | 282 |
| Volume Left | 0 | 0 | 380 | 0 | 0 |
| Volume Right | 0 | 92 | 0 | 0 | 0 |
| cSH | 1700 | 1700 | 1114 | 1700 | 1700 |
| Volume to Capacity | 0.14 | 0.12 | 0.34 | 0.17 | 0.17 |
| Queue Length 95th (ft) | 0 | 0 | 38 | 0 | 0 |
| Control Delay (s) | 0.0 | 0.0 | 9.9 | 0.0 | 0.0 |
| Lane LOS | | | A | | |
| Approach Delay (s) | 0.0 | | 4.0 | | |
| Approach LOS | | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | | 2.7 | |
| Intersection Capacity Utilization | | 38.6% | ICU Level of Service A |
| Analysis Period (min) | | 15 | |

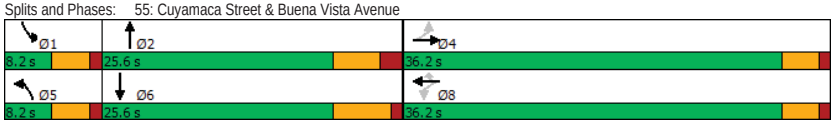




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 28 | 4 | 47 | 179 | 4 | 41 | 20 | 1643 | 208 | 50 | 1547 | 15 |
| Future Volume (vph) | 28 | 4 | 47 | 179 | 4 | 41 | 20 | 1643 | 208 | 50 | 1547 | 15 |
| Confl. Peds. (#/hr) | | | 5 | | | 11 | | | 14 | | | 3 |
| Confl. Bikes (#/hr) | | | 1 | | | 1 | | | 2 | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Perm | NA | | Perm | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | 8 | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | 8 | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 10.0 | | 4.0 | 10.0 | |
| Minimum Split (s) | 36.2 | 36.2 | | 34.2 | 34.2 | 34.2 | 8.2 | 24.0 | | 8.2 | 24.0 | |
| Total Split (s) | 36.2 | 36.2 | | 36.2 | 36.2 | 36.2 | 8.2 | 25.6 | | 8.2 | 25.6 | |
| Total Split (%) | 51.7% | 51.7% | | 51.7% | 51.7% | 51.7% | 11.7% | 36.6% | | 11.7% | 36.6% | |
| Yellow Time (s) | 3.2 | 3.2 | | 3.2 | 3.2 | 3.2 | 3.2 | 4.0 | | 3.2 | 4.9 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 2.0 | | 1.0 | 1.1 | |
| Lost Time Adjust (s) | | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | | 4.2 | | | 4.2 | 4.2 | 4.2 | 6.0 | | 4.2 | 6.0 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | None | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 70 |
| Actuated Cycle Length: 52.7 |
| Natural Cycle: 90 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 55: Cuyamaca Street & Buena Vista Avenue



Existing PM
55: Cuyamaca Street & Buena Vista Avenue

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 28 | 4 | 47 | 179 | 4 | 41 | 20 | 1643 | 208 | 50 | 1547 | 15 |
| Future Volume (veh/h) | 28 | 4 | 47 | 179 | 4 | 41 | 20 | 1643 | 208 | 50 | 1547 | 15 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 0.99 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.96 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 30 | 4 | 51 | 195 | 4 | 45 | 22 | 1786 | 226 | 54 | 1682 | 16 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 146 | 53 | 152 | 437 | 8 | 426 | 37 | 1798 | 226 | 75 | 2162 | 21 |
| Arrive On Green | 0.28 | 0.28 | 0.28 | 0.28 | 0.28 | 0.28 | 0.02 | 0.39 | 0.39 | 0.04 | 0.41 | 0.41 |
| Sat Flow, veh/h | 174 | 193 | 551 | 1069 | 28 | 1546 | 1781 | 4570 | 574 | 1781 | 5214 | 50 |
| Grp Volume(v), veh/h | 85 | 0 | 0 | 199 | 0 | 45 | 22 | 1327 | 685 | 54 | 1098 | 600 |
| Grp Sat Flow(s),veh/h/ln | 918 | 0 | 0 | 1097 | 0 | 1546 | 1781 | 1702 | 1739 | 1781 | 1702 | 1860 |
| Q Serve(g_s), s | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 1.1 | 0.6 | 19.3 | 19.6 | 1.5 | 13.9 | 13.9 |
| Cycle Q Clear(g_c), s | 9.5 | 0.0 | 0.0 | 9.2 | 0.0 | 1.1 | 0.6 | 19.3 | 19.6 | 1.5 | 13.9 | 13.9 |
| Prop In Lane | 0.35 | | 0.60 | 0.98 | | 1.00 | 1.00 | | 0.33 | 1.00 | | 0.03 |
| Lane Grp Cap(c), veh/h | 350 | 0 | 0 | 445 | 0 | 426 | 37 | 1339 | 684 | 75 | 1411 | 771 |
| V/C Ratio(X) | 0.24 | 0.00 | 0.00 | 0.45 | 0.00 | 0.11 | 0.59 | 0.99 | 1.00 | 0.72 | 0.78 | 0.78 |
| Avail Cap(c_a), veh/h | 896 | 0 | 0 | 941 | 0 | 993 | 143 | 1339 | 684 | 143 | 1411 | 771 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 14.1 | 0.0 | 0.0 | 16.4 | 0.0 | 13.5 | 24.2 | 15.0 | 15.1 | 23.6 | 12.6 | 12.6 |
| Incr Delay (d2), s/veh | 0.1 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 | 5.3 | 22.4 | 34.6 | 4.7 | 3.0 | 5.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.7 | 0.0 | 0.0 | 1.8 | 0.0 | 0.3 | 0.3 | 9.9 | 12.6 | 0.7 | 4.6 | 5.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 14.3 | 0.0 | 0.0 | 16.7 | 0.0 | 13.5 | 29.5 | 37.4 | 49.7 | 28.3 | 15.6 | 18.0 |
| LnGrp LOS | B | A | A | B | A | B | C | D | F | C | B | B |
| Approach Vol, veh/h | | 85 | | | 244 | | | 2034 | | | 1752 | |
| Approach Delay, s/veh | | 14.3 | | | 16.1 | | | 41.5 | | | 16.8 | |
| Approach LOS | | B | | | B | | | D | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 6.3 | 25.6 | | 18.0 | 5.2 | 26.7 | | 18.0 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 6.0 | | * 4.2 | * 4.2 | * 6 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | * 4 | 19.6 | | * 32 | * 4 | * 20 | | * 32 | | | | |
| Max Q Clear Time (g_c+I1), s | 3.5 | 21.6 | | 11.5 | 2.6 | 15.9 | | 11.2 | | | | |
| Green Ext Time (p_c), s | 0.0 | 0.0 | | 0.3 | 0.0 | 3.3 | | 0.8 | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | | 28.9 |
| HCM 6th LOS | | | C |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



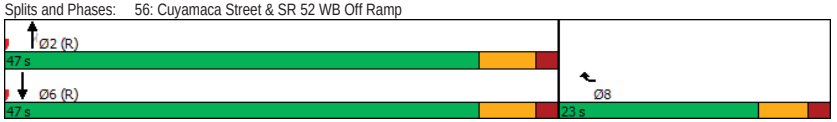
Existing PM
56: Cuyamaca Street & SR 52 WB Off Ramp

Fanita Ranch
06/06/2019

| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 603 | 1104 | 324 | 0 | 1639 |
| Future Volume (vph) | 0 | 603 | 1104 | 324 | 0 | 1639 |
| Confl. Peds. (#/hr) | | | | 4 | | |
| Confl. Bikes (#/hr) | | | | 3 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | 0% | | | 0% |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | | Prot | NA | Perm | | NA |
| Protected Phases | | 8 | 2 | | | 6 |
| Permitted Phases | | | | 2 | | |
| Detector Phase | | 8 | 2 | 2 | | 6 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | | 5.0 | 14.0 | 14.0 | | 14.0 |
| Minimum Split (s) | | 20.0 | 45.8 | 45.8 | | 20.8 |
| Total Split (s) | | 23.0 | 47.0 | 47.0 | | 47.0 |
| Total Split (%) | | 32.9% | 67.1% | 67.1% | | 67.1% |
| Yellow Time (s) | | 4.1 | 4.8 | 4.8 | | 4.8 |
| All-Red Time (s) | | 2.0 | 2.0 | 2.0 | | 2.0 |
| Lost Time Adjust (s) | | 0.0 | 0.0 | 0.0 | | 0.0 |
| Total Lost Time (s) | | 6.1 | 6.8 | 6.8 | | 6.8 |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | | None | C-Max | C-Max | | C-Max |

| Intersection Summary |
|---|
| Cycle Length: 70 |
| Actuated Cycle Length: 70 |
| Offset: 22 (31%), Referenced to phase 2:NBT and 6:SBT, Start of Green |
| Natural Cycle: 70 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 56: Cuyamaca Street & SR 52 WB Off Ramp



Existing PM
56: Cuyamaca Street & SR 52 WB Off Ramp

Fanita Ranch
06/06/2019

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 603 | 1104 | 324 | 0 | 1639 |
| Future Volume (veh/h) | 0 | 603 | 1104 | 324 | 0 | 1639 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | | 0.98 | 1.00 | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | No | | | No |
| Adj Sat Flow, veh/h/ln | 0 | 1870 | 1870 | 1870 | 0 | 1870 |
| Adj Flow Rate, veh/h | 0 | 655 | 1200 | 352 | 0 | 1782 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 0 | 2 | 2 | 2 | 0 | 2 |
| Cap, veh/h | 0 | 0 | 4610 | 1398 | 0 | 4610 |
| Arrive On Green | 0.00 | 0.00 | 0.30 | 0.30 | 0.00 | 0.90 |
| Sat Flow, veh/h | 0 | | 5274 | 1548 | 0 | 5443 |
| Grp Volume(v), veh/h | 0.0 | | 1200 | 352 | 0 | 1782 |
| Grp Sat Flow(s),veh/h/ln | | | 1702 | 1548 | 0 | 1702 |
| Q Serve(g_s), s | | | 12.5 | 12.1 | 0.0 | 3.6 |
| Cycle Q Clear(g_c), s | | | 12.5 | 12.1 | 0.0 | 3.6 |
| Prop In Lane | | | | 1.00 | 0.00 | |
| Lane Grp Cap(c), veh/h | | | 4610 | 1398 | 0 | 4610 |
| V/C Ratio(X) | | | 0.26 | 0.25 | 0.00 | 0.39 |
| Avail Cap(c_a), veh/h | | | 4610 | 1398 | 0 | 4610 |
| HCM Platoon Ratio | | | 0.33 | 0.33 | 1.00 | 1.00 |
| Upstream Filter(I) | | | 1.00 | 1.00 | 0.00 | 0.70 |
| Uniform Delay (d), s/veh | | | 6.8 | 6.6 | 0.0 | 0.5 |
| Incr Delay (d2), s/veh | | | 0.1 | 0.4 | 0.0 | 0.2 |
| Initial Q Delay(d3),s/veh | | | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | 0.5 | 0.2 | 0.0 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | | | 6.9 | 7.1 | 0.0 | 0.7 |
| LnGrp LOS | | | A | A | A | A |
| Approach Vol, veh/h | | | 1552 | | | 1782 |
| Approach Delay, s/veh | | | 7.0 | | | 0.7 |
| Approach LOS | | | A | | | A |

| Timer - Assigned Phs | | 2 | | | | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 70.0 | | | | 70.0 |
| Change Period (Y+Rc), s | | 6.8 | | | | 6.8 |
| Max Green Setting (Gmax), s | | 40.2 | | | | 40.2 |
| Max Q Clear Time (g_c+I1), s | | 14.5 | | | | 5.6 |
| Green Ext Time (p_c), s | | 11.2 | | | | 18.8 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 3.6 |
| HCM 6th LOS | A |



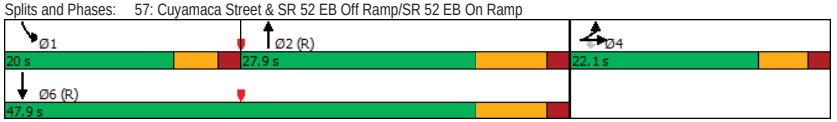
Existing PM
57: Cuyamaca Street & SR 52 EB Off Ramp/SR 52 EB On Ramp

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 599 | 5 | 343 | 0 | 0 | 0 | 0 | 829 | 211 | 593 | 541 | 0 |
| Future Volume (vph) | 599 | 5 | 343 | 0 | 0 | 0 | 0 | 829 | 211 | 593 | 541 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | | | | 9 | | | 13 |
| Confl. Bikes (#/hr) | | | | | | | | | 2 | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | 50% | | | | | | | | | | | |
| Turn Type | Split | NA | Perm | | | | | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | | | | | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | | | | |
| Detector Phase | 4 | 4 | 4 | | | | | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | | | | | 11.0 | | 5.0 | 12.0 | |
| Minimum Split (s) | 22.1 | 22.1 | 22.1 | | | | | 27.0 | | 10.7 | 32.0 | |
| Total Split (s) | 22.1 | 22.1 | 22.1 | | | | | 27.9 | | 20.0 | 47.9 | |
| Total Split (%) | 31.6% | 31.6% | 31.6% | | | | | 39.9% | | 28.6% | 68.4% | |
| Yellow Time (s) | 4.1 | 4.1 | 4.1 | | | | | 6.0 | | 3.7 | 6.0 | |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | | | | | 2.0 | | 2.0 | 2.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | | | | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 6.1 | 6.1 | 6.1 | | | | | 8.0 | | 5.7 | 8.0 | |
| Lead/Lag | | | | | | | | Lag | | Lead | | |
| Lead-Lag Optimize? | | | | | | | | Yes | | Yes | | |
| Recall Mode | None | None | None | | | | | C-Min | | None | C-Min | |

| Intersection Summary |
|---|
| Cycle Length: 70 |
| Actuated Cycle Length: 70 |
| Offset: 10 (14%), Referenced to phase 2:NBT and 6:SBT, Start of Green |
| Natural Cycle: 70 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 57: Cuyamaca Street & SR 52 EB Off Ramp/SR 52 EB On Ramp



Existing PM
57: Cuyamaca Street & SR 52 EB Off Ramp/SR 52 EB On Ramp

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 599 | 5 | 343 | 0 | 0 | 0 | 0 | 829 | 211 | 593 | 541 | 0 |
| Future Volume (veh/h) | 599 | 5 | 343 | 0 | 0 | 0 | 0 | 829 | 211 | 593 | 541 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | | | | 1.00 | | 0.98 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | | | | 0 | 1870 | 1870 | 1870 | 1870 | 0 |
| Adj Flow Rate, veh/h | 655 | 0 | 336 | | | | 0 | 901 | 206 | 645 | 588 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | | | | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | | | | 0 | 2 | 2 | 2 | 2 | 0 |
| Cap, veh/h | 814 | 0 | 361 | | | | 0 | 1176 | 268 | 706 | 2026 | 0 |
| Arrive On Green | 0.23 | 0.00 | 0.23 | | | | 0.00 | 0.09 | 0.09 | 0.07 | 0.19 | 0.00 |
| Sat Flow, veh/h | 3563 | 0 | 1581 | | | | 0 | 4306 | 941 | 3456 | 3647 | 0 |
| Grp Volume(v), veh/h | 655 | 0 | 336 | | | | 0 | 740 | 367 | 645 | 588 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1581 | | | | 0 | 1702 | 1675 | 1728 | 1777 | 0 |
| Q Serve(g_s), s | 12.2 | 0.0 | 14.6 | | | | 0.0 | 14.9 | 15.0 | 13.0 | 9.9 | 0.0 |
| Cycle Q Clear(g_c), s | 12.2 | 0.0 | 14.6 | | | | 0.0 | 14.9 | 15.0 | 13.0 | 9.9 | 0.0 |
| Prop In Lane | 1.00 | | 1.00 | | | | 0.00 | | 0.56 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 814 | 0 | 361 | | | | 0 | 968 | 476 | 706 | 2026 | 0 |
| V/C Ratio(X) | 0.80 | 0.00 | 0.93 | | | | 0.00 | 0.77 | 0.77 | 0.91 | 0.29 | 0.00 |
| Avail Cap(c_a), veh/h | 814 | 0 | 361 | | | | 0 | 968 | 476 | 706 | 2026 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | | | | 1.00 | 0.33 | 0.33 | 0.33 | 0.33 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | | | | 0.00 | 0.91 | 0.91 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | 25.5 | 0.0 | 26.5 | | | | 0.0 | 29.4 | 29.5 | 32.0 | 16.3 | 0.0 |
| Incr Delay (d2), s/veh | 5.9 | 0.0 | 30.1 | | | | 0.0 | 5.3 | 10.5 | 16.1 | 0.4 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 5.5 | 0.0 | 8.2 | | | | 0.0 | 7.3 | 7.9 | 7.5 | 4.3 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 31.4 | 0.0 | 56.5 | | | | 0.0 | 34.7 | 39.9 | 48.1 | 16.6 | 0.0 |
| LnGrp LOS | C | A | E | | | | A | C | D | D | B | A |
| Approach Vol, veh/h | | 991 | | | | | | 1107 | | | 1233 | |
| Approach Delay, s/veh | | 39.9 | | | | | | 36.4 | | | 33.1 | |
| Approach LOS | | D | | | | | | D | | | C | |

| Timer - Assigned Phs | 1 | 2 | 4 | 6 |
|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 20.0 | 27.9 | 22.1 | 47.9 |
| Change Period (Y+Rc), s | * 5.7 | 8.0 | 6.1 | 8.0 |
| Max Green Setting (Gmax), s | * 14 | 19.9 | 16.0 | 39.9 |
| Max Q Clear Time (g_c+I1), s | 15.0 | 17.0 | 16.6 | 11.9 |
| Green Ext Time (p_c), s | 0.0 | 1.9 | 0.0 | 4.1 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 36.2 |
| HCM 6th LOS | D |

Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
N:\2462\Analysis\Intersections\Synchro\2 Existing PM.syn

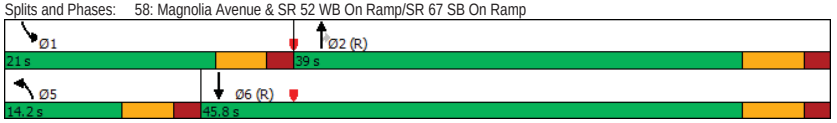
Existing PM
58: Magnolia Avenue & SR 52 WB On Ramp/SR 67 SB On Ramp

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 218 | 1443 | 134 | 556 | 568 | 318 |
| Future Volume (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 218 | 1443 | 134 | 556 | 568 | 318 |
| Confl. Peds. (#/hr) | | | | | | | | | 2 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | | | | | | | Prot | NA | Perm | Prot | NA | |
| Protected Phases | | | | | | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | | | 2 | | | |
| Detector Phase | | | | | | | 5 | 2 | 2 | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | | | | | | 5.0 | 6.0 | 6.0 | 5.0 | 7.0 | |
| Minimum Split (s) | | | | | | | 10.7 | 38.4 | 38.4 | 10.7 | 39.4 | |
| Total Split (s) | | | | | | | 14.2 | 39.0 | 39.0 | 21.0 | 45.8 | |
| Total Split (%) | | | | | | | 23.7% | 65.0% | 65.0% | 35.0% | 76.3% | |
| Yellow Time (s) | | | | | | | 3.7 | 4.4 | 4.4 | 3.7 | 4.4 | |
| All-Red Time (s) | | | | | | | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | |
| Lost Time Adjust (s) | | | | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | | | | | | | 5.7 | 6.4 | 6.4 | 5.7 | 6.4 | |
| Lead/Lag | | | | | | | Lead | Lag | Lag | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | Yes | Yes | Yes | |
| Recall Mode | | | | | | | None | C-Max | C-Max | None | C-Max | |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 60 |
| Offset: 17 (28%), Referenced to phase 2:NBT and 6:SBT, Start of Green |
| Natural Cycle: 60 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 58: Magnolia Avenue & SR 52 WB On Ramp/SR 67 SB On Ramp




Timings
N:\2462\Analysis\Intersections\Synchro\2 Existing PM.syn

Existing PM
58: Magnolia Avenue & SR 52 WB On Ramp/SR 67 SB On Ramp

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 0 | 0 | 0 | 218 | 1443 | 134 | 556 | 568 | 318 |
| Future Volume (veh/h) | 0 | 0 | 0 | 0 | 0 | 0 | 218 | 1443 | 134 | 556 | 568 | 318 |
| Initial Q (Qb), veh | | | | | | | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | | | | | | 1.00 | | 1.00 | 1.00 | | 0.98 |
| Parking Bus, Adj | | | | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | | | | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | | | | | | | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | | | | | | | 237 | 1568 | 146 | 604 | 617 | 346 |
| Peak Hour Factor | | | | | | | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | | | | | | | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | | | | | | | 337 | 3032 | 940 | 707 | 1524 | 855 |
| Arrive On Green | | | | | | | 0.19 | 1.00 | 1.00 | 0.34 | 1.00 | 1.00 |
| Sat Flow, veh/h | | | | | | | 3456 | 5106 | 1582 | 3456 | 2174 | 1219 |
| Grp Volume(v), veh/h | | | | | | | 237 | 1568 | 146 | 604 | 504 | 459 |
| Grp Sat Flow(s),veh/h/ln | | | | | | | 1728 | 1702 | 1582 | 1728 | 1777 | 1617 |
| Q Serve(g_s), s | | | | | | | 3.8 | 0.0 | 0.0 | 9.8 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | | | | | | | 3.8 | 0.0 | 0.0 | 9.8 | 0.0 | 0.0 |
| Prop In Lane | | | | | | | 1.00 | | 1.00 | 1.00 | | 0.75 |
| Lane Grp Cap(c), veh/h | | | | | | | 337 | 3032 | 940 | 707 | 1245 | 1133 |
| V/C Ratio(X) | | | | | | | 0.70 | 0.52 | 0.16 | 0.85 | 0.40 | 0.40 |
| Avail Cap(c_a), veh/h | | | | | | | 490 | 3032 | 940 | 881 | 1245 | 1133 |
| HCM Platoon Ratio | | | | | | | 2.00 | 2.00 | 2.00 | 1.67 | 1.67 | 1.67 |
| Upstream Filter(I) | | | | | | | 0.42 | 0.42 | 0.42 | 0.71 | 0.71 | 0.71 |
| Uniform Delay (d), s/veh | | | | | | | 23.3 | 0.0 | 0.0 | 18.9 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | | | | | | | 0.4 | 0.3 | 0.1 | 4.2 | 0.7 | 0.8 |
| Initial Q Delay(d3),s/veh | | | | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | | | | | 1.4 | 0.1 | 0.0 | 3.2 | 0.2 | 0.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | | | | 23.8 | 0.3 | 0.1 | 23.1 | 0.7 | 0.8 |
| LnGrp LOS | | | | | | | C | A | A | C | A | A |
| Approach Vol, veh/h | | | | | | | | 1951 | | | 1567 | |
| Approach Delay, s/veh | | | | | | | | 3.1 | | | 9.4 | |
| Approach LOS | | | | | | | | A | | | A | |

| Timer - Assigned Phs | 1 | 2 | | 5 | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 18.0 | 42.0 | | 11.5 | 48.5 |
| Change Period (Y+Rc), s | * 5.7 | 6.4 | | * 5.7 | 6.4 |
| Max Green Setting (Gmax), s | * 15 | 32.6 | | * 8.5 | 39.4 |
| Max Q Clear Time (g_c+I1), s | 11.8 | 2.0 | | 5.8 | 2.0 |
| Green Ext Time (p_c), s | 0.5 | 15.7 | | 0.1 | 6.9 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 5.9 |
| HCM 6th LOS | | A |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



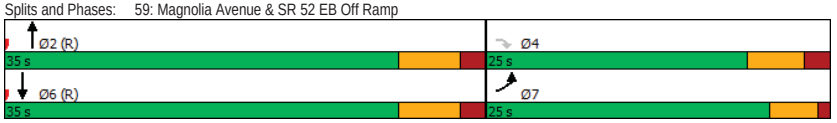
Existing PM
59: Magnolia Avenue & SR 52 EB Off Ramp

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 456 | 458 | 0 | 1350 | 538 | 0 |
| Future Volume (vph) | 456 | 458 | 0 | 1350 | 538 | 0 |
| Confl. Peds. (#/hr) | | | | | | 1 |
| Confl. Bikes (#/hr) | | | | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | | NA | NA | |
| Protected Phases | 7 | | | 2 | 6 | |
| Permitted Phases | | 4 | | | | |
| Detector Phase | 7 | 4 | | 2 | 6 | |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 5.0 | | 5.0 | 5.0 | |
| Minimum Split (s) | 8.5 | 22.1 | | 22.4 | 27.4 | |
| Total Split (s) | 25.0 | 25.0 | | 35.0 | 35.0 | |
| Total Split (%) | 41.7% | 41.7% | | 58.3% | 58.3% | |
| Yellow Time (s) | 3.5 | 4.1 | | 4.4 | 4.4 | |
| All-Red Time (s) | 1.0 | 2.0 | | 2.0 | 2.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 6.1 | | 6.4 | 6.4 | |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | None | None | | C-Max | C-Max | |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 60 |
| Offset: 2 (3%), Referenced to phase 2:NBT and 6:SBT, Start of Green |
| Natural Cycle: 60 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 59: Magnolia Avenue & SR 52 EB Off Ramp



Existing PM
59: Magnolia Avenue & SR 52 EB Off Ramp

Fanita Ranch
06/06/2019

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 456 | 458 | 0 | 1350 | 538 | 0 |
| Future Volume (veh/h) | 456 | 458 | 0 | 1350 | 538 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 0 | 1870 | 1870 | 0 |
| Adj Flow Rate, veh/h | 496 | 498 | 0 | 1467 | 585 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 0 | 2 | 2 | 0 |
| Cap, veh/h | 604 | 537 | 0 | 1704 | 1704 | 0 |
| Arrive On Green | 0.34 | 0.34 | 0.00 | 0.48 | 0.96 | 0.00 |
| Sat Flow, veh/h | 1781 | 1585 | 0 | 3741 | 3741 | 0 |
| Grp Volume(v), veh/h | 496 | 498 | 0 | 1467 | 585 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 0 | 1777 | 1777 | 0 |
| Q Serve(g_s), s | 15.3 | 18.2 | 0.0 | 22.0 | 0.6 | 0.0 |
| Cycle Q Clear(g_c), s | 15.3 | 18.2 | 0.0 | 22.0 | 0.6 | 0.0 |
| Prop In Lane | 1.00 | 1.00 | 0.00 | | | 0.00 |
| Lane Grp Cap(c), veh/h | 604 | 537 | 0 | 1704 | 1704 | 0 |
| V/C Ratio(X) | 0.82 | 0.93 | 0.00 | 0.86 | 0.34 | 0.00 |
| Avail Cap(c_a), veh/h | 609 | 542 | 0 | 1704 | 1704 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 2.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.71 | 0.91 | 0.00 |
| Uniform Delay (d), s/veh | 18.2 | 19.1 | 0.0 | 13.8 | 0.7 | 0.0 |
| Incr Delay (d2), s/veh | 8.8 | 22.2 | 0.0 | 4.3 | 0.5 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 7.1 | 9.2 | 0.0 | 7.4 | 0.2 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 27.0 | 41.3 | 0.0 | 18.2 | 1.2 | 0.0 |
| LnGrp LOS | C | D | A | B | A | A |
| Approach Vol, veh/h | 994 | | | 1467 | 585 | |
| Approach Delay, s/veh | 34.2 | | | 18.2 | 1.2 | |
| Approach LOS | C | | | B | A | |

| Timer - Assigned Phs | 2 | 4 | 6 |
|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 35.2 | 24.8 | 35.2 |
| Change Period (Y+Rc), s | 6.4 | 4.5 | 6.4 |
| Max Green Setting (Gmax), s | 28.6 | 20.5 | 28.6 |
| Max Q Clear Time (g_c+I1), s | 24.0 | 20.2 | 2.6 |
| Green Ext Time (p_c), s | 3.4 | 0.2 | 3.7 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 20.1 |
| HCM 6th LOS | C |



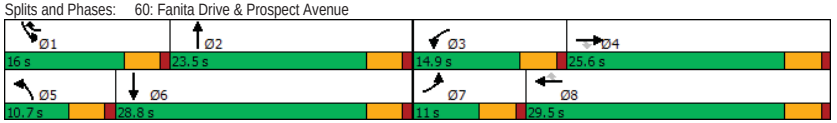
Existing PM
60: Fanita Drive & Prospect Avenue

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 88 | 88 | 37 | 98 | 101 | 142 | 40 | 189 | 85 | 189 | 222 | 104 |
| Future Volume (vph) | 88 | 88 | 37 | 98 | 101 | 142 | 40 | 189 | 85 | 189 | 222 | 104 |
| Confl. Peds. (#/hr) | | | 6 | | | 4 | | | 2 | | | 1 |
| Confl. Bikes (#/hr) | | | 4 | | | 4 | | | 1 | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | pm+ov | Prot | NA | | Prot | NA | |
| Protected Phases | 7 | 4 | | 3 | 8 | 1 | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | | | | |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | 1 | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | 8.5 | 24.5 | 24.5 | 8.5 | 29.5 | 8.5 | 8.5 | 22.5 | | 8.5 | 24.5 | |
| Total Split (s) | 11.0 | 25.6 | 25.6 | 14.9 | 29.5 | 16.0 | 10.7 | 23.5 | | 16.0 | 28.8 | |
| Total Split (%) | 13.8% | 32.0% | 32.0% | 18.6% | 36.9% | 20.0% | 13.4% | 29.4% | | 20.0% | 36.0% | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | None | None | None | None | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 80 |
| Actuated Cycle Length: 58.4 |
| Natural Cycle: 80 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 60: Fanita Drive & Prospect Avenue



Existing PM
60: Fanita Drive & Prospect Avenue

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 88 | 88 | 37 | 98 | 101 | 142 | 40 | 189 | 85 | 189 | 222 | 104 |
| Future Volume (veh/h) | 88 | 88 | 37 | 98 | 101 | 142 | 40 | 189 | 85 | 189 | 222 | 104 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 96 | 96 | 40 | 107 | 110 | 154 | 43 | 205 | 92 | 205 | 241 | 113 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 123 | 294 | 242 | 139 | 311 | 490 | 65 | 276 | 124 | 262 | 798 | 361 |
| Arrive On Green | 0.07 | 0.16 | 0.16 | 0.08 | 0.17 | 0.17 | 0.04 | 0.23 | 0.23 | 0.15 | 0.34 | 0.34 |
| Sat Flow, veh/h | 1781 | 1870 | 1539 | 1781 | 1870 | 1546 | 1781 | 1212 | 544 | 1781 | 2357 | 1065 |
| Grp Volume(v), veh/h | 96 | 96 | 40 | 107 | 110 | 154 | 43 | 0 | 297 | 205 | 179 | 175 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1539 | 1781 | 1870 | 1546 | 1781 | 0 | 1755 | 1781 | 1777 | 1645 |
| Q Serve(g_s), s | 2.4 | 2.1 | 1.0 | 2.7 | 2.4 | 3.5 | 1.1 | 0.0 | 7.3 | 5.1 | 3.4 | 3.6 |
| Cycle Q Clear(g_c), s | 2.4 | 2.1 | 1.0 | 2.7 | 2.4 | 3.5 | 1.1 | 0.0 | 7.3 | 5.1 | 3.4 | 3.6 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.31 | 1.00 | | 0.65 |
| Lane Grp Cap(c), veh/h | 123 | 294 | 242 | 139 | 311 | 490 | 65 | 0 | 400 | 262 | 602 | 557 |
| V/C Ratio(X) | 0.78 | 0.33 | 0.17 | 0.77 | 0.35 | 0.31 | 0.66 | 0.00 | 0.74 | 0.78 | 0.30 | 0.31 |
| Avail Cap(c_a), veh/h | 251 | 854 | 703 | 401 | 1012 | 1071 | 239 | 0 | 722 | 444 | 935 | 866 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 21.2 | 17.3 | 16.9 | 20.9 | 17.1 | 12.1 | 22.0 | 0.0 | 16.6 | 19.0 | 11.2 | 11.3 |
| Incr Delay (d2), s/veh | 10.4 | 0.6 | 0.3 | 8.7 | 0.7 | 0.4 | 10.7 | 0.0 | 2.7 | 5.0 | 0.3 | 0.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.3 | 0.9 | 0.3 | 1.3 | 0.9 | 1.0 | 0.6 | 0.0 | 2.7 | 2.1 | 1.1 | 1.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 31.5 | 17.9 | 17.2 | 29.6 | 17.7 | 12.4 | 32.6 | 0.0 | 19.3 | 24.0 | 11.5 | 11.6 |
| LnGrp LOS | C | B | B | C | B | B | C | A | B | C | B | B |
| Approach Vol, veh/h | | 232 | | | 371 | | | 340 | | | 559 | |
| Approach Delay, s/veh | | 23.4 | | | 19.0 | | | 21.0 | | | 16.1 | |
| Approach LOS | | C | | | B | | | C | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 11.3 | 15.0 | 8.1 | 11.7 | 6.2 | 20.1 | 7.7 | 12.2 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 11.5 | 19.0 | 10.4 | 21.1 | 6.2 | 24.3 | 6.5 | 25.0 |
| Max Q Clear Time (g_c+I1), s | 7.1 | 9.3 | 4.7 | 4.1 | 3.1 | 5.6 | 4.4 | 5.5 |
| Green Ext Time (p_c), s | 0.2 | 1.1 | 0.1 | 0.5 | 0.0 | 1.8 | 0.0 | 1.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 19.1 |
| HCM 6th LOS | B |



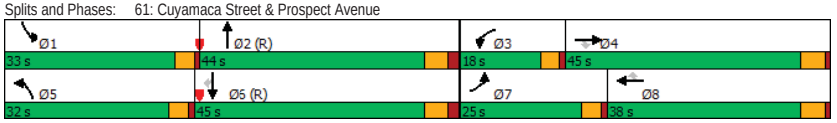
Existing PM
61: Cuyamaca Street & Prospect Avenue

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 116 | 167 | 169 | 67 | 167 | 206 | 172 | 702 | 74 | 179 | 542 | 158 |
| Future Volume (vph) | 116 | 167 | 169 | 67 | 167 | 206 | 172 | 702 | 74 | 179 | 542 | 158 |
| Confl. Peds. (#/hr) | | | 4 | | | 10 | | | 7 | | | 6 |
| Confl. Bikes (#/hr) | | | 2 | | | 2 | | | 4 | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | | | | 6 |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | 8 | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 7.0 | 7.0 | 4.0 | 7.0 | 7.0 | 4.0 | 10.0 | | 4.0 | 10.0 | 10.0 |
| Minimum Split (s) | 8.2 | 35.2 | 35.2 | 8.2 | 36.2 | 36.2 | 8.2 | 33.0 | | 8.2 | 31.0 | 31.0 |
| Total Split (s) | 25.0 | 45.0 | 45.0 | 18.0 | 38.0 | 38.0 | 32.0 | 44.0 | | 33.0 | 45.0 | 45.0 |
| Total Split (%) | 17.9% | 32.1% | 32.1% | 12.9% | 27.1% | 27.1% | 22.9% | 31.4% | | 23.6% | 32.1% | 32.1% |
| Yellow Time (s) | 3.2 | 4.2 | 4.2 | 3.2 | 4.2 | 4.2 | 3.2 | 4.0 | | 3.2 | 4.1 | 4.1 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 2.0 | | 1.0 | 1.9 | 1.9 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.2 | 5.2 | 4.2 | 5.2 | 5.2 | 4.2 | 6.0 | | 4.2 | 6.0 | 6.0 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | None | None | C-Min | | None | C-Min | C-Min |

| Intersection Summary |
|---|
| Cycle Length: 140 |
| Actuated Cycle Length: 140 |
| Offset: 26 (19%), Referenced to phase 2:NBT and 6:SBT, Start of Green |
| Natural Cycle: 90 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 61: Cuyamaca Street & Prospect Avenue



Existing PM
61: Cuyamaca Street & Prospect Avenue

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 116 | 167 | 169 | 67 | 167 | 206 | 172 | 702 | 74 | 179 | 542 | 158 |
| Future Volume (veh/h) | 116 | 167 | 169 | 67 | 167 | 206 | 172 | 702 | 74 | 179 | 542 | 158 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 0.97 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 126 | 182 | 184 | 73 | 182 | 224 | 187 | 763 | 80 | 195 | 589 | 172 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 150 | 391 | 325 | 92 | 628 | 271 | 212 | 2236 | 233 | 217 | 1707 | 749 |
| Arrive On Green | 0.08 | 0.21 | 0.21 | 0.05 | 0.18 | 0.18 | 0.12 | 0.48 | 0.48 | 0.24 | 0.96 | 0.96 |
| Sat Flow, veh/h | 1781 | 1870 | 1554 | 1781 | 3554 | 1536 | 1781 | 4682 | 487 | 1781 | 3554 | 1559 |
| Grp Volume(v), veh/h | 126 | 182 | 184 | 73 | 182 | 224 | 187 | 553 | 290 | 195 | 589 | 172 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1554 | 1781 | 1777 | 1536 | 1781 | 1702 | 1765 | 1781 | 1777 | 1559 |
| Q Serve(g_s), s | 9.8 | 11.9 | 14.9 | 5.7 | 6.2 | 19.7 | 14.5 | 14.2 | 14.4 | 14.8 | 1.4 | 0.8 |
| Cycle Q Clear(g_c), s | 9.8 | 11.9 | 14.9 | 5.7 | 6.2 | 19.7 | 14.5 | 14.2 | 14.4 | 14.8 | 1.4 | 0.8 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.28 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 150 | 391 | 325 | 92 | 628 | 271 | 212 | 1626 | 843 | 217 | 1707 | 749 |
| V/C Ratio(X) | 0.84 | 0.47 | 0.57 | 0.79 | 0.29 | 0.83 | 0.88 | 0.34 | 0.34 | 0.90 | 0.35 | 0.23 |
| Avail Cap(c_a), veh/h | 265 | 532 | 442 | 176 | 833 | 360 | 354 | 1626 | 843 | 366 | 1707 | 749 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 2.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 0.97 | 0.97 | 0.97 | 1.00 | 1.00 | 1.00 | 0.90 | 0.90 | 0.90 |
| Uniform Delay (d), s/veh | 63.2 | 48.5 | 49.7 | 65.6 | 50.0 | 55.6 | 60.7 | 22.8 | 22.9 | 52.1 | 1.5 | 1.4 |
| Incr Delay (d2), s/veh | 4.8 | 0.9 | 1.7 | 5.4 | 0.1 | 9.4 | 7.5 | 0.6 | 1.1 | 7.9 | 0.5 | 0.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 4.6 | 5.7 | 5.9 | 2.7 | 2.8 | 8.3 | 6.9 | 5.8 | 6.2 | 6.3 | 0.5 | 0.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 68.0 | 49.5 | 51.4 | 71.1 | 50.2 | 64.9 | 68.2 | 23.4 | 24.0 | 60.1 | 2.0 | 2.1 |
| LnGrp LOS | E | D | D | E | D | E | E | C | C | E | A | A |
| Approach Vol, veh/h | | 492 | | | 479 | | | 1030 | | | 956 | |
| Approach Delay, s/veh | | 54.9 | | | 60.3 | | | 31.7 | | | 13.8 | |
| Approach LOS | | D | | | E | | | C | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 21.2 | 72.9 | 11.5 | 34.4 | 20.8 | 73.3 | 16.0 | 29.9 |
| Change Period (Y+Rc), s | * 4.2 | 6.0 | * 4.2 | 5.2 | * 4.2 | * 6 | * 4.2 | 5.2 |
| Max Green Setting (Gmax), s | * 29 | 38.0 | * 14 | 39.8 | * 28 | * 39 | * 21 | 32.8 |
| Max Q Clear Time (g_c+I1), s | 16.8 | 16.4 | 7.7 | 16.9 | 16.5 | 3.4 | 11.8 | 21.7 |
| Green Ext Time (p_c), s | 0.2 | 7.8 | 0.0 | 1.7 | 0.2 | 7.4 | 0.1 | 1.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 34.4 |
| HCM 6th LOS | C |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



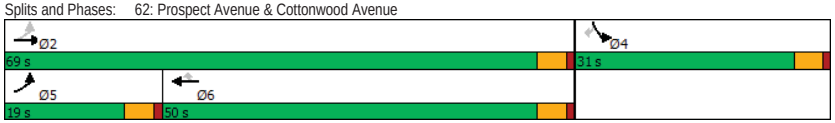
Existing PM
62: Prospect Avenue & Cottonwood Avenue

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 91 | 333 | 247 | 95 | 75 | 44 |
| Future Volume (vph) | 91 | 333 | 247 | 95 | 75 | 44 |
| Confl. Peds. (#/hr) | | | | 1 | | 4 |
| Confl. Bikes (#/hr) | | | | 3 | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | pm+pt | NA | NA | Perm | Prot | Perm |
| Protected Phases | 5 | 2 | 6 | | 4 | |
| Permitted Phases | 2 | | | 6 | | 4 |
| Detector Phase | 5 | 2 | 6 | 6 | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 |
| Total Split (s) | 19.0 | 69.0 | 50.0 | 50.0 | 31.0 | 31.0 |
| Total Split (%) | 19.0% | 69.0% | 50.0% | 50.0% | 31.0% | 31.0% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | | Lag | Lag | | |
| Lead-Lag Optimize? | Yes | | Yes | Yes | | |
| Recall Mode | None | Min | Min | Min | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 40.6 |
| Natural Cycle: 55 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 62: Prospect Avenue & Cottonwood Avenue



Existing PM
62: Prospect Avenue & Cottonwood Avenue

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 91 | 333 | 247 | 95 | 75 | 44 |
| Future Volume (veh/h) | 91 | 333 | 247 | 95 | 75 | 44 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 0.97 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 99 | 362 | 268 | 103 | 82 | 48 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 595 | 1015 | 527 | 435 | 170 | 151 |
| Arrive On Green | 0.08 | 0.54 | 0.28 | 0.28 | 0.10 | 0.10 |
| Sat Flow, veh/h | 1781 | 1870 | 1870 | 1544 | 1781 | 1585 |
| Grp Volume(v), veh/h | 99 | 362 | 268 | 103 | 82 | 48 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1870 | 1544 | 1781 | 1585 |
| Q Serve(g_s), s | 0.8 | 2.7 | 3.0 | 1.3 | 1.1 | 0.7 |
| Cycle Q Clear(g_c), s | 0.8 | 2.7 | 3.0 | 1.3 | 1.1 | 0.7 |
| Prop In Lane | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 595 | 1015 | 527 | 435 | 170 | 151 |
| V/C Ratio(X) | 0.17 | 0.36 | 0.51 | 0.24 | 0.48 | 0.32 |
| Avail Cap(c_a), veh/h | 1492 | 4854 | 3424 | 2827 | 1899 | 1690 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 4.7 | 3.2 | 7.5 | 6.9 | 10.7 | 10.5 |
| Incr Delay (d2), s/veh | 0.1 | 0.2 | 0.8 | 0.3 | 2.1 | 1.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.1 | 0.1 | 0.7 | 0.2 | 0.4 | 0.7 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 4.8 | 3.4 | 8.2 | 7.1 | 12.8 | 11.7 |
| LnGrp LOS | A | A | A | A | B | B |
| Approach Vol, veh/h | | 461 | 371 | | 130 | |
| Approach Delay, s/veh | | 3.7 | 7.9 | | 12.4 | |
| Approach LOS | | A | A | | B | |
| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 |
| Phs Duration (G+Y+Rc), s | | 18.0 | | 6.9 | 6.5 | 11.5 |
| Change Period (Y+Rc), s | | 4.5 | | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | | 64.5 | | 26.5 | 14.5 | 45.5 |
| Max Q Clear Time (g_c+I1), s | | 4.7 | | 3.1 | 2.8 | 5.0 |
| Green Ext Time (p_c), s | | 2.3 | | 0.3 | 0.2 | 2.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 6.5 |
| HCM 6th LOS | A |



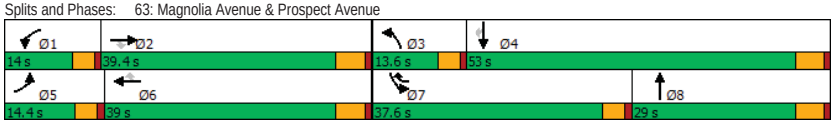
Existing PM
63: Magnolia Avenue & Prospect Avenue

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 144 | 280 | 85 | 62 | 274 | 845 | 36 | 389 | 88 | 604 | 363 | 72 |
| Future Volume (vph) | 144 | 280 | 85 | 62 | 274 | 845 | 36 | 389 | 88 | 604 | 363 | 72 |
| Confl. Peds. (#/hr) | | | 9 | | | 1 | | | 5 | | | 4 |
| Confl. Bikes (#/hr) | | | 2 | | | 1 | | | 1 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | pm+ov | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | 4.0 | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 39.3 | 39.3 | 8.2 | 37.4 | 8.2 | 8.2 | 23.2 | | 8.2 | 36.2 | 36.2 |
| Total Split (s) | 14.4 | 39.4 | 39.4 | 14.0 | 39.0 | 37.6 | 13.6 | 29.0 | | 37.6 | 53.0 | 53.0 |
| Total Split (%) | 12.0% | 32.8% | 32.8% | 11.7% | 32.5% | 31.3% | 11.3% | 24.2% | | 31.3% | 44.2% | 44.2% |
| Yellow Time (s) | 3.2 | 4.3 | 4.3 | 3.2 | 4.4 | 3.2 | 3.2 | 4.2 | | 3.2 | 4.2 | 4.2 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | 5.3 | 4.2 | 5.4 | 4.2 | 4.2 | 5.2 | | 4.2 | 5.2 | 5.2 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | Min | Min | None | Min | None | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 96.4 |
| Natural Cycle: 95 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 63: Magnolia Avenue & Prospect Avenue



Existing PM
63: Magnolia Avenue & Prospect Avenue

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 144 | 280 | 85 | 62 | 274 | 845 | 36 | 389 | 88 | 604 | 363 | 72 |
| Future Volume (veh/h) | 144 | 280 | 85 | 62 | 274 | 845 | 36 | 389 | 88 | 604 | 363 | 72 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 157 | 304 | 92 | 67 | 298 | 918 | 39 | 423 | 96 | 657 | 395 | 78 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 231 | 616 | 511 | 87 | 1105 | 1483 | 49 | 536 | 121 | 787 | 1375 | 604 |
| Arrive On Green | 0.07 | 0.33 | 0.33 | 0.05 | 0.31 | 0.31 | 0.03 | 0.19 | 0.19 | 0.23 | 0.39 | 0.39 |
| Sat Flow, veh/h | 3456 | 1870 | 1551 | 1781 | 3554 | 2726 | 1781 | 2870 | 645 | 3456 | 3554 | 1560 |
| Grp Volume(v), veh/h | 157 | 304 | 92 | 67 | 298 | 918 | 39 | 260 | 259 | 657 | 395 | 78 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1870 | 1551 | 1781 | 1777 | 1363 | 1781 | 1777 | 1738 | 1728 | 1777 | 1560 |
| Q Serve(g_s), s | 4.1 | 11.9 | 3.9 | 3.4 | 5.8 | 21.4 | 2.0 | 12.8 | 13.0 | 16.6 | 7.0 | 3.0 |
| Cycle Q Clear(g_c), s | 4.1 | 11.9 | 3.9 | 3.4 | 5.8 | 21.4 | 2.0 | 12.8 | 13.0 | 16.6 | 7.0 | 3.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.37 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 231 | 616 | 511 | 87 | 1105 | 1483 | 49 | 332 | 325 | 787 | 1375 | 604 |
| V/C Ratio(X) | 0.68 | 0.49 | 0.18 | 0.77 | 0.27 | 0.62 | 0.79 | 0.78 | 0.80 | 0.83 | 0.29 | 0.13 |
| Avail Cap(c_a), veh/h | 385 | 697 | 578 | 191 | 1305 | 1636 | 183 | 462 | 452 | 1261 | 1856 | 815 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 41.7 | 24.6 | 21.9 | 43.0 | 23.7 | 14.7 | 44.2 | 35.4 | 35.5 | 33.7 | 19.3 | 18.1 |
| Incr Delay (d2), s/veh | 3.5 | 0.6 | 0.2 | 13.5 | 0.1 | 0.6 | 24.2 | 5.9 | 6.7 | 2.8 | 0.1 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.8 | 5.2 | 1.4 | 1.8 | 2.4 | 6.2 | 1.2 | 6.0 | 6.0 | 7.1 | 2.8 | 1.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 45.2 | 25.2 | 22.1 | 56.5 | 23.8 | 15.3 | 68.4 | 41.3 | 42.2 | 36.5 | 19.5 | 18.2 |
| LnGrp LOS | D | C | C | E | C | B | E | D | D | D | B | B |
| Approach Vol, veh/h | | 553 | | | 1283 | | | 558 | | | 1130 | |
| Approach Delay, s/veh | | 30.4 | | | 19.4 | | | 43.6 | | | 29.3 | |
| Approach LOS | | C | | | B | | | D | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 8.7 | 35.5 | 6.7 | 40.6 | 10.3 | 33.9 | 25.0 | 22.3 |
| Change Period (Y+Rc), s | * 4.2 | * 5.4 | * 4.2 | 5.2 | * 4.2 | 5.4 | * 4.2 | 5.2 |
| Max Green Setting (Gmax), s | * 9.8 | * 34 | * 9.4 | 47.8 | * 10 | 33.6 | * 33 | 23.8 |
| Max Q Clear Time (g_c+I1), s | 5.4 | 13.9 | 4.0 | 9.0 | 6.1 | 23.4 | 18.6 | 15.0 |
| Green Ext Time (p_c), s | 0.0 | 2.0 | 0.0 | 3.1 | 0.2 | 4.5 | 2.2 | 2.1 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 28.1 |
| HCM 6th LOS | C |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



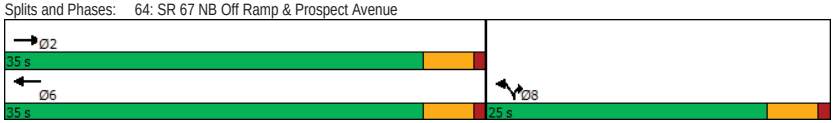
Existing PM
64: SR 67 NB Off Ramp & Prospect Avenue

Fanita Ranch
06/06/2019

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 1030 | 0 | 0 | 603 | 638 | 142 |
| Future Volume (vph) | 1030 | 0 | 0 | 603 | 638 | 142 |
| Confl. Peds. (#/hr) | | 5 | | | | |
| Confl. Bikes (#/hr) | | 3 | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | NA | | | NA | Prot | Prot |
| Protected Phases | 2 | | | 6 | 8 | 8 |
| Permitted Phases | | | | | | |
| Detector Phase | 2 | | | 6 | 8 | 8 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 5.0 | | | 10.0 | 5.0 | 5.0 |
| Minimum Split (s) | 20.6 | | | 20.6 | 20.6 | 20.6 |
| Total Split (s) | 35.0 | | | 35.0 | 25.0 | 25.0 |
| Total Split (%) | 58.3% | | | 58.3% | 41.7% | 41.7% |
| Yellow Time (s) | 3.6 | | | 3.6 | 3.6 | 3.6 |
| All-Red Time (s) | 1.0 | | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.6 | | | 4.6 | 4.6 | 4.6 |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | Min | | | Min | None | None |

| Intersection Summary | |
|---|---|
| Cycle Length: 60 | |
| Actuated Cycle Length: 43.6 | |
| Natural Cycle: 45 | |
| Control Type: Actuated-Uncoordinated | |

Splits and Phases: 64: SR 67 NB Off Ramp & Prospect Avenue



| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 1030 | 0 | 0 | 603 | 638 | 142 |
| Future Volume (veh/h) | 1030 | 0 | 0 | 603 | 638 | 142 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | 1.00 | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 0 | 0 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 1120 | 0 | 0 | 655 | 693 | 154 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 0 | 0 | 2 | 2 | 2 |
| Cap, veh/h | 1632 | 0 | 0 | 1632 | 968 | 444 |
| Arrive On Green | 0.46 | 0.00 | 0.00 | 0.46 | 0.28 | 0.28 |
| Sat Flow, veh/h | 3741 | 0 | 0 | 3741 | 3456 | 1585 |
| Grp Volume(v), veh/h | 1120 | 0 | 0 | 655 | 693 | 154 |
| Grp Sat Flow(s),veh/h/ln | 1777 | 0 | 0 | 1777 | 1728 | 1585 |
| Q Serve(g_s), s | 8.8 | 0.0 | 0.0 | 4.3 | 6.4 | 2.7 |
| Cycle Q Clear(g_c), s | 8.8 | 0.0 | 0.0 | 4.3 | 6.4 | 2.7 |
| Prop In Lane | | 0.00 | 0.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 1632 | 0 | 0 | 1632 | 968 | 444 |
| V/C Ratio(X) | 0.69 | 0.00 | 0.00 | 0.40 | 0.72 | 0.35 |
| Avail Cap(c_a), veh/h | 3062 | 0 | 0 | 3062 | 1998 | 916 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 7.5 | 0.0 | 0.0 | 6.3 | 11.4 | 10.1 |
| Incr Delay (d2), s/veh | 0.2 | 0.0 | 0.0 | 0.2 | 0.4 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.8 | 0.0 | 0.0 | 0.9 | 1.9 | 0.7 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 7.7 | 0.0 | 0.0 | 6.5 | 11.8 | 10.3 |
| LnGrp LOS | A | A | A | A | B | B |
| Approach Vol, veh/h | 1120 | | | 655 | 847 | |
| Approach Delay, s/veh | 7.7 | | | 6.5 | 11.5 | |
| Approach LOS | A | | | A | B | |

| Timer - Assigned Phs | 2 | | | | 6 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 20.8 | | | | 20.8 | 14.5 |
| Change Period (Y+Rc), s | 4.6 | | | | 4.6 | 4.6 |
| Max Green Setting (Gmax), s | 30.4 | | | | 30.4 | 20.4 |
| Max Q Clear Time (g_c+I1), s | 10.8 | | | | 6.3 | 8.4 |
| Green Ext Time (p_c), s | 5.4 | | | | 4.5 | 1.5 |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 8.6 | |
| HCM 6th LOS | | A | |

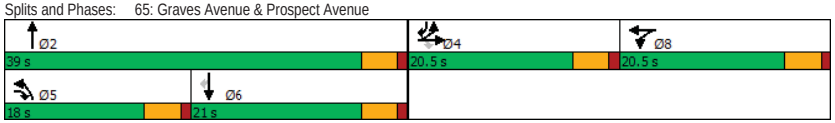




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 310 | 10 | 753 | 2 | 7 | 0 | 440 | 30 | 1 | 0 | 42 | 180 |
| Future Volume (vph) | 310 | 10 | 753 | 2 | 7 | 0 | 440 | 30 | 1 | 0 | 42 | 180 |
| Confl. Peds. (#/hr) | | | | | | 1 | | | 6 | | | |
| Confl. Bikes (#/hr) | | | 3 | | | 1 | | | 2 | | | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | 48% | | | | | | | | | | | |
| Turn Type | Split | NA | pm+ov | Split | NA | | Prot | NA | | | NA | pm+ov |
| Protected Phases | 4 | 4 | 5 | 8 | 8 | | 5 | 2 | | | 6 | 4 |
| Permitted Phases | | | 4 | | | | | | | | | 6 |
| Detector Phase | 4 | 4 | 5 | 8 | 8 | | 5 | 2 | | | 6 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | | 4.0 | 4.0 |
| Minimum Split (s) | 20.5 | 20.5 | 8.5 | 20.5 | 20.5 | | 8.5 | 20.5 | | | 20.5 | 20.5 |
| Total Split (s) | 20.5 | 20.5 | 18.0 | 20.5 | 20.5 | | 18.0 | 39.0 | | | 21.0 | 20.5 |
| Total Split (%) | 25.6% | 25.6% | 22.5% | 25.6% | 25.6% | | 22.5% | 48.8% | | | 26.3% | 25.6% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | | | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | | | 4.5 | 4.5 |
| Lead/Lag | | | Lead | | | | Lead | | | | Lag | |
| Lead-Lag Optimize? | | | Yes | | | | Yes | | | | Yes | |
| Recall Mode | None | None | None | None | None | | None | Min | | | Min | None |

| Intersection Summary |
|---|
| Cycle Length: 80 |
| Actuated Cycle Length: 50.6 |
| Natural Cycle: 80 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 65: Graves Avenue & Prospect Avenue



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 310 | 10 | 753 | 2 | 7 | 0 | 440 | 30 | 1 | 0 | 42 | 180 |
| Future Volume (veh/h) | 310 | 10 | 753 | 2 | 7 | 0 | 440 | 30 | 1 | 0 | 42 | 180 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 1.00 | 1.00 | | 0.97 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 0 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 345 | 0 | 818 | 2 | 8 | 0 | 478 | 33 | 1 | 0 | 46 | 196 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 0 | 2 | 2 |
| Cap, veh/h | 1123 | 0 | 783 | 22 | 23 | 0 | 644 | 733 | 22 | 0 | 246 | 704 |
| Arrive On Green | 0.32 | 0.00 | 0.32 | 0.01 | 0.01 | 0.00 | 0.19 | 0.41 | 0.41 | 0.00 | 0.13 | 0.13 |
| Sat Flow, veh/h | 3563 | 0 | 1548 | 1781 | 1870 | 0 | 3456 | 1804 | 55 | 0 | 1870 | 1558 |
| Grp Volume(v), veh/h | 345 | 0 | 818 | 2 | 8 | 0 | 478 | 0 | 34 | 0 | 46 | 196 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1548 | 1781 | 1870 | 0 | 1728 | 0 | 1859 | 0 | 1870 | 1558 |
| Q Serve(g_s), s | 3.7 | 0.0 | 16.0 | 0.1 | 0.2 | 0.0 | 6.6 | 0.0 | 0.6 | 0.0 | 1.1 | 4.0 |
| Cycle Q Clear(g_c), s | 3.7 | 0.0 | 16.0 | 0.1 | 0.2 | 0.0 | 6.6 | 0.0 | 0.6 | 0.0 | 1.1 | 4.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.00 | 1.00 | | 0.03 | 0.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 1123 | 0 | 783 | 22 | 23 | 0 | 644 | 0 | 755 | 0 | 246 | 704 |
| V/C Ratio(X) | 0.31 | 0.00 | 1.04 | 0.09 | 0.34 | 0.00 | 0.74 | 0.00 | 0.05 | 0.00 | 0.19 | 0.28 |
| Avail Cap(c_a), veh/h | 1123 | 0 | 783 | 561 | 589 | 0 | 919 | 0 | 1263 | 0 | 608 | 1006 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 13.2 | 0.0 | 12.7 | 24.8 | 24.9 | 0.0 | 19.5 | 0.0 | 9.1 | 0.0 | 19.6 | 8.9 |
| Incr Delay (d2), s/veh | 0.2 | 0.0 | 44.4 | 1.7 | 8.3 | 0.0 | 2.0 | 0.0 | 0.0 | 0.0 | 0.4 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.3 | 0.0 | 16.2 | 0.0 | 0.1 | 0.0 | 2.6 | 0.0 | 0.2 | 0.0 | 0.5 | 2.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 13.3 | 0.0 | 57.1 | 26.5 | 33.2 | 0.0 | 21.5 | 0.0 | 9.1 | 0.0 | 20.0 | 9.1 |
| LnGrp LOS | B | A | F | C | C | A | C | A | A | A | B | A |
| Approach Vol, veh/h | | 1163 | | | 10 | | | 512 | | | 242 | |
| Approach Delay, s/veh | | 44.1 | | | 31.9 | | | 20.6 | | | 11.2 | |
| Approach LOS | | D | | | C | | | C | | | B | |

| Timer - Assigned Phs | 2 | 4 | 5 | 6 | 8 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 25.1 | 20.5 | 14.0 | 11.2 | 5.1 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 34.5 | 16.0 | 13.5 | 16.5 | 16.0 |
| Max Q Clear Time (g_c+I1), s | 2.6 | 18.0 | 8.6 | 6.0 | 2.2 |
| Green Ext Time (p_c), s | 0.1 | 0.0 | 0.8 | 0.6 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 33.7 |
| HCM 6th LOS | C |

**Notes**

User approved volume balancing among the lanes for turning movement.

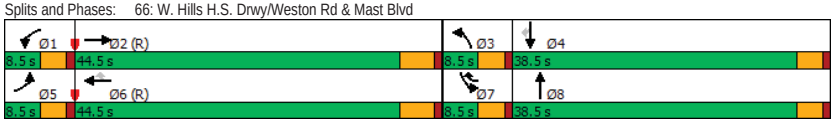




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 1489 | 3 | 13 | 465 | 0 | 0 | 0 | 4 | 0 | 0 | 0 |
| Future Volume (vph) | 0 | 1489 | 3 | 13 | 465 | 0 | 0 | 0 | 4 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Prot | NA | | Prot | | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | 4.0 | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.5 | 22.5 | | 8.5 | 27.3 | 8.5 | 8.5 | 38.5 | | 8.5 | 33.5 | 33.5 |
| Total Split (s) | 8.5 | 44.5 | | 8.5 | 44.5 | 8.5 | 8.5 | 38.5 | | 8.5 | 38.5 | 38.5 |
| Total Split (%) | 8.5% | 44.5% | | 8.5% | 44.5% | 8.5% | 8.5% | 38.5% | | 8.5% | 38.5% | 38.5% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | 3.2 | 3.2 | 3.2 | | 3.2 | 3.2 | 3.2 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | 4.2 | 4.2 | 4.2 | | 4.2 | 4.2 | 4.2 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | C-Min | | None | C-Min | None | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 81 (81%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 105 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 66: W. Hills H.S. Drwy/Weston Rd & Mast Blvd



Existing PM
66: W. Hills H.S. Drwy/Weston Rd & Mast Blvd

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 1489 | 3 | 13 | 465 | 0 | 0 | 0 | 4 | 0 | 0 | 0 |
| Future Volume (veh/h) | 0 | 1489 | 3 | 13 | 465 | 0 | 0 | 0 | 4 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 1618 | 3 | 14 | 505 | 0 | 0 | 0 | 4 | 0 | 0 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 2 | 3067 | 6 | 23 | 3190 | 1356 | 2 | 0 | 12 | 2 | 14 | 12 |
| Arrive On Green | 0.00 | 1.00 | 1.00 | 0.03 | 1.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 |
| Sat Flow, veh/h | 1781 | 3639 | 7 | 1781 | 3554 | 1585 | 1781 | 0 | 1585 | 1781 | 1870 | 1585 |
| Grp Volume(v), veh/h | 0 | 790 | 831 | 14 | 505 | 0 | 0 | 0 | 4 | 0 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1869 | 1781 | 1777 | 1585 | 1781 | 0 | 1585 | 1781 | 1870 | 1585 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.0 | 0.8 | 0.0 | 4.2 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 0.0 | 0.0 | 0.0 | 0.8 | 0.0 | 4.2 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | | 0.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 2 | 1497 | 1575 | 23 | 3190 | 1356 | 2 | 0 | 12 | 2 | 14 | 12 |
| V/C Ratio(X) | 0.00 | 0.53 | 0.53 | 0.61 | 0.16 | 0.00 | 0.00 | 0.00 | 0.34 | 0.00 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 77 | 1497 | 1575 | 77 | 3190 | 1356 | 77 | 0 | 544 | 77 | 642 | 544 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.00 | 0.89 | 0.89 | 0.99 | 0.99 | 0.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 0.0 | 0.0 | 0.0 | 48.5 | 0.0 | 0.0 | 0.0 | 0.0 | 49.4 | 0.0 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 0.0 | 1.2 | 1.1 | 23.2 | 0.1 | 0.0 | 0.0 | 0.0 | 16.5 | 0.0 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.5 | 0.5 | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 1.2 | 1.1 | 71.6 | 0.1 | 0.0 | 0.0 | 0.0 | 65.9 | 0.0 | 0.0 | 0.0 |
| LnGrp LOS | A | A | A | E | A | A | A | A | E | A | A | A |
| Approach Vol, veh/h | | 1621 | | | 519 | | | 4 | | | 0 | |
| Approach Delay, s/veh | | 1.2 | | | 2.0 | | | 65.9 | | | 0.0 | |
| Approach LOS | | A | | | A | | | E | | | | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.5 | 89.6 | 0.0 | 4.9 | 0.0 | 95.1 | 0.0 | 4.9 |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | * 4.2 | * 4.2 | * 4.2 | 5.3 | * 4.2 | * 4.2 |
| Max Green Setting (Gmax), s | * 4.3 | 39.2 | * 4.3 | * 34 | * 4.3 | 39.2 | * 4.3 | * 34 |
| Max Q Clear Time (g_c+I1), s | 2.8 | 2.0 | 0.0 | 0.0 | 0.0 | 6.2 | 0.0 | 2.3 |
| Green Ext Time (p_c), s | 0.0 | 15.5 | 0.0 | 0.0 | 0.0 | 3.4 | 0.0 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 1.5 |
| HCM 6th LOS | A |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

# APPENDIX C-2

## EXISTING PEAK HOUR HCS FREEWAY SHEETS

## HCS7 Basic Freeway Report

### Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-52 EB: Santo Rd to Mast Blvd | | |

### Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Rolling |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 0.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 73.1 |
| Right-Side Lateral Clearance, ft | 10 | | |

### Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

### Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 1521 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.951 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 567 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.24 |
| Passenger Car Equivalent ($E_T$) | 3.000 | | |

### Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 73.1 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 7.8 |
| Total Ramp Density Adjustment | 2.3 | Level of Service (LOS) | A |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 73.1 | | |

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## HCS7 Basic Freeway Report

### Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-52 EB: Santo Rd to Mast Blvd | | |

### Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Rolling |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 0.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 73.1 |
| Right-Side Lateral Clearance, ft | 10 | | |

### Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | Mostly Familiar | Final Speed Adjustment Factor (SAF) | 0.975 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 0.968 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

### Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 5527 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.951 |
| Peak Hour Factor (PHF) | 0.92 | Flow Rate ($v_p$), pc/h/ln | 2106 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2323 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.91 |
| Passenger Car Equivalent ($E_T$) | 3.000 | | |

### Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 57.9 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 36.4 |
| Total Ramp Density Adjustment | 2.3 | Level of Service (LOS) | E |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 71.3 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-52 WB: Mast Blvd to Santo Rd | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Rolling |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 0.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 73.1 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | Mostly Familiar | Final Speed Adjustment Factor (SAF) | 0.975 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 0.968 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 5976 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.951 |
| Peak Hour Factor (PHF) | 0.92 | Flow Rate ($v_p$), pc/h/ln | 2277 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2323 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.98 |
| Passenger Car Equivalent ($E_T$) | 3.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 53.1 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 42.9 |
| Total Ramp Density Adjustment | 2.3 | Level of Service (LOS) | E |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 71.3 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-52 WB: Mast Blvd to Santo Rd | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Rolling |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 0.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 73.1 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 2412 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.951 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 899 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.37 |
| Passenger Car Equivalent ($E_T$) | 3.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 73.1 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 12.3 |
| Total Ramp Density Adjustment | 2.3 | Level of Service (LOS) | B |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 73.1 | | |

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## HCS7 Basic Freeway Report

### Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-52 EB: Mast Blvd to SR-125 | | |

### Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 2 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.50 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.9 |
| Right-Side Lateral Clearance, ft | 10 | | |

### Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

### Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 1468 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 801 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.33 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

### Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 70.9 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 11.3 |
| Total Ramp Density Adjustment | 4.5 | Level of Service (LOS) | B |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.9 | | |

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## HCS7 Basic Freeway Report

### Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-52 EB: Mast Blvd to SR-125 | | |

### Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 2 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.50 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.9 |
| Right-Side Lateral Clearance, ft | 10 | | |

### Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

### Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 4632 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 2527 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 1.05 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

### Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | - |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | - |
| Total Ramp Density Adjustment | 4.5 | Level of Service (LOS) | F |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.9 | | |

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## HCS7 Basic Freeway Report

### Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-52 WB: SR-125 to Mast Blvd | | |

### Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 2 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.4 |
| Right-Side Lateral Clearance, ft | 10 | | |

### Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

### Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 4077 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 2224 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.93 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

### Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 57.9 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 38.4 |
| Total Ramp Density Adjustment | 5.0 | Level of Service (LOS) | E |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.4 | | |

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## HCS7 Basic Freeway Report

### Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-52 WB: SR-125 to Mast Blvd | | |

### Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 2 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.4 |
| Right-Side Lateral Clearance, ft | 10 | | |

### Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

### Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 2498 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1363 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.57 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

### Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 70.0 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 19.5 |
| Total Ramp Density Adjustment | 5.0 | Level of Service (LOS) | C |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.4 | | |

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## HCS7 Basic Freeway Report

### Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-52 EB: SR-125 to Cuyamaca St | | |

### Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.4 |
| Right-Side Lateral Clearance, ft | 8 | | |

### Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

### Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 1719 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 625 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.26 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

### Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 70.4 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 8.9 |
| Total Ramp Density Adjustment | 5.0 | Level of Service (LOS) | A |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.4 | | |

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## HCS7 Basic Freeway Report

### Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-52 EB: SR-125 to Cuyamaca St | | |

### Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.4 |
| Right-Side Lateral Clearance, ft | 8 | | |

### Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

### Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 4268 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1552 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.65 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

### Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 68.8 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 22.6 |
| Total Ramp Density Adjustment | 5.0 | Level of Service (LOS) | C |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.4 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-52 WB: Cuyamaca St to SR-125 | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.83 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.1 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 3209 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1167 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.49 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 70.1 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 16.6 |
| Total Ramp Density Adjustment | 5.4 | Level of Service (LOS) | B |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.1 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-52 WB: Cuyamaca St to SR-125 | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.83 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.1 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 2836 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1031 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.43 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 70.1 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 14.7 |
| Total Ramp Density Adjustment | 5.4 | Level of Service (LOS) | B |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.1 | | |

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## HCS7 Basic Freeway Report

### Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-52 EB: Cuyamaca St to SR-67 | | |

### Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.33 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 71.3 |
| Right-Side Lateral Clearance, ft | 10 | | |

### Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

### Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 1280 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 466 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.19 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

### Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 71.3 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 6.5 |
| Total Ramp Density Adjustment | 4.1 | Level of Service (LOS) | A |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 71.3 | | |

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## HCS7 Basic Freeway Report

### Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-52 EB: Cuyamaca St to SR-67 | | |

### Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.33 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 71.3 |
| Right-Side Lateral Clearance, ft | 10 | | |

### Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

### Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 3994 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1453 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.61 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

### Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 70.2 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 20.7 |
| Total Ramp Density Adjustment | 4.1 | Level of Service (LOS) | C |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 71.3 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-52 WB: SR-67 to Cuyamaca St | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.50 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.9 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 3202 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1165 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.49 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 70.9 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 16.4 |
| Total Ramp Density Adjustment | 4.5 | Level of Service (LOS) | B |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.9 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-52 WB: SR-67 to Cuyamaca St | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.50 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.9 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 2459 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 894 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.37 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 70.9 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 12.6 |
| Total Ramp Density Adjustment | 4.5 | Level of Service (LOS) | B |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.9 | | |

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## HCS7 Basic Freeway Report

### Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-67 NB: SR-52 to Riverford Rd | | |

### Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 2 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.00 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 69.6 |
| Right-Side Lateral Clearance, ft | 10 | | |

### Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

### Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 2322 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.932 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1325 |
| Total Trucks, % | 7.30 | Capacity (c), pc/h/ln | 2396 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2396 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.55 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

### Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 69.5 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 19.1 |
| Total Ramp Density Adjustment | 5.8 | Level of Service (LOS) | C |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 69.6 | | |

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## HCS7 Basic Freeway Report

### Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-67 NB: SR-52 to Riverford Rd | | |

### Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 2 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.00 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 69.6 |
| Right-Side Lateral Clearance, ft | 10 | | |

### Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

### Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 3739 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.932 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 2134 |
| Total Trucks, % | 7.30 | Capacity (c), pc/h/ln | 2396 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2396 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.89 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

### Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 59.7 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 35.7 |
| Total Ramp Density Adjustment | 5.8 | Level of Service (LOS) | E |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 69.6 | | |

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## HCS7 Basic Freeway Report

### Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-67 SB: Riverford Rd to SR-52 | | |

### Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 2 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.17 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 69.2 |
| Right-Side Lateral Clearance, ft | 10 | | |

### Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

### Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 3283 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.932 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1874 |
| Total Trucks, % | 7.30 | Capacity (c), pc/h/ln | 2392 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2392 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.78 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

### Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 64.3 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 29.1 |
| Total Ramp Density Adjustment | 6.2 | Level of Service (LOS) | D |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 69.2 | | |

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## HCS7 Basic Freeway Report

### Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-67 SB: Riverford Rd to SR-52 | | |

### Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 2 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.17 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 69.2 |
| Right-Side Lateral Clearance, ft | 10 | | |

### Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

### Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 2760 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.932 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1575 |
| Total Trucks, % | 7.30 | Capacity (c), pc/h/ln | 2392 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2392 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.66 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

### Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 67.8 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 23.2 |
| Total Ramp Density Adjustment | 6.2 | Level of Service (LOS) | C |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 69.2 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-67 NB: Bradley Ave to SR-52 | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 4 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.17 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 69.2 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 2805 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.937 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 796 |
| Total Trucks, % | 6.70 | Capacity (c), pc/h/ln | 2392 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2392 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.33 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 69.2 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 11.5 |
| Total Ramp Density Adjustment | 6.2 | Level of Service (LOS) | B |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 69.2 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-67 NB: Bradley Ave to SR-52 | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 4 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.17 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 69.2 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 4516 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.937 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1282 |
| Total Trucks, % | 6.70 | Capacity (c), pc/h/ln | 2392 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2392 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.54 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 69.2 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 18.5 |
| Total Ramp Density Adjustment | 6.2 | Level of Service (LOS) | C |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 69.2 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-67 SB: SR-52 to Bradley Ave | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.16 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 69.3 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 3965 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.937 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1501 |
| Total Trucks, % | 6.70 | Capacity (c), pc/h/ln | 2393 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2393 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.63 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 68.4 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 21.9 |
| Total Ramp Density Adjustment | 6.1 | Level of Service (LOS) | C |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 69.3 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-67 SB: SR-52 to Bradley Ave | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.16 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 69.3 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 3334 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.937 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1262 |
| Total Trucks, % | 6.70 | Capacity (c), pc/h/ln | 2393 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2393 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.53 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 69.3 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 18.2 |
| Total Ramp Density Adjustment | 6.1 | Level of Service (LOS) | C |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 69.3 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-125 NB: Grossmont College Dr to SR-52 | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 5 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.4 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 3052 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.958 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 678 |
| Total Trucks, % | 4.40 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.28 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 70.4 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 9.6 |
| Total Ramp Density Adjustment | 5.0 | Level of Service (LOS) | A |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.4 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-125 NB: Grossmont College Dr to SR-52 | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 5 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.4 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 2694 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.958 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 598 |
| Total Trucks, % | 4.40 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.25 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 70.4 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 8.5 |
| Total Ramp Density Adjustment | 5.0 | Level of Service (LOS) | A |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.4 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-125 SB: SR-52 to Grossmont College Dr | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 4 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.4 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 1960 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.958 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 544 |
| Total Trucks, % | 4.40 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.23 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 70.4 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 7.7 |
| Total Ramp Density Adjustment | 5.0 | Level of Service (LOS) | A |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.4 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-125 SB: SR-52 to Grossmont College Dr | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 4 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.4 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 3440 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.958 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 955 |
| Total Trucks, % | 4.40 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.40 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 70.4 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 13.6 |
| Total Ramp Density Adjustment | 5.0 | Level of Service (LOS) | B |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.4 | | |

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# APPENDIX D

## TRIP GENERATION – PROPOSED SPECIFIC PLAN LAND USE

**Fanita Project**
**April 2019 Specific Plan (Not Currently Analyzed)**

| ID | Land Use | Size | Daily Trip Ends (ADTs) [a] | | AM Peak Hour | | | | | | PM Peak Hour | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Rate [b] | Volume | % of ADT [b] | In:Out Split [b] | In:Out Split [b] | Volume In | Volume Out | Volume Total | % of ADT [b] | In:Out Split [b] | In:Out Split [b] | Volume In | Volume Out | Volume Total |
| | **Residential** | | | | | | | | | | | | | | | |
| A | Low-Density | 1,203 DU | 10 /DU | 12,030 | 8% | 30% | 70% | 289 | 673 | 962 | 10% | 70% | 30% | 842 | 361 | 1203 |
| B | Medium-Density | 866 DU | 8 /DU | 6,928 | 8% | 20% | 80% | 111 | 443 | 554 | 10% | 70% | 30% | 485 | 208 | 693 |
| C | Village Center Multi-Family | 435 DU | 8 /DU | 3,480 | 8% | 20% | 80% | 56 | 222 | 278 | 10% | 70% | 30% | 244 | 104 | 348 |
| D | Active Adult [i] | 445 DU | 4.27 /DU | 1,900 | 0.24 | 33% | 67% | 35 | 72 | 107 | 0.30 | 61% | 39% | 82 | 52 | 134 |
| **E** | **Subtotal Residential (A+B+C+D)** | **2,949** | | **24,338** | **—** | **—** | **—** | **491** | **1,410** | **1,901** | **—** | **—** | **—** | **1,653** | **725** | **2,378** |
| | **Non-Residential** | | | | | | | | | | | | | | | |
| F | Local Serving Retail | 80 KSF | 40 /KSF | 3,200 | 3% | 60% | 40% | 58 | 38 | 96 | 9% | 50% | 50% | 144 | 144 | 288 |
| G | Primary Trips | | 45% | 1,440 | — | — | — | 26 | 17 | 43 | — | — | — | 65 | 65 | 130 |
| H | Pass-by/Diverted Trip Reduction | | 55% | (1,760) | — | — | — | (32) | (21) | (53) | — | — | — | (79) | (79) | (158) |
| I | K-8 Charter School [c] | 700 students | 1.85 /student | 1,295 | 1.11 | 53% | 47% | 412 | 365 | 777 | 0.14 | 35% | 65% | 34 | 64 | 98 |
| J | Primary Trips | | 60% | 777 | — | — | — | 247 | 219 | 466 | — | — | — | 20 | 39 | 59 |
| K | Pass-by/Diverted Trip Reduction | | 40% | (518) | — | — | — | (165) | (146) | (311) | — | — | — | (14) | (25) | (39) |
| L | Agriculture/Farm [d] | 38.2 acres | 2 /acre | 76 | 0.26 | 43% | 57% | 4 | 6 | 10 | 0.45 | 57% | 43% | 10 | 7 | 17 |
| M | Active Park [f] | 19.9 acres | 50 /acre | 995 | 4% | 50% | 50% | 20 | 20 | 40 | 8% | 50% | 50% | 40 | 40 | 80 |
| N | Passive Park | 58.5 acres | 5 /acre | 293 | 0.15 | 57% | 43% | 5 | 4 | 9 | 0.2 | 45% | 55% | 5 | 7 | 12 |
| O | Recreation Center [g] | 10 KSF | 28.82 /KSF | 288 | 1.76 | 66% | 34% | 12 | 6 | 18 | 2.31 | 47% | 53% | 11 | 12 | 23 |
| P | RV Parking/Solar Farm [h] | 250 spaces | 0.2 /space | 50 | 6% | 50% | 50% | 2 | 1 | 3 | 9% | 50% | 50% | 3 | 2 | 5 |
| **Q** | **Subtotal Non-Residential (F+I+L+M+N+O+P)** | | | **6,197** | **—** | **—** | **—** | **513** | **440** | **953** | **—** | **—** | **—** | **247** | **276** | **523** |
| | **GROSS TRIP GENERATION (E+Q)** | | | **30,535** | **—** | **—** | **—** | **1,004** | **1,850** | **2,854** | **—** | **—** | **—** | **1,900** | **1,001** | **2,901** |
| **R** | **TOTAL PRIMARY TRIPS (E+G+J+L+M+N+O+P)** | | | **28,257** | **—** | **—** | **—** | **807** | **1,683** | **2,490** | **—** | **—** | **—** | **1,807** | **897** | **2,704** |
| **--** | **TOTAL PASS-BY/DIVERTED TRIP REDUCTION (H+K)** | | | **(2,278)** | **—** | **—** | **—** | **(197)** | **(167)** | **(364)** | **—** | **—** | **—** | **(93)** | **(104)** | **(197)** |
| **S** | **INTERNAL/MIXED-USE REDUCTION (R*8.5%)** | **8.5%** | | **(2,402)** | | | | **(69)** | **(143)** | **(211)** | | | | **(154)** | **(76)** | **(230)** |
| | **NET EXTERNAL TRIP GENERATION (R+S)** | | | **25,855** | **—** | **—** | **—** | **738** | **1,540** | **2,279** | **—** | **—** | **—** | **1,653** | **821** | **2,474** |

**Fanita Project**
**April 2019 Specific Plan (No School) - Not Currently Analyzed**

| ID | Land Use | Size | Daily Trip Ends (ADTs) [a] | | AM Peak Hour | | | | | | PM Peak Hour | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Rate [b] | Volume | % of ADT [b] | In:Out Split [b] | In:Out Split [b] | Volume In | Volume Out | Volume Total | % of ADT [b] | In:Out Split [b] | In:Out Split [b] | Volume In | Volume Out | Volume Total |
| | **Residential** | | | | | | | | | | | | | | | |
| A | Low-Density | 1,203 DU | 10 /DU | 12,030 | 8% | 30% | 70% | 289 | 673 | 962 | 10% | 70% | 30% | 842 | 361 | 1203 |
| B | Medium-Density | 925 DU | 8 /DU | 7,400 | 8% | 20% | 80% | 118 | 474 | 592 | 10% | 70% | 30% | 518 | 222 | 740 |
| C | Village Center Multi-Family | 435 DU | 8 /DU | 3,480 | 8% | 20% | 80% | 56 | 222 | 278 | 10% | 70% | 30% | 244 | 104 | 348 |
| D | Active Adult [i] | 445 DU | 4.27 /DU | 1,900 | 0.24 | 33% | 67% | 35 | 72 | 107 | 0.30 | 61% | 39% | 82 | 52 | 134 |
| **E** | **Subtotal Residential (A+B+C+D)** | **3,008** | | **24,810** | **—** | **—** | **—** | **498** | **1,441** | **1,939** | **—** | **—** | **—** | **1,686** | **739** | **2,425** |
| | **Non-Residential** | | | | | | | | | | | | | | | |
| F | Local Serving Retail | 80 KSF | 40 /KSF | 3,200 | 3% | 60% | 40% | 58 | 38 | 96 | 9% | 50% | 50% | 144 | 144 | 288 |
| G | Primary Trips | | 45% | 1,440 | — | — | — | 26 | 17 | 43 | — | — | — | 65 | 65 | 130 |
| H | Pass-by/Diverted Trip Reduction | | 55% | (1,760) | — | — | — | (32) | (21) | (53) | — | — | — | (79) | (79) | (158) |
| I | AgricultureFarm [d] | 38.2 acres | 2 /acre | 76 | 0.26 | 43% | 57% | 4 | 6 | 10 | 0.45 | 57% | 43% | 10 | 7 | 17 |
| J | Active Park [f] | 19.9 acres | 50 /acre | 995 | 4% | 50% | 50% | 20 | 20 | 40 | 8% | 50% | 50% | 40 | 40 | 80 |
| K | Passive Park | 58.5 acres | 5 /acre | 293 | 0.15 | 57% | 43% | 5 | 4 | 9 | 0.2 | 45% | 55% | 5 | 7 | 12 |
| L | Recreation Center [g] | 10 KSF | 28.82 /KSF | 288 | 1.76 | 66% | 34% | 12 | 6 | 18 | 2.31 | 47% | 53% | 11 | 12 | 23 |
| M | RV Parking/Solar Farm [h] | 250 spaces | 0.2 /space | 50 | 6% | 50% | 50% | 2 | 1 | 3 | 9% | 50% | 50% | 3 | 2 | 5 |
| **N** | **Subtotal Non-Residential (F+I+J+K+L+M)** | | | **4,902** | **—** | **—** | **—** | **101** | **75** | **176** | **—** | **—** | **—** | **213** | **212** | **425** |
| | **GROSS TRIP GENERATION (E+N)** | | | **29,712** | **—** | **—** | **—** | **599** | **1,516** | **2,115** | **—** | **—** | **—** | **1,899** | **951** | **2,850** |
| **O** | **TOTAL PRIMARY TRIPS (E+G+I+J+K+L+M)** | | | **27,952** | **—** | **—** | **—** | **567** | **1,495** | **2,062** | **—** | **—** | **—** | **1,820** | **872** | **2,692** |
| -- | **TOTAL PASS-BY/DIVERTED TRIP REDUCTION (H)** | | | **(1,760)** | **—** | **—** | **—** | **(32)** | **(21)** | **(53)** | **—** | **—** | **—** | **(79)** | **(79)** | **(158)** |
| **P** | **INTERNAL/MIXED-USE REDUCTION (O*8.5%)** | **6.2%** | | **(1,733)** | | | | **(35)** | **(93)** | **(128)** | | | | **(113)** | **(54)** | **(167)** |
| | **NET EXTERNAL TRIP GENERATION (O+P)** | | | **26,219** | **—** | **—** | **—** | **532** | **1,402** | **1,934** | **—** | **—** | **—** | **1,707** | **818** | **2,525** |

# APPENDIX E

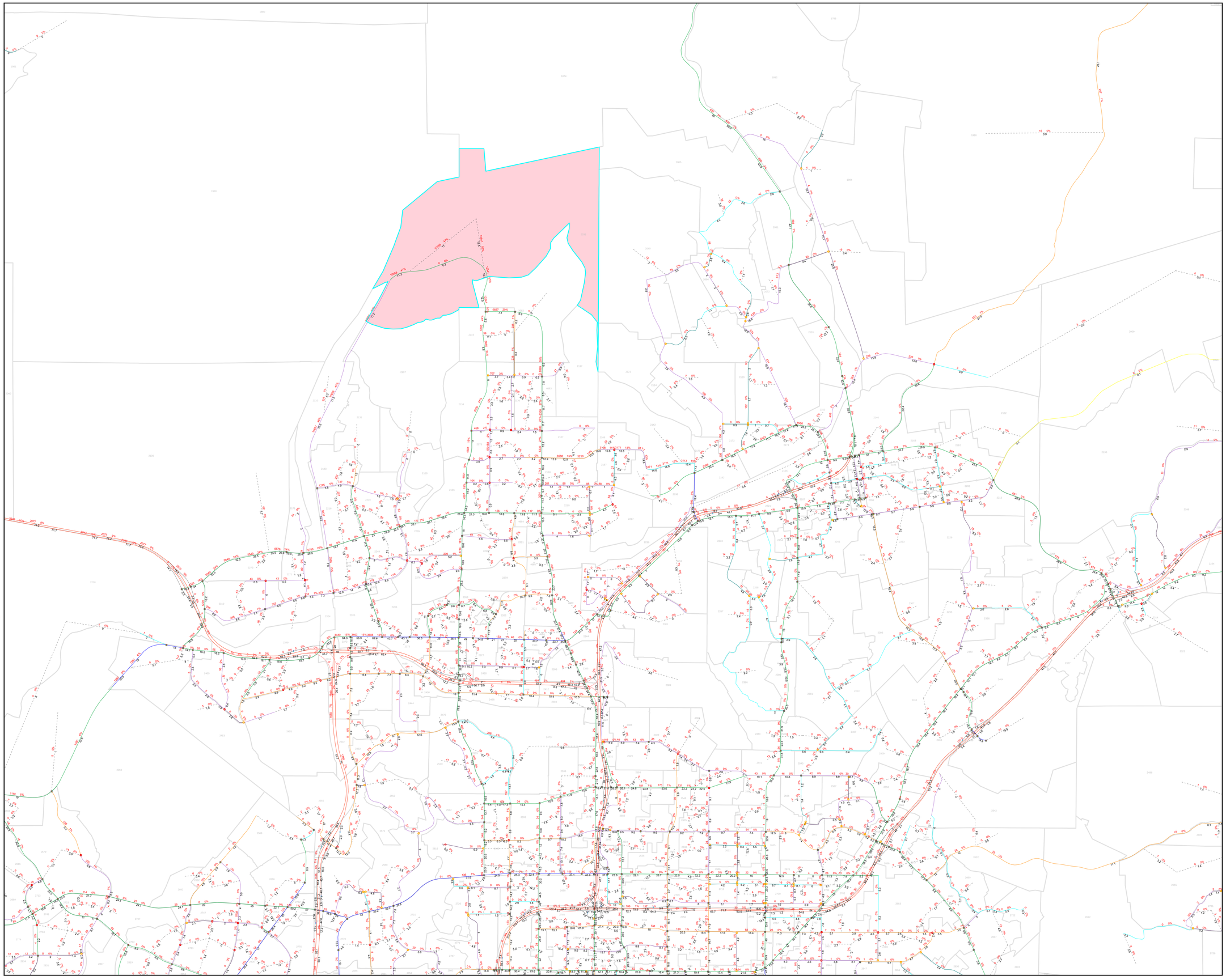
## SANDAG SERIES 12 SELECT ZONE ASSIGNMENT – MOBILITY ELEMENT MODEL YEAR 2035

SANDAG
Series 12

2035rc11rc11prefA
Follow Up
run2

Fanita

Select Zone Plot



**Functional Classifications**

- Freeway
- Prime
- Major
- Collector
- Light Collector
- Rural Collector
- Local
- Freeway Ramp
- Local Ramp
- Zone Connector

**Traffic Analysis Zones**

\# Selz Volumes & Percentage

\# Unadjusted ADT(x1000)

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SAN DIEGO, CALIFORNIA 92101 USA
(619) 699-1900
E-mail: sandag@sandag.org
Web site: www.sandag.org

N

0 0.25 0.5 0.75
Miles

SANDAG

servicebureau

Date: September 15, 2016

# APPENDIX F

## EXISTING + PROJECT PEAK HOUR ANALYSES

# APPENDIX F-1

## EXISTING + PROJECT PEAK HOUR SYNCHRO INTERSECTION SHEETS

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.3 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 15 | 0 | 244 | 7 | 0 | 472 |
| Future Vol, veh/h | 15 | 0 | 244 | 7 | 0 | 472 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | 150 | 50 | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 16 | 0 | 265 | 8 | 0 | 513 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 778 | 265 | 0 | 0 | 273 | 0 |
| Stage 1 | 265 | - | - | - | - | - |
| Stage 2 | 513 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | - | - | 4.12 | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | - | - | 2.218 | - |
| Pot Cap-1 Maneuver | 365 | 774 | - | - | 1290 | - |
| Stage 1 | 779 | - | - | - | - | - |
| Stage 2 | 601 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | |
| Mov Cap-1 Maneuver | 365 | 774 | - | - | 1290 | - |
| Mov Cap-2 Maneuver | 365 | - | - | - | - | - |
| Stage 1 | 779 | - | - | - | - | - |
| Stage 2 | 601 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 15.3 | 0 | 0 |
| HCM LOS | C | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | SBL | SBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 365 | 1290 | - |
| HCM Lane V/C Ratio | - | - | 0.045 | - | - |
| HCM Control Delay (s) | - | - | 15.3 | 0 | - |
| HCM Lane LOS | - | - | C | A | - |
| HCM 95th %tile Q(veh) | - | - | 0.1 | 0 | - |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 12.6 |
| Intersection LOS | B |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 39 | 31 | 4 | 0 | 25 | 206 | 8 | 0 | 393 | 0 |
| Future Vol, veh/h | 0 | 0 | 39 | 31 | 4 | 0 | 25 | 206 | 8 | 0 | 393 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 42 | 34 | 4 | 0 | 27 | 224 | 9 | 0 | 427 | 0 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 3 | 3 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 3 | 3 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 3 | 3 | 1 | 1 |
| HCM Control Delay | 8.7 | 10 | 10 | 14.8 |
| HCM LOS | A | A | A | B |

| Lane | NBLn1 | NBLn2 | NBLn3 | EBLn1 | WBLn1 | SBLn1 | SBLn2 | SBLn3 |
|---|---|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 0% | 89% | 0% | 0% | 0% |
| Vol Thru, % | 0% | 100% | 0% | 0% | 11% | 100% | 100% | 100% |
| Vol Right, % | 0% | 0% | 100% | 100% | 0% | 0% | 0% | 0% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 25 | 206 | 8 | 39 | 35 | 0 | 393 | 0 |
| LT Vol | 25 | 0 | 0 | 0 | 31 | 0 | 0 | 0 |
| Through Vol | 0 | 206 | 0 | 0 | 4 | 0 | 393 | 0 |
| RT Vol | 0 | 0 | 8 | 39 | 0 | 0 | 0 | 0 |
| Lane Flow Rate | 27 | 224 | 9 | 42 | 38 | 0 | 427 | 0 |
| Geometry Grp | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| Degree of Util (X) | 0.043 | 0.319 | 0.011 | 0.065 | 0.071 | 0 | 0.593 | 0 |
| Departure Headway (Hd) | 5.637 | 5.133 | 4.428 | 5.531 | 6.676 | 4.997 | 4.997 | 4.997 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 634 | 699 | 805 | 643 | 534 | 0 | 722 | 0 |
| Service Time | 3.382 | 2.878 | 2.173 | 3.302 | 4.449 | 2.737 | 2.737 | 2.737 |
| HCM Lane V/C Ratio | 0.043 | 0.32 | 0.011 | 0.065 | 0.071 | 0 | 0.591 | 0 |
| HCM Control Delay | 8.6 | 10.3 | 7.2 | 8.7 | 10 | 7.7 | 14.8 | 7.7 |
| HCM Lane LOS | A | B | A | A | A | N | B | N |
| HCM 95th-tile Q | 0.1 | 1.4 | 0 | 0.2 | 0.2 | 0 | 3.9 | 0 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 14.9 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 0 | 0 | 12 | 125 | 0 | 1 | 5 | 397 | 57 | 1 | 766 | 0 |
| Future Vol, veh/h | 0 | 0 | 12 | 125 | 0 | 1 | 5 | 397 | 57 | 1 | 766 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 13 | 136 | 0 | 1 | 5 | 432 | 62 | 1 | 833 | 0 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1309 | 1339 | 833 | 1315 | 1308 | 463 | 833 | 0 | 0 | 494 | 0 | 0 |
| Stage 1 | 835 | 835 | - | 473 | 473 | - | - | - | - | - | - | - |
| Stage 2 | 474 | 504 | - | 842 | 835 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | 4.12 | - | - | 4.12 | - | - |
| Critical Hdwy Stg 1 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | 2.218 | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 136 | 153 | 369 | ~ 135 | 159 | 599 | 800 | - | - | 1070 | - | - |
| Stage 1 | 362 | 383 | - | 572 | 558 | - | - | - | - | - | - | - |
| Stage 2 | 571 | 541 | - | 359 | 383 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 135 | 151 | 369 | ~ 129 | 157 | 599 | 800 | - | - | 1070 | - | - |
| Mov Cap-2 Maneuver | 135 | 151 | - | ~ 129 | 157 | - | - | - | - | - | - | - |
| Stage 1 | 359 | 382 | - | 567 | 553 | - | - | - | - | - | - | - |
| Stage 2 | 565 | 536 | - | 346 | 382 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 15.1 | 159.9 | 0.1 | 0 |
| HCM LOS | C | F | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 800 | - | - | 369 | 130 | 1070 | - | - |
| HCM Lane V/C Ratio | 0.007 | - | - | 0.035 | 1.054 | 0.001 | - | - |
| HCM Control Delay (s) | 9.5 | 0 | - | 15.1 | 159.9 | 8.4 | 0 | - |
| HCM Lane LOS | A | A | - | C | F | A | A | - |
| HCM 95th %tile Q(veh) | 0 | - | - | 0.1 | 7.6 | 0 | - | - |

| Notes |
|---|
| ~: Volume exceeds capacity  $: Delay exceeds 300s  +: Computation Not Defined  *: All major volume in platoon |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 30 |
| Intersection LOS | D |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | ↕ | | | ↕ | | | ↑ | ↱ | | ↑ | ↱ |
| Traffic Vol, veh/h | 0 | 1 | 12 | 227 | 0 | 4 | 3 | 257 | 66 | 8 | 514 | 0 |
| Future Vol, veh/h | 0 | 1 | 12 | 227 | 0 | 4 | 3 | 257 | 66 | 8 | 514 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 1 | 13 | 247 | 0 | 4 | 3 | 279 | 72 | 9 | 559 | 0 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |

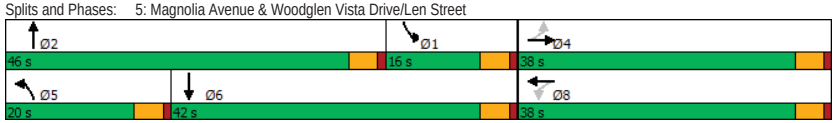
| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay | 10.1 | 15.5 | 17.6 | 44.7 |
| HCM LOS | B | C | C | E |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 98% | 100% | 0% |
| Vol Thru, % | 0% | 80% | 8% | 0% | 0% | 100% |
| Vol Right, % | 0% | 20% | 92% | 2% | 0% | 0% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 3 | 323 | 13 | 231 | 8 | 514 |
| LT Vol | 3 | 0 | 0 | 227 | 8 | 0 |
| Through Vol | 0 | 257 | 1 | 0 | 0 | 514 |
| RT Vol | 0 | 66 | 12 | 4 | 0 | 0 |
| Lane Flow Rate | 3 | 351 | 14 | 251 | 9 | 559 |
| Geometry Grp | 7 | 7 | 2 | 2 | 7 | 7 |
| Degree of Util (X) | 0.006 | 0.597 | 0.027 | 0.466 | 0.016 | 0.928 |
| Departure Headway (Hd) | 6.781 | 6.126 | 6.908 | 6.676 | 6.488 | 5.98 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 525 | 586 | 521 | 537 | 549 | 603 |
| Service Time | 4.561 | 3.905 | 4.908 | 4.762 | 4.254 | 3.746 |
| HCM Lane V/C Ratio | 0.006 | 0.599 | 0.027 | 0.467 | 0.016 | 0.927 |
| HCM Control Delay | 9.6 | 17.7 | 10.1 | 15.5 | 9.4 | 45.3 |
| HCM Lane LOS | A | C | B | C | A | E |
| HCM 95th-tile Q | 0 | 3.9 | 0.1 | 2.4 | 0 | 12 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 17 | 1 | 109 | 44 | 13 | 10 | 35 | 336 | 14 | 7 | 712 | 11 |
| Future Volume (vph) | 17 | 1 | 109 | 44 | 13 | 10 | 35 | 336 | 14 | 7 | 712 | 11 |
| Confl. Peds. (#/hr) | | | 95 | | | 4 | | | 15 | | | 95 |
| Confl. Bikes (#/hr) | | | 1 | | | 1 | | | | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Perm | NA | | Perm | NA | | Prot | NA | | Prot | NA | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 26.5 | 26.5 | | 26.5 | 26.5 | | 11.5 | 22.5 | | 11.5 | 22.5 | |
| Total Split (s) | 38.0 | 38.0 | | 38.0 | 38.0 | | 20.0 | 46.0 | | 16.0 | 42.0 | |
| Total Split (%) | 38.0% | 38.0% | | 38.0% | 38.0% | | 20.0% | 46.0% | | 16.0% | 42.0% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | | | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lead | | Lag | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 42.3 |
| Natural Cycle: 65 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 5: Magnolia Avenue & Woodglen Vista Drive/Len Street






Existing + Proj AM
5: Magnolia Avenue & Woodglen Vista Drive/Len Street
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 17 | 1 | 109 | 44 | 13 | 10 | 35 | 336 | 14 | 7 | 712 | 11 |
| Future Volume (veh/h) | 17 | 1 | 109 | 44 | 13 | 10 | 35 | 336 | 14 | 7 | 712 | 11 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.89 | 0.93 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 0.85 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 18 | 1 | 118 | 48 | 14 | 11 | 38 | 365 | 15 | 8 | 774 | 12 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 596 | 4 | 420 | 331 | 94 | 53 | 104 | 981 | 40 | 234 | 1270 | 20 |
| Arrive On Green | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | 0.06 | 0.28 | 0.28 | 0.13 | 0.36 | 0.36 |
| Sat Flow, veh/h | 1381 | 12 | 1408 | 683 | 314 | 177 | 1781 | 3475 | 142 | 1781 | 3570 | 55 |
| Grp Volume(v), veh/h | 18 | 0 | 119 | 73 | 0 | 0 | 38 | 186 | 194 | 8 | 385 | 401 |
| Grp Sat Flow(s),veh/h/ln | 1381 | 0 | 1420 | 1173 | 0 | 0 | 1781 | 1777 | 1840 | 1781 | 1777 | 1849 |
| Q Serve(g_s), s | 0.0 | 0.0 | 3.0 | 0.6 | 0.0 | 0.0 | 1.0 | 3.9 | 4.0 | 0.2 | 8.4 | 8.4 |
| Cycle Q Clear(g_c), s | 0.3 | 0.0 | 3.0 | 3.6 | 0.0 | 0.0 | 1.0 | 3.9 | 4.0 | 0.2 | 8.4 | 8.4 |
| Prop In Lane | 1.00 | | 0.99 | 0.66 | | 0.15 | 1.00 | | 0.08 | 1.00 | | 0.03 |
| Lane Grp Cap(c), veh/h | 596 | 0 | 423 | 477 | 0 | 0 | 104 | 502 | 520 | 234 | 632 | 657 |
| V/C Ratio(X) | 0.03 | 0.00 | 0.28 | 0.15 | 0.00 | 0.00 | 0.37 | 0.37 | 0.37 | 0.03 | 0.61 | 0.61 |
| Avail Cap(c_a), veh/h | 1170 | 0 | 1014 | 1027 | 0 | 0 | 588 | 1572 | 1628 | 437 | 1420 | 1478 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 11.7 | 0.0 | 12.6 | 12.4 | 0.0 | 0.0 | 21.3 | 13.5 | 13.5 | 17.8 | 12.4 | 12.4 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 0.4 | 0.1 | 0.0 | 0.0 | 2.1 | 0.5 | 0.4 | 0.1 | 1.0 | 0.9 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.1 | 0.0 | 0.9 | 0.5 | 0.0 | 0.0 | 0.4 | 1.3 | 1.4 | 0.1 | 2.6 | 2.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 11.7 | 0.0 | 13.0 | 12.6 | 0.0 | 0.0 | 23.4 | 14.0 | 13.9 | 17.8 | 13.4 | 13.4 |
| LnGrp LOS | B | A | B | B | A | A | C | B | B | B | B | B |
| Approach Vol, veh/h | | 137 | | | 73 | | | 418 | | | 794 | |
| Approach Delay, s/veh | | 12.8 | | | 12.6 | | | 14.8 | | | 13.4 | |
| Approach LOS | | B | | | B | | | B | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 10.7 | 17.7 | | 18.5 | 7.2 | 21.2 | | 18.5 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 11.5 | 41.5 | | 33.5 | 15.5 | 37.5 | | 33.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.2 | 6.0 | | 5.0 | 3.0 | 10.4 | | 5.6 | | | | |
| Green Ext Time (p_c), s | 0.0 | 2.2 | | 0.9 | 0.0 | 4.9 | | 0.4 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 13.7 | |
| HCM 6th LOS | B | |

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\3 Existing + Proj AM.syn

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 137.5 |
| Intersection LOS | F |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 1 | 7 | 258 | 4 | 3 | 5 | 328 | 46 | 1 | 765 | 1 |
| Future Vol, veh/h | 0 | 1 | 7 | 258 | 4 | 3 | 5 | 328 | 46 | 1 | 765 | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 1 | 8 | 280 | 4 | 3 | 5 | 357 | 50 | 1 | 832 | 1 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay | 11.6 | 19.8 | 25.6 | 234.7 |
| HCM LOS | B | C | D | F |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 97% | 100% | 0% |
| Vol Thru, % | 0% | 88% | 12% | 2% | 0% | 100% |
| Vol Right, % | 0% | 12% | 88% | 1% | 0% | 0% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 5 | 374 | 8 | 265 | 1 | 766 |
| LT Vol | 5 | 0 | 0 | 258 | 1 | 0 |
| Through Vol | 0 | 328 | 1 | 4 | 0 | 765 |
| RT Vol | 0 | 46 | 7 | 3 | 0 | 1 |
| Lane Flow Rate | 5 | 407 | 9 | 288 | 1 | 833 |
| Geometry Grp | 7 | 7 | 2 | 2 | 7 | 7 |
| Degree of Util (X) | 0.011 | 0.723 | 0.018 | 0.551 | 0.002 | 1.461 |
| Departure Headway (Hd) | 7.571 | 6.967 | 8.482 | 7.712 | 6.828 | 6.317 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 476 | 524 | 425 | 472 | 524 | 583 |
| Service Time | 5.271 | 4.667 | 6.482 | 5.712 | 4.567 | 4.056 |
| HCM Lane V/C Ratio | 0.011 | 0.777 | 0.021 | 0.61 | 0.002 | 1.429 |
| HCM Control Delay | 10.4 | 25.8 | 11.6 | 19.8 | 9.6 | 235 |
| HCM Lane LOS | B | D | B | C | A | F |
| HCM 95th-tile Q | 0 | 5.9 | 0.1 | 3.3 | 0 | 40.3 |

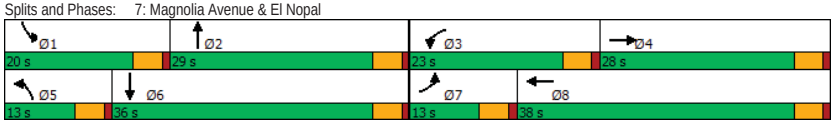




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 45 | 63 | 93 | 136 | 119 | 183 | 48 | 373 | 53 | 277 | 671 | 83 |
| Future Volume (vph) | 45 | 63 | 93 | 136 | 119 | 183 | 48 | 373 | 53 | 277 | 671 | 83 |
| Confl. Peds. (#/hr) | | | | | | 2 | | | | | | |
| Confl. Bikes (#/hr) | | | 2 | | | 2 | | | 1 | | | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | | Prot | NA | |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 11.5 | 26.5 | | 11.5 | 25.5 | | 11.5 | 22.5 | | 11.5 | 22.5 | |
| Total Split (s) | 13.0 | 28.0 | | 23.0 | 38.0 | | 13.0 | 29.0 | | 20.0 | 36.0 | |
| Total Split (%) | 13.0% | 28.0% | | 23.0% | 38.0% | | 13.0% | 29.0% | | 20.0% | 36.0% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | | None | Max | | None | Max | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 83.8 |
| Natural Cycle: 80 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 7: Magnolia Avenue & El Nopal



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 45 | 63 | 93 | 136 | 119 | 183 | 48 | 373 | 53 | 277 | 671 | 83 |
| Future Volume (veh/h) | 45 | 63 | 93 | 136 | 119 | 183 | 48 | 373 | 53 | 277 | 671 | 83 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 49 | 68 | 101 | 148 | 129 | 199 | 52 | 405 | 58 | 301 | 729 | 90 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 102 | 127 | 188 | 187 | 155 | 239 | 106 | 930 | 132 | 336 | 1359 | 168 |
| Arrive On Green | 0.06 | 0.19 | 0.19 | 0.10 | 0.24 | 0.24 | 0.06 | 0.30 | 0.30 | 0.19 | 0.43 | 0.43 |
| Sat Flow, veh/h | 1781 | 673 | 1000 | 1781 | 656 | 1012 | 1781 | 3114 | 443 | 1781 | 3174 | 392 |
| Grp Volume(v), veh/h | 49 | 0 | 169 | 148 | 0 | 328 | 52 | 230 | 233 | 301 | 408 | 411 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1673 | 1781 | 0 | 1668 | 1781 | 1777 | 1779 | 1781 | 1777 | 1789 |
| Q Serve(g_s), s | 2.2 | 0.0 | 7.5 | 6.7 | 0.0 | 15.3 | 2.3 | 8.5 | 8.7 | 13.5 | 14.0 | 14.0 |
| Cycle Q Clear(g_c), s | 2.2 | 0.0 | 7.5 | 6.7 | 0.0 | 15.3 | 2.3 | 8.5 | 8.7 | 13.5 | 14.0 | 14.0 |
| Prop In Lane | 1.00 | | 0.60 | 1.00 | | 0.61 | 1.00 | | 0.25 | 1.00 | | 0.22 |
| Lane Grp Cap(c), veh/h | 102 | 0 | 315 | 187 | 0 | 393 | 106 | 530 | 531 | 336 | 761 | 766 |
| V/C Ratio(X) | 0.48 | 0.00 | 0.54 | 0.79 | 0.00 | 0.83 | 0.49 | 0.43 | 0.44 | 0.89 | 0.54 | 0.54 |
| Avail Cap(c_a), veh/h | 185 | 0 | 479 | 402 | 0 | 681 | 185 | 530 | 531 | 336 | 761 | 766 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 37.5 | 0.0 | 30.1 | 35.9 | 0.0 | 29.8 | 37.4 | 23.2 | 23.2 | 32.5 | 17.4 | 17.4 |
| Incr Delay (d2), s/veh | 3.5 | 0.0 | 1.4 | 7.4 | 0.0 | 4.7 | 3.5 | 2.6 | 2.6 | 24.9 | 2.7 | 2.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.0 | 0.0 | 3.1 | 3.2 | 0.0 | 6.5 | 1.1 | 3.7 | 3.8 | 7.8 | 5.7 | 5.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 40.9 | 0.0 | 31.5 | 43.2 | 0.0 | 34.5 | 40.9 | 25.8 | 25.9 | 57.3 | 20.1 | 20.1 |
| LnGrp LOS | D | A | C | D | A | C | D | C | C | E | C | C |
| Approach Vol, veh/h | | 218 | | | 476 | | | 515 | | | 1120 | |
| Approach Delay, s/veh | | 33.6 | | | 37.2 | | | 27.3 | | | 30.1 | |
| Approach LOS | | C | | | D | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 20.0 | 29.0 | 13.1 | 20.0 | 9.4 | 39.6 | 9.2 | 23.9 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 15.5 | 24.5 | 18.5 | 23.5 | 8.5 | 31.5 | 8.5 | 33.5 |
| Max Q Clear Time (g_c+I1), s | 15.5 | 10.7 | 8.7 | 9.5 | 4.3 | 16.0 | 4.2 | 17.3 |
| Green Ext Time (p_c), s | 0.0 | 2.1 | 0.3 | 0.8 | 0.0 | 4.4 | 0.0 | 2.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 31.3 |
| HCM 6th LOS | C |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 23.2 |
| Intersection LOS | C |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 402 | 20 | 170 | 309 | 14 | 220 |
| Future Vol, veh/h | 402 | 20 | 170 | 309 | 14 | 220 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 437 | 22 | 185 | 336 | 15 | 239 |
| Number of Lanes | 1 | 1 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB |
|---|---|---|---|
| Opposing Approach | WB | EB | |
| Opposing Lanes | 1 | 2 | 0 |
| Conflicting Approach Left | | NB | EB |
| Conflicting Lanes Left | 0 | 1 | 2 |
| Conflicting Approach Right | NB | | WB |
| Conflicting Lanes Right | 1 | 0 | 1 |
| HCM Control Delay | 22.5 | 28.6 | 13.2 |
| HCM LOS | C | D | B |

| Lane | NBLn1 | EBLn1 | EBLn2 | WBLn1 |
|---|---|---|---|---|
| Vol Left, % | 6% | 0% | 0% | 35% |
| Vol Thru, % | 0% | 100% | 0% | 65% |
| Vol Right, % | 94% | 0% | 100% | 0% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 234 | 402 | 20 | 479 |
| LT Vol | 14 | 0 | 0 | 170 |
| Through Vol | 0 | 402 | 0 | 309 |
| RT Vol | 220 | 0 | 20 | 0 |
| Lane Flow Rate | 254 | 437 | 22 | 521 |
| Geometry Grp | 2 | 7 | 7 | 5 |
| Degree of Util (X) | 0.417 | 0.727 | 0.032 | 0.813 |
| Departure Headway (Hd) | 5.906 | 5.99 | 5.279 | 5.623 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 605 | 603 | 675 | 640 |
| Service Time | 3.979 | 3.746 | 3.034 | 3.676 |
| HCM Lane V/C Ratio | 0.42 | 0.725 | 0.033 | 0.814 |
| HCM Control Delay | 13.2 | 23.2 | 8.2 | 28.6 |
| HCM Lane LOS | B | C | A | D |
| HCM 95th-tile Q | 2.1 | 6.1 | 0.1 | 8.3 |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 13.3 |
| Intersection LOS | F |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 88 | 43 | 403 | 74 | 68 | 803 |
| Future Vol, veh/h | 88 | 43 | 403 | 74 | 68 | 803 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 96 | 47 | 438 | 80 | 74 | 873 |
| Number of Lanes | 1 | 0 | 1 | 0 | 0 | 1 |

| Approach | WB | NB | SB |
|---|---|---|---|
| Opposing Approach | | SB | NB |
| Opposing Lanes | 0 | 1 | 1 |
| Conflicting Approach Left | NB | | WB |
| Conflicting Lanes Left | 1 | 0 | 1 |
| Conflicting Approach Right | SB | WB | |
| Conflicting Lanes Right | 1 | 1 | 0 |
| HCM Control Delay | 12.8 | 23.4 | 177.7 |
| HCM LOS | B | C | F |

| Lane | NBLn1 | WBLn1 | SBLn1 |
|---|---|---|---|
| Vol Left, % | 0% | 67% | 8% |
| Vol Thru, % | 84% | 0% | 92% |
| Vol Right, % | 16% | 33% | 0% |
| Sign Control | Stop | Stop | Stop |
| Traffic Vol by Lane | 477 | 131 | 871 |
| LT Vol | 0 | 88 | 68 |
| Through Vol | 403 | 0 | 803 |
| RT Vol | 74 | 43 | 0 |
| Lane Flow Rate | 518 | 142 | 947 |
| Geometry Grp | 1 | 1 | 1 |
| Degree of Util (X) | 0.748 | 0.261 | 1.336 |
| Departure Headway (Hd) | 5.615 | 7.257 | 5.082 |
| Convergence, Y/N | Yes | Yes | Yes |
| Cap | 648 | 498 | 710 |
| Service Time | 3.615 | 5.257 | 3.171 |
| HCM Lane V/C Ratio | 0.799 | 0.285 | 1.334 |
| HCM Control Delay | 23.4 | 12.8 | 177.7 |
| HCM Lane LOS | C | B | F |
| HCM 95th-tile Q | 6.7 | 1 | 38.3 |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 11.6 |
| Intersection LOS | B |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 3 | 20 | 258 | 8 | 26 | 10 | 240 | 38 | 4 | 2 | 27 | 1 |
| Future Vol, veh/h | 3 | 20 | 258 | 8 | 26 | 10 | 240 | 38 | 4 | 2 | 27 | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 3 | 22 | 280 | 9 | 28 | 11 | 261 | 41 | 4 | 2 | 29 | 1 |
| Number of Lanes | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 2 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 2 | 2 | 3 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 3 | 2 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 3 | 2 | 1 | 2 |
| HCM Control Delay | 10.8 | 9.5 | 13 | 9.4 |
| HCM LOS | B | A | B | A |

| Lane | NBLn1 | NBLn2 | NBLn3 | EBLn1 | EBLn2 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 13% | 0% | 18% | 100% | 0% |
| Vol Thru, % | 0% | 100% | 76% | 87% | 0% | 59% | 0% | 96% |
| Vol Right, % | 0% | 0% | 24% | 0% | 100% | 23% | 0% | 4% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 240 | 25 | 17 | 23 | 258 | 44 | 2 | 28 |
| LT Vol | 240 | 0 | 0 | 3 | 0 | 8 | 2 | 0 |
| Through Vol | 0 | 25 | 13 | 20 | 0 | 26 | 0 | 27 |
| RT Vol | 0 | 0 | 4 | 0 | 258 | 10 | 0 | 1 |
| Lane Flow Rate | 261 | 28 | 18 | 25 | 280 | 48 | 2 | 30 |
| Geometry Grp | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| Degree of Util (X) | 0.448 | 0.043 | 0.028 | 0.04 | 0.389 | 0.083 | 0.004 | 0.054 |
| Departure Headway (Hd) | 6.186 | 5.681 | 5.512 | 5.76 | 4.993 | 6.237 | 6.879 | 6.346 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 584 | 633 | 653 | 615 | 712 | 576 | 522 | 566 |
| Service Time | 3.893 | 3.388 | 3.219 | 3.559 | 2.792 | 3.958 | 4.596 | 4.063 |
| HCM Lane V/C Ratio | 0.447 | 0.044 | 0.028 | 0.041 | 0.393 | 0.083 | 0.004 | 0.053 |
| HCM Control Delay | 13.8 | 8.6 | 8.4 | 8.8 | 11 | 9.5 | 9.6 | 9.4 |
| HCM Lane LOS | B | A | A | A | B | A | A | A |
| HCM 95th-tile Q | 2.3 | 0.1 | 0.1 | 0.1 | 1.8 | 0.3 | 0 | 0.2 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 4.8 |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 8 | 41 | 23 | 20 | 0 | 31 |
| Future Vol, veh/h | 8 | 41 | 23 | 20 | 0 | 31 |
| Conflicting Peds, #/hr | 1 | 1 | 1 | 0 | 0 | 1 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | 150 | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 9 | 45 | 25 | 22 | 0 | 34 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 91 | 19 | 35 | 0 | - | 0 |
| Stage 1 | 18 | - | - | - | - | - |
| Stage 2 | 73 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | 4.12 | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | 2.218 | - | - | - |
| Pot Cap-1 Maneuver | 909 | 1059 | 1576 | - | - | - |
| Stage 1 | 1005 | - | - | - | - | - |
| Stage 2 | 950 | - | - | - | - | - |
| Platoon blocked, % | | | | | - | - |
| Mov Cap-1 Maneuver | 893 | 1057 | 1575 | - | - | - |
| Mov Cap-2 Maneuver | 893 | - | - | - | - | - |
| Stage 1 | 988 | - | - | - | - | - |
| Stage 2 | 949 | - | - | - | - | - |

| Approach | EB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 8.7 | 3.9 | 0 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1575 | - | 1026 | - | - |
| HCM Lane V/C Ratio | 0.016 | - | 0.052 | - | - |
| HCM Control Delay (s) | 7.3 | - | 8.7 | - | - |
| HCM Lane LOS | A | - | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | 0.2 | - | - |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 264.3 |
| Intersection LOS | F |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 11 | 90 | 1 | 1 | 1 | 388 | 29 | 3 | 1004 | 0 |
| Future Vol, veh/h | 0 | 0 | 11 | 90 | 1 | 1 | 1 | 388 | 29 | 3 | 1004 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 12 | 98 | 1 | 1 | 1 | 422 | 32 | 3 | 1091 | 0 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 3 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 3 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 3 | 2 | 1 | 1 |
| HCM Control Delay | 11.3 | 14.2 | 19.5 | 391.5 |
| HCM LOS | B | B | C | F |

| Lane | NBLn1 | NBLn2 | NBLn3 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 0% | 98% | 100% | 0% |
| Vol Thru, % | 0% | 100% | 0% | 0% | 1% | 0% | 100% |
| Vol Right, % | 0% | 0% | 100% | 100% | 1% | 0% | 0% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 1 | 388 | 29 | 11 | 92 | 3 | 1004 |
| LT Vol | 1 | 0 | 0 | 0 | 90 | 3 | 0 |
| Through Vol | 0 | 388 | 0 | 0 | 1 | 0 | 1004 |
| RT Vol | 0 | 0 | 29 | 11 | 1 | 0 | 0 |
| Lane Flow Rate | 1 | 422 | 32 | 12 | 100 | 3 | 1091 |
| Geometry Grp | 7 | 7 | 7 | 7 | 7 | 8 | 8 |
| Degree of Util (X) | 0.002 | 0.658 | 0.043 | 0.023 | 0.213 | 0.006 | 1.824 |
| Departure Headway (Hd) | 6.798 | 6.288 | 5.574 | 8.369 | 9.085 | 6.522 | 6.018 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 530 | 578 | 646 | 430 | 398 | 546 | 611 |
| Service Time | 4.498 | 3.988 | 3.274 | 6.069 | 6.785 | 4.3 | 3.795 |
| HCM Lane V/C Ratio | 0.002 | 0.73 | 0.05 | 0.028 | 0.251 | 0.005 | 1.786 |
| HCM Control Delay | 9.5 | 20.3 | 8.5 | 11.3 | 14.2 | 9.3 | 392.6 |
| HCM Lane LOS | A | C | A | B | B | A | F |
| HCM 95th-tile Q | 0 | 4.8 | 0.1 | 0.1 | 0.8 | 0 | 66.9 |

| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 158 | 33 | 458 | 103 | 109 | 927 |
| Future Volume (vph) | 158 | 33 | 458 | 103 | 109 | 927 |
| Confl. Peds. (#/hr) | | 4 | | 11 | | |
| Confl. Bikes (#/hr) | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | 0% | | | 0% |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | NA | | Prot | NA |
| Protected Phases | 8 | | 2 | | 1 | 6 |
| Permitted Phases | | 8 | | | | |
| Detector Phase | 8 | 8 | 2 | | 1 | 6 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | | 8.5 | 20.5 |
| Total Split (s) | 22.5 | 22.5 | 22.5 | | 10.0 | 32.5 |
| Total Split (%) | 40.9% | 40.9% | 40.9% | | 18.2% | 59.1% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Lead/Lag | | | Lag | | Lead | |
| Lead-Lag Optimize? | | | Yes | | Yes | |
| Recall Mode | None | None | Min | | None | Min |

**Intersection Summary**

Cycle Length: 55
Actuated Cycle Length: 41
Natural Cycle: 55
Control Type: Semi Act-Uncoord

Splits and Phases: 13: Magnolia Avenue & 2nd Street

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 158 | 33 | 458 | 103 | 109 | 927 |
| Future Volume (veh/h) | 158 | 33 | 458 | 103 | 109 | 927 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | | 0.98 | 1.00 | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | No | | | No |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 172 | 36 | 498 | 112 | 118 | 1008 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 255 | 227 | 913 | 204 | 149 | 1966 |
| Arrive On Green | 0.14 | 0.14 | 0.32 | 0.32 | 0.08 | 0.55 |
| Sat Flow, veh/h | 1781 | 1585 | 2969 | 643 | 1781 | 3647 |
| Grp Volume(v), veh/h | 172 | 36 | 307 | 303 | 118 | 1008 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 1777 | 1741 | 1781 | 1777 |
| Q Serve(g_s), s | 2.7 | 0.6 | 4.2 | 4.3 | 1.9 | 5.2 |
| Cycle Q Clear(g_c), s | 2.7 | 0.6 | 4.2 | 4.3 | 1.9 | 5.2 |
| Prop In Lane | 1.00 | 1.00 | | 0.37 | 1.00 | |
| Lane Grp Cap(c), veh/h | 255 | 227 | 564 | 553 | 149 | 1966 |
| V/C Ratio(X) | 0.67 | 0.16 | 0.54 | 0.55 | 0.79 | 0.51 |
| Avail Cap(c_a), veh/h | 1081 | 962 | 1079 | 1057 | 330 | 3356 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 12.0 | 11.1 | 8.3 | 8.4 | 13.3 | 4.1 |
| Incr Delay (d2), s/veh | 3.1 | 0.3 | 0.8 | 0.9 | 8.9 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.0 | 0.2 | 1.0 | 1.0 | 0.9 | 0.3 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 15.1 | 11.5 | 9.2 | 9.2 | 22.3 | 4.3 |
| LnGrp LOS | B | B | A | A | C | A |
| Approach Vol, veh/h | 208 | | 610 | | | 1126 |
| Approach Delay, s/veh | 14.5 | | 9.2 | | | 6.2 |
| Approach LOS | B | | A | | | A |

| Timer - Assigned Phs | 1 | 2 | | | 6 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.0 | 13.9 | | | 20.9 | 8.8 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 5.5 | 18.0 | | | 28.0 | 18.0 |
| Max Q Clear Time (g_c+I1), s | 3.9 | 6.3 | | | 7.2 | 4.7 |
| Green Ext Time (p_c), s | 0.0 | 2.7 | | | 6.9 | 0.5 |

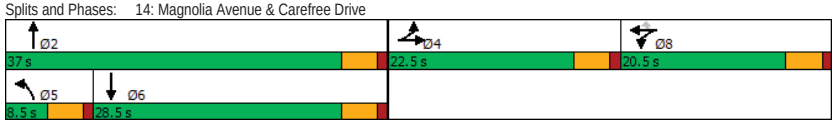
| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 8.0 | |
| HCM 6th LOS | | A | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 14 | 0 | 57 | 185 | 0 | 30 | 17 | 530 | 0 | 0 | 1037 | 19 |
| Future Volume (vph) | 14 | 0 | 57 | 185 | 0 | 30 | 17 | 530 | 0 | 0 | 1037 | 19 |
| Confl. Peds. (#/hr) | | | 115 | | | | | | 13 | | | 18 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | 50% | | | | | | | | |
| Turn Type | Split | NA | | Split | NA | Perm | Prot | NA | | | NA | |
| Protected Phases | 4 | 4 | | 8 | 8 | | 5 | 2 | | | 6 | |
| Permitted Phases | | | | | | 8 | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | 8 | 5 | 2 | | | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | | 4.0 | |
| Minimum Split (s) | 22.5 | 22.5 | | 20.5 | 20.5 | 20.5 | 8.5 | 22.5 | | | 22.5 | |
| Total Split (s) | 22.5 | 22.5 | | 20.5 | 20.5 | 20.5 | 8.5 | 37.0 | | | 28.5 | |
| Total Split (%) | 28.1% | 28.1% | | 25.6% | 25.6% | 25.6% | 10.6% | 46.3% | | | 35.6% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | 0.0 | |
| Total Lost Time (s) | | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | | 4.5 | |
| Lead/Lag | | | | | | | Lead | | | | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | | | | Yes | |
| Recall Mode | None | None | | None | None | None | None | Min | | | Min | |

**Intersection Summary**

Cycle Length: 80
Actuated Cycle Length: 53.5
Natural Cycle: 80
Control Type: Semi Act-Uncoord

Splits and Phases: 14: Magnolia Avenue & Carefree Drive






Existing + Proj AM
14: Magnolia Avenue & Carefree Drive
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 14 | 0 | 57 | 185 | 0 | 30 | 17 | 530 | 0 | 0 | 1037 | 19 |
| Future Volume (veh/h) | 14 | 0 | 57 | 185 | 0 | 30 | 17 | 530 | 0 | 0 | 1037 | 19 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.84 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.96 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 0 | 0 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 15 | 0 | 62 | 201 | 0 | 33 | 18 | 576 | 0 | 0 | 1127 | 21 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 0 | 0 | 2 | 2 |
| Cap, veh/h | 57 | 0 | 238 | 339 | 0 | 151 | 31 | 1654 | 0 | 0 | 1326 | 25 |
| Arrive On Green | 0.21 | 0.00 | 0.21 | 0.10 | 0.00 | 0.10 | 0.02 | 0.47 | 0.00 | 0.00 | 0.37 | 0.37 |
| Sat Flow, veh/h | 272 | 0 | 1124 | 3563 | 0 | 1585 | 1781 | 3647 | 0 | 0 | 3659 | 66 |
| Grp Volume(v), veh/h | 77 | 0 | 0 | 201 | 0 | 33 | 18 | 576 | 0 | 0 | 562 | 586 |
| Grp Sat Flow(s),veh/h/ln | 1396 | 0 | 0 | 1781 | 0 | 1585 | 1781 | 1777 | 0 | 0 | 1777 | 1855 |
| Q Serve(g_s), s | 2.7 | 0.0 | 0.0 | 3.2 | 0.0 | 1.1 | 0.6 | 6.1 | 0.0 | 0.0 | 17.2 | 17.2 |
| Cycle Q Clear(g_c), s | 2.7 | 0.0 | 0.0 | 3.2 | 0.0 | 1.1 | 0.6 | 6.1 | 0.0 | 0.0 | 17.2 | 17.2 |
| Prop In Lane | 0.19 | | 0.81 | 1.00 | | 1.00 | 1.00 | | 0.00 | 0.00 | | 0.04 |
| Lane Grp Cap(c), veh/h | 295 | 0 | 0 | 339 | 0 | 151 | 31 | 1654 | 0 | 0 | 661 | 690 |
| V/C Ratio(X) | 0.26 | 0.00 | 0.00 | 0.59 | 0.00 | 0.22 | 0.58 | 0.35 | 0.00 | 0.00 | 0.85 | 0.85 |
| Avail Cap(c_a), veh/h | 424 | 0 | 0 | 963 | 0 | 428 | 120 | 1951 | 0 | 0 | 720 | 752 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 19.5 | 0.0 | 0.0 | 25.7 | 0.0 | 24.7 | 28.9 | 10.1 | 0.0 | 0.0 | 17.1 | 17.1 |
| Incr Delay (d2), s/veh | 0.5 | 0.0 | 0.0 | 1.6 | 0.0 | 0.7 | 16.3 | 0.1 | 0.0 | 0.0 | 8.9 | 8.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.9 | 0.0 | 0.0 | 1.4 | 0.0 | 0.4 | 0.4 | 1.9 | 0.0 | 0.0 | 7.4 | 7.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 19.9 | 0.0 | 0.0 | 27.3 | 0.0 | 25.5 | 45.1 | 10.2 | 0.0 | 0.0 | 26.0 | 25.7 |
| LnGrp LOS | B | A | A | C | A | C | D | B | A | A | C | C |
| Approach Vol, veh/h | | 77 | | | 234 | | | 594 | | | 1148 | |
| Approach Delay, s/veh | | 19.9 | | | 27.1 | | | 11.3 | | | 25.8 | |
| Approach LOS | | B | | | C | | | B | | | C | |

| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 32.0 | | 17.0 | 5.5 | 26.5 | | 10.1 | | | | |
| Change Period (Y+Rc), s | | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | | 32.5 | | 18.0 | 4.0 | 24.0 | | 16.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 8.1 | | 4.7 | 2.6 | 19.2 | | 5.2 | | | | |
| Green Ext Time (p_c), s | | 3.7 | | 0.3 | 0.0 | 2.8 | | 0.6 | | | | |

**Intersection Summary**

| | | |
|---|---|---|
| HCM 6th Ctrl Delay | 21.5 | |
| HCM 6th LOS | C | |

**Notes**

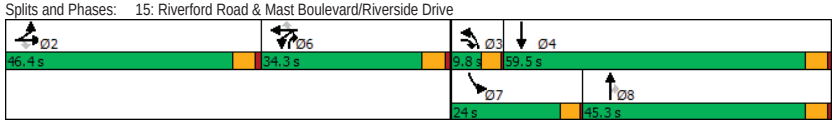
User approved volume balancing among the lanes for turning movement.

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\3 Existing + Proj AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 30 | 30 | 50 | 444 | 11 | 262 | 16 | 219 | 321 | 350 | 371 | 13 |
| Future Volume (vph) | 30 | 30 | 50 | 444 | 11 | 262 | 16 | 219 | 321 | 350 | 371 | 13 |
| Confl. Peds. (#/hr) | | | 4 | | | 3 | | | 7 | | | |
| Confl. Bikes (#/hr) | | | 1 | | | 2 | | | 2 | | | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Split | NA | pm+ov | Split | NA | Perm | Prot | NA | pm+ov | Prot | NA | |
| Protected Phases | 2 | 2 | 3 | 6 | 6 | | 3 | 8 | 6 | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | 8 | | | |
| Detector Phase | 2 | 2 | 3 | 6 | 6 | 6 | 3 | 8 | 6 | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 6.0 | 6.0 | 5.0 | 4.0 | 4.0 | 4.0 | 5.0 | 6.0 | 4.0 | 4.0 | 6.0 | |
| Minimum Split (s) | 45.3 | 45.3 | 9.1 | 34.3 | 34.3 | 34.3 | 9.1 | 45.3 | 34.3 | 8.6 | 49.9 | |
| Total Split (s) | 46.4 | 46.4 | 9.8 | 34.3 | 34.3 | 34.3 | 9.8 | 45.3 | 34.3 | 24.0 | 59.5 | |
| Total Split (%) | 30.9% | 30.9% | 6.5% | 22.9% | 22.9% | 22.9% | 6.5% | 30.2% | 22.9% | 16.0% | 39.7% | |
| Yellow Time (s) | 4.3 | 4.3 | 3.6 | 4.3 | 4.3 | 4.3 | 3.6 | 3.9 | 4.3 | 3.6 | 3.9 | |
| All-Red Time (s) | 1.0 | 1.0 | 0.5 | 1.0 | 1.0 | 1.0 | 0.5 | 1.0 | 1.0 | 0.5 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 5.3 | 5.3 | 4.1 | 5.3 | 5.3 | 5.3 | 4.1 | 4.9 | 5.3 | 4.1 | 4.9 | |
| Lead/Lag | | | Lead | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | Yes | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | None | None | None | None | None | Min | None | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 150 |
| Actuated Cycle Length: 92.1 |
| Natural Cycle: 150 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 15: Riverford Road & Mast Boulevard/Riverside Drive






Existing + Proj AM
15: Riverford Road & Mast Boulevard/Riverside Drive
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 30 | 30 | 50 | 444 | 11 | 262 | 16 | 219 | 321 | 350 | 371 | 13 |
| Future Volume (veh/h) | 30 | 30 | 50 | 444 | 11 | 262 | 16 | 219 | 321 | 350 | 371 | 13 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.95 | 1.00 | | 0.97 | 1.00 | | 0.98 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 33 | 33 | 54 | 483 | 12 | 285 | 17 | 238 | 349 | 380 | 403 | 14 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 150 | 300 | 278 | 793 | 815 | 353 | 35 | 432 | 722 | 408 | 792 | 28 |
| Arrive On Green | 0.08 | 0.08 | 0.08 | 0.23 | 0.23 | 0.23 | 0.02 | 0.23 | 0.23 | 0.23 | 0.44 | 0.44 |
| Sat Flow, veh/h | 1781 | 3554 | 2657 | 3456 | 3554 | 1538 | 1781 | 1870 | 1549 | 1781 | 1796 | 62 |
| Grp Volume(v), veh/h | 33 | 33 | 54 | 483 | 12 | 285 | 17 | 238 | 349 | 380 | 0 | 417 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1329 | 1728 | 1777 | 1538 | 1781 | 1870 | 1549 | 1781 | 0 | 1858 |
| Q Serve(g_s), s | 1.5 | 0.7 | 1.6 | 10.9 | 0.2 | 15.2 | 0.8 | 9.7 | 13.6 | 18.1 | 0.0 | 14.0 |
| Cycle Q Clear(g_c), s | 1.5 | 0.7 | 1.6 | 10.9 | 0.2 | 15.2 | 0.8 | 9.7 | 13.6 | 18.1 | 0.0 | 14.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.03 |
| Lane Grp Cap(c), veh/h | 150 | 300 | 278 | 793 | 815 | 353 | 35 | 432 | 722 | 408 | 0 | 820 |
| V/C Ratio(X) | 0.22 | 0.11 | 0.19 | 0.61 | 0.01 | 0.81 | 0.49 | 0.55 | 0.48 | 0.93 | 0.00 | 0.51 |
| Avail Cap(c_a), veh/h | 844 | 1683 | 1312 | 1155 | 1187 | 514 | 117 | 871 | 1085 | 408 | 0 | 1169 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 37.1 | 36.7 | 35.6 | 30.0 | 25.9 | 31.6 | 42.1 | 29.4 | 16.3 | 32.8 | 0.0 | 17.5 |
| Incr Delay (d2), s/veh | 0.7 | 0.2 | 0.3 | 0.8 | 0.0 | 6.0 | 10.5 | 1.1 | 0.5 | 27.8 | 0.0 | 0.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.7 | 0.3 | 0.5 | 4.4 | 0.1 | 6.1 | 0.5 | 4.4 | 7.2 | 10.7 | 0.0 | 5.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 37.8 | 36.9 | 35.9 | 30.7 | 25.9 | 37.7 | 52.6 | 30.5 | 16.8 | 60.6 | 0.0 | 18.0 |
| LnGrp LOS | D | D | D | C | C | D | D | C | B | E | A | B |
| Approach Vol, veh/h | | 120 | | | 780 | | | 604 | | | 797 | |
| Approach Delay, s/veh | | 36.7 | | | 33.2 | | | 23.2 | | | 38.3 | |
| Approach LOS | | D | | | C | | | C | | | D | |

| Timer - Assigned Phs | 2 | 3 | 4 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 12.6 | 5.8 | 43.2 | 25.2 | 24.0 | 25.0 |
| Change Period (Y+Rc), s | 5.3 | 4.1 | 4.9 | 5.3 | 4.1 | 4.9 |
| Max Green Setting (Gmax), s | 41.1 | 5.7 | 54.6 | 29.0 | 19.9 | 40.4 |
| Max Q Clear Time (g_c+I1), s | 3.6 | 2.8 | 16.0 | 17.2 | 20.1 | 15.6 |
| Green Ext Time (p_c), s | 0.5 | 0.0 | 2.9 | 2.4 | 0.0 | 2.7 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 32.5 | |
| HCM 6th LOS | C | |

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\3 Existing + Proj AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 6 | 0 | 88 | 3 | 0 | 0 | 0 | 0 | 465 | 0 | 2 |
| Future Volume (vph) | 0 | 6 | 0 | 88 | 3 | 0 | 0 | 0 | 0 | 465 | 0 | 2 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | 1 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | 50% | | |
| Turn Type | | NA | | Split | NA | | | | | Split | NA | |
| Protected Phases | | 8 | | 4 | 4 | | | | | 2 | 2 | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | | 8 | | 4 | 4 | | | | | 2 | 2 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | 7.0 | | 8.0 | 8.0 | | | | | 5.0 | 5.0 | |
| Minimum Split (s) | | 25.1 | | 28.4 | 28.4 | | | | | 32.3 | 32.3 | |
| Total Split (s) | | 25.1 | | 30.0 | 30.0 | | | | | 34.9 | 34.9 | |
| Total Split (%) | | 27.9% | | 33.3% | 33.3% | | | | | 38.8% | 38.8% | |
| Yellow Time (s) | | 4.1 | | 4.4 | 4.4 | | | | | 4.1 | 4.1 | |
| All-Red Time (s) | | 1.0 | | 1.0 | 1.0 | | | | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | | 0.0 | 0.0 | | | | | 0.0 | 0.0 | |
| Total Lost Time (s) | | 5.1 | | 5.4 | 5.4 | | | | | 5.1 | 5.1 | |
| Lead/Lag | | | | | | | | | | | | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Recall Mode | | None | | None | None | | | | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 90 |
| Actuated Cycle Length: 34.6 |
| Natural Cycle: 90 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 16: SR 52 EB Ramps & Mast Blvd

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 6 | 0 | 88 | 3 | 0 | 0 | 0 | 0 | 465 | 0 | 2 |
| Future Volume (veh/h) | 0 | 6 | 0 | 88 | 3 | 0 | 0 | 0 | 0 | 465 | 0 | 2 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | | | | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | | | | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | | | | No | |
| Adj Sat Flow, veh/h/ln | 0 | 1870 | 1870 | 1870 | 1870 | 0 | | | | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 7 | 0 | 96 | 3 | 0 | | | | 507 | 0 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 0 | 2 | 2 | 2 | 2 | 0 | | | | 2 | 2 | 2 |
| Cap, veh/h | 0 | 25 | 0 | 275 | 289 | 0 | | | | 931 | 489 | 0 |
| Arrive On Green | 0.00 | 0.01 | 0.00 | 0.15 | 0.15 | 0.00 | | | | 0.26 | 0.00 | 0.00 |
| Sat Flow, veh/h | 0 | 1870 | 0 | 1781 | 1870 | 0 | | | | 3563 | 1870 | 0 |
| Grp Volume(v), veh/h | 0 | 7 | 0 | 96 | 3 | 0 | | | | 507 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 0 | 1870 | 0 | 1781 | 1870 | 0 | | | | 1781 | 1870 | 0 |
| Q Serve(g_s), s | 0.0 | 0.1 | 0.0 | 1.3 | 0.0 | 0.0 | | | | 3.3 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 0.0 | 0.1 | 0.0 | 1.3 | 0.0 | 0.0 | | | | 3.3 | 0.0 | 0.0 |
| Prop In Lane | 0.00 | | 0.00 | 1.00 | | 0.00 | | | | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 0 | 25 | 0 | 275 | 289 | 0 | | | | 931 | 489 | 0 |
| V/C Ratio(X) | 0.00 | 0.28 | 0.00 | 0.35 | 0.01 | 0.00 | | | | 0.54 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 0 | 1369 | 0 | 1603 | 1683 | 0 | | | | 3884 | 2039 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | | | | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 0.0 | 13.4 | 0.0 | 10.3 | 9.8 | 0.0 | | | | 8.7 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 0.0 | 2.3 | 0.0 | 0.8 | 0.0 | 0.0 | | | | 0.5 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.0 | 0.0 | 0.4 | 0.0 | 0.0 | | | | 0.9 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 15.6 | 0.0 | 11.1 | 9.8 | 0.0 | | | | 9.2 | 0.0 | 0.0 |
| LnGrp LOS | A | B | A | B | A | A | | | | A | A | A |
| Approach Vol, veh/h | | 7 | | | 99 | | | | | | 507 | |
| Approach Delay, s/veh | | 15.6 | | | 11.0 | | | | | | 9.2 | |
| Approach LOS | | B | | | B | | | | | | A | |

| Timer - Assigned Phs | 2 | 4 | 8 |
|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 12.2 | 9.6 | 5.5 |
| Change Period (Y+Rc), s | 5.1 | 5.4 | 5.1 |
| Max Green Setting (Gmax), s | 29.8 | 24.6 | 20.0 |
| Max Q Clear Time (g_c+I1), s | 5.3 | 3.3 | 2.1 |
| Green Ext Time (p_c), s | 1.9 | 0.2 | 0.0 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 9.6 | |
| HCM 6th LOS | A | |

| Notes |
|---|
| User approved volume balancing among the lanes for turning movement. |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 7 | 464 | 0 | 0 | 85 | 2456 | 6 | 0 | 18 | 0 | 0 | 0 |
| Future Volume (vph) | 7 | 464 | 0 | 0 | 85 | 2456 | 6 | 0 | 18 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | 49% | | | 34% | | | |
| Turn Type | Prot | NA | | | NA | Perm | Perm | NA | Perm | | | |
| Protected Phases | 5 | 2 | | | 6 | | | 8 | | | | |
| Permitted Phases | | | | | | 6 | 8 | | 8 | | | |
| Detector Phase | 5 | 2 | | | 6 | 6 | 8 | 8 | 8 | | | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 10.0 | | | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | | | |
| Minimum Split (s) | 11.7 | 38.6 | | | 28.4 | 28.4 | 43.1 | 43.1 | 43.1 | | | |
| Total Split (s) | 11.7 | 86.9 | | | 75.2 | 75.2 | 43.1 | 43.1 | 43.1 | | | |
| Total Split (%) | 9.0% | 66.8% | | | 57.8% | 57.8% | 33.2% | 33.2% | 33.2% | | | |
| Yellow Time (s) | 3.7 | 4.1 | | | 4.4 | 4.4 | 4.1 | 4.1 | 4.1 | | | |
| All-Red Time (s) | 1.0 | 1.0 | | | 1.0 | 1.0 | 2.0 | 2.0 | 2.0 | | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | 0.0 | | | |
| Total Lost Time (s) | 4.7 | 5.1 | | | 5.4 | 5.4 | | 6.1 | 6.1 | | | |
| Lead/Lag | Lead | | | | Lag | Lag | | | | | | |
| Lead-Lag Optimize? | Yes | | | | Yes | Yes | | | | | | |
| Recall Mode | None | Min | | | Min | Min | None | None | None | | | |

**Intersection Summary**

Cycle Length: 130
Actuated Cycle Length: 104.6
Natural Cycle: 145
Control Type: Actuated-Uncoordinated

Splits and Phases: 17: SR-52 WB Ramps & Mast Blvd

Existing + Proj AM
17: SR-52 WB Ramps & Mast Blvd
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 7 | 464 | 0 | 0 | 85 | 2456 | 6 | 0 | 18 | 0 | 0 | 0 |
| Future Volume (veh/h) | 7 | 464 | 0 | 0 | 85 | 2456 | 6 | 0 | 18 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.98 | 1.00 | | 1.00 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.99 | 1.00 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 0 | 0 | 1870 | 1945 | 1870 | 1870 | 1870 | | | |
| Adj Flow Rate, veh/h | 8 | 504 | 0 | 0 | 0 | 2731 | 7 | 10 | 14 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | |
| Percent Heavy Veh, % | 2 | 2 | 0 | 0 | 2 | 2 | 2 | 2 | 2 | | | |
| Cap, veh/h | 25 | 2903 | 0 | 0 | 1407 | 2429 | 44 | 63 | 94 | | | |
| Arrive On Green | 0.01 | 0.82 | 0.00 | 0.00 | 0.00 | 0.75 | 0.06 | 0.06 | 0.06 | | | |
| Sat Flow, veh/h | 1781 | 3647 | 0 | 0 | 1870 | 3229 | 746 | 1065 | 1585 | | | |
| Grp Volume(v), veh/h | 8 | 504 | 0 | 0 | 0 | 2731 | 17 | 0 | 14 | | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 0 | 0 | 1870 | 1615 | 1811 | 0 | 1585 | | | |
| Q Serve(g_s), s | 0.4 | 2.8 | 0.0 | 0.0 | 0.0 | 69.8 | 0.8 | 0.0 | 0.8 | | | |
| Cycle Q Clear(g_c), s | 0.4 | 2.8 | 0.0 | 0.0 | 0.0 | 69.8 | 0.8 | 0.0 | 0.8 | | | |
| Prop In Lane | 1.00 | | 0.00 | 0.00 | | 1.00 | 0.41 | | 1.00 | | | |
| Lane Grp Cap(c), veh/h | 25 | 2903 | 0 | 0 | 1407 | 2429 | 107 | 0 | 94 | | | |
| V/C Ratio(X) | 0.32 | 0.17 | 0.00 | 0.00 | 0.00 | 1.12 | 0.16 | 0.00 | 0.15 | | | |
| Avail Cap(c_a), veh/h | 134 | 3132 | 0 | 0 | 1407 | 2429 | 722 | 0 | 632 | | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | | | |
| Uniform Delay (d), s/veh | 45.3 | 1.8 | 0.0 | 0.0 | 0.0 | 11.5 | 41.5 | 0.0 | 41.4 | | | |
| Incr Delay (d2), s/veh | 2.7 | 0.0 | 0.0 | 0.0 | 0.0 | 62.0 | 0.3 | 0.0 | 0.3 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ln | 0.2 | 0.5 | 0.0 | 0.0 | 0.0 | 37.1 | 0.4 | 0.0 | 0.3 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 48.0 | 1.8 | 0.0 | 0.0 | 0.0 | 73.5 | 41.7 | 0.0 | 41.7 | | | |
| LnGrp LOS | D | A | A | A | A | F | D | A | D | | | |
| Approach Vol, veh/h | | 512 | | | 2731 | | | 31 | | | | |
| Approach Delay, s/veh | | 2.6 | | | 73.5 | | | 41.7 | | | | |
| Approach LOS | | A | | | E | | | D | | | | |

| Timer - Assigned Phs | | 2 | | | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 81.2 | | | 6.0 | 75.2 | | 11.6 | | | | |
| Change Period (Y+Rc), s | | * 5.4 | | | * 4.7 | 5.4 | | 6.1 | | | | |
| Max Green Setting (Gmax), s | | * 82 | | | * 7 | 69.8 | | 37.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 4.8 | | | 2.4 | 71.8 | | 2.8 | | | | |
| Green Ext Time (p_c), s | | 3.7 | | | 0.0 | 0.0 | | 0.1 | | | | |

**Intersection Summary**

| | | |
|---|---|---|
| HCM 6th Ctrl Delay | 62.1 | |
| HCM 6th LOS | E | |

**Notes**

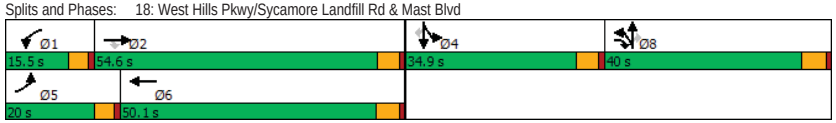
User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\3 Existing + Proj AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 34 | 365 | 83 | 142 | 1501 | 6 | 1000 | 11 | 234 | 3 | 3 | 40 |
| Future Volume (vph) | 34 | 365 | 83 | 142 | 1501 | 6 | 1000 | 11 | 234 | 3 | 3 | 40 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | 49% | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | | Split | NA | Perm | Split | NA | Perm |
| Protected Phases | 5 | 2 | 8 | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Permitted Phases | | | 2 | | | | | | 8 | | | 4 |
| Detector Phase | 5 | 2 | 8 | 1 | 6 | | 8 | 8 | 8 | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 10.0 | 10.0 | 4.0 | 10.0 | | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| Minimum Split (s) | 20.0 | 34.9 | 33.4 | 8.4 | 35.2 | | 33.4 | 33.4 | 33.4 | 34.9 | 34.9 | 34.9 |
| Total Split (s) | 20.0 | 54.6 | 40.0 | 15.5 | 50.1 | | 40.0 | 40.0 | 40.0 | 34.9 | 34.9 | 34.9 |
| Total Split (%) | 13.8% | 37.7% | 27.6% | 10.7% | 34.6% | | 27.6% | 27.6% | 27.6% | 24.1% | 24.1% | 24.1% |
| Yellow Time (s) | 3.4 | 3.9 | 4.4 | 3.4 | 4.2 | | 4.4 | 4.4 | 4.4 | 3.9 | 3.9 | 3.9 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.4 | 4.9 | 5.4 | 4.4 | 5.2 | | 5.4 | 5.4 | 5.4 | | 4.9 | 4.9 |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | Min | None | None | Min | | None | None | None | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 145 |
| Actuated Cycle Length: 109.5 |
| Natural Cycle: 145 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 18: West Hills Pkwy/Sycamore Landfill Rd & Mast Blvd






Existing + Proj AM
18: West Hills Pkwy/Sycamore Landfill Rd & Mast Blvd
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 34 | 365 | 83 | 142 | 1501 | 6 | 1000 | 11 | 234 | 3 | 3 | 40 |
| Future Volume (veh/h) | 34 | 365 | 83 | 142 | 1501 | 6 | 1000 | 11 | 234 | 3 | 3 | 40 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.98 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 37 | 397 | 90 | 154 | 1632 | 7 | 1096 | 0 | 254 | 3 | 3 | 43 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 109 | 1395 | 1102 | 213 | 1425 | 6 | 1079 | 0 | 480 | 63 | 63 | 109 |
| Arrive On Green | 0.06 | 0.39 | 0.39 | 0.06 | 0.39 | 0.39 | 0.30 | 0.00 | 0.30 | 0.07 | 0.07 | 0.07 |
| Sat Flow, veh/h | 1781 | 3554 | 1585 | 3456 | 3628 | 16 | 3563 | 0 | 1585 | 912 | 912 | 1585 |
| Grp Volume(v), veh/h | 37 | 397 | 90 | 154 | 799 | 840 | 1096 | 0 | 254 | 6 | 0 | 43 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1585 | 1728 | 1777 | 1867 | 1781 | 0 | 1585 | 1825 | 0 | 1585 |
| Q Serve(g_s), s | 2.3 | 8.7 | 2.1 | 5.0 | 44.9 | 44.9 | 34.6 | 0.0 | 15.2 | 0.4 | 0.0 | 3.0 |
| Cycle Q Clear(g_c), s | 2.3 | 8.7 | 2.1 | 5.0 | 44.9 | 44.9 | 34.6 | 0.0 | 15.2 | 0.4 | 0.0 | 3.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.01 | 1.00 | | 1.00 | 0.50 | | 1.00 |
| Lane Grp Cap(c), veh/h | 109 | 1395 | 1102 | 213 | 698 | 734 | 1079 | 0 | 480 | 126 | 0 | 109 |
| V/C Ratio(X) | 0.34 | 0.28 | 0.08 | 0.72 | 1.14 | 1.15 | 1.02 | 0.00 | 0.53 | 0.05 | 0.00 | 0.39 |
| Avail Cap(c_a), veh/h | 243 | 1545 | 1169 | 336 | 698 | 734 | 1079 | 0 | 480 | 479 | 0 | 416 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 51.4 | 23.7 | 5.6 | 52.7 | 34.7 | 34.7 | 39.8 | 0.0 | 33.1 | 49.7 | 0.0 | 50.9 |
| Incr Delay (d2), s/veh | 0.7 | 0.1 | 0.0 | 1.8 | 81.3 | 81.0 | 31.5 | 0.0 | 1.5 | 0.2 | 0.0 | 2.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.0 | 3.6 | 1.5 | 2.2 | 34.1 | 35.8 | 19.1 | 0.0 | 5.8 | 0.2 | 0.0 | 1.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 52.1 | 23.9 | 5.7 | 54.4 | 116.0 | 115.7 | 71.4 | 0.0 | 34.5 | 49.8 | 0.0 | 53.2 |
| LnGrp LOS | D | C | A | D | F | F | F | A | C | D | A | D |
| Approach Vol, veh/h | | 524 | | | 1793 | | | 1350 | | | 49 | |
| Approach Delay, s/veh | | 22.7 | | | 110.6 | | | 64.4 | | | 52.8 | |
| Approach LOS | | C | | | F | | | E | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 11.4 | 50.1 | | 12.8 | 11.4 | 50.1 | | 40.0 | | | | |
| Change Period (Y+Rc), s | 4.4 | * 5.2 | | 4.9 | 4.4 | 5.2 | | 5.4 | | | | |
| Max Green Setting (Gmax), s | 11.1 | * 50 | | 30.0 | 15.6 | 44.9 | | 34.6 | | | | |
| Max Q Clear Time (g_c+I1), s | 7.0 | 10.7 | | 5.0 | 4.3 | 46.9 | | 36.6 | | | | |
| Green Ext Time (p_c), s | 0.1 | 3.9 | | 0.1 | 0.0 | 0.0 | | 0.0 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 80.7 | |
| HCM 6th LOS | F | |

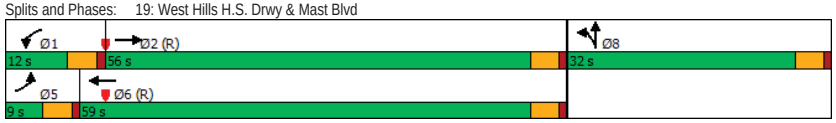
| Notes |
|---|
| User approved volume balancing among the lanes for turning movement. |
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. |

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\3 Existing + Proj AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 2 | 542 | 33 | 71 | 1581 | 0 | 27 | 0 | 41 | 0 | 0 | 0 |
| Future Volume (vph) | 2 | 542 | 33 | 71 | 1581 | 0 | 27 | 0 | 41 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | 9 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Split | NA | | | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | | | | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | | | | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | | | | |
| Minimum Split (s) | 8.5 | 22.5 | | 8.5 | 20.5 | | 31.5 | 31.5 | | | | |
| Total Split (s) | 9.0 | 56.0 | | 12.0 | 59.0 | | 32.0 | 32.0 | | | | |
| Total Split (%) | 9.0% | 56.0% | | 12.0% | 59.0% | | 32.0% | 32.0% | | | | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | | | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | | |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | | 4.5 | | | | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | | | | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 90 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 19: West Hills H.S. Drwy & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 2 | 542 | 33 | 71 | 1581 | 0 | 27 | 0 | 41 | 0 | 0 | 0 |
| Future Volume (veh/h) | 2 | 542 | 33 | 71 | 1581 | 0 | 27 | 0 | 41 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 0 | 1900 | 1870 | 1900 | | | |
| Adj Flow Rate, veh/h | 2 | 589 | 36 | 77 | 1718 | 0 | 29 | 0 | 45 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 0 | 0 | 2 | 0 | | | |
| Cap, veh/h | 4 | 2557 | 156 | 98 | 2858 | 0 | 38 | 0 | 59 | | | |
| Arrive On Green | 0.00 | 0.75 | 0.75 | 0.11 | 1.00 | 0.00 | 0.06 | 0.00 | 0.06 | | | |
| Sat Flow, veh/h | 1781 | 3402 | 208 | 1781 | 3647 | 0 | 649 | 0 | 1007 | | | |
| Grp Volume(v), veh/h | 2 | 307 | 318 | 77 | 1718 | 0 | 74 | 0 | 0 | | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1833 | 1781 | 1777 | 0 | 1657 | 0 | 0 | | | |
| Q Serve(g_s), s | 0.1 | 5.2 | 5.2 | 4.2 | 0.0 | 0.0 | 4.4 | 0.0 | 0.0 | | | |
| Cycle Q Clear(g_c), s | 0.1 | 5.2 | 5.2 | 4.2 | 0.0 | 0.0 | 4.4 | 0.0 | 0.0 | | | |
| Prop In Lane | 1.00 | | 0.11 | 1.00 | | 0.00 | 0.39 | | 0.61 | | | |
| Lane Grp Cap(c), veh/h | 4 | 1335 | 1377 | 98 | 2858 | 0 | 97 | 0 | 0 | | | |
| V/C Ratio(X) | 0.52 | 0.23 | 0.23 | 0.79 | 0.60 | 0.00 | 0.76 | 0.00 | 0.00 | | | |
| Avail Cap(c_a), veh/h | 80 | 1335 | 1377 | 134 | 2858 | 0 | 456 | 0 | 0 | | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 0.94 | 0.94 | 0.94 | 0.47 | 0.47 | 0.00 | 1.00 | 0.00 | 0.00 | | | |
| Uniform Delay (d), s/veh | 49.8 | 3.7 | 3.7 | 43.9 | 0.0 | 0.0 | 46.4 | 0.0 | 0.0 | | | |
| Incr Delay (d2), s/veh | 75.9 | 0.4 | 0.4 | 9.7 | 0.4 | 0.0 | 11.6 | 0.0 | 0.0 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ln | 0.1 | 1.5 | 1.5 | 2.0 | 0.2 | 0.0 | 2.1 | 0.0 | 0.0 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 125.8 | 4.1 | 4.1 | 53.7 | 0.4 | 0.0 | 58.0 | 0.0 | 0.0 | | | |
| LnGrp LOS | F | A | A | D | A | A | E | A | A | | | |
| Approach Vol, veh/h | | 627 | | | 1795 | | | 74 | | | | |
| Approach Delay, s/veh | | 4.5 | | | 2.7 | | | 58.0 | | | | |
| Approach LOS | | A | | | A | | | E | | | | |

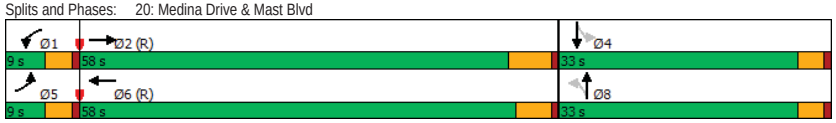
| Timer - Assigned Phs | 1 | 2 | | | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 10.0 | 79.6 | | | 4.7 | 84.9 | | 10.4 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 7.5 | 51.5 | | | 4.5 | 54.5 | | 27.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 6.2 | 7.2 | | | 2.1 | 2.0 | | 6.4 | | | | |
| Green Ext Time (p_c), s | 0.0 | 3.9 | | | 0.0 | 21.1 | | 0.3 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 4.8 | |
| HCM 6th LOS | A | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 10 | 775 | 35 | 11 | 1773 | 10 | 30 | 4 | 10 | 21 | 12 | 26 |
| Future Volume (vph) | 10 | 775 | 35 | 11 | 1773 | 10 | 30 | 4 | 10 | 21 | 12 | 26 |
| Confl. Peds. (#/hr) | | | 2 | | | | | | 1 | | | 10 |
| Confl. Bikes (#/hr) | | | 1 | | | 1 | | | 2 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Perm | NA | | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | | 4 | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 22.0 | | 8.2 | 22.0 | | 32.2 | 32.2 | | 32.2 | 32.2 | |
| Total Split (s) | 9.0 | 58.0 | | 9.0 | 58.0 | | 33.0 | 33.0 | | 33.0 | 33.0 | |
| Total Split (%) | 9.0% | 58.0% | | 9.0% | 58.0% | | 33.0% | 33.0% | | 33.0% | 33.0% | |
| Yellow Time (s) | 3.2 | 5.1 | | 3.2 | 4.3 | | 3.2 | 3.2 | | 3.2 | 3.2 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | 0.0 | |
| Total Lost Time (s) | 4.2 | 6.1 | | 4.2 | 5.3 | | | 4.2 | | | 4.2 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 100 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 20: Medina Drive & Mast Blvd






Existing + Proj AM
20: Medina Drive & Mast Blvd
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 10 | 775 | 35 | 11 | 1773 | 10 | 30 | 4 | 10 | 21 | 12 | 26 |
| Future Volume (veh/h) | 10 | 775 | 35 | 11 | 1773 | 10 | 30 | 4 | 10 | 21 | 12 | 26 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 0.98 | | 0.98 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 11 | 842 | 38 | 12 | 1927 | 11 | 33 | 4 | 11 | 23 | 13 | 28 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 19 | 2580 | 116 | 20 | 2705 | 15 | 153 | 24 | 35 | 86 | 51 | 68 |
| Arrive On Green | 0.00 | 0.25 | 0.25 | 0.02 | 1.00 | 1.00 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 |
| Sat Flow, veh/h | 1781 | 3459 | 156 | 1781 | 3622 | 21 | 950 | 243 | 355 | 377 | 518 | 696 |
| Grp Volume(v), veh/h | 11 | 433 | 447 | 12 | 944 | 994 | 48 | 0 | 0 | 64 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1838 | 1781 | 1777 | 1866 | 1547 | 0 | 0 | 1591 | 0 | 0 |
| Q Serve(g_s), s | 0.6 | 20.0 | 20.0 | 0.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.5 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 0.6 | 20.0 | 20.0 | 0.7 | 0.0 | 0.0 | 2.5 | 0.0 | 0.0 | 3.6 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | | 0.08 | 1.00 | | 0.01 | 0.69 | | 0.23 | 0.36 | | 0.44 |
| Lane Grp Cap(c), veh/h | 19 | 1326 | 1371 | 20 | 1327 | 1394 | 212 | 0 | 0 | 204 | 0 | 0 |
| V/C Ratio(X) | 0.59 | 0.33 | 0.33 | 0.59 | 0.71 | 0.71 | 0.23 | 0.00 | 0.00 | 0.31 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 86 | 1326 | 1371 | 86 | 1327 | 1394 | 481 | 0 | 0 | 497 | 0 | 0 |
| HCM Platoon Ratio | 0.33 | 0.33 | 0.33 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.95 | 0.95 | 0.95 | 0.56 | 0.56 | 0.56 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 49.6 | 17.1 | 17.1 | 48.6 | 0.0 | 0.0 | 41.8 | 0.0 | 0.0 | 42.3 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 24.7 | 0.6 | 0.6 | 5.7 | 1.8 | 1.8 | 0.2 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.4 | 9.6 | 9.9 | 0.3 | 0.7 | 0.7 | 1.1 | 0.0 | 0.0 | 1.5 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 74.3 | 17.7 | 17.7 | 54.3 | 1.8 | 1.8 | 42.0 | 0.0 | 0.0 | 42.6 | 0.0 | 0.0 |
| LnGrp LOS | E | B | B | D | A | A | D | A | A | D | A | A |
| Approach Vol, veh/h | | 891 | | | 1950 | | | 48 | | | 64 | |
| Approach Delay, s/veh | | 18.4 | | | 2.1 | | | 42.0 | | | 42.6 | |
| Approach LOS | | B | | | A | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.3 | 80.7 | | 14.0 | 5.3 | 80.8 | | 14.0 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 6.1 | | * 4.2 | * 4.2 | * 6.1 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | * 4.8 | 51.9 | | * 29 | * 4.8 | * 53 | | * 29 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.7 | 22.0 | | 5.6 | 2.6 | 2.0 | | 4.5 | | | | |
| Green Ext Time (p_c), s | 0.0 | 9.8 | | 0.2 | 0.0 | 38.3 | | 0.1 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 8.6 | |
| HCM 6th LOS | A | |

Notes

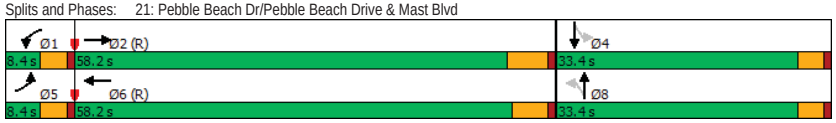
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\3 Existing + Proj AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 4 | 781 | 17 | 16 | 1819 | 22 | 17 | 7 | 36 | 66 | 22 | 20 |
| Future Volume (vph) | 4 | 781 | 17 | 16 | 1819 | 22 | 17 | 7 | 36 | 66 | 22 | 20 |
| Confl. Peds. (#/hr) | | | 8 | | | 1 | | | 2 | | | 11 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Perm | NA | | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | | 4 | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 23.9 | | 8.2 | 23.3 | | 33.2 | 33.2 | | 32.2 | 32.2 | |
| Total Split (s) | 8.4 | 58.2 | | 8.4 | 58.2 | | 33.4 | 33.4 | | 33.4 | 33.4 | |
| Total Split (%) | 8.4% | 58.2% | | 8.4% | 58.2% | | 33.4% | 33.4% | | 33.4% | 33.4% | |
| Yellow Time (s) | 3.2 | 4.9 | | 3.2 | 4.3 | | 3.2 | 3.2 | | 3.2 | 3.2 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | 0.0 | |
| Total Lost Time (s) | 4.2 | 5.9 | | 4.2 | 5.3 | | | 4.2 | | | 4.2 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 100 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 21: Pebble Beach Dr/Pebble Beach Drive & Mast Blvd






Existing + Proj AM
21: Pebble Beach Dr/Pebble Beach Drive & Mast Blvd
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 4 | 781 | 17 | 16 | 1819 | 22 | 17 | 7 | 36 | 66 | 22 | 20 |
| Future Volume (veh/h) | 4 | 781 | 17 | 16 | 1819 | 22 | 17 | 7 | 36 | 66 | 22 | 20 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 1.00 | 0.98 | | 1.00 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 4 | 849 | 18 | 17 | 1977 | 24 | 18 | 8 | 39 | 72 | 24 | 22 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 7 | 2558 | 54 | 27 | 2624 | 32 | 81 | 46 | 121 | 162 | 53 | 36 |
| Arrive On Green | 0.01 | 1.00 | 1.00 | 0.03 | 1.00 | 1.00 | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 |
| Sat Flow, veh/h | 1781 | 3558 | 75 | 1781 | 3596 | 44 | 284 | 373 | 985 | 844 | 430 | 292 |
| Grp Volume(v), veh/h | 4 | 424 | 443 | 17 | 975 | 1026 | 65 | 0 | 0 | 118 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1856 | 1781 | 1777 | 1862 | 1642 | 0 | 0 | 1566 | 0 | 0 |
| Q Serve(g_s), s | 0.2 | 0.0 | 0.0 | 0.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 3.3 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 0.2 | 0.0 | 0.0 | 0.9 | 0.0 | 0.0 | 3.5 | 0.0 | 0.0 | 6.8 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | | 0.04 | 1.00 | | 0.02 | 0.28 | | 0.60 | 0.61 | | 0.19 |
| Lane Grp Cap(c), veh/h | 7 | 1278 | 1335 | 27 | 1297 | 1359 | 248 | 0 | 0 | 250 | 0 | 0 |
| V/C Ratio(X) | 0.53 | 0.33 | 0.33 | 0.63 | 0.75 | 0.75 | 0.26 | 0.00 | 0.00 | 0.47 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 75 | 1278 | 1335 | 75 | 1297 | 1359 | 507 | 0 | 0 | 499 | 0 | 0 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.96 | 0.96 | 0.96 | 0.09 | 0.09 | 0.09 | 0.99 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 49.5 | 0.0 | 0.0 | 48.2 | 0.0 | 0.0 | 40.0 | 0.0 | 0.0 | 41.3 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 19.4 | 0.7 | 0.6 | 0.8 | 0.4 | 0.4 | 0.2 | 0.0 | 0.0 | 0.5 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.1 | 0.2 | 0.2 | 0.4 | 0.1 | 0.1 | 1.5 | 0.0 | 0.0 | 2.8 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 68.9 | 0.7 | 0.6 | 49.1 | 0.4 | 0.4 | 40.2 | 0.0 | 0.0 | 41.8 | 0.0 | 0.0 |
| LnGrp LOS | E | A | A | D | A | A | D | A | A | D | A | A |
| Approach Vol, veh/h | | 871 | | | 2018 | | | 65 | | | 118 | |
| Approach Delay, s/veh | | 1.0 | | | 0.8 | | | 40.2 | | | 41.8 | |
| Approach LOS | | A | | | A | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.7 | 77.8 | | 16.5 | 4.6 | 78.9 | | 16.5 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 5.9 | | * 4.2 | * 4.2 | * 5.9 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | * 4.2 | 52.3 | | * 29 | * 4.2 | * 53 | | * 29 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.9 | 2.0 | | 8.8 | 2.2 | 2.0 | | 5.5 | | | | |
| Green Ext Time (p_c), s | 0.0 | 12.9 | | 0.4 | 0.0 | 45.3 | | 0.2 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 3.2 | |
| HCM 6th LOS | A | |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

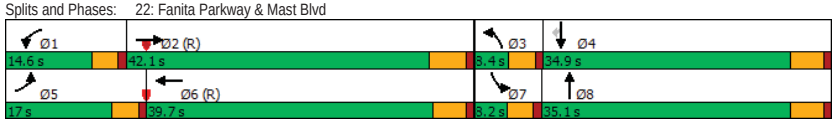
Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\3 Existing + Proj AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 281 | 505 | 93 | 78 | 1249 | 47 | 36 | 135 | 30 | 56 | 267 | 552 |
| Future Volume (vph) | 281 | 505 | 93 | 78 | 1249 | 47 | 36 | 135 | 30 | 56 | 267 | 552 |
| Confl. Peds. (#/hr) | | | 8 | | | | | | 6 | | | 2 |
| Confl. Bikes (#/hr) | | | 2 | | | 2 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | | | | | | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 27.5 | 27.5 | 8.2 | 28.1 | | 8.2 | 35.1 | | 8.2 | 28.1 | 28.1 |
| Total Split (s) | 17.0 | 42.1 | 42.1 | 14.6 | 39.7 | | 8.4 | 35.1 | | 8.2 | 34.9 | 34.9 |
| Total Split (%) | 17.0% | 42.1% | 42.1% | 14.6% | 39.7% | | 8.4% | 35.1% | | 8.2% | 34.9% | 34.9% |
| Yellow Time (s) | 3.2 | 4.5 | 4.5 | 3.2 | 4.1 | | 3.2 | 4.1 | | 3.2 | 4.1 | 4.1 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.5 | 5.5 | 4.2 | 5.1 | | 4.2 | 5.1 | | 4.2 | 5.1 | 5.1 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | C-Max | C-Max | None | C-Max | | None | None | | None | None | None |

**Intersection Summary**

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 14.1 (14%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated

Splits and Phases: 22: Fanita Parkway & Mast Blvd






Existing + Proj AM
22: Fanita Parkway & Mast Blvd
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 281 | 505 | 93 | 78 | 1249 | 47 | 36 | 135 | 30 | 56 | 267 | 552 |
| Future Volume (veh/h) | 281 | 505 | 93 | 78 | 1249 | 47 | 36 | 135 | 30 | 56 | 267 | 552 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.98 | 1.00 | | 0.99 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 305 | 549 | 101 | 85 | 1358 | 51 | 39 | 147 | 33 | 61 | 290 | 600 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 228 | 1506 | 651 | 108 | 1243 | 47 | 49 | 422 | 95 | 71 | 557 | 471 |
| Arrive On Green | 0.26 | 0.85 | 0.85 | 0.12 | 0.71 | 0.71 | 0.03 | 0.29 | 0.29 | 0.04 | 0.30 | 0.30 |
| Sat Flow, veh/h | 1781 | 3554 | 1536 | 1781 | 3489 | 131 | 1781 | 1477 | 332 | 1781 | 1870 | 1582 |
| Grp Volume(v), veh/h | 305 | 549 | 101 | 85 | 691 | 718 | 39 | 0 | 180 | 61 | 290 | 600 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1536 | 1781 | 1777 | 1843 | 1781 | 0 | 1808 | 1781 | 1870 | 1582 |
| Q Serve(g_s), s | 12.8 | 3.4 | 1.2 | 4.6 | 35.6 | 35.6 | 2.2 | 0.0 | 7.9 | 3.4 | 12.9 | 29.8 |
| Cycle Q Clear(g_c), s | 12.8 | 3.4 | 1.2 | 4.6 | 35.6 | 35.6 | 2.2 | 0.0 | 7.9 | 3.4 | 12.9 | 29.8 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.07 | 1.00 | | 0.18 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 228 | 1506 | 651 | 108 | 633 | 657 | 49 | 0 | 516 | 71 | 557 | 471 |
| V/C Ratio(X) | 1.34 | 0.36 | 0.16 | 0.79 | 1.09 | 1.09 | 0.79 | 0.00 | 0.35 | 0.86 | 0.52 | 1.27 |
| Avail Cap(c_a), veh/h | 228 | 1506 | 651 | 185 | 633 | 657 | 75 | 0 | 542 | 71 | 557 | 471 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.95 | 0.95 | 0.95 | 0.65 | 0.65 | 0.65 | 0.98 | 0.00 | 0.98 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 37.2 | 4.6 | 4.5 | 43.3 | 14.4 | 14.4 | 48.3 | 0.0 | 28.3 | 47.7 | 29.2 | 35.1 |
| Incr Delay (d2), s/veh | 177.4 | 0.6 | 0.5 | 6.1 | 56.7 | 57.4 | 21.8 | 0.0 | 1.4 | 59.4 | 2.5 | 138.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 15.8 | 1.1 | 0.4 | 2.1 | 14.9 | 15.6 | 1.2 | 0.0 | 3.5 | 2.6 | 5.9 | 29.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 214.6 | 5.3 | 5.0 | 49.5 | 71.1 | 71.8 | 70.1 | 0.0 | 29.8 | 107.1 | 31.6 | 173.7 |
| LnGrp LOS | F | A | A | D | F | F | E | A | C | F | C | F |
| Approach Vol, veh/h | | 955 | | | 1494 | | | 219 | | | 951 | |
| Approach Delay, s/veh | | 72.1 | | | 70.2 | | | 36.9 | | | 126.1 | |
| Approach LOS | | E | | | E | | | D | | | F | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 10.2 | 47.9 | 7.0 | 34.9 | 17.0 | 41.1 | 8.2 | 33.7 |
| Change Period (Y+Rc), s | * 4.2 | 5.5 | * 4.2 | 5.1 | * 4.2 | * 5.5 | * 4.2 | 5.1 |
| Max Green Setting (Gmax), s | * 10 | 36.6 | * 4.2 | 29.8 | * 13 | * 35 | * 4 | 30.0 |
| Max Q Clear Time (g_c+I1), s | 6.6 | 5.4 | 4.2 | 31.8 | 14.8 | 37.6 | 5.4 | 9.9 |
| Green Ext Time (p_c), s | 0.0 | 10.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.0 |

**Intersection Summary**

| | |
|---|---|
| HCM 6th Ctrl Delay | 83.4 |
| HCM 6th LOS | F |

**Notes**

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

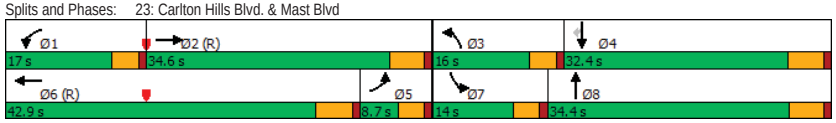
Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\3 Existing + Proj AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 35 | 380 | 140 | 168 | 1034 | 88 | 169 | 176 | 78 | 115 | 258 | 72 |
| Future Volume (vph) | 35 | 380 | 140 | 168 | 1034 | 88 | 169 | 176 | 78 | 115 | 258 | 72 |
| Confl. Peds. (#/hr) | | | 5 | | | 6 | | | 22 | | | 8 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 33.1 | | 8.2 | 32.4 | | 8.2 | 34.2 | | 8.2 | 32.4 | 32.4 |
| Total Split (s) | 8.7 | 34.6 | | 17.0 | 42.9 | | 16.0 | 34.4 | | 14.0 | 32.4 | 32.4 |
| Total Split (%) | 8.7% | 34.6% | | 17.0% | 42.9% | | 16.0% | 34.4% | | 14.0% | 32.4% | 32.4% |
| Yellow Time (s) | 3.2 | 4.1 | | 3.2 | 4.4 | | 3.2 | 4.2 | | 3.2 | 4.4 | 4.4 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.1 | | 4.2 | 5.4 | | 4.2 | 5.2 | | 4.2 | 5.4 | 5.4 |
| Lead/Lag | Lag | Lag | | Lead | Lead | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | C-Min | | None | C-Min | | None | Min | | None | Min | Min |

**Intersection Summary**

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 89 (89%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 95
Control Type: Actuated-Coordinated

Splits and Phases: 23: Carlton Hills Blvd. & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 35 | 380 | 140 | 168 | 1034 | 88 | 169 | 176 | 78 | 115 | 258 | 72 |
| Future Volume (veh/h) | 35 | 380 | 140 | 168 | 1034 | 88 | 169 | 176 | 78 | 115 | 258 | 72 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.97 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 38 | 413 | 152 | 183 | 1124 | 96 | 184 | 191 | 85 | 125 | 280 | 78 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 229 | 998 | 363 | 214 | 1230 | 105 | 210 | 512 | 217 | 154 | 644 | 280 |
| Arrive On Green | 0.04 | 0.13 | 0.13 | 0.12 | 0.37 | 0.37 | 0.12 | 0.21 | 0.21 | 0.09 | 0.18 | 0.18 |
| Sat Flow, veh/h | 1781 | 2549 | 927 | 1781 | 3312 | 283 | 1781 | 2403 | 1021 | 1781 | 3554 | 1544 |
| Grp Volume(v), veh/h | 38 | 287 | 278 | 183 | 602 | 618 | 184 | 139 | 137 | 125 | 280 | 78 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1699 | 1781 | 1777 | 1818 | 1781 | 1777 | 1648 | 1781 | 1777 | 1544 |
| Q Serve(g_s), s | 2.1 | 14.8 | 15.1 | 10.1 | 32.2 | 32.3 | 10.2 | 6.7 | 7.1 | 6.9 | 7.0 | 3.1 |
| Cycle Q Clear(g_c), s | 2.1 | 14.8 | 15.1 | 10.1 | 32.2 | 32.3 | 10.2 | 6.7 | 7.1 | 6.9 | 7.0 | 3.1 |
| Prop In Lane | 1.00 | | 0.55 | 1.00 | | 0.16 | 1.00 | | 0.62 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 229 | 696 | 665 | 214 | 660 | 675 | 210 | 378 | 351 | 154 | 644 | 280 |
| V/C Ratio(X) | 0.17 | 0.41 | 0.42 | 0.85 | 0.91 | 0.91 | 0.88 | 0.37 | 0.39 | 0.81 | 0.43 | 0.28 |
| Avail Cap(c_a), veh/h | 229 | 696 | 665 | 228 | 666 | 682 | 210 | 519 | 481 | 175 | 959 | 417 |
| HCM Platoon Ratio | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.92 | 0.92 | 0.92 | 0.86 | 0.86 | 0.86 | 0.95 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 42.7 | 32.9 | 33.1 | 43.1 | 29.9 | 29.9 | 43.4 | 33.6 | 33.8 | 44.9 | 36.4 | 18.0 |
| Incr Delay (d2), s/veh | 0.1 | 1.7 | 1.8 | 20.6 | 17.1 | 17.0 | 29.0 | 1.6 | 2.0 | 19.7 | 2.0 | 2.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.9 | 7.3 | 7.1 | 5.5 | 16.0 | 16.4 | 6.1 | 3.0 | 3.0 | 3.8 | 3.2 | 1.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 42.8 | 34.6 | 34.8 | 63.8 | 47.0 | 46.9 | 72.4 | 35.2 | 35.7 | 64.6 | 38.4 | 20.3 |
| LnGrp LOS | D | C | C | E | D | D | E | D | D | E | D | C |
| Approach Vol, veh/h | | 603 | | | 1403 | | | 460 | | | 483 | |
| Approach Delay, s/veh | | 35.2 | | | 49.2 | | | 50.3 | | | 42.2 | |
| Approach LOS | | D | | | D | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 16.2 | 44.3 | 16.0 | 23.5 | 17.9 | 42.5 | 12.8 | 26.7 |
| Change Period (Y+Rc), s | * 4.2 | 5.1 | * 4.2 | 5.4 | 5.1 | * 5.4 | * 4.2 | * 5.4 |
| Max Green Setting (Gmax), s | * 13 | 29.5 | * 12 | 27.0 | 4.5 | * 38 | * 9.8 | * 29 |
| Max Q Clear Time (g_c+I1), s | 12.1 | 17.1 | 12.2 | 9.0 | 4.1 | 34.3 | 8.9 | 9.1 |
| Green Ext Time (p_c), s | 0.0 | 5.0 | 0.0 | 4.4 | 0.0 | 2.8 | 0.0 | 3.1 |

**Intersection Summary**

| | | |
|---|---|---|
| HCM 6th Ctrl Delay | 45.4 | |
| HCM 6th LOS | D | |

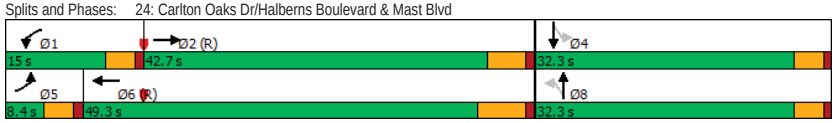
**Notes**

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 10 | 567 | 18 | 87 | 1260 | 22 | 41 | 23 | 71 | 43 | 39 | 44 |
| Future Volume (vph) | 10 | 567 | 18 | 87 | 1260 | 22 | 41 | 23 | 71 | 43 | 39 | 44 |
| Confl. Peds. (#/hr) | | | 6 | | | | | | 8 | | | 1 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Perm | NA | | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | | 4 | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 29.2 | | 8.2 | 28.3 | | 32.2 | 32.2 | | 32.2 | 32.2 | |
| Total Split (s) | 8.4 | 42.7 | | 15.0 | 49.3 | | 32.3 | 32.3 | | 32.3 | 32.3 | |
| Total Split (%) | 9.3% | 47.4% | | 16.7% | 54.8% | | 35.9% | 35.9% | | 35.9% | 35.9% | |
| Yellow Time (s) | 3.2 | 4.2 | | 3.2 | 5.3 | | 3.2 | 3.2 | | 3.2 | 3.2 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.2 | 5.2 | | 4.2 | 6.3 | | 4.2 | 4.2 | | 4.2 | 4.2 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 90 |
| Actuated Cycle Length: 90 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 80 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 24: Carlton Oaks Dr/Halberns Boulevard & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 10 | 567 | 18 | 87 | 1260 | 22 | 41 | 23 | 71 | 43 | 39 | 44 |
| Future Volume (veh/h) | 10 | 567 | 18 | 87 | 1260 | 22 | 41 | 23 | 71 | 43 | 39 | 44 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.98 | 0.99 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 11 | 616 | 20 | 95 | 1370 | 24 | 45 | 25 | 77 | 47 | 42 | 48 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 19 | 2210 | 72 | 121 | 2454 | 43 | 199 | 55 | 171 | 184 | 111 | 127 |
| Arrive On Green | 0.01 | 0.63 | 0.63 | 0.07 | 0.69 | 0.69 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 |
| Sat Flow, veh/h | 1781 | 3512 | 114 | 1781 | 3573 | 63 | 1305 | 398 | 1226 | 1277 | 795 | 909 |
| Grp Volume(v), veh/h | 11 | 311 | 325 | 95 | 681 | 713 | 45 | 0 | 102 | 47 | 0 | 90 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1849 | 1781 | 1777 | 1859 | 1305 | 0 | 1624 | 1277 | 0 | 1704 |
| Q Serve(g_s), s | 0.6 | 7.1 | 7.1 | 4.7 | 17.5 | 17.5 | 2.9 | 0.0 | 5.2 | 3.2 | 0.0 | 4.3 |
| Cycle Q Clear(g_c), s | 0.6 | 7.1 | 7.1 | 4.7 | 17.5 | 17.5 | 7.2 | 0.0 | 5.2 | 8.3 | 0.0 | 4.3 |
| Prop In Lane | 1.00 | | 0.06 | 1.00 | | 0.03 | 1.00 | | 0.75 | 1.00 | | 0.53 |
| Lane Grp Cap(c), veh/h | 19 | 1118 | 1164 | 121 | 1220 | 1277 | 199 | 0 | 226 | 184 | 0 | 237 |
| V/C Ratio(X) | 0.58 | 0.28 | 0.28 | 0.78 | 0.56 | 0.56 | 0.23 | 0.00 | 0.45 | 0.26 | 0.00 | 0.38 |
| Avail Cap(c_a), veh/h | 83 | 1118 | 1164 | 214 | 1220 | 1277 | 425 | 0 | 507 | 405 | 0 | 532 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.86 | 0.86 | 0.86 | 0.61 | 0.61 | 0.61 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 44.3 | 7.5 | 7.5 | 41.3 | 7.2 | 7.2 | 38.5 | 0.0 | 35.6 | 39.4 | 0.0 | 35.2 |
| Incr Delay (d2), s/veh | 8.5 | 0.5 | 0.5 | 2.6 | 1.1 | 1.1 | 0.2 | 0.0 | 0.5 | 0.3 | 0.0 | 0.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.3 | 2.4 | 2.5 | 2.1 | 5.3 | 5.6 | 0.9 | 0.0 | 2.0 | 1.0 | 0.0 | 1.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 52.9 | 8.0 | 8.0 | 43.8 | 8.3 | 8.2 | 38.7 | 0.0 | 36.1 | 39.7 | 0.0 | 35.6 |
| LnGrp LOS | D | A | A | D | A | A | D | A | D | D | A | D |
| Approach Vol, veh/h | | 647 | | | 1489 | | | 147 | | | 137 | |
| Approach Delay, s/veh | | 8.8 | | | 10.5 | | | 36.9 | | | 37.0 | |
| Approach LOS | | A | | | B | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 10.3 | 62.9 | | 16.7 | 5.2 | 68.1 | | 16.7 | | | | |
| Change Period (Y+Rc), s | * 4.2 | * 6.3 | | * 4.2 | * 4.2 | 6.3 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | * 11 | * 38 | | * 28 | * 4.2 | 43.0 | | * 28 | | | | |
| Max Q Clear Time (g_c+I1), s | 6.7 | 9.1 | | 10.3 | 2.6 | 19.5 | | 9.2 | | | | |
| Green Ext Time (p_c), s | 0.0 | 8.0 | | 0.3 | 0.0 | 17.2 | | 0.4 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 13.2 | |
| HCM 6th LOS | B | |

Notes

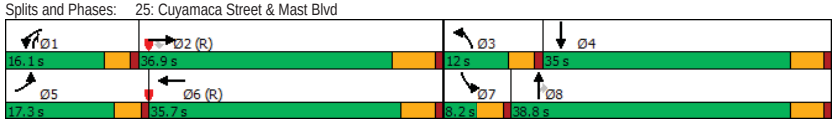
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 158 | 301 | 200 | 343 | 635 | 5 | 197 | 267 | 187 | 8 | 593 | 513 |
| Future Volume (vph) | 158 | 301 | 200 | 343 | 635 | 5 | 197 | 267 | 187 | 8 | 593 | 513 |
| Confl. Peds. (#/hr) | | | 8 | | | 5 | | | 3 | | | 3 |
| Confl. Bikes (#/hr) | | | 4 | | | 1 | | | 3 | | | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | | Prot | NA | pm+ov | Prot | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | 1 | 7 | 4 | |
| Permitted Phases | | | 2 | | | | | | 8 | | | |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | | 3 | 8 | 1 | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | | 4.0 | 7.0 | 4.0 | 4.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 34.3 | 34.3 | 8.2 | 32.3 | | 8.2 | 33.1 | 8.2 | 8.2 | 34.0 | |
| Total Split (s) | 17.3 | 36.9 | 36.9 | 16.1 | 35.7 | | 12.0 | 38.8 | 16.1 | 8.2 | 35.0 | |
| Total Split (%) | 17.3% | 36.9% | 36.9% | 16.1% | 35.7% | | 12.0% | 38.8% | 16.1% | 8.2% | 35.0% | |
| Yellow Time (s) | 3.2 | 5.3 | 5.3 | 3.2 | 4.3 | | 3.2 | 4.1 | 3.2 | 3.2 | 4.0 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.2 | 6.3 | 6.3 | 4.2 | 5.3 | | 4.2 | 5.1 | 4.2 | 4.2 | 5.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | |
| Recall Mode | None | C-Min | C-Min | None | C-Min | | None | None | None | None | None | |

**Intersection Summary**

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 31 (31%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 95
Control Type: Actuated-Coordinated

Splits and Phases: 25: Cuyamaca Street & Mast Blvd






Existing + Proj AM
25: Cuyamaca Street & Mast Blvd
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 158 | 301 | 200 | 343 | 635 | 5 | 197 | 267 | 187 | 8 | 593 | 513 |
| Future Volume (veh/h) | 158 | 301 | 200 | 343 | 635 | 5 | 197 | 267 | 187 | 8 | 593 | 513 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 172 | 327 | 217 | 373 | 690 | 5 | 214 | 290 | 203 | 9 | 645 | 558 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 203 | 1084 | 473 | 411 | 1121 | 8 | 270 | 1312 | 764 | 16 | 539 | 462 |
| Arrive On Green | 0.11 | 0.31 | 0.31 | 0.12 | 0.31 | 0.31 | 0.08 | 0.37 | 0.37 | 0.01 | 0.30 | 0.30 |
| Sat Flow, veh/h | 1781 | 3554 | 1549 | 3456 | 3616 | 26 | 3456 | 3554 | 1559 | 1781 | 1797 | 1541 |
| Grp Volume(v), veh/h | 172 | 327 | 217 | 373 | 339 | 356 | 214 | 290 | 203 | 9 | 638 | 565 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1549 | 1728 | 1777 | 1865 | 1728 | 1777 | 1559 | 1781 | 1777 | 1561 |
| Q Serve(g_s), s | 9.5 | 7.0 | 11.3 | 10.7 | 16.3 | 16.3 | 6.1 | 5.6 | 7.7 | 0.5 | 30.0 | 30.0 |
| Cycle Q Clear(g_c), s | 9.5 | 7.0 | 11.3 | 10.7 | 16.3 | 16.3 | 6.1 | 5.6 | 7.7 | 0.5 | 30.0 | 30.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.01 | 1.00 | | 1.00 | 1.00 | | 0.99 |
| Lane Grp Cap(c), veh/h | 203 | 1084 | 473 | 411 | 551 | 578 | 270 | 1312 | 764 | 16 | 533 | 468 |
| V/C Ratio(X) | 0.85 | 0.30 | 0.46 | 0.91 | 0.62 | 0.62 | 0.79 | 0.22 | 0.27 | 0.57 | 1.20 | 1.21 |
| Avail Cap(c_a), veh/h | 233 | 1087 | 474 | 411 | 551 | 578 | 270 | 1312 | 764 | 71 | 533 | 468 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.97 | 0.97 | 0.97 | 0.95 | 0.95 | 0.95 | 0.84 | 0.84 | 0.84 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 43.4 | 26.6 | 28.1 | 43.5 | 29.4 | 29.4 | 45.3 | 21.7 | 15.1 | 49.4 | 35.0 | 35.0 |
| Incr Delay (d2), s/veh | 19.1 | 0.7 | 3.1 | 22.0 | 4.8 | 4.6 | 11.9 | 0.1 | 0.2 | 11.5 | 105.5 | 111.9 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 5.1 | 3.0 | 4.5 | 5.7 | 7.4 | 7.7 | 3.0 | 2.3 | 2.6 | 0.3 | 28.1 | 25.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 62.6 | 27.3 | 31.2 | 65.5 | 34.3 | 34.0 | 57.2 | 21.8 | 15.3 | 60.9 | 140.5 | 146.9 |
| LnGrp LOS | E | C | C | E | C | C | E | C | B | E | F | F |
| Approach Vol, veh/h | | 716 | | | 1068 | | | 707 | | | 1212 | |
| Approach Delay, s/veh | | 36.9 | | | 45.1 | | | 30.6 | | | 142.9 | |
| Approach LOS | | D | | | D | | | C | | | F | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 16.1 | 36.8 | 12.0 | 35.1 | 15.6 | 37.3 | 5.1 | 42.0 |
| Change Period (Y+Rc), s | * 4.2 | 6.3 | * 4.2 | * 5.1 | * 4.2 | * 6.3 | * 4.2 | 5.1 |
| Max Green Setting (Gmax), s | * 12 | 30.6 | * 7.8 | * 30 | * 13 | * 30 | * 4 | 33.7 |
| Max Q Clear Time (g_c+I1), s | 12.7 | 13.3 | 8.1 | 32.0 | 11.5 | 18.3 | 2.5 | 9.7 |
| Green Ext Time (p_c), s | 0.0 | 3.7 | 0.0 | 0.0 | 0.0 | 3.9 | 0.0 | 3.7 |

**Intersection Summary**

| | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 72.8 | |
| HCM 6th LOS | | E | |

**Notes**

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\3 Existing + Proj AM.syn

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 476 | 67 | 116 | 862 | 21 | 90 |
| Future Volume (vph) | 476 | 67 | 116 | 862 | 21 | 90 |
| Confl. Peds. (#/hr) | | 17 | | | | 29 |
| Confl. Bikes (#/hr) | | 3 | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | NA | | Prot | NA | Prot | Perm |
| Protected Phases | 2 | | 1 | 6 | 8 | |
| Permitted Phases | | | | | | 8 |
| Detector Phase | 2 | | 1 | 6 | 8 | 8 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 22.5 | | 8.5 | 20.5 | 22.5 | 22.5 |
| Total Split (s) | 23.2 | | 14.3 | 37.5 | 22.5 | 22.5 |
| Total Split (%) | 38.7% | | 23.8% | 62.5% | 37.5% | 37.5% |
| Yellow Time (s) | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lag | | Lead | | | |
| Lead-Lag Optimize? | Yes | | Yes | | | |
| Recall Mode | Min | | None | Min | None | None |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 40.8 |
| Natural Cycle: 55 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 26: Park Center Drive & Mast Blvd

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 476 | 67 | 116 | 862 | 21 | 90 |
| Future Volume (veh/h) | 476 | 67 | 116 | 862 | 21 | 90 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | 0.95 | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 517 | 73 | 126 | 937 | 23 | 98 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 1025 | 144 | 162 | 2078 | 156 | 139 |
| Arrive On Green | 0.33 | 0.33 | 0.09 | 0.58 | 0.09 | 0.09 |
| Sat Flow, veh/h | 3200 | 436 | 1781 | 3647 | 1781 | 1585 |
| Grp Volume(v), veh/h | 295 | 295 | 126 | 937 | 23 | 98 |
| Grp Sat Flow(s),veh/h/ln | 1777 | 1766 | 1781 | 1777 | 1781 | 1585 |
| Q Serve(g_s), s | 3.7 | 3.7 | 1.9 | 4.1 | 0.3 | 1.7 |
| Cycle Q Clear(g_c), s | 3.7 | 3.7 | 1.9 | 4.1 | 0.3 | 1.7 |
| Prop In Lane | | 0.25 | 1.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 587 | 583 | 162 | 2078 | 156 | 139 |
| V/C Ratio(X) | 0.50 | 0.51 | 0.78 | 0.45 | 0.15 | 0.70 |
| Avail Cap(c_a), veh/h | 1209 | 1202 | 635 | 4268 | 1167 | 1038 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 7.4 | 7.4 | 12.2 | 3.2 | 11.6 | 12.2 |
| Incr Delay (d2), s/veh | 0.7 | 0.7 | 7.9 | 0.2 | 0.4 | 6.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.7 | 0.7 | 0.8 | 0.0 | 0.1 | 0.7 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 8.1 | 8.1 | 20.1 | 3.4 | 12.0 | 18.5 |
| LnGrp LOS | A | A | C | A | B | B |
| Approach Vol, veh/h | 590 | | | 1063 | 121 | |
| Approach Delay, s/veh | 8.1 | | | 5.4 | 17.3 | |
| Approach LOS | A | | | A | B | |

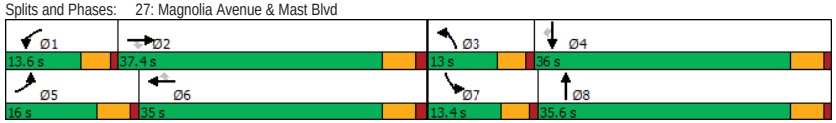
| Timer - Assigned Phs | 1 | 2 | | | 6 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.0 | 13.6 | | | 20.6 | 6.9 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 9.8 | 18.7 | | | 33.0 | 18.0 |
| Max Q Clear Time (g_c+I1), s | 3.9 | 5.7 | | | 6.1 | 3.7 |
| Green Ext Time (p_c), s | 0.1 | 2.8 | | | 6.9 | 0.3 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 7.1 | |
| HCM 6th LOS | A | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 180 | 113 | 210 | 131 | 229 | 46 | 283 | 609 | 44 | 53 | 799 | 402 |
| Future Volume (vph) | 180 | 113 | 210 | 131 | 229 | 46 | 283 | 609 | 44 | 53 | 799 | 402 |
| Confl. Peds. (#/hr) | | | 14 | | | 31 | | | 11 | | | 8 |
| Confl. Bikes (#/hr) | | | 5 | | | 5 | | | 3 | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 11.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 9.0 | | 7.0 | 9.0 | 9.0 |
| Minimum Split (s) | 16.0 | 34.5 | 34.5 | 11.5 | 34.5 | 34.5 | 11.5 | 35.0 | | 11.5 | 36.0 | 36.0 |
| Total Split (s) | 16.0 | 37.4 | 37.4 | 13.6 | 35.0 | 35.0 | 13.0 | 35.6 | | 13.4 | 36.0 | 36.0 |
| Total Split (%) | 16.0% | 37.4% | 37.4% | 13.6% | 35.0% | 35.0% | 13.0% | 35.6% | | 13.4% | 36.0% | 36.0% |
| Yellow Time (s) | 4.0 | 4.0 | 4.0 | 3.5 | 4.0 | 4.0 | 3.5 | 4.0 | | 3.5 | 4.0 | 4.0 |
| All-Red Time (s) | 1.0 | 1.5 | 1.5 | 1.0 | 1.5 | 1.5 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 5.0 | 5.5 | 5.5 | 4.5 | 5.5 | 5.5 | 4.5 | 5.0 | | 4.5 | 5.0 | 5.0 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | Min | Min | None | Min | Min | None | Min | | None | Min | Min |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 77.9 |
| Natural Cycle: 100 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 27: Magnolia Avenue & Mast Blvd






Existing + Proj AM
27: Magnolia Avenue & Mast Blvd
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 180 | 113 | 210 | 131 | 229 | 46 | 283 | 609 | 44 | 53 | 799 | 402 |
| Future Volume (veh/h) | 180 | 113 | 210 | 131 | 229 | 46 | 283 | 609 | 44 | 53 | 799 | 402 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.94 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 196 | 123 | 228 | 142 | 249 | 50 | 308 | 662 | 48 | 58 | 868 | 437 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 437 | 865 | 373 | 175 | 743 | 312 | 341 | 1247 | 90 | 109 | 1187 | 519 |
| Arrive On Green | 0.13 | 0.24 | 0.24 | 0.10 | 0.21 | 0.21 | 0.10 | 0.37 | 0.37 | 0.06 | 0.33 | 0.33 |
| Sat Flow, veh/h | 3456 | 3554 | 1532 | 1781 | 3554 | 1489 | 3456 | 3354 | 243 | 1781 | 3554 | 1553 |
| Grp Volume(v), veh/h | 196 | 123 | 228 | 142 | 249 | 50 | 308 | 350 | 360 | 58 | 868 | 437 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1532 | 1781 | 1777 | 1489 | 1728 | 1777 | 1820 | 1781 | 1777 | 1553 |
| Q Serve(g_s), s | 4.5 | 2.3 | 11.4 | 6.7 | 5.1 | 2.4 | 7.6 | 13.3 | 13.3 | 2.7 | 18.6 | 22.5 |
| Cycle Q Clear(g_c), s | 4.5 | 2.3 | 11.4 | 6.7 | 5.1 | 2.4 | 7.6 | 13.3 | 13.3 | 2.7 | 18.6 | 22.5 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.13 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 437 | 865 | 373 | 175 | 743 | 312 | 341 | 660 | 676 | 109 | 1187 | 519 |
| V/C Ratio(X) | 0.45 | 0.14 | 0.61 | 0.81 | 0.33 | 0.16 | 0.90 | 0.53 | 0.53 | 0.53 | 0.73 | 0.84 |
| Avail Cap(c_a), veh/h | 441 | 1314 | 567 | 188 | 1215 | 509 | 341 | 660 | 676 | 184 | 1277 | 558 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 34.9 | 25.6 | 29.0 | 38.1 | 29.0 | 27.9 | 38.5 | 21.2 | 21.2 | 39.3 | 25.3 | 26.6 |
| Incr Delay (d2), s/veh | 0.9 | 0.1 | 2.0 | 20.0 | 0.3 | 0.3 | 25.8 | 0.8 | 0.8 | 1.5 | 2.0 | 10.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.9 | 1.0 | 4.2 | 3.8 | 2.2 | 0.8 | 4.3 | 5.2 | 5.4 | 1.2 | 7.6 | 9.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 35.8 | 25.7 | 31.0 | 58.1 | 29.3 | 28.2 | 64.3 | 22.0 | 22.0 | 40.8 | 27.3 | 37.3 |
| LnGrp LOS | D | C | C | E | C | C | E | C | C | D | C | D |
| Approach Vol, veh/h | | 547 | | | 441 | | | 1018 | | | 1363 | |
| Approach Delay, s/veh | | 31.5 | | | 38.5 | | | 34.8 | | | 31.1 | |
| Approach LOS | | C | | | D | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 13.0 | 26.5 | 13.0 | 33.8 | 15.9 | 23.5 | 9.8 | 37.1 |
| Change Period (Y+Rc), s | 4.5 | 5.5 | 4.5 | 5.0 | 5.0 | 5.5 | 4.5 | 5.0 |
| Max Green Setting (Gmax), s | 9.1 | 31.9 | 8.5 | 31.0 | 11.0 | 29.5 | 8.9 | 30.6 |
| Max Q Clear Time (g_c+I1), s | 8.7 | 13.4 | 9.6 | 24.5 | 6.5 | 7.1 | 4.7 | 15.3 |
| Green Ext Time (p_c), s | 0.0 | 1.7 | 0.0 | 3.7 | 0.3 | 2.0 | 0.0 | 3.6 |

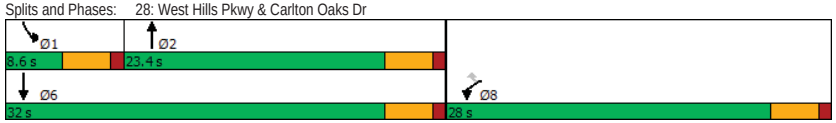
| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 33.2 |
| HCM 6th LOS | C |

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\3 Existing + Proj AM.syn

| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 396 | 612 | 761 | 115 | 39 | 193 |
| Future Volume (vph) | 396 | 612 | 761 | 115 | 39 | 193 |
| Confl. Peds. (#/hr) | | 9 | | 6 | | |
| Confl. Bikes (#/hr) | | | | 2 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | 0% | | | 0% |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | NA | | Prot | NA |
| Protected Phases | 8 | | 2 | | 1 | 6 |
| Permitted Phases | | 8 | | | | |
| Detector Phase | 8 | 8 | 2 | | 1 | 6 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | | 8.5 | 20.5 |
| Total Split (s) | 28.0 | 28.0 | 23.4 | | 8.6 | 32.0 |
| Total Split (%) | 46.7% | 46.7% | 39.0% | | 14.3% | 53.3% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Lead/Lag | | | Lag | | Lead | |
| Lead-Lag Optimize? | | | Yes | | Yes | |
| Recall Mode | None | None | Min | | None | Min |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 47.1 |
| Natural Cycle: 60 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 28: West Hills Pkwy & Carlton Oaks Dr






Existing + Proj AM
28: West Hills Pkwy & Carlton Oaks Dr
Fanita Ranch
06/06/2019

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 396 | 612 | 761 | 115 | 39 | 193 |
| Future Volume (veh/h) | 396 | 612 | 761 | 115 | 39 | 193 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | | 0.97 | 1.00 | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | No | | | No |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 430 | 665 | 827 | 125 | 42 | 210 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 591 | 926 | 1056 | 160 | 64 | 1689 |
| Arrive On Green | 0.33 | 0.33 | 0.34 | 0.34 | 0.04 | 0.48 |
| Sat Flow, veh/h | 1781 | 2790 | 3174 | 466 | 1781 | 3647 |
| Grp Volume(v), veh/h | 430 | 665 | 477 | 475 | 42 | 210 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1395 | 1777 | 1769 | 1781 | 1777 |
| Q Serve(g_s), s | 9.9 | 9.8 | 11.3 | 11.3 | 1.1 | 1.5 |
| Cycle Q Clear(g_c), s | 9.9 | 9.8 | 11.3 | 11.3 | 1.1 | 1.5 |
| Prop In Lane | 1.00 | 1.00 | | 0.26 | 1.00 | |
| Lane Grp Cap(c), veh/h | 591 | 926 | 609 | 607 | 64 | 1689 |
| V/C Ratio(X) | 0.73 | 0.72 | 0.78 | 0.78 | 0.66 | 0.12 |
| Avail Cap(c_a), veh/h | 897 | 1405 | 720 | 717 | 157 | 2095 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 13.7 | 13.7 | 13.8 | 13.8 | 22.2 | 6.8 |
| Incr Delay (d2), s/veh | 1.7 | 1.1 | 4.8 | 4.8 | 10.8 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 3.6 | 2.7 | 4.0 | 4.0 | 0.6 | 0.4 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 15.5 | 14.7 | 18.6 | 18.6 | 33.0 | 6.9 |
| LnGrp LOS | B | B | B | B | C | A |
| Approach Vol, veh/h | 1095 | | 952 | | | 252 |
| Approach Delay, s/veh | 15.0 | | 18.6 | | | 11.2 |
| Approach LOS | B | | B | | | B |

| Timer - Assigned Phs | 1 | 2 | | | 6 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 6.2 | 20.5 | | | 26.7 | 20.0 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 4.1 | 18.9 | | | 27.5 | 23.5 |
| Max Q Clear Time (g_c+I1), s | 3.1 | 13.3 | | | 3.5 | 11.9 |
| Green Ext Time (p_c), s | 0.0 | 2.7 | | | 1.1 | 3.6 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 16.1 | |
| HCM 6th LOS | B | |

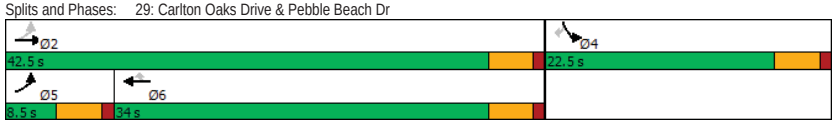
Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\3 Existing + Proj AM.syn

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 5 | 316 | 701 | 150 | 157 | 50 |
| Future Volume (vph) | 5 | 316 | 701 | 150 | 157 | 50 |
| Confl. Peds. (#/hr) | | | | 13 | | |
| Confl. Bikes (#/hr) | | | | 8 | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | pm+pt | NA | NA | Perm | Prot | Perm |
| Protected Phases | 5 | 2 | 6 | | 4 | |
| Permitted Phases | 2 | | | 6 | | 4 |
| Detector Phase | 5 | 2 | 6 | 6 | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 |
| Total Split (s) | 8.5 | 42.5 | 34.0 | 34.0 | 22.5 | 22.5 |
| Total Split (%) | 13.1% | 65.4% | 52.3% | 52.3% | 34.6% | 34.6% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | | Lag | Lag | | |
| Lead-Lag Optimize? | Yes | | Yes | Yes | | |
| Recall Mode | None | Min | Min | Min | None | None |

**Intersection Summary**

Cycle Length: 65
Actuated Cycle Length: 49
Natural Cycle: 65
Control Type: Semi Act-Uncoord

Splits and Phases: 29: Carlton Oaks Drive & Pebble Beach Dr








| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 5 | 316 | 701 | 150 | 157 | 50 |
| Future Volume (veh/h) | 5 | 316 | 701 | 150 | 157 | 50 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 0.96 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 5 | 343 | 762 | 163 | 171 | 54 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 300 | 1185 | 964 | 786 | 252 | 224 |
| Arrive On Green | 0.01 | 0.63 | 0.52 | 0.52 | 0.14 | 0.14 |
| Sat Flow, veh/h | 1781 | 1870 | 1870 | 1525 | 1781 | 1585 |
| Grp Volume(v), veh/h | 5 | 343 | 762 | 163 | 171 | 54 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1870 | 1525 | 1781 | 1585 |
| Q Serve(g_s), s | 0.0 | 3.3 | 13.3 | 2.3 | 3.6 | 1.2 |
| Cycle Q Clear(g_c), s | 0.0 | 3.3 | 13.3 | 2.3 | 3.6 | 1.2 |
| Prop In Lane | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 300 | 1185 | 964 | 786 | 252 | 224 |
| V/C Ratio(X) | 0.02 | 0.29 | 0.79 | 0.21 | 0.68 | 0.24 |
| Avail Cap(c_a), veh/h | 469 | 1780 | 1382 | 1127 | 803 | 715 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 6.6 | 3.3 | 7.9 | 5.3 | 16.3 | 15.2 |
| Incr Delay (d2), s/veh | 0.0 | 0.1 | 2.0 | 0.1 | 3.2 | 0.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.4 | 3.7 | 0.5 | 1.5 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 6.7 | 3.4 | 10.0 | 5.4 | 19.5 | 15.8 |
| LnGrp LOS | A | A | A | A | B | B |
| Approach Vol, veh/h | | 348 | 925 | | 225 | |
| Approach Delay, s/veh | | 3.5 | 9.2 | | 18.6 | |
| Approach LOS | | A | A | | B | |

| Timer - Assigned Phs | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 29.8 | | 10.1 | 4.7 | 25.1 |
| Change Period (Y+Rc), s | 4.5 | | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 38.0 | | 18.0 | 4.0 | 29.5 |
| Max Q Clear Time (g_c+I1), s | 5.3 | | 5.6 | 2.0 | 15.3 |
| Green Ext Time (p_c), s | 2.1 | | 0.5 | 0.0 | 5.3 |

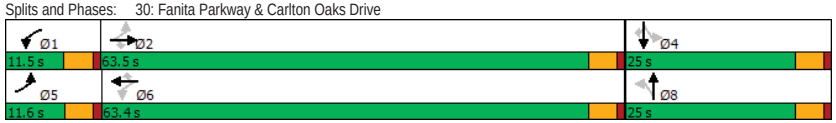
**Intersection Summary**

| | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 9.3 |
| HCM 6th LOS | | A |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 47 | 310 | 0 | 0 | 678 | 194 | 4 | 0 | 5 | 317 | 0 | 145 |
| Future Volume (vph) | 47 | 310 | 0 | 0 | 678 | 194 | 4 | 0 | 5 | 317 | 0 | 145 |
| Confl. Peds. (#/hr) | | | 4 | | | 4 | | | 14 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | 6 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | pm+pt | NA | Perm | pm+pt | NA | Perm | Perm | NA | | Perm | | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | 2 | | 2 | 6 | | 6 | 8 | | | 4 | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 8 | 8 | | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | | 7.0 | 7.0 | 7.0 |
| Minimum Split (s) | 11.5 | 26.5 | 26.5 | 11.5 | 20.5 | 20.5 | 22.5 | 22.5 | | 22.5 | 22.5 | 22.5 |
| Total Split (s) | 11.6 | 63.5 | 63.5 | 11.5 | 63.4 | 63.4 | 25.0 | 25.0 | | 25.0 | 25.0 | 25.0 |
| Total Split (%) | 11.6% | 63.5% | 63.5% | 11.5% | 63.4% | 63.4% | 25.0% | 25.0% | | 25.0% | 25.0% | 25.0% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | | | | | | |
| Recall Mode | None | Min | Min | None | Min | Min | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 73.9 |
| Natural Cycle: 80 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 30: Fanita Parkway & Carlton Oaks Drive






Existing + Proj AM
30: Fanita Parkway & Carlton Oaks Drive
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 47 | 310 | 0 | 0 | 678 | 194 | 4 | 0 | 5 | 317 | 0 | 145 |
| Future Volume (veh/h) | 47 | 310 | 0 | 0 | 678 | 194 | 4 | 0 | 5 | 317 | 0 | 145 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.97 | 1.00 | | 0.97 | 0.97 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 51 | 337 | 0 | 0 | 737 | 211 | 4 | 0 | 5 | 345 | 0 | 158 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 289 | 1116 | 946 | 595 | 878 | 723 | 221 | 26 | 217 | 482 | 514 | 434 |
| Arrive On Green | 0.06 | 0.60 | 0.00 | 0.00 | 0.47 | 0.47 | 0.27 | 0.00 | 0.27 | 0.27 | 0.00 | 0.27 |
| Sat Flow, veh/h | 1781 | 1870 | 1585 | 1781 | 1870 | 1539 | 535 | 96 | 790 | 1376 | 1870 | 1579 |
| Grp Volume(v), veh/h | 51 | 337 | 0 | 0 | 737 | 211 | 9 | 0 | 0 | 345 | 0 | 158 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1585 | 1781 | 1870 | 1539 | 1422 | 0 | 0 | 1376 | 1870 | 1579 |
| Q Serve(g_s), s | 0.9 | 6.2 | 0.0 | 0.0 | 24.1 | 5.9 | 0.0 | 0.0 | 0.0 | 16.6 | 0.0 | 5.6 |
| Cycle Q Clear(g_c), s | 0.9 | 6.2 | 0.0 | 0.0 | 24.1 | 5.9 | 0.3 | 0.0 | 0.0 | 16.9 | 0.0 | 5.6 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 0.44 | | 0.56 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 289 | 1116 | 946 | 595 | 878 | 723 | 465 | 0 | 0 | 482 | 514 | 434 |
| V/C Ratio(X) | 0.18 | 0.30 | 0.00 | 0.00 | 0.84 | 0.29 | 0.02 | 0.00 | 0.00 | 0.72 | 0.00 | 0.36 |
| Avail Cap(c_a), veh/h | 357 | 1577 | 1336 | 771 | 1574 | 1296 | 490 | 0 | 0 | 507 | 548 | 463 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 12.3 | 6.9 | 0.0 | 0.0 | 16.2 | 11.4 | 18.5 | 0.0 | 0.0 | 24.5 | 0.0 | 20.5 |
| Incr Delay (d2), s/veh | 0.3 | 0.2 | 0.0 | 0.0 | 2.2 | 0.2 | 0.0 | 0.0 | 0.0 | 4.5 | 0.0 | 0.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.3 | 2.0 | 0.0 | 0.0 | 9.3 | 1.8 | 0.1 | 0.0 | 0.0 | 5.7 | 0.0 | 2.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 12.6 | 7.1 | 0.0 | 0.0 | 18.5 | 11.6 | 18.5 | 0.0 | 0.0 | 29.0 | 0.0 | 21.0 |
| LnGrp LOS | B | A | A | A | B | B | B | A | A | C | A | C |
| Approach Vol, veh/h | | 388 | | | 948 | | | 9 | | | 503 | |
| Approach Delay, s/veh | | 7.8 | | | 17.0 | | | 18.5 | | | 26.5 | |
| Approach LOS | | A | | | B | | | B | | | C | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 0.0 | 46.3 | | 23.7 | 8.9 | 37.4 | | 23.7 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 7.0 | 59.0 | | 20.5 | 7.1 | 58.9 | | 20.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 0.0 | 8.2 | | 18.9 | 2.9 | 26.1 | | 2.3 | | | | |
| Green Ext Time (p_c), s | 0.0 | 2.1 | | 0.3 | 0.0 | 6.7 | | 0.0 | | | | |

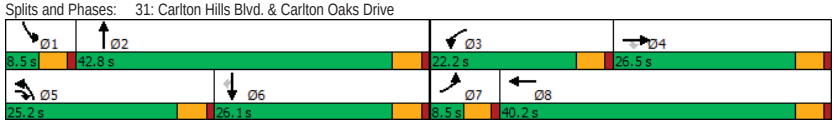
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 17.6 |
| HCM 6th LOS | | B |

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\3 Existing + Proj AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 10 | 121 | 620 | 221 | 170 | 10 | 638 | 365 | 177 | 14 | 623 | 78 |
| Future Volume (vph) | 10 | 121 | 620 | 221 | 170 | 10 | 638 | 365 | 177 | 14 | 623 | 78 |
| Confl. Peds. (#/hr) | | | 16 | | | 2 | | | 3 | | | 4 |
| Confl. Bikes (#/hr) | | | 1 | | | 1 | | | 1 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 7 | 4 | 5 | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | | | | 6 |
| Detector Phase | 7 | 4 | 5 | 3 | 8 | | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 26.5 | 8.5 | 8.5 | 26.5 | | 8.5 | 22.5 | | 8.5 | 22.5 | 22.5 |
| Total Split (s) | 8.5 | 26.5 | 25.2 | 22.2 | 40.2 | | 25.2 | 42.8 | | 8.5 | 26.1 | 26.1 |
| Total Split (%) | 8.5% | 26.5% | 25.2% | 22.2% | 40.2% | | 25.2% | 42.8% | | 8.5% | 26.1% | 26.1% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | | None | Min | | None | Min | Min |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 87.8 |
| Natural Cycle: 90 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 31: Carlton Hills Blvd. & Carlton Oaks Drive






Existing + Proj AM
31: Carlton Hills Blvd. & Carlton Oaks Drive
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 10 | 121 | 620 | 221 | 170 | 10 | 638 | 365 | 177 | 14 | 623 | 78 |
| Future Volume (veh/h) | 10 | 121 | 620 | 221 | 170 | 10 | 638 | 365 | 177 | 14 | 623 | 78 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 11 | 132 | 674 | 240 | 185 | 11 | 693 | 397 | 192 | 15 | 677 | 85 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 19 | 428 | 691 | 275 | 1269 | 75 | 744 | 966 | 461 | 24 | 763 | 334 |
| Arrive On Green | 0.01 | 0.23 | 0.23 | 0.15 | 0.37 | 0.37 | 0.22 | 0.42 | 0.42 | 0.01 | 0.21 | 0.21 |
| Sat Flow, veh/h | 1781 | 1870 | 1532 | 1781 | 3406 | 201 | 3456 | 2321 | 1107 | 1781 | 3554 | 1556 |
| Grp Volume(v), veh/h | 11 | 132 | 674 | 240 | 96 | 100 | 693 | 303 | 286 | 15 | 677 | 85 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1532 | 1781 | 1777 | 1831 | 1728 | 1777 | 1652 | 1781 | 1777 | 1556 |
| Q Serve(g_s), s | 0.6 | 5.6 | 22.0 | 12.7 | 3.4 | 3.5 | 18.9 | 11.5 | 11.8 | 0.8 | 17.8 | 4.4 |
| Cycle Q Clear(g_c), s | 0.6 | 5.6 | 22.0 | 12.7 | 3.4 | 3.5 | 18.9 | 11.5 | 11.8 | 0.8 | 17.8 | 4.4 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.11 | 1.00 | | 0.67 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 19 | 428 | 691 | 275 | 662 | 682 | 744 | 739 | 687 | 24 | 763 | 334 |
| V/C Ratio(X) | 0.58 | 0.31 | 0.97 | 0.87 | 0.14 | 0.15 | 0.93 | 0.41 | 0.42 | 0.61 | 0.89 | 0.25 |
| Avail Cap(c_a), veh/h | 74 | 428 | 691 | 328 | 662 | 682 | 744 | 739 | 687 | 74 | 798 | 349 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 47.4 | 30.8 | 26.4 | 39.8 | 20.0 | 20.0 | 37.1 | 19.8 | 19.8 | 47.2 | 36.6 | 31.4 |
| Incr Delay (d2), s/veh | 25.4 | 0.4 | 27.9 | 19.5 | 0.1 | 0.1 | 18.5 | 0.4 | 0.4 | 22.3 | 11.6 | 0.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.4 | 2.6 | 19.6 | 7.0 | 1.4 | 1.5 | 9.6 | 4.6 | 4.4 | 0.5 | 8.7 | 1.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 72.8 | 31.2 | 54.3 | 59.2 | 20.1 | 20.1 | 55.5 | 20.1 | 20.2 | 69.5 | 48.2 | 31.8 |
| LnGrp LOS | E | C | D | E | C | C | E | C | C | E | D | C |
| Approach Vol, veh/h | | 817 | | | 436 | | | 1282 | | | 777 | |
| Approach Delay, s/veh | | 50.8 | | | 41.6 | | | 39.3 | | | 46.8 | |
| Approach LOS | | D | | | D | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.8 | 44.5 | 19.3 | 26.5 | 25.2 | 25.1 | 5.5 | 40.3 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 4.0 | 38.3 | 17.7 | 22.0 | 20.7 | 21.6 | 4.0 | 35.7 |
| Max Q Clear Time (g_c+I1), s | 2.8 | 13.8 | 14.7 | 24.0 | 20.9 | 19.8 | 2.6 | 5.5 |
| Green Ext Time (p_c), s | 0.0 | 3.7 | 0.2 | 0.0 | 0.0 | 0.9 | 0.0 | 1.1 |

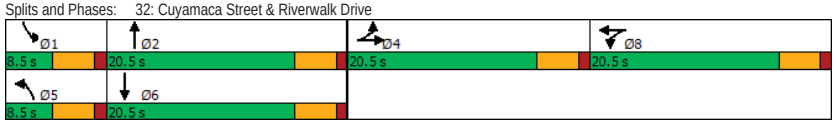
| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 44.2 |
| HCM 6th LOS | D |

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\3 Existing + Proj AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 1 | 0 | 0 | 90 | 1 | 55 | 17 | 618 | 80 | 98 | 1268 | 3 |
| Future Volume (vph) | 1 | 0 | 0 | 90 | 1 | 55 | 17 | 618 | 80 | 98 | 1268 | 3 |
| Confl. Peds. (#/hr) | | | 17 | | | 2 | | | 1 | | | 7 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Split | | | Split | NA | | Prot | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | 20.5 | 20.5 | | 20.5 | 20.5 | | 8.5 | 20.5 | | 8.5 | 20.5 | |
| Total Split (s) | 20.5 | 20.5 | | 20.5 | 20.5 | | 8.5 | 20.5 | | 8.5 | 20.5 | |
| Total Split (%) | 29.3% | 29.3% | | 29.3% | 29.3% | | 12.1% | 29.3% | | 12.1% | 29.3% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 70 |
| Actuated Cycle Length: 46.4 |
| Natural Cycle: 90 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 32: Cuyamaca Street & Riverwalk Drive






Existing + Proj AM
32: Cuyamaca Street & Riverwalk Drive
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 1 | 0 | 0 | 90 | 1 | 55 | 17 | 618 | 80 | 98 | 1268 | 3 |
| Future Volume (veh/h) | 1 | 0 | 0 | 90 | 1 | 55 | 17 | 618 | 80 | 98 | 1268 | 3 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.99 | 1.00 | | 1.00 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 1 | 0 | 0 | 98 | 1 | 60 | 18 | 672 | 87 | 107 | 1378 | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 67 | 71 | 0 | 173 | 3 | 151 | 32 | 1078 | 139 | 135 | 1450 | 3 |
| Arrive On Green | 0.04 | 0.00 | 0.00 | 0.10 | 0.10 | 0.10 | 0.02 | 0.34 | 0.34 | 0.08 | 0.40 | 0.40 |
| Sat Flow, veh/h | 1781 | 1870 | 0 | 1781 | 26 | 1554 | 1781 | 3164 | 409 | 1781 | 3638 | 8 |
| Grp Volume(v), veh/h | 1 | 0 | 0 | 98 | 0 | 61 | 18 | 377 | 382 | 107 | 673 | 708 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 0 | 1781 | 0 | 1580 | 1781 | 1777 | 1796 | 1781 | 1777 | 1869 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.0 | 2.1 | 0.0 | 1.5 | 0.4 | 7.1 | 7.1 | 2.4 | 14.7 | 14.7 |
| Cycle Q Clear(g_c), s | 0.0 | 0.0 | 0.0 | 2.1 | 0.0 | 1.5 | 0.4 | 7.1 | 7.1 | 2.4 | 14.7 | 14.7 |
| Prop In Lane | 1.00 | | 0.00 | 1.00 | | 0.98 | 1.00 | | 0.23 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 67 | 71 | 0 | 173 | 0 | 154 | 32 | 606 | 612 | 135 | 708 | 745 |
| V/C Ratio(X) | 0.01 | 0.00 | 0.00 | 0.57 | 0.00 | 0.40 | 0.56 | 0.62 | 0.62 | 0.79 | 0.95 | 0.95 |
| Avail Cap(c_a), veh/h | 710 | 745 | 0 | 710 | 0 | 630 | 177 | 708 | 716 | 177 | 708 | 745 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 18.6 | 0.0 | 0.0 | 17.3 | 0.0 | 17.0 | 19.5 | 11.1 | 11.1 | 18.2 | 11.7 | 11.7 |
| Incr Delay (d2), s/veh | 0.1 | 0.0 | 0.0 | 2.9 | 0.0 | 1.7 | 14.2 | 1.3 | 1.3 | 16.3 | 22.4 | 21.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.0 | 0.0 | 0.9 | 0.0 | 0.5 | 0.3 | 2.3 | 2.3 | 1.4 | 8.3 | 8.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 18.7 | 0.0 | 0.0 | 20.2 | 0.0 | 18.7 | 33.7 | 12.4 | 12.4 | 34.5 | 34.1 | 33.4 |
| LnGrp LOS | B | A | A | C | A | B | C | B | B | C | C | C |
| Approach Vol, veh/h | | 1 | | | 159 | | | 777 | | | 1488 | |
| Approach Delay, s/veh | | 18.7 | | | 19.6 | | | 12.9 | | | 33.8 | |
| Approach LOS | | B | | | B | | | B | | | C | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.5 | 18.2 | | 6.0 | 5.2 | 20.5 | | 8.4 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 4.0 | 16.0 | | 16.0 | 4.0 | 16.0 | | 16.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 4.4 | 9.1 | | 2.0 | 2.4 | 16.7 | | 4.1 | | | | |
| Green Ext Time (p_c), s | 0.0 | 2.6 | | 0.0 | 0.0 | 0.0 | | 0.4 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 26.1 | |
| HCM 6th LOS | C | |

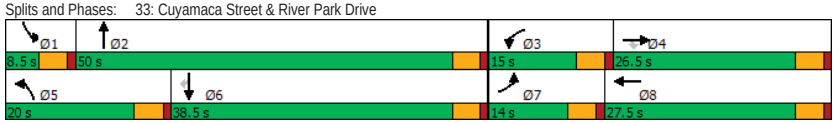
Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\3 Existing + Proj AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 66 | 26 | 97 | 77 | 30 | 27 | 126 | 726 | 81 | 16 | 1081 | 55 |
| Future Volume (vph) | 66 | 26 | 97 | 77 | 30 | 27 | 126 | 726 | 81 | 16 | 1081 | 55 |
| Confl. Peds. (#/hr) | | | 10 | | | 6 | | | 10 | | | 6 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | | | | 6 |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 26.5 | 26.5 | 8.5 | 26.5 | | 8.5 | 22.5 | | 8.5 | 26.5 | 26.5 |
| Total Split (s) | 14.0 | 26.5 | 26.5 | 15.0 | 27.5 | | 20.0 | 50.0 | | 8.5 | 38.5 | 38.5 |
| Total Split (%) | 14.0% | 26.5% | 26.5% | 15.0% | 27.5% | | 20.0% | 50.0% | | 8.5% | 38.5% | 38.5% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | | None | Min | | None | Min | Min |

**Intersection Summary**

Cycle Length: 100
Actuated Cycle Length: 77.6
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 33: Cuyamaca Street & River Park Drive






Existing + Proj AM
33: Cuyamaca Street & River Park Drive
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 66 | 26 | 97 | 77 | 30 | 27 | 126 | 726 | 81 | 16 | 1081 | 55 |
| Future Volume (veh/h) | 66 | 26 | 97 | 77 | 30 | 27 | 126 | 726 | 81 | 16 | 1081 | 55 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 72 | 28 | 105 | 84 | 33 | 29 | 137 | 789 | 88 | 17 | 1175 | 60 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 93 | 247 | 205 | 109 | 129 | 113 | 178 | 1639 | 183 | 29 | 1512 | 670 |
| Arrive On Green | 0.05 | 0.13 | 0.13 | 0.06 | 0.14 | 0.14 | 0.10 | 0.51 | 0.51 | 0.02 | 0.43 | 0.43 |
| Sat Flow, veh/h | 1781 | 1870 | 1549 | 1781 | 912 | 802 | 1781 | 3219 | 359 | 1781 | 3554 | 1574 |
| Grp Volume(v), veh/h | 72 | 28 | 105 | 84 | 0 | 62 | 137 | 435 | 442 | 17 | 1175 | 60 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1549 | 1781 | 0 | 1714 | 1781 | 1777 | 1802 | 1781 | 1777 | 1574 |
| Q Serve(g_s), s | 2.6 | 0.8 | 4.0 | 3.0 | 0.0 | 2.1 | 4.8 | 10.2 | 10.2 | 0.6 | 18.2 | 1.5 |
| Cycle Q Clear(g_c), s | 2.6 | 0.8 | 4.0 | 3.0 | 0.0 | 2.1 | 4.8 | 10.2 | 10.2 | 0.6 | 18.2 | 1.5 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.47 | 1.00 | | 0.20 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 93 | 247 | 205 | 109 | 0 | 242 | 178 | 904 | 917 | 29 | 1512 | 670 |
| V/C Ratio(X) | 0.78 | 0.11 | 0.51 | 0.77 | 0.00 | 0.26 | 0.77 | 0.48 | 0.48 | 0.59 | 0.78 | 0.09 |
| Avail Cap(c_a), veh/h | 264 | 643 | 533 | 292 | 0 | 616 | 431 | 1263 | 1281 | 111 | 1888 | 836 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 30.0 | 24.5 | 25.8 | 29.6 | 0.0 | 24.5 | 28.1 | 10.2 | 10.2 | 31.3 | 15.8 | 11.0 |
| Incr Delay (d2), s/veh | 13.0 | 0.2 | 2.0 | 10.9 | 0.0 | 0.6 | 6.9 | 0.4 | 0.4 | 17.3 | 1.7 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.4 | 0.4 | 1.5 | 1.5 | 0.0 | 0.8 | 2.3 | 3.3 | 3.4 | 0.4 | 6.6 | 0.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 43.0 | 24.7 | 27.8 | 40.5 | 0.0 | 25.0 | 35.0 | 10.6 | 10.6 | 48.6 | 17.4 | 11.0 |
| LnGrp LOS | D | C | C | D | A | C | C | B | B | D | B | B |
| Approach Vol, veh/h | | 205 | | | 146 | | | 1014 | | | 1252 | |
| Approach Delay, s/veh | | 32.7 | | | 33.9 | | | 13.9 | | | 17.6 | |
| Approach LOS | | C | | | C | | | B | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.5 | 37.1 | 8.4 | 13.0 | 10.9 | 31.7 | 7.8 | 13.6 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 4.0 | 45.5 | 10.5 | 22.0 | 15.5 | 34.0 | 9.5 | 23.0 |
| Max Q Clear Time (g_c+I1), s | 2.6 | 12.2 | 5.0 | 6.0 | 6.8 | 20.2 | 4.6 | 4.1 |
| Green Ext Time (p_c), s | 0.0 | 6.2 | 0.1 | 0.4 | 0.2 | 7.1 | 0.1 | 0.2 |

**Intersection Summary**

| | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 18.2 | |
| HCM 6th LOS | | B | |

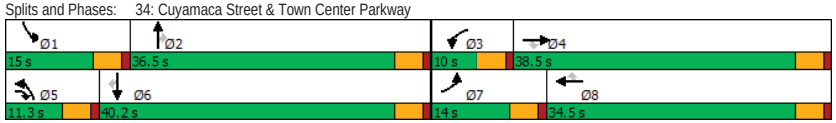
Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\3 Existing + Proj AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 143 | 55 | 87 | 59 | 40 | 63 | 89 | 428 | 36 | 85 | 686 | 243 |
| Future Volume (vph) | 143 | 55 | 87 | 59 | 40 | 63 | 89 | 428 | 36 | 85 | 686 | 243 |
| Confl. Peds. (#/hr) | | | 7 | | | 1 | | | 5 | | | 3 |
| Confl. Bikes (#/hr) | | | 1 | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 7 | 4 | 5 | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | 2 | | | 6 |
| Detector Phase | 7 | 4 | 5 | 3 | 8 | 8 | 5 | 2 | 2 | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 34.5 | 8.5 | 8.5 | 34.5 | 34.5 | 8.5 | 34.5 | 34.5 | 8.5 | 34.5 | 34.5 |
| Total Split (s) | 14.0 | 38.5 | 11.3 | 10.0 | 34.5 | 34.5 | 11.3 | 36.5 | 36.5 | 15.0 | 40.2 | 40.2 |
| Total Split (%) | 14.0% | 38.5% | 11.3% | 10.0% | 34.5% | 34.5% | 11.3% | 36.5% | 36.5% | 15.0% | 40.2% | 40.2% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lead | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | None | None | Min | Min | None | Min | Min |

**Intersection Summary**

Cycle Length: 100
Actuated Cycle Length: 59
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 34: Cuyamaca Street & Town Center Parkway






Existing + Proj AM
34: Cuyamaca Street & Town Center Parkway
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 143 | 55 | 87 | 59 | 40 | 63 | 89 | 428 | 36 | 85 | 686 | 243 |
| Future Volume (veh/h) | 143 | 55 | 87 | 59 | 40 | 63 | 89 | 428 | 36 | 85 | 686 | 243 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 1.00 | 1.00 | | 0.99 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 155 | 60 | 95 | 64 | 43 | 68 | 97 | 465 | 39 | 92 | 746 | 264 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 273 | 281 | 331 | 169 | 427 | 190 | 216 | 1713 | 528 | 118 | 1734 | 537 |
| Arrive On Green | 0.08 | 0.15 | 0.15 | 0.05 | 0.12 | 0.12 | 0.06 | 0.34 | 0.34 | 0.07 | 0.34 | 0.34 |
| Sat Flow, veh/h | 3456 | 1870 | 1542 | 3456 | 3554 | 1581 | 3456 | 5106 | 1573 | 1781 | 5106 | 1581 |
| Grp Volume(v), veh/h | 155 | 60 | 95 | 64 | 43 | 68 | 97 | 465 | 39 | 92 | 746 | 264 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1870 | 1542 | 1728 | 1777 | 1581 | 1728 | 1702 | 1573 | 1781 | 1702 | 1581 |
| Q Serve(g_s), s | 2.0 | 1.3 | 2.3 | 0.8 | 0.5 | 1.8 | 1.2 | 3.0 | 0.8 | 2.3 | 5.1 | 6.0 |
| Cycle Q Clear(g_c), s | 2.0 | 1.3 | 2.3 | 0.8 | 0.5 | 1.8 | 1.2 | 3.0 | 0.8 | 2.3 | 5.1 | 6.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 273 | 281 | 331 | 169 | 427 | 190 | 216 | 1713 | 528 | 118 | 1734 | 537 |
| V/C Ratio(X) | 0.57 | 0.21 | 0.29 | 0.38 | 0.10 | 0.36 | 0.45 | 0.27 | 0.07 | 0.78 | 0.43 | 0.49 |
| Avail Cap(c_a), veh/h | 727 | 1409 | 1261 | 421 | 2362 | 1051 | 521 | 3621 | 1116 | 414 | 4039 | 1251 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 20.0 | 16.8 | 14.9 | 20.8 | 17.7 | 18.2 | 20.4 | 11.0 | 10.2 | 20.7 | 11.5 | 11.8 |
| Incr Delay (d2), s/veh | 1.9 | 0.4 | 0.5 | 1.4 | 0.1 | 1.1 | 1.5 | 0.1 | 0.1 | 10.4 | 0.2 | 0.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.8 | 0.5 | 0.7 | 0.3 | 0.2 | 0.6 | 0.5 | 0.9 | 0.2 | 1.2 | 1.5 | 1.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 21.9 | 17.2 | 15.4 | 22.2 | 17.8 | 19.4 | 21.9 | 11.0 | 10.3 | 31.1 | 11.7 | 12.5 |
| LnGrp LOS | C | B | B | C | B | B | C | B | B | C | B | B |
| Approach Vol, veh/h | | 310 | | | 175 | | | 601 | | | 1102 | |
| Approach Delay, s/veh | | 19.0 | | | 20.0 | | | 12.7 | | | 13.5 | |
| Approach LOS | | B | | | C | | | B | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.5 | 19.6 | 6.7 | 11.3 | 7.3 | 19.8 | 8.1 | 9.9 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 10.5 | 32.0 | 5.5 | 34.0 | 6.8 | 35.7 | 9.5 | 30.0 |
| Max Q Clear Time (g_c+I1), s | 4.3 | 5.0 | 2.8 | 4.3 | 3.2 | 8.0 | 4.0 | 3.8 |
| Green Ext Time (p_c), s | 0.1 | 3.3 | 0.0 | 0.6 | 0.1 | 6.6 | 0.2 | 0.4 |

**Intersection Summary**

| | |
|---|---|
| HCM 6th Ctrl Delay | 14.6 |
| HCM 6th LOS | B |

Fanita Ranch
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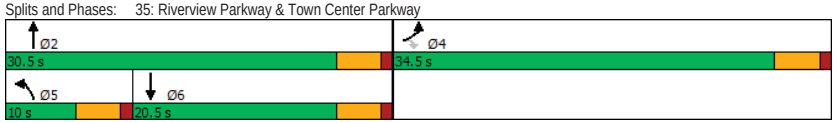
| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 103 | 115 | 95 | 6 | 3 |
| Future Volume (vph) | 0 | 103 | 115 | 95 | 6 | 3 |
| Confl. Peds. (#/hr) | | 4 | | | | 1 |
| Confl. Bikes (#/hr) | | 2 | | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | Prot | NA | NA | |
| Protected Phases | 4 | | 5 | 2 | 6 | |
| Permitted Phases | | 4 | | | | |
| Detector Phase | 4 | 4 | 5 | 2 | 6 | |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Minimum Split (s) | 34.5 | 34.5 | 8.5 | 25.5 | 20.5 | |
| Total Split (s) | 34.5 | 34.5 | 10.0 | 30.5 | 20.5 | |
| Total Split (%) | 53.1% | 53.1% | 15.4% | 46.9% | 31.5% | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lead/Lag | | | Lead | | Lag | |
| Lead-Lag Optimize? | | | Yes | | Yes | |
| Recall Mode | None | None | None | Min | Min | |

| Intersection Summary |
|---|
| Cycle Length: 65 |
| Actuated Cycle Length: 36 |
| Natural Cycle: 65 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 35: Riverview Parkway & Town Center Parkway






Existing + Proj AM
35: Riverview Parkway & Town Center Parkway
Fanita Ranch
06/06/2019

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 103 | 115 | 95 | 6 | 3 |
| Future Volume (veh/h) | 0 | 103 | 115 | 95 | 6 | 3 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 112 | 125 | 103 | 7 | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 161 | 144 | 174 | 1751 | 461 | 182 |
| Arrive On Green | 0.00 | 0.09 | 0.10 | 0.49 | 0.19 | 0.19 |
| Sat Flow, veh/h | 1781 | 1585 | 1781 | 3647 | 2560 | 976 |
| Grp Volume(v), veh/h | 0 | 112 | 125 | 103 | 5 | 5 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 1781 | 1777 | 1777 | 1666 |
| Q Serve(g_s), s | 0.0 | 1.5 | 1.5 | 0.3 | 0.0 | 0.1 |
| Cycle Q Clear(g_c), s | 0.0 | 1.5 | 1.5 | 0.3 | 0.0 | 0.1 |
| Prop In Lane | 1.00 | 1.00 | 1.00 | | | 0.59 |
| Lane Grp Cap(c), veh/h | 161 | 144 | 174 | 1751 | 332 | 311 |
| V/C Ratio(X) | 0.00 | 0.78 | 0.72 | 0.06 | 0.01 | 0.02 |
| Avail Cap(c_a), veh/h | 2473 | 2201 | 453 | 4277 | 1316 | 1234 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 0.0 | 9.6 | 9.5 | 2.9 | 7.2 | 7.2 |
| Incr Delay (d2), s/veh | 0.0 | 8.8 | 5.5 | 0.0 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.4 | 0.6 | 0.0 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 18.4 | 14.9 | 2.9 | 7.2 | 7.2 |
| LnGrp LOS | A | B | B | A | A | A |
| Approach Vol, veh/h | 112 | | | 228 | 10 | |
| Approach Delay, s/veh | 18.4 | | | 9.5 | 7.2 | |
| Approach LOS | B | | | A | A | |

| Timer - Assigned Phs | 2 | 4 | 5 | 6 |
|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 15.1 | 6.5 | 6.6 | 8.5 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 26.0 | 30.0 | 5.5 | 16.0 |
| Max Q Clear Time (g_c+I1), s | 2.3 | 3.5 | 3.5 | 2.1 |
| Green Ext Time (p_c), s | 0.5 | 0.3 | 0.1 | 0.0 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 12.3 | |
| HCM 6th LOS | B | |

Fanita Ranch
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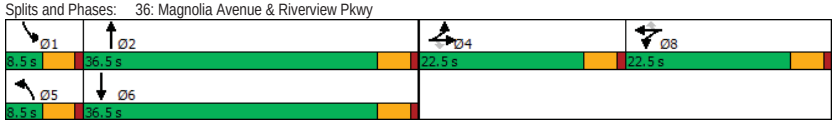
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 1 | 0 | 7 | 35 | 0 | 8 | 45 | 1061 | 19 | 8 | 1398 | 3 |
| Future Volume (vph) | 1 | 0 | 7 | 35 | 0 | 8 | 45 | 1061 | 19 | 8 | 1398 | 3 |
| Confl. Peds. (#/hr) | | | 8 | | | | | | | | | 8 |
| Confl. Bikes (#/hr) | | | 1 | | | | | | 5 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Split | NA | Perm | Split | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | | | | |
| Detector Phase | 4 | 4 | 4 | 8 | 8 | 8 | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 8.5 | 22.5 | | 8.5 | 22.5 | |
| Total Split (s) | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 8.5 | 36.5 | | 8.5 | 36.5 | |
| Total Split (%) | 25.0% | 25.0% | 25.0% | 25.0% | 25.0% | 25.0% | 9.4% | 40.6% | | 9.4% | 40.6% | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | None | None | None | None | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 90 |
| Actuated Cycle Length: 58.3 |
| Natural Cycle: 100 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 36: Magnolia Avenue & Riverview Pkwy






Existing + Proj AM
36: Magnolia Avenue & Riverview Pkwy
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 1 | 0 | 7 | 35 | 0 | 8 | 45 | 1061 | 19 | 8 | 1398 | 3 |
| Future Volume (veh/h) | 1 | 0 | 7 | 35 | 0 | 8 | 45 | 1061 | 19 | 8 | 1398 | 3 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.96 | 1.00 | | 1.00 | 1.00 | | 0.98 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 1 | 0 | 8 | 38 | 0 | 9 | 49 | 1153 | 21 | 9 | 1520 | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 51 | 0 | 44 | 68 | 0 | 61 | 70 | 2008 | 37 | 17 | 1938 | 4 |
| Arrive On Green | 0.03 | 0.00 | 0.03 | 0.04 | 0.00 | 0.04 | 0.04 | 0.56 | 0.56 | 0.01 | 0.53 | 0.53 |
| Sat Flow, veh/h | 1781 | 0 | 1515 | 1781 | 0 | 1585 | 1781 | 3569 | 65 | 1781 | 3638 | 7 |
| Grp Volume(v), veh/h | 1 | 0 | 8 | 38 | 0 | 9 | 49 | 574 | 600 | 9 | 742 | 781 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1515 | 1781 | 0 | 1585 | 1781 | 1777 | 1857 | 1781 | 1777 | 1869 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.3 | 1.0 | 0.0 | 0.3 | 1.4 | 10.4 | 10.4 | 0.3 | 16.7 | 16.7 |
| Cycle Q Clear(g_c), s | 0.0 | 0.0 | 0.3 | 1.0 | 0.0 | 0.3 | 1.4 | 10.4 | 10.4 | 0.3 | 16.7 | 16.7 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.03 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 51 | 0 | 44 | 68 | 0 | 61 | 70 | 1000 | 1045 | 17 | 946 | 995 |
| V/C Ratio(X) | 0.02 | 0.00 | 0.18 | 0.56 | 0.00 | 0.15 | 0.70 | 0.57 | 0.57 | 0.54 | 0.78 | 0.78 |
| Avail Cap(c_a), veh/h | 643 | 0 | 547 | 643 | 0 | 572 | 143 | 1140 | 1191 | 143 | 1140 | 1199 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 23.5 | 0.0 | 23.7 | 23.6 | 0.0 | 23.2 | 23.7 | 7.0 | 7.0 | 24.6 | 9.4 | 9.4 |
| Incr Delay (d2), s/veh | 0.2 | 0.0 | 2.0 | 6.9 | 0.0 | 1.1 | 11.7 | 0.5 | 0.5 | 24.2 | 3.0 | 2.9 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.0 | 0.1 | 0.5 | 0.0 | 0.1 | 0.7 | 2.5 | 2.6 | 0.2 | 4.5 | 4.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 23.7 | 0.0 | 25.7 | 30.4 | 0.0 | 24.3 | 35.3 | 7.6 | 7.6 | 48.8 | 12.4 | 12.3 |
| LnGrp LOS | C | A | C | C | A | C | D | A | A | D | B | B |
| Approach Vol, veh/h | | 9 | | | 47 | | | 1223 | | | 1532 | |
| Approach Delay, s/veh | | 25.4 | | | 29.3 | | | 8.7 | | | 12.5 | |
| Approach LOS | | C | | | C | | | A | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.0 | 32.6 | | 5.9 | 6.5 | 31.1 | | 6.4 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 4.0 | 32.0 | | 18.0 | 4.0 | 32.0 | | 18.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.3 | 12.4 | | 2.3 | 3.4 | 18.7 | | 3.0 | | | | |
| Green Ext Time (p_c), s | 0.0 | 7.4 | | 0.0 | 0.0 | 7.8 | | 0.1 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 11.2 | |
| HCM 6th LOS | B | |

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| Intersection | |
|---|---|
| Int Delay, s/veh | 17.3 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 0 | 15 | 0 | 180 | 382 | 571 | 0 | 0 | 351 | 546 |
| Future Vol, veh/h | 0 | 0 | 0 | 15 | 0 | 180 | 382 | 571 | 0 | 0 | 351 | 546 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 9 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | 190 | - | - | - | - | - |
| Veh in Median Storage, # | - | 2 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 0 | 16 | 0 | 196 | 415 | 621 | 0 | 0 | 382 | 593 |

| Major/Minor | Minor1 | | | Major1 | | | Major2 | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 2130 | 2426 | 621 | 975 | 0 | - | - | - | 0 | |
| Stage 1 | 1451 | 1451 | - | - | - | - | - | - | - | |
| Stage 2 | 679 | 975 | - | - | - | - | - | - | - | |
| Critical Hdwy | 6.42 | 6.52 | 6.22 | 4.12 | - | - | - | - | - | |
| Critical Hdwy Stg 1 | 5.42 | 5.52 | - | - | - | - | - | - | - | |
| Critical Hdwy Stg 2 | 5.42 | 5.52 | - | - | - | - | - | - | - | |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 2.218 | - | - | - | - | - | |
| Pot Cap-1 Maneuver | 55 | 32 | 487 | 707 | - | 0 | 0 | - | - | |
| Stage 1 | 215 | 196 | - | - | - | 0 | 0 | - | - | |
| Stage 2 | 504 | 330 | - | - | - | 0 | 0 | - | - | |
| Platoon blocked, % | | | | | - | | | - | - | |
| Mov Cap-1 Maneuver | 23 | 0 | 487 | 707 | - | - | - | - | - | |
| Mov Cap-2 Maneuver | 23 | 0 | - | - | - | - | - | - | - | |
| Stage 1 | 89 | 0 | - | - | - | - | - | - | - | |
| Stage 2 | 504 | 0 | - | - | - | - | - | - | - | |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 148.6 | 6.8 | 0 |
| HCM LOS | F | | |

| Minor Lane/Major Mvmt | NBL | NBT | WBLn1 | SBT | SBR |
|---|---|---|---|---|---|
| Capacity (veh/h) | 707 | - | 191 | - | - |
| HCM Lane V/C Ratio | 0.587 | - | 1.11 | - | - |
| HCM Control Delay (s) | 17.1 | - | 148.6 | - | - |
| HCM Lane LOS | C | - | F | - | - |
| HCM 95th %tile Q(veh) | 3.9 | - | 10.3 | - | - |

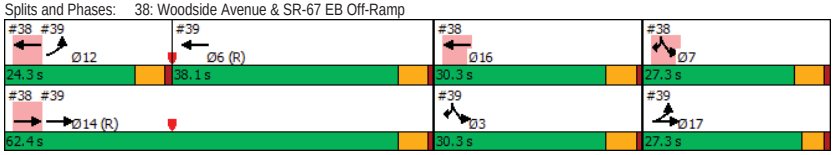




| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR | Ø3 | Ø6 | Ø12 | Ø16 | Ø17 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 284 | 163 | 0 | 505 | 125 | | | | | |
| Future Volume (vph) | 0 | 284 | 163 | 0 | 505 | 125 | | | | | |
| Confl. Peds. (#/hr) | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | | | |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | | | | | |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| Parking (#/hr) | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | | | | | | |
| Shared Lane Traffic (%) | | | | | | | | | | | |
| Turn Type | | NA | NA | | Prot | Prot | | | | | |
| Protected Phases | | 14 | 12 16 | | 7 | 7 | 3 | 6 | 12 | 16 | 17 |
| Permitted Phases | | | | | | | | | | | |
| Detector Phase | | 14 | 12 16 | | 7 | 7 | | | | | |
| Switch Phase | | | | | | | | | | | |
| Minimum Initial (s) | | 4.0 | | | 8.0 | 8.0 | 5.0 | 5.0 | 5.0 | 2.0 | 5.0 |
| Minimum Split (s) | | 20.0 | | | 27.3 | 27.3 | 30.3 | 29.3 | 24.3 | 20.0 | 9.2 |
| Total Split (s) | | 62.4 | | | 27.3 | 27.3 | 30.3 | 38.1 | 24.3 | 30.3 | 27.3 |
| Total Split (%) | | 52.0% | | | 22.8% | 22.8% | 25% | 32% | 20% | 25% | 23% |
| Yellow Time (s) | | 4.3 | | | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 3.2 |
| All-Red Time (s) | | 1.0 | | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | | 0.0 | | | 0.0 | 0.0 | | | | | |
| Total Lost Time (s) | | 5.3 | | | 5.3 | 5.3 | | | | | |
| Lead/Lag | | | | | | | | Lag | Lead | | |
| Lead-Lag Optimize? | | | | | | | | Yes | Yes | | |
| Recall Mode | | C-Max | | | Max | Max | None | C-Max | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 0 (0%), Referenced to phase 6:WBT and 14:EBT, Start of Green |
| Natural Cycle: 135 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 38: Woodside Avenue & SR-67 EB Off-Ramp



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 284 | 163 | 0 | 505 | 125 |
| Future Volume (vph) | 0 | 284 | 163 | 0 | 505 | 125 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 5.3 | 5.3 | | 5.3 | 5.3 |
| Lane Util. Factor | | 0.95 | 1.00 | | 0.97 | 1.00 |
| Frt | | 1.00 | 1.00 | | 1.00 | 0.85 |
| Flt Protected | | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | | 3539 | 1863 | | 3433 | 1583 |
| Flt Permitted | | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (perm) | | 3539 | 1863 | | 3433 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 309 | 177 | 0 | 549 | 136 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 43 |
| Lane Group Flow (vph) | 0 | 309 | 177 | 0 | 549 | 93 |
| Turn Type | | NA | NA | | Prot | Prot |
| Protected Phases | | 14 | 12 16 | | 7 | 7 |
| Permitted Phases | | | | | | |
| Actuated Green, G (s) | | 57.1 | 40.1 | | 22.0 | 22.0 |
| Effective Green, g (s) | | 57.1 | 40.1 | | 22.0 | 22.0 |
| Actuated g/C Ratio | | 0.48 | 0.33 | | 0.18 | 0.18 |
| Clearance Time (s) | | 5.3 | | | 5.3 | 5.3 |
| Vehicle Extension (s) | | 1.0 | | | 3.0 | 3.0 |
| Lane Grp Cap (vph) | | 1683 | 622 | | 629 | 290 |
| v/s Ratio Prot | | c0.09 | c0.10 | | c0.16 | 0.06 |
| v/s Ratio Perm | | | | | | |
| v/c Ratio | | 0.18 | 0.28 | | 0.87 | 0.32 |
| Uniform Delay, d1 | | 18.1 | 29.4 | | 47.6 | 42.5 |
| Progression Factor | | 1.00 | 1.25 | | 1.00 | 1.00 |
| Incremental Delay, d2 | | 0.2 | 0.1 | | 15.5 | 2.9 |
| Delay (s) | | 18.3 | 36.8 | | 63.1 | 45.4 |
| Level of Service | | B | D | | E | D |
| Approach Delay (s) | | 18.3 | 36.8 | | 59.6 | |
| Approach LOS | | B | D | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 45.3 | HCM 2000 Level of Service | D |
| HCM 2000 Volume to Capacity ratio | 0.38 | | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 21.2 |
| Intersection Capacity Utilization | 31.8% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

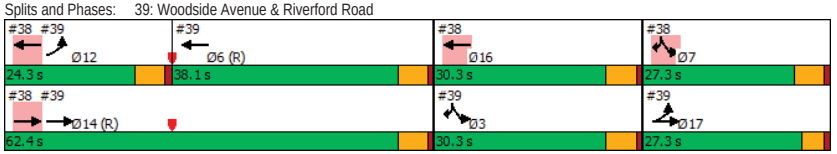




| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR | Ø7 | Ø12 | Ø14 | Ø16 | Ø17 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | |
| Traffic Volume (vph) | 451 | 338 | 124 | 502 | 327 | 39 | | | | | |
| Future Volume (vph) | 451 | 338 | 124 | 502 | 327 | 39 | | | | | |
| Confl. Peds. (#/hr) | | | | | | 1 | | | | | |
| Confl. Bikes (#/hr) | | | | 1 | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | | | |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | | | | | |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| Parking (#/hr) | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | | | | | | |
| Shared Lane Traffic (%) | | | | | | | | | | | |
| Turn Type | Prot | NA | NA | | Prot | Prot | | | | | |
| Protected Phases | 12 17 | 14 17 | 6 | | 3 | 3 | 7 | 12 | 14 | 16 | 17 |
| Permitted Phases | | | | | | | | | | | |
| Detector Phase | 12 17 | 14 17 | 6 | | 3 | 3 | | | | | |
| Switch Phase | | | | | | | | | | | |
| Minimum Initial (s) | | | 5.0 | | 5.0 | 5.0 | 8.0 | 5.0 | 4.0 | 2.0 | 5.0 |
| Minimum Split (s) | | | 29.3 | | 30.3 | 30.3 | 27.3 | 24.3 | 20.0 | 20.0 | 9.2 |
| Total Split (s) | | | 38.1 | | 30.3 | 30.3 | 27.3 | 24.3 | 62.4 | 30.3 | 27.3 |
| Total Split (%) | | | 31.8% | | 25.3% | 25.3% | 23% | 20% | 52% | 25% | 23% |
| Yellow Time (s) | | | 4.3 | | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 3.2 |
| All-Red Time (s) | | | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | | | 0.0 | | 0.0 | 0.0 | | | | | |
| Total Lost Time (s) | | | 5.3 | | 5.3 | 5.3 | | | | | |
| Lead/Lag | | | Lag | | | | | Lead | | | |
| Lead-Lag Optimize? | | | Yes | | | | | Yes | | | |
| Recall Mode | | | C-Max | | None | None | Max | None | C-Max | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 0 (0%), Referenced to phase 6:WBT and 14:EBT, Start of Green |
| Natural Cycle: 135 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 39: Woodside Avenue & Riverford Road



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 451 | 338 | 124 | 502 | 327 | 39 |
| Future Volume (vph) | 451 | 338 | 124 | 502 | 327 | 39 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.3 | 5.3 | 5.3 | | 5.3 | 5.3 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.98 | | 1.00 | 1.00 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.89 | | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | 1770 | 1863 | 1633 | | 1770 | 1583 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (perm) | 1770 | 1863 | 1633 | | 1770 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 490 | 367 | 135 | 546 | 355 | 42 |
| RTOR Reduction (vph) | 0 | 0 | 116 | 0 | 0 | 22 |
| Lane Group Flow (vph) | 490 | 367 | 565 | 0 | 355 | 20 |
| Confl. Peds. (#/hr) | | | | | | 1 |
| Confl. Bikes (#/hr) | | | | 1 | | |
| Turn Type | Prot | NA | NA | | Prot | Prot |
| Protected Phases | 12 17 | 14 17 | 6 | | 3 | 3 |
| Permitted Phases | | | | | | |
| Actuated Green, G (s) | 42.4 | 84.4 | 36.7 | | 25.0 | 25.0 |
| Effective Green, g (s) | 38.2 | 80.2 | 36.7 | | 25.0 | 25.0 |
| Actuated g/C Ratio | 0.32 | 0.67 | 0.31 | | 0.21 | 0.21 |
| Clearance Time (s) | | | 5.3 | | 5.3 | 5.3 |
| Vehicle Extension (s) | | | 3.0 | | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 563 | 1245 | 499 | | 368 | 329 |
| v/s Ratio Prot | c0.28 | 0.20 | c0.35 | | c0.20 | 0.01 |
| v/s Ratio Perm | | | | | | |
| v/c Ratio | 0.87 | 0.29 | 1.13 | | 0.96 | 0.06 |
| Uniform Delay, d1 | 38.6 | 8.2 | 41.6 | | 47.1 | 38.1 |
| Progression Factor | 0.31 | 0.08 | 1.00 | | 1.00 | 1.00 |
| Incremental Delay, d2 | 11.1 | 0.1 | 82.0 | | 37.3 | 0.1 |
| Delay (s) | 23.0 | 0.8 | 123.7 | | 84.4 | 38.2 |
| Level of Service | C | A | F | | F | D |
| Approach Delay (s) | | 13.5 | 123.7 | | 79.5 | |
| Approach LOS | | B | F | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 65.8 | HCM 2000 Level of Service | E |
| HCM 2000 Volume to Capacity ratio | 1.00 | | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 21.2 |
| Intersection Capacity Utilization | 93.9% | ICU Level of Service | F |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

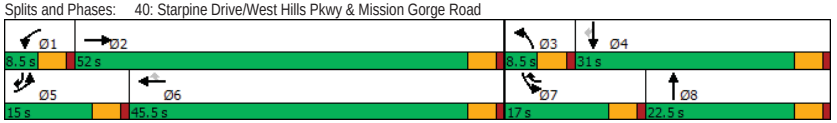




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 316 | 372 | 5 | 10 | 1030 | 540 | 4 | 6 | 9 | 105 | 3 | 444 |
| Future Volume (vph) | 316 | 372 | 5 | 10 | 1030 | 540 | 4 | 6 | 9 | 105 | 3 | 444 |
| Confl. Peds. (#/hr) | | | 3 | | | 1 | | | 1 | | | |
| Confl. Bikes (#/hr) | | | 2 | | | 6 | | | | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Prot | NA | | Prot | NA | pm+ov |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 5 |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 5 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 29.5 | | 8.5 | 29.5 | 8.5 | 8.5 | 22.5 | | 8.5 | 29.5 | 8.5 |
| Total Split (s) | 15.0 | 52.0 | | 8.5 | 45.5 | 17.0 | 8.5 | 22.5 | | 17.0 | 31.0 | 15.0 |
| Total Split (%) | 15.0% | 52.0% | | 8.5% | 45.5% | 17.0% | 8.5% | 22.5% | | 17.0% | 31.0% | 15.0% |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | Lead |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | Min | | None | Min | None | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 67.7 |
| Natural Cycle: 90 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 40: Starpine Drive/West Hills Pkwy & Mission Gorge Road



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 316 | 372 | 5 | 10 | 1030 | 540 | 4 | 6 | 9 | 105 | 3 | 444 |
| Future Volume (veh/h) | 316 | 372 | 5 | 10 | 1030 | 540 | 4 | 6 | 9 | 105 | 3 | 444 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 1.00 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 343 | 404 | 5 | 11 | 1120 | 587 | 4 | 7 | 10 | 114 | 3 | 483 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 430 | 1992 | 25 | 19 | 1567 | 775 | 8 | 101 | 144 | 191 | 366 | 880 |
| Arrive On Green | 0.12 | 0.55 | 0.55 | 0.01 | 0.44 | 0.44 | 0.00 | 0.14 | 0.14 | 0.06 | 0.20 | 0.20 |
| Sat Flow, veh/h | 3456 | 3593 | 44 | 1781 | 3554 | 1560 | 1781 | 696 | 994 | 3456 | 1870 | 2723 |
| Grp Volume(v), veh/h | 343 | 200 | 209 | 11 | 1120 | 587 | 4 | 0 | 17 | 114 | 3 | 483 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1861 | 1781 | 1777 | 1560 | 1781 | 0 | 1689 | 1728 | 1870 | 1362 |
| Q Serve(g_s), s | 7.4 | 4.3 | 4.3 | 0.5 | 19.7 | 23.3 | 0.2 | 0.0 | 0.7 | 2.5 | 0.1 | 11.2 |
| Cycle Q Clear(g_c), s | 7.4 | 4.3 | 4.3 | 0.5 | 19.7 | 23.3 | 0.2 | 0.0 | 0.7 | 2.5 | 0.1 | 11.2 |
| Prop In Lane | 1.00 | | 0.02 | 1.00 | | 1.00 | 1.00 | | 0.59 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 430 | 985 | 1032 | 19 | 1567 | 775 | 8 | 0 | 245 | 191 | 366 | 880 |
| V/C Ratio(X) | 0.80 | 0.20 | 0.20 | 0.57 | 0.71 | 0.76 | 0.53 | 0.00 | 0.07 | 0.60 | 0.01 | 0.55 |
| Avail Cap(c_a), veh/h | 473 | 1100 | 1152 | 93 | 1899 | 921 | 93 | 0 | 396 | 563 | 646 | 1288 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 32.6 | 8.6 | 8.6 | 37.8 | 17.5 | 15.6 | 38.1 | 0.0 | 28.3 | 35.4 | 24.8 | 21.6 |
| Incr Delay (d2), s/veh | 8.6 | 0.1 | 0.1 | 23.4 | 1.0 | 3.0 | 46.8 | 0.0 | 0.1 | 3.0 | 0.0 | 0.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 3.3 | 1.3 | 1.3 | 0.3 | 6.8 | 8.0 | 0.2 | 0.0 | 0.3 | 1.1 | 0.0 | 3.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 41.3 | 8.7 | 8.7 | 61.2 | 18.5 | 18.6 | 84.9 | 0.0 | 28.5 | 38.4 | 24.9 | 22.1 |
| LnGrp LOS | D | A | A | E | B | B | F | A | C | D | C | C |
| Approach Vol, veh/h | | 752 | | | 1718 | | | 21 | | | 600 | |
| Approach Delay, s/veh | | 23.5 | | | 18.8 | | | 39.2 | | | 25.2 | |
| Approach LOS | | C | | | B | | | D | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.3 | 47.0 | 4.8 | 19.5 | 14.0 | 38.3 | 8.7 | 15.6 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 4.0 | 47.5 | 4.0 | 26.5 | 10.5 | 41.0 | 12.5 | 18.0 |
| Max Q Clear Time (g_c+I1), s | 2.5 | 6.3 | 2.2 | 13.2 | 9.4 | 25.3 | 4.5 | 2.7 |
| Green Ext Time (p_c), s | 0.0 | 2.1 | 0.0 | 1.7 | 0.1 | 8.5 | 0.2 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 21.4 |
| HCM 6th LOS | C |

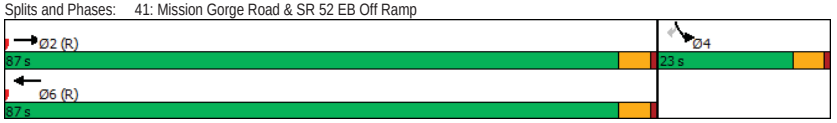




| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 876 | 1293 | 0 | 133 | 13 |
| Future Volume (vph) | 0 | 876 | 1293 | 0 | 133 | 13 |
| Confl. Peds. (#/hr) | | | | | | |
| Confl. Bikes (#/hr) | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | | NA | NA | | Prot | Perm |
| Protected Phases | | 2 | 6 | | 4 | |
| Permitted Phases | | | | | | 4 |
| Detector Phase | | 2 | 6 | | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | | 6.0 | 11.0 | | 10.0 | 10.0 |
| Minimum Split (s) | | 20.0 | 20.0 | | 20.0 | 20.0 |
| Total Split (s) | | 87.0 | 87.0 | | 23.0 | 23.0 |
| Total Split (%) | | 79.1% | 79.1% | | 20.9% | 20.9% |
| Yellow Time (s) | | 4.4 | 4.4 | | 4.1 | 4.1 |
| All-Red Time (s) | | 1.0 | 1.0 | | 1.0 | 1.0 |
| Lost Time Adjust (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | | 5.4 | 5.4 | | 5.1 | 5.1 |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | | C-Min | C-Min | | None | None |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 110 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green, Master Intersection |
| Natural Cycle: 50 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 41: Mission Gorge Road & SR 52 EB Off Ramp



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 876 | 1293 | 0 | 133 | 13 |
| Future Volume (veh/h) | 0 | 876 | 1293 | 0 | 133 | 13 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 0 | 1870 | 1870 | 0 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 952 | 1405 | 0 | 145 | 14 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 0 | 2 | 2 | 0 | 2 | 2 |
| Cap, veh/h | 0 | 2894 | 2894 | 0 | 312 | 143 |
| Arrive On Green | 0.00 | 0.81 | 1.00 | 0.00 | 0.09 | 0.09 |
| Sat Flow, veh/h | 0 | 3741 | 3741 | 0 | 3456 | 1585 |
| Grp Volume(v), veh/h | 0 | 952 | 1405 | 0 | 145 | 14 |
| Grp Sat Flow(s),veh/h/ln | 0 | 1777 | 1777 | 0 | 1728 | 1585 |
| Q Serve(g_s), s | 0.0 | 7.5 | 0.0 | 0.0 | 4.4 | 0.9 |
| Cycle Q Clear(g_c), s | 0.0 | 7.5 | 0.0 | 0.0 | 4.4 | 0.9 |
| Prop In Lane | 0.00 | | | 0.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 0 | 2894 | 2894 | 0 | 312 | 143 |
| V/C Ratio(X) | 0.00 | 0.33 | 0.49 | 0.00 | 0.47 | 0.10 |
| Avail Cap(c_a), veh/h | 0 | 2894 | 2894 | 0 | 562 | 258 |
| HCM Platoon Ratio | 1.00 | 1.00 | 2.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.00 | 1.00 | 0.80 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 0.0 | 2.6 | 0.0 | 0.0 | 47.5 | 45.9 |
| Incr Delay (d2), s/veh | 0.0 | 0.3 | 0.5 | 0.0 | 1.1 | 0.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 1.9 | 0.2 | 0.0 | 1.9 | 0.4 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 2.9 | 0.5 | 0.0 | 48.6 | 46.2 |
| LnGrp LOS | A | A | A | A | D | D |
| Approach Vol, veh/h | | 952 | 1405 | | 159 | |
| Approach Delay, s/veh | | 2.9 | 0.5 | | 48.4 | |
| Approach LOS | | A | A | | D | |

| Timer - Assigned Phs | | 2 | | 4 | | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 95.0 | | 15.0 | | 95.0 |
| Change Period (Y+Rc), s | | 5.4 | | 5.1 | | 5.4 |
| Max Green Setting (Gmax), s | | 81.6 | | 17.9 | | 81.6 |
| Max Q Clear Time (g_c+I1), s | | 9.5 | | 6.4 | | 2.0 |
| Green Ext Time (p_c), s | | 8.9 | | 0.4 | | 15.4 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 4.4 |
| HCM 6th LOS | A |

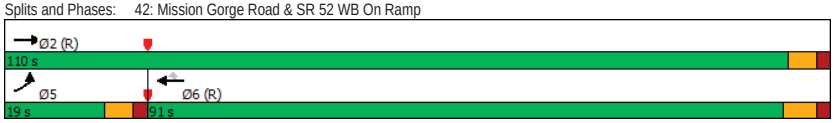




| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 59 | 898 | 1247 | 819 | 0 | 0 |
| Future Volume (vph) | 59 | 898 | 1247 | 819 | 0 | 0 |
| Confl. Peds. (#/hr) | | | | | | |
| Confl. Bikes (#/hr) | | | | 2 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | |
| Shared Lane Traffic (%) | | | | 24% | | |
| Turn Type | Prot | NA | NA | Perm | | |
| Protected Phases | 5 | 2 | 6 | | | |
| Permitted Phases | | | | 6 | | |
| Detector Phase | 5 | 2 | 6 | 6 | | |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 10.0 | 10.0 | | |
| Minimum Split (s) | 10.7 | 21.0 | 22.4 | 22.4 | | |
| Total Split (s) | 19.0 | 110.0 | 91.0 | 91.0 | | |
| Total Split (%) | 17.3% | 100.0% | 82.7% | 82.7% | | |
| Yellow Time (s) | 3.7 | 3.7 | 4.4 | 4.4 | | |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | | |
| Total Lost Time (s) | 5.7 | 5.7 | 6.4 | 6.4 | | |
| Lead/Lag | Lead | | Lag | Lag | | |
| Lead-Lag Optimize? | Yes | | Yes | Yes | | |
| Recall Mode | None | C-Min | C-Min | C-Min | | |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 110 |
| Offset: 32 (29%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 50 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 42: Mission Gorge Road & SR 52 WB On Ramp



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 59 | 898 | 1247 | 819 | 0 | 0 |
| Future Volume (veh/h) | 59 | 898 | 1247 | 819 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 0.98 | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Work Zone On Approach | | No | No | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | | |
| Adj Flow Rate, veh/h | 64 | 976 | 1567 | 748 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | | |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | | |
| Cap, veh/h | 82 | 3347 | 3156 | 1310 | | |
| Arrive On Green | 0.09 | 1.00 | 1.00 | 1.00 | | |
| Sat Flow, veh/h | 1781 | 3647 | 3741 | 1552 | | |
| Grp Volume(v), veh/h | 64 | 976 | 1567 | 748 | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1870 | 1552 | | |
| Q Serve(g_s), s | 3.9 | 0.0 | 0.0 | 0.0 | | |
| Cycle Q Clear(g_c), s | 3.9 | 0.0 | 0.0 | 0.0 | | |
| Prop In Lane | 1.00 | | | 1.00 | | |
| Lane Grp Cap(c), veh/h | 82 | 3347 | 3156 | 1310 | | |
| V/C Ratio(X) | 0.78 | 0.29 | 0.50 | 0.57 | | |
| Avail Cap(c_a), veh/h | 215 | 3370 | 3156 | 1310 | | |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 2.00 | | |
| Upstream Filter(I) | 0.95 | 0.95 | 0.80 | 0.80 | | |
| Uniform Delay (d), s/veh | 49.4 | 0.0 | 0.0 | 0.0 | | |
| Incr Delay (d2), s/veh | 13.8 | 0.2 | 0.4 | 1.5 | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | | |
| %ile BackOfQ(50%),veh/ln | 1.9 | 0.1 | 0.2 | 0.5 | | |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 63.1 | 0.2 | 0.4 | 1.5 | | |
| LnGrp LOS | E | A | A | A | | |
| Approach Vol, veh/h | | 1040 | 2315 | | | |
| Approach Delay, s/veh | | 4.1 | 0.8 | | | |
| Approach LOS | | A | A | | | |

| Timer - Assigned Phs | 2 | | | 5 | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 110.0 | | | 10.8 | 99.2 |
| Change Period (Y+Rc), s | * 6.4 | | | * 5.7 | 6.4 |
| Max Green Setting (Gmax), s | * 1E2 | | | * 13 | 84.6 |
| Max Q Clear Time (g_c+I1), s | 2.0 | | | 5.9 | 2.0 |
| Green Ext Time (p_c), s | 2.3 | | | 0.1 | 30.6 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 1.8 |
| HCM 6th LOS | A |

**Notes**

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

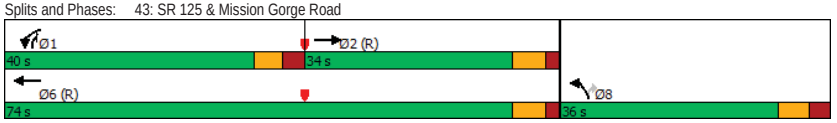




| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 664 | 247 | 1093 | 1211 | 672 | 986 |
| Future Volume (vph) | 664 | 247 | 1093 | 1211 | 672 | 986 |
| Confl. Peds. (#/hr) | | 11 | | | | |
| Confl. Bikes (#/hr) | | 3 | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | NA | | Prot | NA | Prot | pm+ov |
| Protected Phases | 2 | | 1 | 6 | 8 | 1 |
| Permitted Phases | | | | | | 8 |
| Detector Phase | 2 | | 1 | 6 | 8 | 1 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 11.0 | | 5.0 | 10.0 | 5.0 | 5.0 |
| Minimum Split (s) | 17.4 | | 11.7 | 20.0 | 20.0 | 11.7 |
| Total Split (s) | 34.0 | | 40.0 | 74.0 | 36.0 | 40.0 |
| Total Split (%) | 30.9% | | 36.4% | 67.3% | 32.7% | 36.4% |
| Yellow Time (s) | 4.4 | | 3.7 | 4.4 | 4.1 | 3.7 |
| All-Red Time (s) | 2.0 | | 3.0 | 2.0 | 3.0 | 3.0 |
| Lost Time Adjust (s) | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.4 | | 6.7 | 6.4 | 7.1 | 6.7 |
| Lead/Lag | Lag | | Lead | | | Lead |
| Lead-Lag Optimize? | Yes | | Yes | | | Yes |
| Recall Mode | C-Max | | None | C-Max | None | None |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 110 |
| Offset: 29 (26%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 90 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 43: SR 125 & Mission Gorge Road



| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 664 | 247 | 1093 | 1211 | 672 | 986 |
| Future Volume (veh/h) | 664 | 247 | 1093 | 1211 | 672 | 986 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | 0.95 | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 722 | 268 | 1188 | 1316 | 730 | 1072 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 912 | 333 | 1046 | 3138 | 908 | 1577 |
| Arrive On Green | 0.50 | 0.50 | 0.10 | 0.20 | 0.26 | 0.26 |
| Sat Flow, veh/h | 3802 | 1327 | 3456 | 5274 | 3456 | 2790 |
| Grp Volume(v), veh/h | 676 | 314 | 1188 | 1316 | 730 | 1072 |
| Grp Sat Flow(s),veh/h/ln | 1702 | 1556 | 1728 | 1702 | 1728 | 1395 |
| Q Serve(g_s), s | 18.0 | 18.6 | 33.3 | 24.7 | 21.7 | 28.9 |
| Cycle Q Clear(g_c), s | 18.0 | 18.6 | 33.3 | 24.7 | 21.7 | 28.9 |
| Prop In Lane | | 0.85 | 1.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 854 | 391 | 1046 | 3138 | 908 | 1577 |
| V/C Ratio(X) | 0.79 | 0.81 | 1.14 | 0.42 | 0.80 | 0.68 |
| Avail Cap(c_a), veh/h | 854 | 391 | 1046 | 3138 | 908 | 1577 |
| HCM Platoon Ratio | 2.00 | 2.00 | 0.33 | 0.33 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.97 | 0.97 | 0.72 | 0.72 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 25.0 | 25.2 | 49.5 | 26.7 | 37.9 | 16.9 |
| Incr Delay (d2), s/veh | 7.2 | 15.7 | 70.1 | 0.3 | 5.3 | 1.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 5.9 | 6.4 | 25.5 | 11.2 | 9.8 | 9.3 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 32.2 | 40.8 | 119.6 | 27.0 | 43.2 | 18.1 |
| LnGrp LOS | C | D | F | C | D | B |
| Approach Vol, veh/h | 990 | | | 2504 | 1802 | |
| Approach Delay, s/veh | 34.9 | | | 70.9 | 28.3 | |
| Approach LOS | C | | | E | C | |

| Timer - Assigned Phs | 1 | 2 | | | | 6 | 8 |
|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 40.0 | 34.0 | | | | 74.0 | 36.0 |
| Change Period (Y+Rc), s | * 6.7 | 6.4 | | | | 6.4 | 7.1 |
| Max Green Setting (Gmax), s | * 33 | 27.6 | | | | 67.6 | 28.9 |
| Max Q Clear Time (g_c+I1), s | 35.3 | 20.6 | | | | 26.7 | 30.9 |
| Green Ext Time (p_c), s | 0.0 | 3.5 | | | | 11.9 | 0.0 |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | | 49.7 |
| HCM 6th LOS | | | D |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

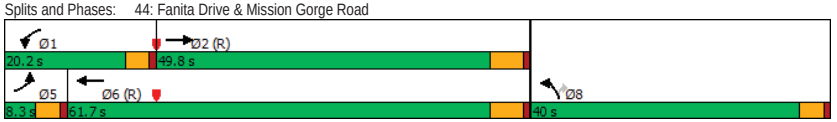




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 7 | 1180 | 394 | 328 | 1635 | 0 | 723 | 0 | 332 | 0 | 0 | 0 |
| Future Volume (vph) | 7 | 1180 | 394 | 328 | 1635 | 0 | 723 | 0 | 332 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | | | 4 | | | | | | | | | |
| Confl. Bikes (#/hr) | | | 2 | | | | | | 2 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | | Perm | | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | | | | | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | | 8 | | | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 7.0 | | 7.0 | | | |
| Minimum Split (s) | 8.2 | 33.3 | | 8.2 | 20.0 | | 34.2 | | 34.2 | | | |
| Total Split (s) | 8.3 | 49.8 | | 20.2 | 61.7 | | 40.0 | | 40.0 | | | |
| Total Split (%) | 7.5% | 45.3% | | 18.4% | 56.1% | | 36.4% | | 36.4% | | | |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | | 3.2 | | 3.2 | | | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | | 1.0 | | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | | 0.0 | | | |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | | 4.2 | | 4.2 | | | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | | None | | | |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 110 |
| Offset: 52 (47%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 90 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 44: Fanita Drive & Mission Gorge Road



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 7 | 1180 | 394 | 328 | 1635 | 0 | 723 | 0 | 332 | 0 | 0 | 0 |
| Future Volume (veh/h) | 7 | 1180 | 394 | 328 | 1635 | 0 | 723 | 0 | 332 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 1.00 | 1.00 | | 1.00 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 0 | 1870 | 0 | 1870 | | | |
| Adj Flow Rate, veh/h | 8 | 1283 | 428 | 357 | 1777 | 0 | 786 | 0 | 361 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 0 | 2 | 0 | 2 | | | |
| Cap, veh/h | 14 | 1815 | 603 | 424 | 3050 | 0 | 934 | 0 | 428 | | | |
| Arrive On Green | 0.00 | 0.16 | 0.16 | 0.04 | 0.20 | 0.00 | 0.27 | 0.00 | 0.27 | | | |
| Sat Flow, veh/h | 1781 | 3761 | 1250 | 3456 | 5274 | 0 | 3456 | 0 | 1585 | | | |
| Grp Volume(v), veh/h | 8 | 1161 | 550 | 357 | 1777 | 0 | 786 | 0 | 361 | | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1702 | 1607 | 1728 | 1702 | 0 | 1728 | 0 | 1585 | | | |
| Q Serve(g_s), s | 0.5 | 35.5 | 35.7 | 11.3 | 34.7 | 0.0 | 23.6 | 0.0 | 23.7 | | | |
| Cycle Q Clear(g_c), s | 0.5 | 35.5 | 35.7 | 11.3 | 34.7 | 0.0 | 23.6 | 0.0 | 23.7 | | | |
| Prop In Lane | 1.00 | | 0.78 | 1.00 | | 0.00 | 1.00 | | 1.00 | | | |
| Lane Grp Cap(c), veh/h | 14 | 1642 | 775 | 424 | 3050 | 0 | 934 | 0 | 428 | | | |
| V/C Ratio(X) | 0.57 | 0.71 | 0.71 | 0.84 | 0.58 | 0.00 | 0.84 | 0.00 | 0.84 | | | |
| Avail Cap(c_a), veh/h | 66 | 1642 | 775 | 503 | 3050 | 0 | 1125 | 0 | 516 | | | |
| HCM Platoon Ratio | 0.33 | 0.33 | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 0.67 | 0.67 | 0.67 | 0.52 | 0.52 | 0.00 | 1.00 | 0.00 | 1.00 | | | |
| Uniform Delay (d), s/veh | 54.7 | 38.9 | 38.9 | 51.7 | 31.7 | 0.0 | 37.9 | 0.0 | 37.9 | | | |
| Incr Delay (d2), s/veh | 22.0 | 1.7 | 3.7 | 5.1 | 0.4 | 0.0 | 5.3 | 0.0 | 10.9 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ln | 0.3 | 16.5 | 16.1 | 5.5 | 15.8 | 0.0 | 10.3 | 0.0 | 10.2 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 76.7 | 40.6 | 42.6 | 56.8 | 32.1 | 0.0 | 43.2 | 0.0 | 48.8 | | | |
| LnGrp LOS | E | D | D | E | C | A | D | A | D | | | |
| Approach Vol, veh/h | | 1719 | | | 2134 | | | 1147 | | | | |
| Approach Delay, s/veh | | 41.4 | | | 36.3 | | | 45.0 | | | | |
| Approach LOS | | D | | | D | | | D | | | | |

| Timer - Assigned Phs | 1 | 2 | | | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 17.7 | 58.4 | | | 5.1 | 71.0 | | 33.9 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | | | * 4.2 | 5.3 | | 4.2 | | | | |
| Max Green Setting (Gmax), s | * 16 | 44.5 | | | * 4.1 | 56.4 | | 35.8 | | | | |
| Max Q Clear Time (g_c+I1), s | 13.3 | 37.7 | | | 2.5 | 36.7 | | 25.7 | | | | |
| Green Ext Time (p_c), s | 0.2 | 5.5 | | | 0.0 | 13.6 | | 4.0 | | | | |

| Intersection Summary | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HCM 6th Ctrl Delay | | | 40.0 | | | | | | | | | |
| HCM 6th LOS | | | D | | | | | | | | | |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

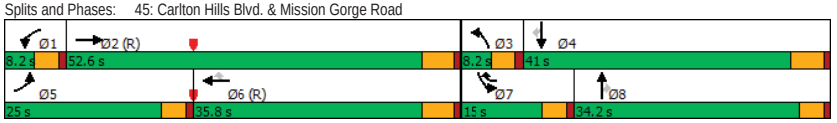




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 787 | 732 | 22 | 13 | 809 | 411 | 38 | 38 | 8 | 390 | 16 | 1105 |
| Future Volume (vph) | 787 | 732 | 22 | 13 | 809 | 411 | 38 | 38 | 8 | 390 | 16 | 1105 |
| Confl. Peds. (#/hr) | | | 13 | | | 3 | | | 5 | | | 5 |
| Confl. Bikes (#/hr) | | | 2 | | | 2 | | | 3 | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | 49% |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | 6 | | | 8 | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | 8 | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 23.3 | | 8.2 | 34.3 | 8.2 | 8.2 | 34.2 | 34.2 | 8.2 | 32.4 | 32.4 |
| Total Split (s) | 25.0 | 52.6 | | 8.2 | 35.8 | 15.0 | 8.2 | 34.2 | 34.2 | 15.0 | 41.0 | 41.0 |
| Total Split (%) | 22.7% | 47.8% | | 7.5% | 32.5% | 13.6% | 7.5% | 31.1% | 31.1% | 13.6% | 37.3% | 37.3% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | 3.2 | 3.2 | 3.2 | 3.2 | 3.2 | 4.4 | 4.4 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | 4.2 | 4.2 | 4.2 | 4.2 | 4.2 | 5.4 | 5.4 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | C-Min | | None | C-Min | None | None | None | None | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 110 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 125 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 45: Carlton Hills Blvd. & Mission Gorge Road



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 787 | 732 | 22 | 13 | 809 | 411 | 38 | 38 | 8 | 390 | 16 | 1105 |
| Future Volume (veh/h) | 787 | 732 | 22 | 13 | 809 | 411 | 38 | 38 | 8 | 390 | 16 | 1105 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.96 | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 855 | 796 | 24 | 14 | 879 | 447 | 41 | 41 | 9 | 424 | 0 | 1094 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 653 | 2344 | 71 | 23 | 1452 | 599 | 52 | 477 | 396 | 350 | 0 | 1006 |
| Arrive On Green | 0.06 | 0.15 | 0.15 | 0.00 | 0.09 | 0.09 | 0.03 | 0.25 | 0.25 | 0.10 | 0.00 | 0.32 |
| Sat Flow, veh/h | 3456 | 5087 | 153 | 1781 | 5106 | 1559 | 1781 | 1870 | 1553 | 3563 | 0 | 3109 |
| Grp Volume(v), veh/h | 855 | 532 | 288 | 14 | 879 | 447 | 41 | 41 | 9 | 424 | 0 | 1094 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1702 | 1836 | 1781 | 1702 | 1559 | 1781 | 1870 | 1553 | 1781 | 0 | 1555 |
| Q Serve(g_s), s | 20.8 | 15.4 | 15.4 | 0.9 | 18.2 | 27.2 | 2.5 | 1.8 | 0.5 | 10.8 | 0.0 | 35.6 |
| Cycle Q Clear(g_c), s | 20.8 | 15.4 | 15.4 | 0.9 | 18.2 | 27.2 | 2.5 | 1.8 | 0.5 | 10.8 | 0.0 | 35.6 |
| Prop In Lane | 1.00 | | 0.08 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 653 | 1568 | 846 | 23 | 1452 | 599 | 52 | 477 | 396 | 350 | 0 | 1006 |
| V/C Ratio(X) | 1.31 | 0.34 | 0.34 | 0.62 | 0.61 | 0.75 | 0.78 | 0.09 | 0.02 | 1.21 | 0.00 | 1.09 |
| Avail Cap(c_a), veh/h | 653 | 1568 | 846 | 65 | 1452 | 599 | 65 | 510 | 423 | 350 | 0 | 1006 |
| HCM Platoon Ratio | 0.33 | 0.33 | 0.33 | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.61 | 0.61 | 0.61 | 0.90 | 0.90 | 0.90 | 1.00 | 1.00 | 1.00 | 0.33 | 0.00 | 0.33 |
| Uniform Delay (d), s/veh | 51.6 | 31.7 | 31.7 | 54.5 | 43.9 | 37.2 | 53.0 | 31.2 | 30.7 | 49.6 | 0.0 | 37.2 |
| Incr Delay (d2), s/veh | 145.6 | 0.4 | 0.7 | 9.0 | 1.7 | 7.5 | 38.3 | 0.0 | 0.0 | 104.4 | 0.0 | 45.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 22.8 | 7.0 | 7.7 | 0.4 | 8.5 | 12.6 | 1.7 | 0.8 | 0.2 | 9.8 | 0.0 | 19.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 197.2 | 32.0 | 32.4 | 63.5 | 45.6 | 44.7 | 91.3 | 31.3 | 30.7 | 154.0 | 0.0 | 82.8 |
| LnGrp LOS | F | C | C | E | D | D | F | C | C | F | A | F |
| Approach Vol, veh/h | | 1675 | | | 1340 | | | 91 | | | 1518 | |
| Approach Delay, s/veh | | 116.4 | | | 45.5 | | | 58.3 | | | 102.7 | |
| Approach LOS | | F | | | D | | | E | | | F | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.6 | 56.0 | 7.4 | 41.0 | 25.0 | 36.6 | 15.0 | 33.4 |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | * 4.2 | 5.4 | * 4.2 | 5.3 | * 4.2 | * 5.4 |
| Max Green Setting (Gmax), s | * 4 | 47.3 | * 4 | 35.6 | * 21 | 30.5 | * 11 | * 30 |
| Max Q Clear Time (g_c+I1), s | 2.9 | 17.4 | 4.5 | 37.6 | 22.8 | 29.2 | 12.8 | 3.8 |
| Green Ext Time (p_c), s | 0.0 | 6.2 | 0.0 | 0.0 | 0.0 | 1.1 | 0.0 | 0.1 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 90.2 |
| HCM 6th LOS | F |

**Notes**

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

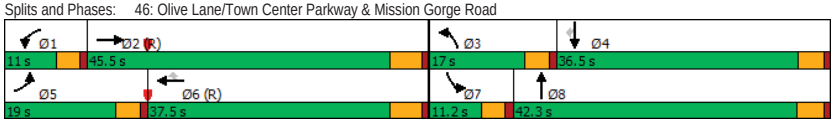




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 252 | 602 | 125 | 37 | 845 | 89 | 203 | 118 | 33 | 90 | 84 | 285 |
| Future Volume (vph) | 252 | 602 | 125 | 37 | 845 | 89 | 203 | 118 | 33 | 90 | 84 | 285 |
| Confl. Peds. (#/hr) | | | 5 | | | 8 | | | 11 | | | 3 |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | Perm | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | 10.0 | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 26.3 | | 8.2 | 36.3 | 36.3 | 8.2 | 34.6 | | 8.2 | 36.5 | 36.5 |
| Total Split (s) | 19.0 | 45.5 | | 11.0 | 37.5 | 37.5 | 17.0 | 42.3 | | 11.2 | 36.5 | 36.5 |
| Total Split (%) | 17.3% | 41.4% | | 10.0% | 34.1% | 34.1% | 15.5% | 38.5% | | 10.2% | 33.2% | 33.2% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | 4.3 | 3.2 | 3.6 | | 3.2 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | 5.3 | 4.2 | 4.6 | | 4.2 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | C-Min | | None | C-Min | C-Min | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 110 |
| Offset: 40 (36%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 90 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 46: Olive Lane/Town Center Parkway & Mission Gorge Road



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 252 | 602 | 125 | 37 | 845 | 89 | 203 | 118 | 33 | 90 | 84 | 285 |
| Future Volume (veh/h) | 252 | 602 | 125 | 37 | 845 | 89 | 203 | 118 | 33 | 90 | 84 | 285 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.99 | 1.00 | | 0.97 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 274 | 654 | 136 | 40 | 918 | 97 | 221 | 128 | 36 | 98 | 91 | 310 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 333 | 2316 | 475 | 51 | 2441 | 754 | 284 | 300 | 84 | 152 | 331 | 492 |
| Arrive On Green | 0.19 | 1.00 | 1.00 | 0.03 | 0.48 | 0.48 | 0.08 | 0.22 | 0.22 | 0.04 | 0.18 | 0.18 |
| Sat Flow, veh/h | 3456 | 4244 | 870 | 1781 | 5106 | 1577 | 3456 | 1394 | 392 | 3456 | 1870 | 2776 |
| Grp Volume(v), veh/h | 274 | 523 | 267 | 40 | 918 | 97 | 221 | 0 | 164 | 98 | 91 | 310 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1702 | 1709 | 1781 | 1702 | 1577 | 1728 | 0 | 1786 | 1728 | 1870 | 1388 |
| Q Serve(g_s), s | 8.4 | 0.0 | 0.0 | 2.5 | 12.6 | 3.8 | 6.9 | 0.0 | 8.7 | 3.1 | 4.6 | 11.4 |
| Cycle Q Clear(g_c), s | 8.4 | 0.0 | 0.0 | 2.5 | 12.6 | 3.8 | 6.9 | 0.0 | 8.7 | 3.1 | 4.6 | 11.4 |
| Prop In Lane | 1.00 | | 0.51 | 1.00 | | 1.00 | 1.00 | | 0.22 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 333 | 1857 | 933 | 51 | 2441 | 754 | 284 | 0 | 385 | 152 | 331 | 492 |
| V/C Ratio(X) | 0.82 | 0.28 | 0.29 | 0.79 | 0.38 | 0.13 | 0.78 | 0.00 | 0.43 | 0.64 | 0.27 | 0.63 |
| Avail Cap(c_a), veh/h | 465 | 1857 | 933 | 110 | 2441 | 754 | 402 | 0 | 612 | 220 | 544 | 807 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.90 | 0.90 | 0.90 | 0.72 | 0.72 | 0.72 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 43.5 | 0.0 | 0.0 | 53.1 | 18.3 | 16.0 | 49.5 | 0.0 | 37.3 | 51.7 | 39.1 | 41.9 |
| Incr Delay (d2), s/veh | 5.2 | 0.3 | 0.7 | 7.0 | 0.3 | 0.3 | 3.7 | 0.0 | 1.1 | 1.7 | 0.8 | 2.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 3.4 | 0.1 | 0.2 | 1.2 | 4.8 | 1.4 | 3.1 | 0.0 | 3.9 | 1.4 | 2.2 | 4.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 48.8 | 0.3 | 0.7 | 60.1 | 18.6 | 16.2 | 53.2 | 0.0 | 38.3 | 53.4 | 40.0 | 44.4 |
| LnGrp LOS | D | A | A | E | B | B | D | A | D | D | D | D |
| Approach Vol, veh/h | | 1064 | | | 1055 | | | 385 | | | 499 | |
| Approach Delay, s/veh | | 12.9 | | | 19.9 | | | 46.9 | | | 45.4 | |
| Approach LOS | | B | | | B | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.3 | 65.3 | 13.2 | 24.1 | 14.8 | 57.9 | 9.0 | 28.3 |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | * 4.2 | * 4.6 | * 4.2 | 5.3 | * 4.2 | 4.6 |
| Max Green Setting (Gmax), s | * 6.8 | 40.2 | * 13 | * 32 | * 15 | 32.2 | * 7 | 37.7 |
| Max Q Clear Time (g_c+I1), s | 4.5 | 2.0 | 8.9 | 13.4 | 10.4 | 14.6 | 5.1 | 10.7 |
| Green Ext Time (p_c), s | 0.0 | 6.6 | 0.2 | 3.1 | 0.2 | 8.4 | 0.0 | 1.3 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 25.1 |
| HCM 6th LOS | C |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

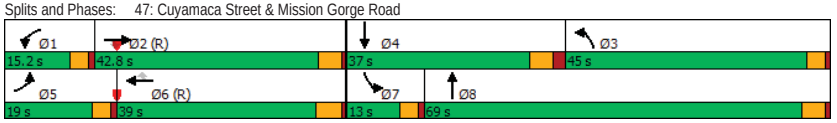




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 180 | 393 | 278 | 150 | 508 | 136 | 668 | 570 | 117 | 116 | 596 | 182 |
| Future Volume (vph) | 180 | 393 | 278 | 150 | 508 | 136 | 668 | 570 | 117 | 116 | 596 | 182 |
| Confl. Peds. (#/hr) | | | 11 | | | 14 | | | 19 | | | 16 |
| Confl. Bikes (#/hr) | | | 4 | | | | | | | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | 10.0 | 4.0 | 7.0 | | 4.0 | 15.0 | |
| Minimum Split (s) | 19.0 | 34.8 | 34.8 | 8.2 | 34.3 | 34.3 | 8.2 | 38.0 | | 8.2 | 37.0 | |
| Total Split (s) | 19.0 | 42.8 | 42.8 | 15.2 | 39.0 | 39.0 | 45.0 | 69.0 | | 13.0 | 37.0 | |
| Total Split (%) | 13.6% | 30.6% | 30.6% | 10.9% | 27.9% | 27.9% | 32.1% | 49.3% | | 9.3% | 26.4% | |
| Yellow Time (s) | 3.2 | 3.8 | 3.8 | 3.2 | 4.3 | 4.3 | 3.2 | 4.0 | | 3.2 | 4.0 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 2.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.2 | 4.8 | 4.8 | 4.2 | 5.3 | 5.3 | 4.2 | 5.0 | | 4.2 | 6.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lag | Lag | | Lead | Lead | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | C-Min | C-Min | None | C-Min | C-Min | None | None | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 140 |
| Actuated Cycle Length: 140 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green, Master Intersection |
| Natural Cycle: 120 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 47: Cuyamaca Street & Mission Gorge Road



Existing + Proj AM
47: Cuyamaca Street & Mission Gorge Road

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 180 | 393 | 278 | 150 | 508 | 136 | 668 | 570 | 117 | 116 | 596 | 182 |
| Future Volume (veh/h) | 180 | 393 | 278 | 150 | 508 | 136 | 668 | 570 | 117 | 116 | 596 | 182 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 0.96 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1683 | 1683 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 196 | 427 | 302 | 163 | 552 | 148 | 726 | 620 | 127 | 126 | 648 | 198 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 246 | 1787 | 542 | 211 | 1736 | 532 | 789 | 1069 | 218 | 173 | 827 | 247 |
| Arrive On Green | 0.07 | 0.35 | 0.35 | 0.06 | 0.34 | 0.34 | 0.23 | 0.41 | 0.41 | 0.05 | 0.21 | 0.21 |
| Sat Flow, veh/h | 3456 | 5106 | 1547 | 3456 | 5106 | 1565 | 3456 | 2637 | 539 | 3456 | 3859 | 1154 |
| Grp Volume(v), veh/h | 196 | 427 | 302 | 163 | 552 | 148 | 726 | 375 | 372 | 126 | 570 | 276 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1702 | 1547 | 1728 | 1702 | 1565 | 1728 | 1599 | 1577 | 1728 | 1702 | 1609 |
| Q Serve(g_s), s | 7.8 | 8.3 | 11.8 | 6.5 | 11.2 | 9.6 | 28.7 | 25.5 | 25.7 | 5.0 | 22.1 | 22.8 |
| Cycle Q Clear(g_c), s | 7.8 | 8.3 | 11.8 | 6.5 | 11.2 | 9.6 | 28.7 | 25.5 | 25.7 | 5.0 | 22.1 | 22.8 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.34 | 1.00 | | 0.72 |
| Lane Grp Cap(c), veh/h | 246 | 1787 | 542 | 211 | 1736 | 532 | 789 | 648 | 639 | 173 | 729 | 345 |
| V/C Ratio(X) | 0.80 | 0.24 | 0.56 | 0.77 | 0.32 | 0.28 | 0.92 | 0.58 | 0.58 | 0.73 | 0.78 | 0.80 |
| Avail Cap(c_a), veh/h | 365 | 1787 | 542 | 272 | 1736 | 532 | 1007 | 731 | 721 | 217 | 754 | 356 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.96 | 0.96 | 0.96 | 0.97 | 0.97 | 0.97 | 0.82 | 0.82 | 0.82 | 0.96 | 0.96 | 0.96 |
| Uniform Delay (d), s/veh | 64.0 | 32.3 | 10.5 | 64.8 | 34.2 | 33.7 | 52.8 | 32.4 | 32.4 | 65.6 | 51.9 | 52.2 |
| Incr Delay (d2), s/veh | 3.9 | 0.3 | 3.9 | 6.9 | 0.5 | 1.3 | 8.5 | 1.1 | 1.1 | 5.8 | 6.5 | 14.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 3.5 | 3.5 | 4.5 | 3.0 | 4.7 | 3.9 | 13.3 | 10.0 | 9.9 | 2.4 | 10.0 | 10.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 67.9 | 32.6 | 14.5 | 71.7 | 34.7 | 34.9 | 61.3 | 33.4 | 33.5 | 71.4 | 58.4 | 66.6 |
| LnGrp LOS | E | C | B | E | C | C | E | C | C | E | E | E |
| Approach Vol, veh/h | | 925 | | | 863 | | | 1473 | | | 972 | |
| Approach Delay, s/veh | | 34.2 | | | 41.7 | | | 47.2 | | | 62.4 | |
| Approach LOS | | C | | | D | | | D | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 12.8 | 54.3 | 36.9 | 36.0 | 14.2 | 52.9 | 11.2 | 61.7 |
| Change Period (Y+Rc), s | * 4.2 | * 5.3 | 5.0 | * 6 | * 4.2 | 5.3 | * 4.2 | 5.0 |
| Max Green Setting (Gmax), s | * 11 | * 38 | 40.8 | * 31 | * 15 | 33.7 | * 8.8 | 64.0 |
| Max Q Clear Time (g_c+I1), s | 8.5 | 13.8 | 30.7 | 24.8 | 9.8 | 13.2 | 7.0 | 27.7 |
| Green Ext Time (p_c), s | 0.1 | 9.4 | 1.2 | 4.2 | 0.1 | 6.4 | 0.0 | 8.2 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 46.7 |
| HCM 6th LOS | D |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



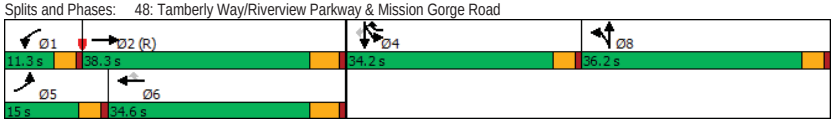
Existing + Proj AM
48: Tamberly Way/Riverview Parkway & Mission Gorge Road

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 130 | 425 | 10 | 39 | 717 | 220 | 35 | 8 | 17 | 85 | 19 | 41 |
| Future Volume (vph) | 130 | 425 | 10 | 39 | 717 | 220 | 35 | 8 | 17 | 85 | 19 | 41 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | 1 | | | 3 | | | | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | 39% | | |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Split | NA | | Split | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 4 | 8 | 8 | | 4 | 4 | |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 4 | 8 | 8 | | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | 7.0 | 4.0 | 4.0 | | 7.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 23.3 | | 8.2 | 34.3 | 34.2 | 36.2 | 36.2 | | 34.2 | 34.2 | 34.2 |
| Total Split (s) | 15.0 | 38.3 | | 11.3 | 34.6 | 34.2 | 36.2 | 36.2 | | 34.2 | 34.2 | 34.2 |
| Total Split (%) | 12.5% | 31.9% | | 9.4% | 28.8% | 28.5% | 30.2% | 30.2% | | 28.5% | 28.5% | 28.5% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | 3.2 | 3.2 | 3.2 | | 3.2 | 3.2 | 3.2 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | 4.2 | 4.2 | 4.2 | | 4.2 | 4.2 | 4.2 |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | Min | None | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 0 (0%), Referenced to phase 2:EBT, Start of Green |
| Natural Cycle: 115 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 48: Tamberly Way/Riverview Parkway & Mission Gorge Road



Existing + Proj AM
48: Tamberly Way/Riverview Parkway & Mission Gorge Road

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 130 | 425 | 10 | 39 | 717 | 220 | 35 | 8 | 17 | 85 | 19 | 41 |
| Future Volume (veh/h) | 130 | 425 | 10 | 39 | 717 | 220 | 35 | 8 | 17 | 85 | 19 | 41 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.99 | 1.00 | | 1.00 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 141 | 462 | 11 | 42 | 779 | 239 | 38 | 9 | 18 | 107 | 0 | 45 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 160 | 3735 | 89 | 54 | 3414 | 1138 | 61 | 19 | 38 | 207 | 0 | 90 |
| Arrive On Green | 0.09 | 0.73 | 0.73 | 0.03 | 0.67 | 0.67 | 0.03 | 0.03 | 0.03 | 0.06 | 0.00 | 0.06 |
| Sat Flow, veh/h | 1781 | 5128 | 122 | 1781 | 5106 | 1564 | 1781 | 557 | 1113 | 3563 | 0 | 1560 |
| Grp Volume(v), veh/h | 141 | 306 | 167 | 42 | 779 | 239 | 38 | 0 | 27 | 107 | 0 | 45 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1702 | 1845 | 1781 | 1702 | 1564 | 1781 | 0 | 1670 | 1781 | 0 | 1560 |
| Q Serve(g_s), s | 9.4 | 3.2 | 3.2 | 2.8 | 7.2 | 5.9 | 2.5 | 0.0 | 1.9 | 3.5 | 0.0 | 3.4 |
| Cycle Q Clear(g_c), s | 9.4 | 3.2 | 3.2 | 2.8 | 7.2 | 5.9 | 2.5 | 0.0 | 1.9 | 3.5 | 0.0 | 3.4 |
| Prop In Lane | 1.00 | | 0.07 | 1.00 | | 1.00 | 1.00 | | 0.67 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 160 | 2479 | 1344 | 54 | 3414 | 1138 | 61 | 0 | 57 | 207 | 0 | 90 |
| V/C Ratio(X) | 0.88 | 0.12 | 0.12 | 0.78 | 0.23 | 0.21 | 0.62 | 0.00 | 0.47 | 0.52 | 0.00 | 0.50 |
| Avail Cap(c_a), veh/h | 160 | 2479 | 1344 | 105 | 3414 | 1138 | 475 | 0 | 445 | 891 | 0 | 390 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.96 | 0.96 | 0.96 | 0.98 | 0.98 | 0.98 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 54.0 | 4.9 | 4.9 | 57.8 | 7.8 | 5.3 | 57.2 | 0.0 | 56.9 | 54.9 | 0.0 | 54.8 |
| Incr Delay (d2), s/veh | 36.6 | 0.1 | 0.2 | 8.6 | 0.1 | 0.2 | 3.8 | 0.0 | 2.2 | 0.7 | 0.0 | 1.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 5.8 | 1.0 | 1.1 | 1.4 | 2.4 | 2.2 | 1.2 | 0.0 | 0.8 | 1.6 | 0.0 | 1.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 90.5 | 5.0 | 5.0 | 66.4 | 7.8 | 5.4 | 61.0 | 0.0 | 59.1 | 55.6 | 0.0 | 56.4 |
| LnGrp LOS | F | A | A | E | A | A | E | A | E | E | A | E |
| Approach Vol, veh/h | | 614 | | | 1060 | | | 65 | | | 152 | |
| Approach Delay, s/veh | | 24.6 | | | 9.6 | | | 60.2 | | | 55.9 | |
| Approach LOS | | C | | | A | | | E | | | E | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.8 | 92.7 | | 11.2 | 15.0 | 85.5 | | 8.3 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | | * 4.2 | * 4.2 | 5.3 | | 4.2 | | | | |
| Max Green Setting (Gmax), s | * 7.1 | 33.0 | | * 30 | * 11 | 29.3 | | 32.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 4.8 | 5.2 | | 5.5 | 11.4 | 9.2 | | 4.5 | | | | |
| Green Ext Time (p_c), s | 0.0 | 5.2 | | 0.2 | 0.0 | 9.3 | | 0.1 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 19.9 | |
| HCM 6th LOS | B | |

**Notes**

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



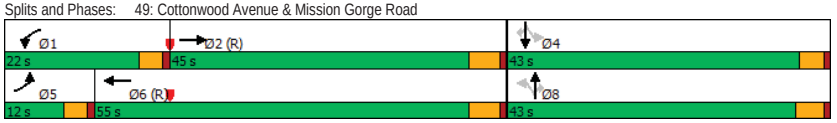
Existing + Proj AM
49: Cottonwood Avenue & Mission Gorge Road

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 7 | 420 | 52 | 56 | 900 | 2 | 83 | 4 | 50 | 7 | 8 | 22 |
| Future Volume (vph) | 7 | 420 | 52 | 56 | 900 | 2 | 83 | 4 | 50 | 7 | 8 | 22 |
| Confl. Peds. (#/hr) | | | 6 | | | 19 | | | 1 | | | 4 |
| Confl. Bikes (#/hr) | | | 2 | | | 1 | | | | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Perm | NA | Perm | Perm | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | 8 | 4 | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | 8 | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 4.0 | 4.0 | 4.0 | 7.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 23.3 | | 8.2 | 24.3 | | 33.8 | 33.8 | 33.8 | 32.2 | 32.2 | 32.2 |
| Total Split (s) | 12.0 | 45.0 | | 22.0 | 55.0 | | 43.0 | 43.0 | 43.0 | 43.0 | 43.0 | 43.0 |
| Total Split (%) | 10.9% | 40.9% | | 20.0% | 50.0% | | 39.1% | 39.1% | 39.1% | 39.1% | 39.1% | 39.1% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | | 3.8 | 3.8 | 3.8 | 3.2 | 3.2 | 3.2 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | | | 4.8 | 4.8 | | 4.2 | 4.2 |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | None | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 110 |
| Offset: 21 (19%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 70 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 49: Cottonwood Avenue & Mission Gorge Road



Existing + Proj AM
49: Cottonwood Avenue & Mission Gorge Road

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 7 | 420 | 52 | 56 | 900 | 2 | 83 | 4 | 50 | 7 | 8 | 22 |
| Future Volume (veh/h) | 7 | 420 | 52 | 56 | 900 | 2 | 83 | 4 | 50 | 7 | 8 | 22 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.96 | 1.00 | | 1.00 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 8 | 457 | 57 | 61 | 978 | 2 | 90 | 4 | 54 | 8 | 9 | 24 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 14 | 2175 | 266 | 78 | 2681 | 5 | 65 | 2 | 558 | 49 | 39 | 549 |
| Arrive On Green | 0.01 | 0.47 | 0.47 | 0.09 | 1.00 | 1.00 | 0.35 | 0.35 | 0.35 | 0.35 | 0.35 | 0.35 |
| Sat Flow, veh/h | 1781 | 4593 | 561 | 1781 | 5261 | 11 | 4 | 4 | 1584 | 1 | 110 | 1557 |
| Grp Volume(v), veh/h | 8 | 336 | 178 | 61 | 633 | 347 | 94 | 0 | 54 | 17 | 0 | 24 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1702 | 1750 | 1781 | 1702 | 1868 | 8 | 0 | 1584 | 111 | 0 | 1557 |
| Q Serve(g_s), s | 0.5 | 6.3 | 6.5 | 3.7 | 0.0 | 0.0 | 0.1 | 0.0 | 2.5 | 0.1 | 0.0 | 1.1 |
| Cycle Q Clear(g_c), s | 0.5 | 6.3 | 6.5 | 3.7 | 0.0 | 0.0 | 38.8 | 0.0 | 2.5 | 38.8 | 0.0 | 1.1 |
| Prop In Lane | 1.00 | | 0.32 | 1.00 | | 0.01 | 0.96 | | 1.00 | 0.47 | | 1.00 |
| Lane Grp Cap(c), veh/h | 14 | 1612 | 829 | 78 | 1735 | 952 | 67 | 0 | 558 | 87 | 0 | 549 |
| V/C Ratio(X) | 0.57 | 0.21 | 0.21 | 0.78 | 0.36 | 0.36 | 1.40 | 0.00 | 0.10 | 0.19 | 0.00 | 0.04 |
| Avail Cap(c_a), veh/h | 126 | 1612 | 829 | 288 | 1735 | 952 | 67 | 0 | 558 | 88 | 0 | 549 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.99 | 0.99 | 0.99 | 0.66 | 0.66 | 0.66 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 54.4 | 16.9 | 17.0 | 49.6 | 0.0 | 0.0 | 54.1 | 0.0 | 23.9 | 29.3 | 0.0 | 23.4 |
| Incr Delay (d2), s/veh | 12.6 | 0.3 | 0.6 | 4.1 | 0.4 | 0.7 | 249.9 | 0.0 | 0.0 | 0.4 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.3 | 2.4 | 2.7 | 1.6 | 0.1 | 0.2 | 6.5 | 0.0 | 1.0 | 0.3 | 0.0 | 0.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 67.0 | 17.2 | 17.6 | 53.7 | 0.4 | 0.7 | 304.0 | 0.0 | 23.9 | 29.7 | 0.0 | 23.4 |
| LnGrp LOS | E | B | B | D | A | A | F | A | C | C | A | C |
| Approach Vol, veh/h | | 522 | | | 1041 | | | 148 | | | 41 | |
| Approach Delay, s/veh | | 18.1 | | | 3.6 | | | 201.8 | | | 26.0 | |
| Approach LOS | | B | | | A | | | F | | | C | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 9.0 | 57.4 | | 43.6 | 5.1 | 61.3 | | 43.6 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | | * 4.8 | * 4.2 | 5.3 | | * 4.8 | | | | |
| Max Green Setting (Gmax), s | * 18 | 39.7 | | * 39 | * 7.8 | 49.7 | | * 38 | | | | |
| Max Q Clear Time (g_c+I1), s | 5.7 | 8.5 | | 40.8 | 2.5 | 2.0 | | 40.8 | | | | |
| Green Ext Time (p_c), s | 0.0 | 2.7 | | 0.0 | 0.0 | 11.6 | | 0.0 | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | | 25.2 |
| HCM 6th LOS | | | C |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



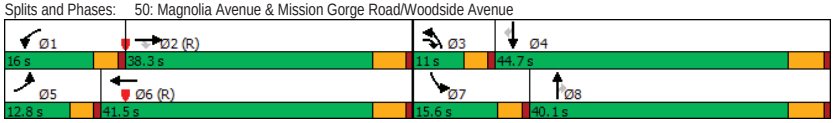
Existing + Proj AM
50: Magnolia Avenue & Mission Gorge Road/Woodside Avenue

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 158 | 210 | 118 | 371 | 539 | 244 | 171 | 789 | 352 | 253 | 1135 | 281 |
| Future Volume (vph) | 158 | 210 | 118 | 371 | 539 | 244 | 171 | 789 | 352 | 253 | 1135 | 281 |
| Confl. Peds. (#/hr) | | | 6 | | | 11 | | | 19 | | | 6 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | | | | 8 | | | 4 |
| Detector Phase | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | 8 | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 4.0 | 4.0 | 10.0 | | 4.0 | 7.0 | 7.0 | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 38.3 | 8.2 | 8.2 | 35.3 | | 8.2 | 34.7 | 34.7 | 8.2 | 35.7 | 35.7 |
| Total Split (s) | 12.8 | 38.3 | 11.0 | 16.0 | 41.5 | | 11.0 | 40.1 | 40.1 | 15.6 | 44.7 | 44.7 |
| Total Split (%) | 11.6% | 34.8% | 10.0% | 14.5% | 37.7% | | 10.0% | 36.5% | 36.5% | 14.2% | 40.6% | 40.6% |
| Yellow Time (s) | 3.2 | 4.3 | 3.2 | 3.2 | 4.3 | | 3.2 | 4.7 | 4.7 | 3.2 | 4.7 | 4.7 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | 4.2 | 4.2 | 5.3 | | 4.2 | 5.7 | 5.7 | 4.2 | 5.7 | 5.7 |
| Lead/Lag | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | C-Min | None | None | C-Min | | None | None | None | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 110 |
| Offset: 24 (22%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 115 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 50: Magnolia Avenue & Mission Gorge Road/Woodside Avenue



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 158 | 210 | 118 | 371 | 539 | 244 | 171 | 789 | 352 | 253 | 1135 | 281 |
| Future Volume (veh/h) | 158 | 210 | 118 | 371 | 539 | 244 | 171 | 789 | 352 | 253 | 1135 | 281 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 172 | 228 | 128 | 403 | 586 | 239 | 186 | 858 | 345 | 275 | 1234 | 275 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 230 | 1066 | 571 | 371 | 837 | 341 | 214 | 1136 | 498 | 334 | 1260 | 559 |
| Arrive On Green | 0.11 | 0.50 | 0.50 | 0.11 | 0.34 | 0.34 | 0.12 | 0.64 | 0.64 | 0.10 | 0.35 | 0.35 |
| Sat Flow, veh/h | 3456 | 3554 | 1576 | 3456 | 2456 | 1000 | 3456 | 3554 | 1557 | 3456 | 3554 | 1577 |
| Grp Volume(v), veh/h | 172 | 228 | 128 | 403 | 424 | 401 | 186 | 858 | 345 | 275 | 1234 | 275 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1576 | 1728 | 1777 | 1679 | 1728 | 1777 | 1557 | 1728 | 1777 | 1577 |
| Q Serve(g_s), s | 5.3 | 3.9 | 4.7 | 11.8 | 22.7 | 22.8 | 5.8 | 18.5 | 15.8 | 8.6 | 37.8 | 15.0 |
| Cycle Q Clear(g_c), s | 5.3 | 3.9 | 4.7 | 11.8 | 22.7 | 22.8 | 5.8 | 18.5 | 15.8 | 8.6 | 37.8 | 15.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.60 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 230 | 1066 | 571 | 371 | 606 | 572 | 214 | 1136 | 498 | 334 | 1260 | 559 |
| V/C Ratio(X) | 0.75 | 0.21 | 0.22 | 1.09 | 0.70 | 0.70 | 0.87 | 0.76 | 0.69 | 0.82 | 0.98 | 0.49 |
| Avail Cap(c_a), veh/h | 270 | 1066 | 571 | 371 | 606 | 572 | 214 | 1136 | 498 | 358 | 1260 | 559 |
| HCM Platoon Ratio | 1.67 | 1.67 | 1.67 | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.99 | 0.99 | 0.99 | 1.00 | 1.00 | 1.00 | 0.90 | 0.90 | 0.90 | 0.78 | 0.78 | 0.78 |
| Uniform Delay (d), s/veh | 48.0 | 20.2 | 17.0 | 49.1 | 31.4 | 31.4 | 47.8 | 16.8 | 16.3 | 48.8 | 35.1 | 27.8 |
| Incr Delay (d2), s/veh | 7.2 | 0.5 | 0.9 | 72.1 | 6.6 | 7.0 | 26.7 | 2.8 | 4.1 | 9.9 | 17.7 | 0.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.4 | 1.6 | 1.7 | 8.7 | 10.5 | 10.0 | 3.1 | 4.9 | 4.1 | 4.1 | 18.3 | 5.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 55.2 | 20.6 | 17.9 | 121.2 | 38.0 | 38.4 | 74.4 | 19.7 | 20.5 | 58.7 | 52.8 | 28.4 |
| LnGrp LOS | E | C | B | F | D | D | E | B | C | E | D | C |
| Approach Vol, veh/h | | 528 | | | 1228 | | | 1389 | | | 1784 | |
| Approach Delay, s/veh | | 31.3 | | | 65.4 | | | 27.2 | | | 49.9 | |
| Approach LOS | | C | | | E | | | C | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 16.0 | 38.3 | 11.0 | 44.7 | 11.5 | 42.8 | 14.8 | 40.9 |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | * 4.2 | 5.7 | * 4.2 | 5.3 | * 4.2 | 5.7 |
| Max Green Setting (Gmax), s | * 12 | 33.0 | * 6.8 | 39.0 | * 8.6 | 36.2 | * 11 | 34.4 |
| Max Q Clear Time (g_c+I1), s | 13.8 | 6.7 | 7.8 | 39.8 | 7.3 | 24.8 | 10.6 | 20.5 |
| Green Ext Time (p_c), s | 0.0 | 2.2 | 0.0 | 0.0 | 0.0 | 5.7 | 0.0 | 7.6 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 45.4 |
| HCM 6th LOS | | D |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 26.3 |
| Intersection LOS | D |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 6 | 132 | 332 | 9 | 0 | 294 | 0 | 0 | 9 | 534 | 36 |
| Future Vol, veh/h | 0 | 6 | 132 | 332 | 9 | 0 | 294 | 0 | 0 | 9 | 534 | 36 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 7 | 143 | 361 | 10 | 0 | 320 | 0 | 0 | 10 | 580 | 39 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 2 | 0 |

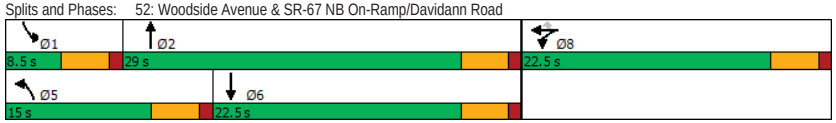
| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay | 14.3 | 31.2 | 31.8 | 23.4 |
| HCM LOS | B | D | D | C |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 97% | 3% | 0% |
| Vol Thru, % | 0% | 100% | 4% | 3% | 97% | 88% |
| Vol Right, % | 0% | 0% | 96% | 0% | 0% | 12% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 294 | 0 | 138 | 341 | 276 | 303 |
| LT Vol | 294 | 0 | 0 | 332 | 9 | 0 |
| Through Vol | 0 | 0 | 6 | 9 | 267 | 267 |
| RT Vol | 0 | 0 | 132 | 0 | 0 | 36 |
| Lane Flow Rate | 320 | 0 | 150 | 371 | 300 | 329 |
| Geometry Grp | 7 | 7 | 2 | 2 | 7 | 7 |
| Degree of Util (X) | 0.744 | 0 | 0.321 | 0.765 | 0.628 | 0.68 |
| Departure Headway (Hd) | 8.376 | 7.859 | 7.695 | 7.56 | 7.534 | 7.432 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 435 | 0 | 468 | 482 | 480 | 487 |
| Service Time | 6.089 | 5.572 | 5.734 | 5.56 | 5.248 | 5.145 |
| HCM Lane V/C Ratio | 0.736 | 0 | 0.321 | 0.77 | 0.625 | 0.676 |
| HCM Control Delay | 31.8 | 10.6 | 14.3 | 31.2 | 22.1 | 24.5 |
| HCM Lane LOS | D | N | B | D | C | C |
| HCM 95th-tile Q | 6.1 | 0 | 1.4 | 6.6 | 4.3 | 5.1 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 0 | 45 | 4 | 3 | 188 | 195 | 20 | 2 | 276 | 2 |
| Future Volume (vph) | 0 | 0 | 0 | 45 | 4 | 3 | 188 | 195 | 20 | 2 | 276 | 2 |
| Confl. Peds. (#/hr) | | | | | | | | | 1 | | | |
| Confl. Bikes (#/hr) | | | | | | 2 | | | 2 | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | | | | Split | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | | | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | 8 | | | | | | |
| Detector Phase | | | | 8 | 8 | 8 | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | | | | 22.5 | 22.5 | 22.5 | 8.5 | 22.5 | | 8.5 | 22.5 | |
| Total Split (s) | | | | 22.5 | 22.5 | 22.5 | 15.0 | 29.0 | | 8.5 | 22.5 | |
| Total Split (%) | | | | 37.5% | 37.5% | 37.5% | 25.0% | 48.3% | | 14.2% | 37.5% | |
| Yellow Time (s) | | | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | | | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | | | | | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | | | | | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | | | | None | None | None | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 38.5 |
| Natural Cycle: 60 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 52: Woodside Avenue & SR-67 NB On-Ramp/Davidann Road






Existing + Proj AM
52: Woodside Avenue & SR-67 NB On-Ramp/Davidann Road
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 45 | 4 | 3 | 188 | 195 | 20 | 2 | 276 | 2 |
| Future Volume (veh/h) | 0 | 0 | 0 | 45 | 4 | 3 | 188 | 195 | 20 | 2 | 276 | 2 |
| Initial Q (Qb), veh | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | | | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.97 |
| Parking Bus, Adj | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | | | | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | | | | 49 | 4 | 3 | 204 | 212 | 22 | 2 | 300 | 2 |
| Peak Hour Factor | | | | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | | | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | | | | 85 | 7 | 79 | 270 | 700 | 73 | 7 | 504 | 3 |
| Arrive On Green | | | | 0.05 | 0.05 | 0.05 | 0.15 | 0.42 | 0.42 | 0.00 | 0.27 | 0.27 |
| Sat Flow, veh/h | | | | 1653 | 135 | 1546 | 1781 | 1662 | 172 | 1781 | 1855 | 12 |
| Grp Volume(v), veh/h | | | | 53 | 0 | 3 | 204 | 0 | 234 | 2 | 0 | 302 |
| Grp Sat Flow(s),veh/h/ln | | | | 1788 | 0 | 1546 | 1781 | 0 | 1835 | 1781 | 0 | 1868 |
| Q Serve(g_s), s | | | | 0.7 | 0.0 | 0.0 | 2.8 | 0.0 | 2.2 | 0.0 | 0.0 | 3.6 |
| Cycle Q Clear(g_c), s | | | | 0.7 | 0.0 | 0.0 | 2.8 | 0.0 | 2.2 | 0.0 | 0.0 | 3.6 |
| Prop In Lane | | | | 0.92 | | 1.00 | 1.00 | | 0.09 | 1.00 | | 0.01 |
| Lane Grp Cap(c), veh/h | | | | 92 | 0 | 79 | 270 | 0 | 773 | 7 | 0 | 507 |
| V/C Ratio(X) | | | | 0.58 | 0.00 | 0.04 | 0.75 | 0.00 | 0.30 | 0.29 | 0.00 | 0.60 |
| Avail Cap(c_a), veh/h | | | | 1252 | 0 | 1083 | 728 | 0 | 1749 | 277 | 0 | 1308 |
| HCM Platoon Ratio | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | | | | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | | | | 11.9 | 0.0 | 11.6 | 10.4 | 0.0 | 4.9 | 12.8 | 0.0 | 8.1 |
| Incr Delay (d2), s/veh | | | | 5.6 | 0.0 | 0.2 | 4.3 | 0.0 | 0.2 | 21.3 | 0.0 | 1.1 |
| Initial Q Delay(d3),s/veh | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | | 0.4 | 0.0 | 0.0 | 1.0 | 0.0 | 0.4 | 0.0 | 0.0 | 1.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | 17.6 | 0.0 | 11.8 | 14.7 | 0.0 | 5.2 | 34.1 | 0.0 | 9.3 |
| LnGrp LOS | | | | B | A | B | B | A | A | C | A | A |
| Approach Vol, veh/h | | | | | 56 | | | 438 | | | 304 | |
| Approach Delay, s/veh | | | | | 17.3 | | | 9.6 | | | 9.4 | |
| Approach LOS | | | | | B | | | A | | | A | |

| Timer - Assigned Phs | 1 | 2 | | 5 | 6 | | 8 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 4.6 | 15.3 | | 8.4 | 11.5 | | 5.8 | | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | | | | | |
| Max Green Setting (Gmax), s | 4.0 | 24.5 | | 10.5 | 18.0 | | 18.0 | | | | | |
| Max Q Clear Time (g_c+I1), s | 2.0 | 4.2 | | 4.8 | 5.6 | | 2.7 | | | | | |
| Green Ext Time (p_c), s | 0.0 | 1.3 | | 0.3 | 1.4 | | 0.2 | | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 10.1 | |
| HCM 6th LOS | B | |

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\3 Existing + Proj AM.syn

| Intersection | |
|---|---|
| Int Delay, s/veh | 9 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 94 | 525 | 571 | 0 | 0 | 743 |
| Future Vol, veh/h | 94 | 525 | 571 | 0 | 0 | 743 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | 300 | - | - | - | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 102 | 571 | 621 | 0 | 0 | 808 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 1025 | 311 | 0 | - | - | - |
| Stage 1 | 621 | - | - | - | - | - |
| Stage 2 | 404 | - | - | - | - | - |
| Critical Hdwy | 6.84 | 6.8 | - | - | - | - |
| Critical Hdwy Stg 1 | 5.84 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.84 | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 3.32 | - | - | - | - |
| Pot Cap-1 Maneuver | 231 | 693 | - | 0 | 0 | - |
| Stage 1 | 498 | - | - | 0 | 0 | - |
| Stage 2 | 643 | - | - | 0 | 0 | - |
| Platoon blocked, % | | | - | | | - |
| Mov Cap-1 Maneuver | 231 | 693 | - | - | - | - |
| Mov Cap-2 Maneuver | 359 | - | - | - | - | - |
| Stage 1 | 498 | - | - | - | - | - |
| Stage 2 | 643 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 28.1 | 0 | 0 |
| HCM LOS | D | | |

| Minor Lane/Major Mvmt | NBT | WBLn1 | WBLn2 | SBT |
|---|---|---|---|---|
| Capacity (veh/h) | - | 359 | 693 | - |
| HCM Lane V/C Ratio | - | 0.285 | 0.823 | - |
| HCM Control Delay (s) | - | 19 | 29.7 | - |
| HCM Lane LOS | - | C | D | - |
| HCM 95th %tile Q(veh) | - | 1.2 | 8.9 | - |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 571 | 196 | 449 | 388 |
| Future Volume (Veh/h) | 0 | 0 | 571 | 196 | 449 | 388 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 0 | 621 | 213 | 488 | 422 |
| Pedestrians | 2 | | | | | |
| Lane Width (ft) | 0.0 | | | | | |
| Walking Speed (ft/s) | 4.0 | | | | | |
| Percent Blockage | 0 | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | 769 | | | 1029 |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 1916 | 419 | | | 836 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 1916 | 419 | | | 836 | |
| tC, single (s) | 6.8 | 6.9 | | | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 100 | 100 | | | 39 | |
| cM capacity (veh/h) | 23 | 583 | | | 794 | |

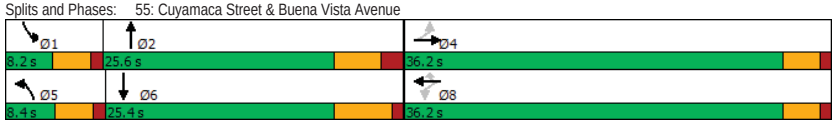
| Direction, Lane # | NB 1 | NB 2 | SB 1 | SB 2 | SB 3 |
|---|---|---|---|---|---|
| Volume Total | 414 | 420 | 488 | 211 | 211 |
| Volume Left | 0 | 0 | 488 | 0 | 0 |
| Volume Right | 0 | 213 | 0 | 0 | 0 |
| cSH | 1700 | 1700 | 794 | 1700 | 1700 |
| Volume to Capacity | 0.24 | 0.25 | 0.61 | 0.12 | 0.12 |
| Queue Length 95th (ft) | 0 | 0 | 108 | 0 | 0 |
| Control Delay (s) | 0.0 | 0.0 | 16.5 | 0.0 | 0.0 |
| Lane LOS | | | C | | |
| Approach Delay (s) | 0.0 | | 8.8 | | |
| Approach LOS | | | | | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Average Delay | 4.6 | | | |
| Intersection Capacity Utilization | 55.0% | ICU Level of Service | | A |
| Analysis Period (min) | 15 | | | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 10 | 2 | 12 | 151 | 1 | 52 | 43 | 1330 | 152 | 29 | 1106 | 27 |
| Future Volume (vph) | 10 | 2 | 12 | 151 | 1 | 52 | 43 | 1330 | 152 | 29 | 1106 | 27 |
| Confl. Peds. (#/hr) | | | 3 | | | 7 | | | 5 | | | 2 |
| Confl. Bikes (#/hr) | | | 1 | | | 4 | | | 3 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Perm | NA | | Perm | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | 8 | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | 8 | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 10.0 | | 4.0 | 10.0 | |
| Minimum Split (s) | 36.2 | 36.2 | | 34.2 | 34.2 | 34.2 | 8.2 | 24.0 | | 8.2 | 24.0 | |
| Total Split (s) | 36.2 | 36.2 | | 36.2 | 36.2 | 36.2 | 8.4 | 25.6 | | 8.2 | 25.4 | |
| Total Split (%) | 51.7% | 51.7% | | 51.7% | 51.7% | 51.7% | 12.0% | 36.6% | | 11.7% | 36.3% | |
| Yellow Time (s) | 3.2 | 3.2 | | 3.2 | 3.2 | 3.2 | 3.2 | 4.0 | | 3.2 | 4.9 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 2.0 | | 1.0 | 1.1 | |
| Lost Time Adjust (s) | | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | | 4.2 | | | 4.2 | 4.2 | 4.2 | 6.0 | | 4.2 | 6.0 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | None | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 70 |
| Actuated Cycle Length: 47.6 |
| Natural Cycle: 75 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 55: Cuyamaca Street & Buena Vista Avenue






Existing + Proj AM
55: Cuyamaca Street & Buena Vista Avenue
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 10 | 2 | 12 | 151 | 1 | 52 | 43 | 1330 | 152 | 29 | 1106 | 27 |
| Future Volume (veh/h) | 10 | 2 | 12 | 151 | 1 | 52 | 43 | 1330 | 152 | 29 | 1106 | 27 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 0.99 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 11 | 2 | 13 | 164 | 1 | 57 | 47 | 1446 | 165 | 32 | 1202 | 29 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 189 | 61 | 129 | 467 | 2 | 295 | 71 | 2030 | 231 | 53 | 2193 | 53 |
| Arrive On Green | 0.19 | 0.19 | 0.19 | 0.19 | 0.19 | 0.19 | 0.04 | 0.44 | 0.44 | 0.03 | 0.43 | 0.43 |
| Sat Flow, veh/h | 353 | 320 | 673 | 1551 | 9 | 1542 | 1781 | 4633 | 528 | 1781 | 5128 | 124 |
| Grp Volume(v), veh/h | 26 | 0 | 0 | 165 | 0 | 57 | 47 | 1062 | 549 | 32 | 798 | 433 |
| Grp Sat Flow(s),veh/h/ln | 1346 | 0 | 0 | 1561 | 0 | 1542 | 1781 | 1702 | 1757 | 1781 | 1702 | 1848 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.3 | 1.1 | 10.8 | 10.8 | 0.8 | 7.4 | 7.4 |
| Cycle Q Clear(g_c), s | 3.5 | 0.0 | 0.0 | 3.5 | 0.0 | 1.3 | 1.1 | 10.8 | 10.8 | 0.8 | 7.4 | 7.4 |
| Prop In Lane | 0.42 | | 0.50 | 0.99 | | 1.00 | 1.00 | | 0.30 | 1.00 | | 0.07 |
| Lane Grp Cap(c), veh/h | 379 | 0 | 0 | 469 | 0 | 295 | 71 | 1491 | 770 | 53 | 1456 | 790 |
| V/C Ratio(X) | 0.07 | 0.00 | 0.00 | 0.35 | 0.00 | 0.19 | 0.66 | 0.71 | 0.71 | 0.61 | 0.55 | 0.55 |
| Avail Cap(c_a), veh/h | 1212 | 0 | 0 | 1258 | 0 | 1167 | 177 | 1579 | 815 | 169 | 1563 | 848 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 14.0 | 0.0 | 0.0 | 15.2 | 0.0 | 14.3 | 20.0 | 9.7 | 9.7 | 20.3 | 9.0 | 9.0 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 0.0 | 0.2 | 0.0 | 0.1 | 3.8 | 1.6 | 3.1 | 4.1 | 0.5 | 0.9 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.2 | 0.0 | 0.0 | 1.2 | 0.0 | 0.4 | 0.5 | 3.0 | 3.5 | 0.3 | 2.0 | 2.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 14.1 | 0.0 | 0.0 | 15.4 | 0.0 | 14.5 | 23.8 | 11.3 | 12.8 | 24.4 | 9.5 | 10.0 |
| LnGrp LOS | B | A | A | B | A | B | C | B | B | C | A | A |
| Approach Vol, veh/h | | 26 | | | 222 | | | 1658 | | | 1263 | |
| Approach Delay, s/veh | | 14.1 | | | 15.2 | | | 12.2 | | | 10.1 | |
| Approach LOS | | B | | | B | | | B | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.5 | 24.5 | | 12.3 | 5.9 | 24.1 | | 12.3 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 6.0 | | * 4.2 | * 4.2 | * 6 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | * 4 | 19.6 | | * 32 | * 4.2 | * 19 | | * 32 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.8 | 12.8 | | 5.5 | 3.1 | 9.4 | | 5.5 | | | | |
| Green Ext Time (p_c), s | 0.0 | 5.7 | | 0.1 | 0.0 | 6.7 | | 0.7 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 11.6 | |
| HCM 6th LOS | B | |

Notes

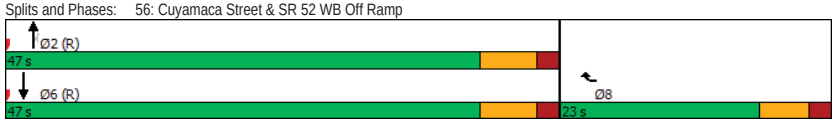
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\3 Existing + Proj AM.syn

| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 795 | 812 | 185 | 0 | 1386 |
| Future Volume (vph) | 0 | 795 | 812 | 185 | 0 | 1386 |
| Confl. Peds. (#/hr) | | | | 9 | | |
| Confl. Bikes (#/hr) | | | | 3 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | 0% | | | 0% |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | | Prot | NA | Perm | | NA |
| Protected Phases | | 8 | 2 | | | 6 |
| Permitted Phases | | | | 2 | | |
| Detector Phase | | 8 | 2 | 2 | | 6 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | | 5.0 | 14.0 | 14.0 | | 14.0 |
| Minimum Split (s) | | 20.0 | 45.8 | 45.8 | | 45.8 |
| Total Split (s) | | 23.0 | 47.0 | 47.0 | | 47.0 |
| Total Split (%) | | 32.9% | 67.1% | 67.1% | | 67.1% |
| Yellow Time (s) | | 4.1 | 4.8 | 4.8 | | 4.8 |
| All-Red Time (s) | | 2.0 | 2.0 | 2.0 | | 2.0 |
| Lost Time Adjust (s) | | 0.0 | 0.0 | 0.0 | | 0.0 |
| Total Lost Time (s) | | 6.1 | 6.8 | 6.8 | | 6.8 |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | | None | C-Max | C-Max | | C-Max |

| Intersection Summary |
|---|
| Cycle Length: 70 |
| Actuated Cycle Length: 70 |
| Offset: 22 (31%), Referenced to phase 2:NBT and 6:SBT, Start of Green |
| Natural Cycle: 70 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 56: Cuyamaca Street & SR 52 WB Off Ramp








| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 795 | 812 | 185 | 0 | 1386 |
| Future Volume (veh/h) | 0 | 795 | 812 | 185 | 0 | 1386 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | | 0.97 | 1.00 | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | No | | | No |
| Adj Sat Flow, veh/h/ln | 0 | 1870 | 1870 | 1870 | 0 | 1870 |
| Adj Flow Rate, veh/h | 0 | 864 | 883 | 201 | 0 | 1507 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 0 | 2 | 2 | 2 | 0 | 2 |
| Cap, veh/h | 0 | 0 | 4610 | 1394 | 0 | 4610 |
| Arrive On Green | 0.00 | 0.00 | 0.30 | 0.30 | 0.00 | 0.90 |
| Sat Flow, veh/h | 0 | | 5274 | 1544 | 0 | 5443 |
| Grp Volume(v), veh/h | 0.0 | | 883 | 201 | 0 | 1507 |
| Grp Sat Flow(s),veh/h/ln | | | 1702 | 1544 | 0 | 1702 |
| Q Serve(g_s), s | | | 9.0 | 6.7 | 0.0 | 2.8 |
| Cycle Q Clear(g_c), s | | | 9.0 | 6.7 | 0.0 | 2.8 |
| Prop In Lane | | | | 1.00 | 0.00 | |
| Lane Grp Cap(c), veh/h | | | 4610 | 1394 | 0 | 4610 |
| V/C Ratio(X) | | | 0.19 | 0.14 | 0.00 | 0.33 |
| Avail Cap(c_a), veh/h | | | 4610 | 1394 | 0 | 4610 |
| HCM Platoon Ratio | | | 0.33 | 0.33 | 1.00 | 1.00 |
| Upstream Filter(I) | | | 1.00 | 1.00 | 0.00 | 0.89 |
| Uniform Delay (d), s/veh | | | 5.6 | 4.7 | 0.0 | 0.5 |
| Incr Delay (d2), s/veh | | | 0.1 | 0.2 | 0.0 | 0.2 |
| Initial Q Delay(d3),s/veh | | | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | 0.0 | 0.1 | 0.0 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | | | 5.6 | 5.0 | 0.0 | 0.6 |
| LnGrp LOS | | | A | A | A | A |
| Approach Vol, veh/h | | | 1084 | | | 1507 |
| Approach Delay, s/veh | | | 5.5 | | | 0.6 |
| Approach LOS | | | A | | | A |

| Timer - Assigned Phs | 2 | | | | | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 70.0 | | | | | 70.0 |
| Change Period (Y+Rc), s | 6.8 | | | | | 6.8 |
| Max Green Setting (Gmax), s | 40.2 | | | | | 40.2 |
| Max Q Clear Time (g_c+I1), s | 11.0 | | | | | 4.8 |
| Green Ext Time (p_c), s | 7.7 | | | | | 14.5 |

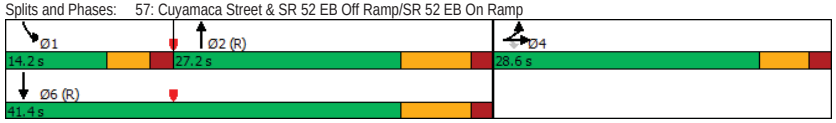
| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 2.7 | |
| HCM 6th LOS | | A | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 264 | 2 | 471 | 0 | 0 | 0 | 0 | 733 | 84 | 313 | 734 | 0 |
| Future Volume (vph) | 264 | 2 | 471 | 0 | 0 | 0 | 0 | 733 | 84 | 313 | 734 | 0 |
| Confl. Peds. (#/hr) | | | | | | | | | 5 | | | 24 |
| Confl. Bikes (#/hr) | | | | | | | | | 2 | | | 9 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | 50% | | | | | | | | | | | |
| Turn Type | Split | NA | Perm | | | | | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | | | | | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | | | | |
| Detector Phase | 4 | 4 | 4 | | | | | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | | | | | 11.0 | | 5.0 | 12.0 | |
| Minimum Split (s) | 22.1 | 22.1 | 22.1 | | | | | 27.0 | | 10.7 | 32.0 | |
| Total Split (s) | 28.6 | 28.6 | 28.6 | | | | | 27.2 | | 14.2 | 41.4 | |
| Total Split (%) | 40.9% | 40.9% | 40.9% | | | | | 38.9% | | 20.3% | 59.1% | |
| Yellow Time (s) | 4.1 | 4.1 | 4.1 | | | | | 6.0 | | 3.7 | 6.0 | |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | | | | | 2.0 | | 2.0 | 2.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | | | | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 6.1 | 6.1 | 6.1 | | | | | 8.0 | | 5.7 | 8.0 | |
| Lead/Lag | | | | | | | | Lag | | Lead | | |
| Lead-Lag Optimize? | | | | | | | | Yes | | Yes | | |
| Recall Mode | None | None | None | | | | | C-Min | | None | C-Min | |

**Intersection Summary**

Cycle Length: 70
Actuated Cycle Length: 70
Offset: 10 (14%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 57: Cuyamaca Street & SR 52 EB Off Ramp/SR 52 EB On Ramp






Existing + Proj AM
57: Cuyamaca Street & SR 52 EB Off Ramp/SR 52 EB On Ramp
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 264 | 2 | 471 | 0 | 0 | 0 | 0 | 733 | 84 | 313 | 734 | 0 |
| Future Volume (veh/h) | 264 | 2 | 471 | 0 | 0 | 0 | 0 | 733 | 84 | 313 | 734 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | | | | 1.00 | | 0.98 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | | | | 0 | 1870 | 1870 | 1870 | 1870 | 0 |
| Adj Flow Rate, veh/h | 288 | 0 | 512 | | | | 0 | 797 | 91 | 340 | 798 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | | | | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | | | | 0 | 2 | 2 | 2 | 2 | 0 |
| Cap, veh/h | 1145 | 0 | 509 | | | | 0 | 1273 | 144 | 420 | 1696 | 0 |
| Arrive On Green | 0.32 | 0.00 | 0.32 | | | | 0.00 | 0.36 | 0.36 | 0.04 | 0.16 | 0.00 |
| Sat Flow, veh/h | 3563 | 0 | 1585 | | | | 0 | 4809 | 527 | 3456 | 3647 | 0 |
| Grp Volume(v), veh/h | 288 | 0 | 512 | | | | 0 | 583 | 305 | 340 | 798 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1585 | | | | 0 | 1702 | 1764 | 1728 | 1777 | 0 |
| Q Serve(g_s), s | 4.2 | 0.0 | 22.5 | | | | 0.0 | 9.9 | 10.0 | 6.8 | 14.3 | 0.0 |
| Cycle Q Clear(g_c), s | 4.2 | 0.0 | 22.5 | | | | 0.0 | 9.9 | 10.0 | 6.8 | 14.3 | 0.0 |
| Prop In Lane | 1.00 | | 1.00 | | | | 0.00 | | 0.30 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 1145 | 0 | 509 | | | | 0 | 934 | 484 | 420 | 1696 | 0 |
| V/C Ratio(X) | 0.25 | 0.00 | 1.00 | | | | 0.00 | 0.62 | 0.63 | 0.81 | 0.47 | 0.00 |
| Avail Cap(c_a), veh/h | 1145 | 0 | 509 | | | | 0 | 934 | 484 | 420 | 1696 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.33 | 1.33 | 0.33 | 0.33 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | | | | 0.00 | 0.93 | 0.93 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | 17.5 | 0.0 | 23.8 | | | | 0.0 | 19.3 | 19.3 | 32.8 | 21.4 | 0.0 |
| Incr Delay (d2), s/veh | 0.1 | 0.0 | 41.1 | | | | 0.0 | 2.9 | 5.7 | 10.6 | 0.9 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.6 | 0.0 | 13.5 | | | | 0.0 | 3.7 | 4.2 | 3.5 | 6.8 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 17.6 | 0.0 | 64.8 | | | | 0.0 | 22.2 | 25.0 | 43.4 | 22.4 | 0.0 |
| LnGrp LOS | B | A | F | | | | A | C | C | D | C | A |
| Approach Vol, veh/h | | 800 | | | | | | 888 | | | 1138 | |
| Approach Delay, s/veh | | 47.9 | | | | | | 23.2 | | | 28.7 | |
| Approach LOS | | D | | | | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | | 4 | | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 14.2 | 27.2 | | 28.6 | | 41.4 |
| Change Period (Y+Rc), s | * 5.7 | 8.0 | | 6.1 | | 8.0 |
| Max Green Setting (Gmax), s | * 8.5 | 19.2 | | 22.5 | | 33.4 |
| Max Q Clear Time (g_c+I1), s | 8.8 | 12.0 | | 24.5 | | 16.3 |
| Green Ext Time (p_c), s | 0.0 | 3.2 | | 0.0 | | 5.0 |

**Intersection Summary**

| | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 32.4 |
| HCM 6th LOS | | C |

**Notes**

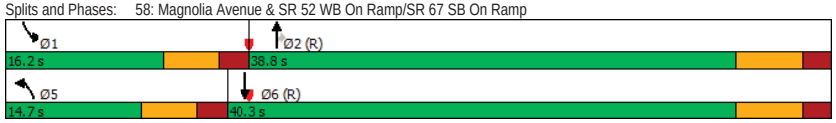
User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\3 Existing + Proj AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 269 | 1211 | 134 | 611 | 609 | 237 |
| Future Volume (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 269 | 1211 | 134 | 611 | 609 | 237 |
| Confl. Peds. (#/hr) | | | | | | | | | 5 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | | | | | | | Prot | NA | Perm | Prot | NA | |
| Protected Phases | | | | | | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | | | 2 | | | |
| Detector Phase | | | | | | | 5 | 2 | 2 | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | | | | | | 5.0 | 6.0 | 6.0 | 5.0 | 7.0 | |
| Minimum Split (s) | | | | | | | 10.7 | 38.4 | 38.4 | 10.7 | 39.4 | |
| Total Split (s) | | | | | | | 14.7 | 38.8 | 38.8 | 16.2 | 40.3 | |
| Total Split (%) | | | | | | | 26.7% | 70.5% | 70.5% | 29.5% | 73.3% | |
| Yellow Time (s) | | | | | | | 3.7 | 4.4 | 4.4 | 3.7 | 4.4 | |
| All-Red Time (s) | | | | | | | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | |
| Lost Time Adjust (s) | | | | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | | | | | | | 5.7 | 6.4 | 6.4 | 5.7 | 6.4 | |
| Lead/Lag | | | | | | | Lead | Lag | Lag | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | Yes | Yes | Yes | |
| Recall Mode | | | | | | | None | C-Max | C-Max | None | C-Max | |

| Intersection Summary |
|---|
| Cycle Length: 55 |
| Actuated Cycle Length: 55 |
| Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green |
| Natural Cycle: 60 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 58: Magnolia Avenue & SR 52 WB On Ramp/SR 67 SB On Ramp








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 0 | 0 | 0 | 269 | 1211 | 134 | 611 | 609 | 237 |
| Future Volume (veh/h) | 0 | 0 | 0 | 0 | 0 | 0 | 269 | 1211 | 134 | 611 | 609 | 237 |
| Initial Q (Qb), veh | | | | | | | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | | | | | | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | | | | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | | | | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | | | | | | | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | | | | | | | 292 | 1316 | 146 | 664 | 662 | 258 |
| Peak Hour Factor | | | | | | | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | | | | | | | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | | | | | | | 401 | 3008 | 911 | 660 | 1647 | 642 |
| Arrive On Green | | | | | | | 0.23 | 1.00 | 1.00 | 0.32 | 1.00 | 1.00 |
| Sat Flow, veh/h | | | | | | | 3456 | 5106 | 1546 | 3456 | 2480 | 966 |
| Grp Volume(v), veh/h | | | | | | | 292 | 1316 | 146 | 664 | 474 | 446 |
| Grp Sat Flow(s),veh/h/ln | | | | | | | 1728 | 1702 | 1546 | 1728 | 1777 | 1670 |
| Q Serve(g_s), s | | | | | | | 4.3 | 0.0 | 0.0 | 10.5 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | | | | | | | 4.3 | 0.0 | 0.0 | 10.5 | 0.0 | 0.0 |
| Prop In Lane | | | | | | | 1.00 | | 1.00 | 1.00 | | 0.58 |
| Lane Grp Cap(c), veh/h | | | | | | | 401 | 3008 | 911 | 660 | 1180 | 1109 |
| V/C Ratio(X) | | | | | | | 0.73 | 0.44 | 0.16 | 1.01 | 0.40 | 0.40 |
| Avail Cap(c_a), veh/h | | | | | | | 565 | 3008 | 911 | 660 | 1180 | 1109 |
| HCM Platoon Ratio | | | | | | | 2.00 | 2.00 | 2.00 | 1.67 | 1.67 | 1.67 |
| Upstream Filter(I) | | | | | | | 0.62 | 0.62 | 0.62 | 0.31 | 0.31 | 0.31 |
| Uniform Delay (d), s/veh | | | | | | | 20.3 | 0.0 | 0.0 | 18.7 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | | | | | | | 0.8 | 0.3 | 0.2 | 21.1 | 0.3 | 0.3 |
| Initial Q Delay(d3),s/veh | | | | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | | | | | 1.5 | 0.1 | 0.1 | 4.8 | 0.1 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | | | | 21.1 | 0.3 | 0.2 | 39.8 | 0.3 | 0.3 |
| LnGrp LOS | | | | | | | C | A | A | F | A | A |
| Approach Vol, veh/h | | | | | | | | 1754 | | | 1584 | |
| Approach Delay, s/veh | | | | | | | | 3.8 | | | 16.9 | |
| Approach LOS | | | | | | | | A | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 5 | 6 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 16.2 | 38.8 | | 12.1 | 42.9 | | | | | | | |
| Change Period (Y+Rc), s | * 5.7 | 6.4 | | * 5.7 | 6.4 | | | | | | | |
| Max Green Setting (Gmax), s | * 11 | 32.4 | | * 9 | 33.9 | | | | | | | |
| Max Q Clear Time (g_c+I1), s | 12.5 | 2.0 | | 6.3 | 2.0 | | | | | | | |
| Green Ext Time (p_c), s | 0.0 | 12.6 | | 0.2 | 6.2 | | | | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 10.0 | |
| HCM 6th LOS | A | |

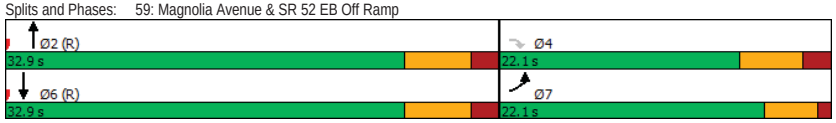
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 205 | 192 | 0 | 1409 | 609 | 0 |
| Future Volume (vph) | 205 | 192 | 0 | 1409 | 609 | 0 |
| Confl. Peds. (#/hr) | | | | | | |
| Confl. Bikes (#/hr) | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | | NA | NA | |
| Protected Phases | 7 | | | 2 | 6 | |
| Permitted Phases | | 4 | | | | |
| Detector Phase | 7 | 4 | | 2 | 6 | |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 5.0 | | 5.0 | 5.0 | |
| Minimum Split (s) | 8.5 | 22.1 | | 22.4 | 27.4 | |
| Total Split (s) | 22.1 | 22.1 | | 32.9 | 32.9 | |
| Total Split (%) | 40.2% | 40.2% | | 59.8% | 59.8% | |
| Yellow Time (s) | 3.5 | 4.1 | | 4.4 | 4.4 | |
| All-Red Time (s) | 1.0 | 2.0 | | 2.0 | 2.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 6.1 | | 6.4 | 6.4 | |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | None | None | | C-Max | C-Max | |

| Intersection Summary |
|---|
| Cycle Length: 55 |
| Actuated Cycle Length: 55 |
| Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green |
| Natural Cycle: 60 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 59: Magnolia Avenue & SR 52 EB Off Ramp






Existing + Proj AM
59: Magnolia Avenue & SR 52 EB Off Ramp
Fanita Ranch
06/06/2019

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 205 | 192 | 0 | 1409 | 609 | 0 |
| Future Volume (veh/h) | 205 | 192 | 0 | 1409 | 609 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 0 | 1870 | 1870 | 0 |
| Adj Flow Rate, veh/h | 223 | 209 | 0 | 1532 | 662 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 0 | 2 | 2 | 0 |
| Cap, veh/h | 318 | 283 | 0 | 2215 | 2215 | 0 |
| Arrive On Green | 0.18 | 0.18 | 0.00 | 0.62 | 1.00 | 0.00 |
| Sat Flow, veh/h | 1781 | 1585 | 0 | 3741 | 3741 | 0 |
| Grp Volume(v), veh/h | 223 | 209 | 0 | 1532 | 662 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 0 | 1777 | 1777 | 0 |
| Q Serve(g_s), s | 6.5 | 6.9 | 0.0 | 15.7 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 6.5 | 6.9 | 0.0 | 15.7 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | 1.00 | 0.00 | | | 0.00 |
| Lane Grp Cap(c), veh/h | 318 | 283 | 0 | 2215 | 2215 | 0 |
| V/C Ratio(X) | 0.70 | 0.74 | 0.00 | 0.69 | 0.30 | 0.00 |
| Avail Cap(c_a), veh/h | 570 | 507 | 0 | 2215 | 2215 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 2.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.67 | 0.91 | 0.00 |
| Uniform Delay (d), s/veh | 21.2 | 21.4 | 0.0 | 6.9 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 2.8 | 3.8 | 0.0 | 1.2 | 0.3 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.7 | 2.6 | 0.0 | 3.3 | 0.1 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 24.0 | 25.1 | 0.0 | 8.1 | 0.3 | 0.0 |
| LnGrp LOS | C | C | A | A | A | A |
| Approach Vol, veh/h | 432 | | | 1532 | 662 | |
| Approach Delay, s/veh | 24.6 | | | 8.1 | 0.3 | |
| Approach LOS | C | | | A | A | |

| Timer - Assigned Phs | | 2 | | 4 | | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 40.7 | | 14.3 | | 40.7 |
| Change Period (Y+Rc), s | | 6.4 | | 4.5 | | 6.4 |
| Max Green Setting (Gmax), s | | 26.5 | | 17.6 | | 26.5 |
| Max Q Clear Time (g_c+I1), s | | 17.7 | | 8.9 | | 2.0 |
| Green Ext Time (p_c), s | | 6.1 | | 1.0 | | 4.2 |

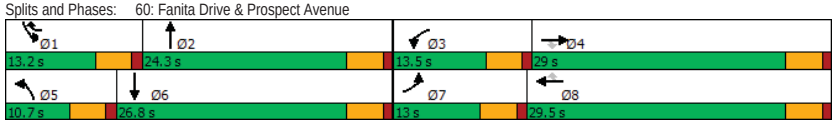
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 8.8 | |
| HCM 6th LOS | A | |

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\3 Existing + Proj AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 146 | 55 | 51 | 71 | 166 | 265 | 70 | 307 | 59 | 155 | 149 | 93 |
| Future Volume (vph) | 146 | 55 | 51 | 71 | 166 | 265 | 70 | 307 | 59 | 155 | 149 | 93 |
| Confl. Peds. (#/hr) | | | 5 | | | 3 | | | 4 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | 1 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | pm+ov | Prot | NA | | Prot | NA | |
| Protected Phases | 7 | 4 | | 3 | 8 | 1 | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | | | | |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | 1 | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | 8.5 | 24.5 | 24.5 | 8.5 | 29.5 | 8.5 | 8.5 | 22.5 | | 8.5 | 24.5 | |
| Total Split (s) | 13.0 | 29.0 | 29.0 | 13.5 | 29.5 | 13.2 | 10.7 | 24.3 | | 13.2 | 26.8 | |
| Total Split (%) | 16.3% | 36.3% | 36.3% | 16.9% | 36.9% | 16.5% | 13.4% | 30.4% | | 16.5% | 33.5% | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | None | None | None | None | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 80 |
| Actuated Cycle Length: 66.9 |
| Natural Cycle: 90 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 60: Fanita Drive & Prospect Avenue






Existing + Proj AM
60: Fanita Drive & Prospect Avenue
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 146 | 55 | 51 | 71 | 166 | 265 | 70 | 307 | 59 | 155 | 149 | 93 |
| Future Volume (veh/h) | 146 | 55 | 51 | 71 | 166 | 265 | 70 | 307 | 59 | 155 | 149 | 93 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 159 | 60 | 55 | 77 | 180 | 288 | 76 | 334 | 64 | 168 | 162 | 101 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 200 | 521 | 439 | 99 | 416 | 533 | 97 | 392 | 75 | 210 | 692 | 408 |
| Arrive On Green | 0.11 | 0.28 | 0.28 | 0.06 | 0.22 | 0.22 | 0.05 | 0.26 | 0.26 | 0.12 | 0.32 | 0.32 |
| Sat Flow, veh/h | 1781 | 1870 | 1577 | 1781 | 1870 | 1558 | 1781 | 1517 | 291 | 1781 | 2148 | 1266 |
| Grp Volume(v), veh/h | 159 | 60 | 55 | 77 | 180 | 288 | 76 | 0 | 398 | 168 | 132 | 131 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1577 | 1781 | 1870 | 1558 | 1781 | 0 | 1808 | 1781 | 1777 | 1638 |
| Q Serve(g_s), s | 5.4 | 1.5 | 1.6 | 2.7 | 5.2 | 9.3 | 2.6 | 0.0 | 13.0 | 5.7 | 3.4 | 3.7 |
| Cycle Q Clear(g_c), s | 5.4 | 1.5 | 1.6 | 2.7 | 5.2 | 9.3 | 2.6 | 0.0 | 13.0 | 5.7 | 3.4 | 3.7 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.16 | 1.00 | | 0.77 |
| Lane Grp Cap(c), veh/h | 200 | 521 | 439 | 99 | 416 | 533 | 97 | 0 | 468 | 210 | 572 | 527 |
| V/C Ratio(X) | 0.80 | 0.12 | 0.13 | 0.78 | 0.43 | 0.54 | 0.78 | 0.00 | 0.85 | 0.80 | 0.23 | 0.25 |
| Avail Cap(c_a), veh/h | 243 | 736 | 621 | 258 | 751 | 813 | 177 | 0 | 575 | 249 | 637 | 587 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 26.9 | 16.7 | 16.8 | 29.0 | 20.8 | 16.6 | 29.1 | 0.0 | 21.9 | 26.7 | 15.5 | 15.6 |
| Incr Delay (d2), s/veh | 13.9 | 0.1 | 0.1 | 12.2 | 0.7 | 0.9 | 12.7 | 0.0 | 9.9 | 14.5 | 0.2 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 3.0 | 0.6 | 0.5 | 1.4 | 2.1 | 3.0 | 1.4 | 0.0 | 6.1 | 3.1 | 1.2 | 1.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 40.9 | 16.8 | 16.9 | 41.2 | 21.5 | 17.5 | 41.8 | 0.0 | 31.9 | 41.3 | 15.7 | 15.8 |
| LnGrp LOS | D | B | B | D | C | B | D | A | C | D | B | B |
| Approach Vol, veh/h | | 274 | | | 545 | | | 474 | | | 431 | |
| Approach Delay, s/veh | | 30.8 | | | 22.2 | | | 33.5 | | | 25.7 | |
| Approach LOS | | C | | | C | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 11.8 | 20.6 | 8.0 | 21.9 | 7.9 | 24.5 | 11.5 | 18.3 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 8.7 | 19.8 | 9.0 | 24.5 | 6.2 | 22.3 | 8.5 | 25.0 |
| Max Q Clear Time (g_c+I1), s | 7.7 | 15.0 | 4.7 | 3.6 | 4.6 | 5.7 | 7.4 | 11.3 |
| Green Ext Time (p_c), s | 0.0 | 1.0 | 0.0 | 0.4 | 0.0 | 1.2 | 0.0 | 1.7 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 27.5 | |
| HCM 6th LOS | C | |

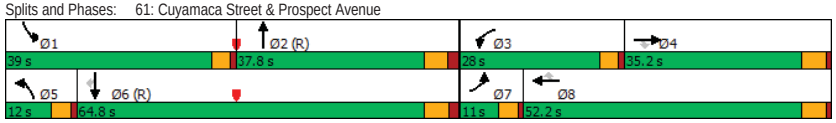
Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\3 Existing + Proj AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 19 | 52 | 47 | 146 | 47 | 295 | 30 | 547 | 66 | 234 | 928 | 48 |
| Future Volume (vph) | 19 | 52 | 47 | 146 | 47 | 295 | 30 | 547 | 66 | 234 | 928 | 48 |
| Confl. Peds. (#/hr) | | | 20 | | | 8 | | | 8 | | | 4 |
| Confl. Bikes (#/hr) | | | 1 | | | 4 | | | 4 | | | 7 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | | | | 6 |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | 8 | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 7.0 | 7.0 | 4.0 | 7.0 | 7.0 | 4.0 | 10.0 | | 4.0 | 10.0 | 10.0 |
| Minimum Split (s) | 8.2 | 35.2 | 35.2 | 8.2 | 36.2 | 36.2 | 8.2 | 33.0 | | 8.2 | 31.0 | 31.0 |
| Total Split (s) | 11.0 | 35.2 | 35.2 | 28.0 | 52.2 | 52.2 | 12.0 | 37.8 | | 39.0 | 64.8 | 64.8 |
| Total Split (%) | 7.9% | 25.1% | 25.1% | 20.0% | 37.3% | 37.3% | 8.6% | 27.0% | | 27.9% | 46.3% | 46.3% |
| Yellow Time (s) | 3.2 | 4.2 | 4.2 | 3.2 | 4.2 | 4.2 | 3.2 | 4.0 | | 3.2 | 4.1 | 4.1 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 2.0 | | 1.0 | 1.9 | 1.9 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.2 | 5.2 | 4.2 | 5.2 | 5.2 | 4.2 | 6.0 | | 4.2 | 6.0 | 6.0 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | None | None | C-Min | | None | C-Min | C-Min |

**Intersection Summary**

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 26 (19%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 61: Cuyamaca Street & Prospect Avenue








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 19 | 52 | 47 | 146 | 47 | 295 | 30 | 547 | 66 | 234 | 928 | 48 |
| Future Volume (veh/h) | 19 | 52 | 47 | 146 | 47 | 295 | 30 | 547 | 66 | 234 | 928 | 48 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.94 | 1.00 | | 0.97 | 1.00 | | 0.97 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 21 | 57 | 51 | 159 | 51 | 321 | 33 | 595 | 72 | 254 | 1009 | 52 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 28 | 257 | 205 | 183 | 797 | 346 | 42 | 2143 | 256 | 275 | 2118 | 929 |
| Arrive On Green | 0.02 | 0.14 | 0.14 | 0.10 | 0.22 | 0.22 | 0.02 | 0.47 | 0.47 | 0.31 | 1.00 | 1.00 |
| Sat Flow, veh/h | 1781 | 1870 | 1496 | 1781 | 3554 | 1543 | 1781 | 4605 | 549 | 1781 | 3554 | 1559 |
| Grp Volume(v), veh/h | 21 | 57 | 51 | 159 | 51 | 321 | 33 | 438 | 229 | 254 | 1009 | 52 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1496 | 1781 | 1777 | 1543 | 1781 | 1702 | 1750 | 1781 | 1777 | 1559 |
| Q Serve(g_s), s | 1.6 | 3.8 | 4.3 | 12.3 | 1.6 | 28.5 | 2.6 | 11.0 | 11.3 | 19.3 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 1.6 | 3.8 | 4.3 | 12.3 | 1.6 | 28.5 | 2.6 | 11.0 | 11.3 | 19.3 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.31 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 28 | 257 | 205 | 183 | 797 | 346 | 42 | 1584 | 815 | 275 | 2118 | 929 |
| V/C Ratio(X) | 0.74 | 0.22 | 0.25 | 0.87 | 0.06 | 0.93 | 0.78 | 0.28 | 0.28 | 0.92 | 0.48 | 0.06 |
| Avail Cap(c_a), veh/h | 87 | 401 | 321 | 303 | 1193 | 518 | 99 | 1584 | 815 | 443 | 2118 | 929 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 2.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 0.92 | 0.92 | 0.92 | 1.00 | 1.00 | 1.00 | 0.75 | 0.75 | 0.75 |
| Uniform Delay (d), s/veh | 68.6 | 53.7 | 53.9 | 61.8 | 42.7 | 53.2 | 68.0 | 23.0 | 23.0 | 47.6 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 13.0 | 0.5 | 0.7 | 6.7 | 0.0 | 14.4 | 11.1 | 0.4 | 0.9 | 10.0 | 0.6 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.8 | 1.8 | 1.6 | 5.9 | 0.7 | 12.3 | 1.3 | 4.5 | 4.9 | 8.1 | 0.2 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 81.6 | 54.2 | 54.6 | 68.5 | 42.8 | 67.6 | 79.1 | 23.4 | 23.9 | 57.6 | 0.6 | 0.1 |
| LnGrp LOS | F | D | D | E | D | E | E | C | C | E | A | A |
| Approach Vol, veh/h | | 129 | | | 531 | | | 700 | | | 1315 | |
| Approach Delay, s/veh | | 58.8 | | | 65.5 | | | 26.2 | | | 11.6 | |
| Approach LOS | | E | | | E | | | C | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 25.8 | 71.2 | 18.6 | 24.4 | 7.5 | 89.5 | 6.4 | 36.6 |
| Change Period (Y+Rc), s | * 4.2 | 6.0 | * 4.2 | 5.2 | * 4.2 | * 6 | * 4.2 | 5.2 |
| Max Green Setting (Gmax), s | * 35 | 31.8 | * 24 | 30.0 | * 7.8 | * 59 | * 6.8 | 47.0 |
| Max Q Clear Time (g_c+I1), s | 21.3 | 13.3 | 14.3 | 6.3 | 4.6 | 2.0 | 3.6 | 30.5 |
| Green Ext Time (p_c), s | 0.3 | 5.6 | 0.1 | 0.4 | 0.0 | 14.3 | 0.0 | 0.9 |

**Intersection Summary**

| | |
|---|---|
| HCM 6th Ctrl Delay | 28.4 |
| HCM 6th LOS | C |

**Notes**

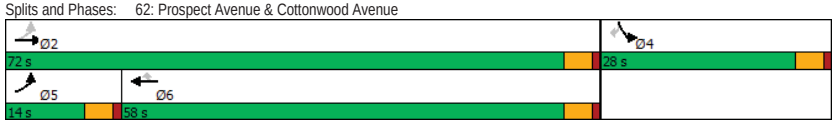
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 59 | 167 | 399 | 102 | 62 | 114 |
| Future Volume (vph) | 59 | 167 | 399 | 102 | 62 | 114 |
| Confl. Peds. (#/hr) | | | | 3 | | 6 |
| Confl. Bikes (#/hr) | | | | 1 | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | pm+pt | NA | NA | Perm | Prot | Perm |
| Protected Phases | 5 | 2 | 6 | | 4 | |
| Permitted Phases | 2 | | | 6 | | 4 |
| Detector Phase | 5 | 2 | 6 | 6 | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 |
| Total Split (s) | 14.0 | 72.0 | 58.0 | 58.0 | 28.0 | 28.0 |
| Total Split (%) | 14.0% | 72.0% | 58.0% | 58.0% | 28.0% | 28.0% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | | Lag | Lag | | |
| Lead-Lag Optimize? | Yes | | Yes | Yes | | |
| Recall Mode | None | Min | Min | Min | None | None |

**Intersection Summary**

Cycle Length: 100
Actuated Cycle Length: 44.5
Natural Cycle: 55
Control Type: Actuated-Uncoordinated

Splits and Phases: 62: Prospect Avenue & Cottonwood Avenue






Existing + Proj AM
62: Prospect Avenue & Cottonwood Avenue
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 59 | 167 | 399 | 102 | 62 | 114 |
| Future Volume (veh/h) | 59 | 167 | 399 | 102 | 62 | 114 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 0.98 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 64 | 182 | 434 | 111 | 67 | 124 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 492 | 1074 | 691 | 571 | 224 | 200 |
| Arrive On Green | 0.06 | 0.57 | 0.37 | 0.37 | 0.13 | 0.13 |
| Sat Flow, veh/h | 1781 | 1870 | 1870 | 1545 | 1781 | 1585 |
| Grp Volume(v), veh/h | 64 | 182 | 434 | 111 | 67 | 124 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1870 | 1545 | 1781 | 1585 |
| Q Serve(g_s), s | 0.6 | 1.4 | 5.7 | 1.5 | 1.0 | 2.2 |
| Cycle Q Clear(g_c), s | 0.6 | 1.4 | 5.7 | 1.5 | 1.0 | 2.2 |
| Prop In Lane | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 492 | 1074 | 691 | 571 | 224 | 200 |
| V/C Ratio(X) | 0.13 | 0.17 | 0.63 | 0.19 | 0.30 | 0.62 |
| Avail Cap(c_a), veh/h | 957 | 4203 | 3331 | 2752 | 1394 | 1240 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 5.1 | 3.0 | 7.8 | 6.4 | 11.9 | 12.4 |
| Incr Delay (d2), s/veh | 0.1 | 0.1 | 0.9 | 0.2 | 0.7 | 3.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.1 | 0.1 | 1.4 | 0.3 | 0.4 | 0.2 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 5.2 | 3.1 | 8.7 | 6.6 | 12.7 | 15.6 |
| LnGrp LOS | A | A | A | A | B | B |
| Approach Vol, veh/h | | 246 | 545 | | 191 | |
| Approach Delay, s/veh | | 3.6 | 8.3 | | 14.6 | |
| Approach LOS | | A | A | | B | |

| Timer - Assigned Phs | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 21.8 | | 8.3 | 6.2 | 15.6 |
| Change Period (Y+Rc), s | 4.5 | | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 67.5 | | 23.5 | 9.5 | 53.5 |
| Max Q Clear Time (g_c+I1), s | 3.4 | | 4.2 | 2.6 | 7.7 |
| Green Ext Time (p_c), s | 1.1 | | 0.5 | 0.1 | 3.3 |

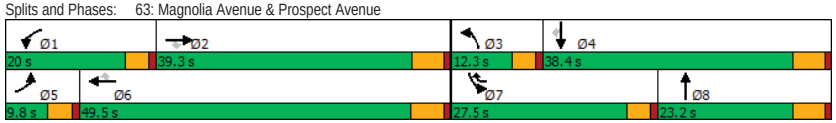
| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 8.3 |
| HCM 6th LOS | A |

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\3 Existing + Proj AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 65 | 91 | 67 | 147 | 406 | 1163 | 28 | 181 | 41 | 316 | 374 | 111 |
| Future Volume (vph) | 65 | 91 | 67 | 147 | 406 | 1163 | 28 | 181 | 41 | 316 | 374 | 111 |
| Confl. Peds. (#/hr) | | | 1 | | | 1 | | | 2 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | pm+ov | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | 4.0 | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 39.3 | 39.3 | 8.2 | 37.4 | 8.2 | 8.2 | 23.2 | | 8.2 | 36.2 | 36.2 |
| Total Split (s) | 9.8 | 39.3 | 39.3 | 20.0 | 49.5 | 27.5 | 12.3 | 23.2 | | 27.5 | 38.4 | 38.4 |
| Total Split (%) | 8.9% | 35.7% | 35.7% | 18.2% | 45.0% | 25.0% | 11.2% | 21.1% | | 25.0% | 34.9% | 34.9% |
| Yellow Time (s) | 3.2 | 4.3 | 4.3 | 3.2 | 4.4 | 3.2 | 3.2 | 4.2 | | 3.2 | 4.2 | 4.2 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | 5.3 | 4.2 | 5.4 | 4.2 | 4.2 | 5.2 | | 4.2 | 5.2 | 5.2 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | Min | Min | None | Min | None | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 73.9 |
| Natural Cycle: 95 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 63: Magnolia Avenue & Prospect Avenue








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 65 | 91 | 67 | 147 | 406 | 1163 | 28 | 181 | 41 | 316 | 374 | 111 |
| Future Volume (veh/h) | 65 | 91 | 67 | 147 | 406 | 1163 | 28 | 181 | 41 | 316 | 374 | 111 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.98 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 71 | 99 | 73 | 160 | 441 | 1264 | 30 | 197 | 45 | 343 | 407 | 121 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 141 | 742 | 629 | 201 | 1666 | 1683 | 44 | 305 | 68 | 466 | 769 | 338 |
| Arrive On Green | 0.04 | 0.40 | 0.40 | 0.11 | 0.47 | 0.47 | 0.02 | 0.11 | 0.11 | 0.13 | 0.22 | 0.22 |
| Sat Flow, veh/h | 3456 | 1870 | 1584 | 1781 | 3554 | 2787 | 1781 | 2876 | 641 | 3456 | 3554 | 1563 |
| Grp Volume(v), veh/h | 71 | 99 | 73 | 160 | 441 | 1264 | 30 | 120 | 122 | 343 | 407 | 121 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1870 | 1584 | 1781 | 1777 | 1393 | 1781 | 1777 | 1740 | 1728 | 1777 | 1563 |
| Q Serve(g_s), s | 1.5 | 2.6 | 2.2 | 6.7 | 5.7 | 25.1 | 1.3 | 4.9 | 5.1 | 7.3 | 7.7 | 5.0 |
| Cycle Q Clear(g_c), s | 1.5 | 2.6 | 2.2 | 6.7 | 5.7 | 25.1 | 1.3 | 4.9 | 5.1 | 7.3 | 7.7 | 5.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.37 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 141 | 742 | 629 | 201 | 1666 | 1683 | 44 | 189 | 185 | 466 | 769 | 338 |
| V/C Ratio(X) | 0.50 | 0.13 | 0.12 | 0.80 | 0.26 | 0.75 | 0.68 | 0.64 | 0.66 | 0.74 | 0.53 | 0.36 |
| Avail Cap(c_a), veh/h | 254 | 834 | 706 | 369 | 2055 | 1988 | 189 | 419 | 411 | 1056 | 1547 | 680 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 35.8 | 14.6 | 14.5 | 33.0 | 12.3 | 11.0 | 36.9 | 32.7 | 32.8 | 31.7 | 26.4 | 25.4 |
| Incr Delay (d2), s/veh | 2.8 | 0.1 | 0.1 | 7.0 | 0.1 | 1.4 | 17.0 | 3.5 | 4.0 | 2.3 | 0.6 | 0.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.7 | 1.0 | 0.8 | 3.2 | 2.1 | 6.7 | 0.7 | 2.2 | 2.3 | 3.1 | 3.2 | 1.9 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 38.6 | 14.7 | 14.6 | 40.0 | 12.4 | 12.3 | 53.9 | 36.2 | 36.8 | 34.0 | 27.0 | 26.0 |
| LnGrp LOS | D | B | B | D | B | B | D | D | D | C | C | C |
| Approach Vol, veh/h | | 243 | | | 1865 | | | 272 | | | 871 | |
| Approach Delay, s/veh | | 21.7 | | | 14.7 | | | 38.4 | | | 29.6 | |
| Approach LOS | | C | | | B | | | D | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 12.8 | 35.7 | 6.1 | 21.7 | 7.3 | 41.2 | 14.5 | 13.3 |
| Change Period (Y+Rc), s | * 4.2 | * 5.4 | * 4.2 | 5.2 | * 4.2 | 5.4 | * 4.2 | 5.2 |
| Max Green Setting (Gmax), s | * 16 | * 34 | * 8.1 | 33.2 | * 5.6 | 44.1 | * 23 | 18.0 |
| Max Q Clear Time (g_c+I1), s | 8.7 | 4.6 | 3.3 | 9.7 | 3.5 | 27.1 | 9.3 | 7.1 |
| Green Ext Time (p_c), s | 0.2 | 0.8 | 0.0 | 3.1 | 0.0 | 8.7 | 1.0 | 1.0 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 21.2 | |
| HCM 6th LOS | C | |

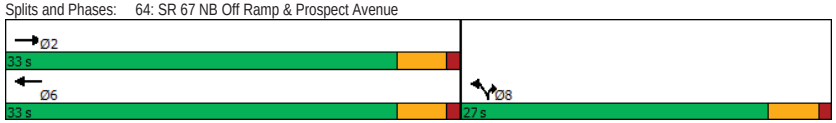
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 448 | 0 | 0 | 937 | 779 | 41 |
| Future Volume (vph) | 448 | 0 | 0 | 937 | 779 | 41 |
| Confl. Peds. (#/hr) | | | | | | |
| Confl. Bikes (#/hr) | | 1 | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | NA | | | NA | Prot | Prot |
| Protected Phases | 2 | | | 6 | 8 | 8 |
| Permitted Phases | | | | | | |
| Detector Phase | 2 | | | 6 | 8 | 8 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 5.0 | | | 10.0 | 5.0 | 5.0 |
| Minimum Split (s) | 20.6 | | | 20.6 | 20.6 | 20.6 |
| Total Split (s) | 33.0 | | | 33.0 | 27.0 | 27.0 |
| Total Split (%) | 55.0% | | | 55.0% | 45.0% | 45.0% |
| Yellow Time (s) | 3.6 | | | 3.6 | 3.6 | 3.6 |
| All-Red Time (s) | 1.0 | | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.6 | | | 4.6 | 4.6 | 4.6 |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | Min | | | Min | None | None |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 46.9 |
| Natural Cycle: 45 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 64: SR 67 NB Off Ramp & Prospect Avenue






Existing + Proj AM
64: SR 67 NB Off Ramp & Prospect Avenue
Fanita Ranch
06/06/2019

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 448 | 0 | 0 | 937 | 779 | 41 |
| Future Volume (veh/h) | 448 | 0 | 0 | 937 | 779 | 41 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | 1.00 | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 0 | 0 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 487 | 0 | 0 | 1018 | 847 | 45 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 0 | 0 | 2 | 2 | 2 |
| Cap, veh/h | 1591 | 0 | 0 | 1591 | 1092 | 501 |
| Arrive On Green | 0.45 | 0.00 | 0.00 | 0.45 | 0.32 | 0.32 |
| Sat Flow, veh/h | 3741 | 0 | 0 | 3741 | 3456 | 1585 |
| Grp Volume(v), veh/h | 487 | 0 | 0 | 1018 | 847 | 45 |
| Grp Sat Flow(s),veh/h/ln | 1777 | 0 | 0 | 1777 | 1728 | 1585 |
| Q Serve(g_s), s | 3.4 | 0.0 | 0.0 | 8.6 | 8.6 | 0.8 |
| Cycle Q Clear(g_c), s | 3.4 | 0.0 | 0.0 | 8.6 | 8.6 | 0.8 |
| Prop In Lane | | 0.00 | 0.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 1591 | 0 | 0 | 1591 | 1092 | 501 |
| V/C Ratio(X) | 0.31 | 0.00 | 0.00 | 0.64 | 0.78 | 0.09 |
| Avail Cap(c_a), veh/h | 2595 | 0 | 0 | 2595 | 1990 | 913 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 6.9 | 0.0 | 0.0 | 8.3 | 12.1 | 9.4 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 0.0 | 0.4 | 0.5 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.8 | 0.0 | 0.0 | 2.1 | 2.6 | 0.2 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 6.9 | 0.0 | 0.0 | 8.8 | 12.5 | 9.4 |
| LnGrp LOS | A | A | A | A | B | A |
| Approach Vol, veh/h | 487 | | | 1018 | 892 | |
| Approach Delay, s/veh | 6.9 | | | 8.8 | 12.4 | |
| Approach LOS | A | | | A | B | |

| Timer - Assigned Phs | 2 | | | 6 | 8 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 22.0 | | | 22.0 | 16.9 |
| Change Period (Y+Rc), s | 4.6 | | | 4.6 | 4.6 |
| Max Green Setting (Gmax), s | 28.4 | | | 28.4 | 22.4 |
| Max Q Clear Time (g_c+I1), s | 5.4 | | | 10.6 | 10.6 |
| Green Ext Time (p_c), s | 2.1 | | | 6.8 | 1.6 |

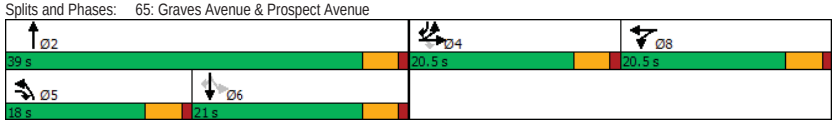
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 9.7 | |
| HCM 6th LOS | A | |

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\3 Existing + Proj AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 106 | 11 | 372 | 3 | 5 | 1 | 621 | 18 | 6 | 1 | 63 | 311 |
| Future Volume (vph) | 106 | 11 | 372 | 3 | 5 | 1 | 621 | 18 | 6 | 1 | 63 | 311 |
| Confl. Peds. (#/hr) | | | 1 | | | 1 | | | 12 | | | |
| Confl. Bikes (#/hr) | | | 3 | | | | | | 1 | | | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | 45% | | | | | | | | | | | |
| Turn Type | Split | NA | pm+ov | Split | NA | | Prot | NA | | Perm | NA | pm+ov |
| Protected Phases | 4 | 4 | 5 | 8 | 8 | | 5 | 2 | | | 6 | 4 |
| Permitted Phases | | | 4 | | | | | | | 6 | | 6 |
| Detector Phase | 4 | 4 | 5 | 8 | 8 | | 5 | 2 | | 6 | 6 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 20.5 | 20.5 | 8.5 | 20.5 | 20.5 | | 8.5 | 20.5 | | 20.5 | 20.5 | 20.5 |
| Total Split (s) | 20.5 | 20.5 | 18.0 | 20.5 | 20.5 | | 18.0 | 39.0 | | 21.0 | 21.0 | 20.5 |
| Total Split (%) | 25.6% | 25.6% | 22.5% | 25.6% | 25.6% | | 22.5% | 48.8% | | 26.3% | 26.3% | 25.6% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | | | 4.5 | 4.5 |
| Lead/Lag | | | Lead | | | | Lead | | | Lag | Lag | |
| Lead-Lag Optimize? | | | Yes | | | | Yes | | | Yes | Yes | |
| Recall Mode | None | None | None | None | None | | None | Min | | Min | Min | None |

| Intersection Summary |
|---|
| Cycle Length: 80 |
| Actuated Cycle Length: 44.2 |
| Natural Cycle: 80 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 65: Graves Avenue & Prospect Avenue






Existing + Proj AM
65: Graves Avenue & Prospect Avenue
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 106 | 11 | 372 | 3 | 5 | 1 | 621 | 18 | 6 | 1 | 63 | 311 |
| Future Volume (veh/h) | 106 | 11 | 372 | 3 | 5 | 1 | 621 | 18 | 6 | 1 | 63 | 311 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 1.00 | 1.00 | | 0.97 | 0.97 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 124 | 0 | 404 | 3 | 5 | 1 | 675 | 20 | 7 | 1 | 68 | 338 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 845 | 0 | 726 | 20 | 17 | 3 | 785 | 676 | 236 | 65 | 390 | 703 |
| Arrive On Green | 0.24 | 0.00 | 0.24 | 0.01 | 0.01 | 0.01 | 0.23 | 0.52 | 0.52 | 0.21 | 0.21 | 0.21 |
| Sat Flow, veh/h | 3563 | 0 | 1543 | 1781 | 1512 | 302 | 3456 | 1311 | 459 | 6 | 1862 | 1561 |
| Grp Volume(v), veh/h | 124 | 0 | 404 | 3 | 0 | 6 | 675 | 0 | 27 | 69 | 0 | 338 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1543 | 1781 | 0 | 1814 | 1728 | 0 | 1770 | 1868 | 0 | 1561 |
| Q Serve(g_s), s | 1.6 | 0.0 | 10.9 | 0.1 | 0.0 | 0.2 | 10.7 | 0.0 | 0.4 | 0.0 | 0.0 | 8.7 |
| Cycle Q Clear(g_c), s | 1.6 | 0.0 | 10.9 | 0.1 | 0.0 | 0.2 | 10.7 | 0.0 | 0.4 | 1.7 | 0.0 | 8.7 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.17 | 1.00 | | 0.26 | 0.01 | | 1.00 |
| Lane Grp Cap(c), veh/h | 845 | 0 | 726 | 20 | 0 | 21 | 785 | 0 | 912 | 455 | 0 | 703 |
| V/C Ratio(X) | 0.15 | 0.00 | 0.56 | 0.15 | 0.00 | 0.29 | 0.86 | 0.00 | 0.03 | 0.15 | 0.00 | 0.48 |
| Avail Cap(c_a), veh/h | 996 | 0 | 791 | 498 | 0 | 507 | 815 | 0 | 1067 | 602 | 0 | 826 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 17.2 | 0.0 | 11.1 | 28.0 | 0.0 | 28.0 | 21.2 | 0.0 | 6.8 | 18.6 | 0.0 | 11.2 |
| Incr Delay (d2), s/veh | 0.1 | 0.0 | 0.7 | 3.2 | 0.0 | 7.4 | 9.0 | 0.0 | 0.0 | 0.2 | 0.0 | 0.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.6 | 0.0 | 3.2 | 0.1 | 0.0 | 0.1 | 4.9 | 0.0 | 0.1 | 0.7 | 0.0 | 4.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 17.3 | 0.0 | 11.8 | 31.2 | 0.0 | 35.4 | 30.3 | 0.0 | 6.8 | 18.7 | 0.0 | 11.7 |
| LnGrp LOS | B | A | B | C | A | D | C | A | A | B | A | B |
| Approach Vol, veh/h | | 528 | | | 9 | | | 702 | | | 407 | |
| Approach Delay, s/veh | | 13.1 | | | 34.0 | | | 29.4 | | | 12.9 | |
| Approach LOS | | B | | | C | | | C | | | B | |

| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 34.0 | | 18.1 | 17.5 | 16.5 | | 5.2 | | | | |
| Change Period (Y+Rc), s | | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | | 34.5 | | 16.0 | 13.5 | 16.5 | | 16.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 2.4 | | 12.9 | 12.7 | 10.7 | | 2.2 | | | | |
| Green Ext Time (p_c), s | | 0.1 | | 0.7 | 0.3 | 0.8 | | 0.0 | | | | |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 20.1 |
| HCM 6th LOS | C |

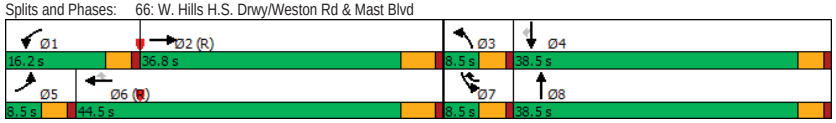
| Notes |
|---|
| User approved volume balancing among the lanes for turning movement. |

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\3 Existing + Proj AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 675 | 44 | 88 | 2152 | 0 | 16 | 0 | 78 | 0 | 0 | 0 |
| Future Volume (vph) | 0 | 675 | 44 | 88 | 2152 | 0 | 16 | 0 | 78 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Prot | NA | | Prot | | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | 4.0 | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.5 | 22.5 | | 8.5 | 27.3 | 8.5 | 8.5 | 38.5 | | 8.5 | 33.5 | 33.5 |
| Total Split (s) | 8.5 | 36.8 | | 16.2 | 44.5 | 8.5 | 8.5 | 38.5 | | 8.5 | 38.5 | 38.5 |
| Total Split (%) | 8.5% | 36.8% | | 16.2% | 44.5% | 8.5% | 8.5% | 38.5% | | 8.5% | 38.5% | 38.5% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | 3.2 | 3.2 | 3.2 | | 3.2 | 3.2 | 3.2 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | 4.2 | 4.2 | 4.2 | | 4.2 | 4.2 | 4.2 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | C-Min | | None | C-Min | None | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 84 (84%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 145 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 66: W. Hills H.S. Drwy/Weston Rd & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 675 | 44 | 88 | 2152 | 0 | 16 | 0 | 78 | 0 | 0 | 0 |
| Future Volume (veh/h) | 0 | 675 | 44 | 88 | 2152 | 0 | 16 | 0 | 78 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 734 | 48 | 96 | 2339 | 0 | 17 | 0 | 85 | 0 | 0 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 2 | 2445 | 160 | 122 | 2958 | 1253 | 27 | 0 | 115 | 2 | 29 | 25 |
| Arrive On Green | 0.00 | 1.00 | 1.00 | 0.09 | 1.00 | 0.00 | 0.02 | 0.00 | 0.07 | 0.00 | 0.00 | 0.00 |
| Sat Flow, veh/h | 1781 | 3386 | 221 | 1781 | 3554 | 1585 | 1781 | 0 | 1585 | 1781 | 1870 | 1585 |
| Grp Volume(v), veh/h | 0 | 385 | 397 | 96 | 2339 | 0 | 17 | 0 | 85 | 0 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1831 | 1781 | 1777 | 1585 | 1781 | 0 | 1585 | 1781 | 1870 | 1585 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.0 | 5.3 | 0.0 | 4.2 | 0.9 | 0.0 | 5.3 | 0.0 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 0.0 | 0.0 | 0.0 | 5.3 | 0.0 | 4.2 | 0.9 | 0.0 | 5.3 | 0.0 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | | 0.12 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 2 | 1283 | 1322 | 122 | 2958 | 1253 | 27 | 0 | 115 | 2 | 29 | 25 |
| V/C Ratio(X) | 0.00 | 0.30 | 0.30 | 0.79 | 0.79 | 0.00 | 0.63 | 0.00 | 0.74 | 0.00 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 77 | 1283 | 1322 | 214 | 2958 | 1253 | 77 | 0 | 544 | 77 | 642 | 544 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 1.33 | 1.33 | 1.33 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.00 | 0.98 | 0.98 | 0.67 | 0.67 | 0.00 | 1.00 | 0.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 0.0 | 0.0 | 0.0 | 44.7 | 0.0 | 0.0 | 49.0 | 0.0 | 45.4 | 0.0 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 0.0 | 0.6 | 0.6 | 7.4 | 1.5 | 0.0 | 22.1 | 0.0 | 8.9 | 0.0 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.2 | 0.2 | 2.5 | 0.6 | 0.0 | 0.6 | 0.0 | 2.3 | 0.0 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 0.6 | 0.6 | 52.1 | 1.5 | 0.0 | 71.1 | 0.0 | 54.4 | 0.0 | 0.0 | 0.0 |
| LnGrp LOS | A | A | A | D | A | A | E | A | D | A | A | A |
| Approach Vol, veh/h | | 782 | | | 2435 | | | 102 | | | 0 | |
| Approach Delay, s/veh | | 0.6 | | | 3.5 | | | 57.1 | | | 0.0 | |
| Approach LOS | | A | | | A | | | E | | | | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 11.0 | 77.5 | 5.7 | 5.7 | 0.0 | 88.5 | 0.0 | 11.5 |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | * 4.2 | * 4.2 | * 4.2 | 5.3 | * 4.2 | * 4.2 |
| Max Green Setting (Gmax), s | * 12 | 31.5 | * 4.3 | * 34 | * 4.3 | 39.2 | * 4.3 | * 34 |
| Max Q Clear Time (g_c+I1), s | 7.3 | 2.0 | 2.9 | 0.0 | 0.0 | 6.2 | 0.0 | 7.3 |
| Green Ext Time (p_c), s | 0.1 | 5.0 | 0.0 | 0.0 | 0.0 | 25.6 | 0.0 | 0.5 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 4.5 | |
| HCM 6th LOS | A | |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.2 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 11 | 0 | 484 | 22 | 0 | 243 |
| Future Vol, veh/h | 11 | 0 | 484 | 22 | 0 | 243 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | 150 | 50 | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 12 | 0 | 526 | 24 | 0 | 264 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 790 | 526 | 0 | 0 | 550 | 0 |
| Stage 1 | 526 | - | - | - | - | - |
| Stage 2 | 264 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | - | - | 4.12 | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | - | - | 2.218 | - |
| Pot Cap-1 Maneuver | 359 | 552 | - | - | 1020 | - |
| Stage 1 | 593 | - | - | - | - | - |
| Stage 2 | 780 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | |
| Mov Cap-1 Maneuver | 359 | 552 | - | - | 1020 | - |
| Mov Cap-2 Maneuver | 359 | - | - | - | - | - |
| Stage 1 | 593 | - | - | - | - | - |
| Stage 2 | 780 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 15.4 | 0 | 0 |
| HCM LOS | C | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | SBL | SBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 359 | 1020 | - |
| HCM Lane V/C Ratio | - | - | 0.033 | - | - |
| HCM Control Delay (s) | - | - | 15.4 | 0 | - |
| HCM Lane LOS | - | - | C | A | - |
| HCM 95th %tile Q(veh) | - | - | 0.1 | 0 | - |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 12.3 |
| Intersection LOS | B |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 1 | 3 | 23 | 20 | 0 | 3 | 59 | 404 | 34 | 0 | 207 | 2 |
| Future Vol, veh/h | 1 | 3 | 23 | 20 | 0 | 3 | 59 | 404 | 34 | 0 | 207 | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 1 | 3 | 25 | 22 | 0 | 3 | 64 | 439 | 37 | 0 | 225 | 2 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 3 | 3 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 3 | 3 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 3 | 3 | 1 | 1 |
| HCM Control Delay | 8.7 | 9.7 | 13.4 | 10.3 |
| HCM LOS | A | A | B | B |

| Lane | NBLn1 | NBLn2 | NBLn3 | EBLn1 | WBLn1 | SBLn1 | SBLn2 | SBLn3 |
|---|---|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 4% | 87% | 0% | 0% | 0% |
| Vol Thru, % | 0% | 100% | 0% | 11% | 0% | 100% | 100% | 0% |
| Vol Right, % | 0% | 0% | 100% | 85% | 13% | 0% | 0% | 100% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 59 | 404 | 34 | 27 | 23 | 0 | 207 | 2 |
| LT Vol | 59 | 0 | 0 | 1 | 20 | 0 | 0 | 0 |
| Through Vol | 0 | 404 | 0 | 3 | 0 | 0 | 207 | 0 |
| RT Vol | 0 | 0 | 34 | 23 | 3 | 0 | 0 | 2 |
| Lane Flow Rate | 64 | 439 | 37 | 29 | 25 | 0 | 225 | 2 |
| Geometry Grp | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| Degree of Util (X) | 0.096 | 0.596 | 0.043 | 0.046 | 0.046 | 0 | 0.321 | 0.003 |
| Departure Headway (Hd) | 5.384 | 4.882 | 4.179 | 5.7 | 6.627 | 5.14 | 5.14 | 4.438 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 666 | 742 | 857 | 625 | 539 | 0 | 700 | 805 |
| Service Time | 3.11 | 2.608 | 1.905 | 3.46 | 4.387 | 2.875 | 2.875 | 2.173 |
| HCM Lane V/C Ratio | 0.096 | 0.592 | 0.043 | 0.046 | 0.046 | 0 | 0.321 | 0.002 |
| HCM Control Delay | 8.7 | 14.6 | 7.1 | 8.7 | 9.7 | 7.9 | 10.3 | 7.2 |
| HCM Lane LOS | A | B | A | A | A | N | B | A |
| HCM 95th-tile Q | 0.3 | 4 | 0.1 | 0.1 | 0.1 | 0 | 1.4 | 0 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 3.6 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 0 | 0 | 10 | 62 | 0 | 1 | 18 | 785 | 101 | 1 | 395 | 0 |
| Future Vol, veh/h | 0 | 0 | 10 | 62 | 0 | 1 | 18 | 785 | 101 | 1 | 395 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 11 | 67 | 0 | 1 | 20 | 853 | 110 | 1 | 429 | 0 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1380 | 1435 | 429 | 1386 | 1380 | 909 | 429 | 0 | 0 | 964 | 0 | 0 |
| Stage 1 | 431 | 431 | - | 949 | 949 | - | - | - | - | - | - | - |
| Stage 2 | 949 | 1004 | - | 437 | 431 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | 4.12 | - | - | 4.12 | - | - |
| Critical Hdwy Stg 1 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | 2.218 | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 122 | 134 | 626 | 120 | 144 | 333 | 1130 | - | - | 714 | - | - |
| Stage 1 | 603 | 583 | - | 313 | 339 | - | - | - | - | - | - | - |
| Stage 2 | 313 | 320 | - | 598 | 583 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 118 | 128 | 626 | 114 | 138 | 333 | 1130 | - | - | 713 | - | - |
| Mov Cap-2 Maneuver | 118 | 128 | - | 114 | 138 | - | - | - | - | - | - | - |
| Stage 1 | 579 | 582 | - | 300 | 325 | - | - | - | - | - | - | - |
| Stage 2 | 300 | 307 | - | 586 | 582 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 10.9 | 74.4 | 0.2 | 0 |
| HCM LOS | B | F | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1130 | - | - | 626 | 115 | 713 | - | - |
| HCM Lane V/C Ratio | 0.017 | - | - | 0.017 | 0.595 | 0.002 | - | - |
| HCM Control Delay (s) | 8.2 | 0 | - | 10.9 | 74.4 | 10.1 | 0 | - |
| HCM Lane LOS | A | A | - | B | F | B | A | - |
| HCM 95th %tile Q(veh) | 0.1 | - | - | 0.1 | 2.9 | 0 | - | - |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 79.5 |
| Intersection LOS | F |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 0 | 1 | 7 | 108 | 2 | 11 | 7 | 539 | 232 | 3 | 268 | 2 |
| Future Vol, veh/h | 0 | 1 | 7 | 108 | 2 | 11 | 7 | 539 | 232 | 3 | 268 | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 1 | 8 | 117 | 2 | 12 | 8 | 586 | 252 | 3 | 291 | 2 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |

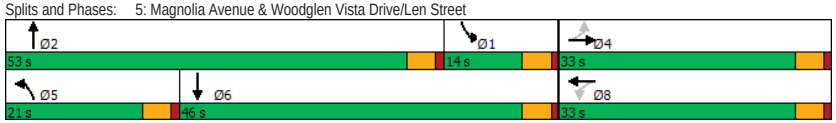
| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay | 9.8 | 12 | 113.9 | 13.5 |
| HCM LOS | A | B | F | B |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 89% | 100% | 0% |
| Vol Thru, % | 0% | 70% | 12% | 2% | 0% | 99% |
| Vol Right, % | 0% | 30% | 88% | 9% | 0% | 1% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 7 | 771 | 8 | 121 | 3 | 270 |
| LT Vol | 7 | 0 | 0 | 108 | 3 | 0 |
| Through Vol | 0 | 539 | 1 | 2 | 0 | 268 |
| RT Vol | 0 | 232 | 7 | 11 | 0 | 2 |
| Lane Flow Rate | 8 | 838 | 9 | 132 | 3 | 293 |
| Geometry Grp | 7 | 7 | 2 | 2 | 7 | 7 |
| Degree of Util (X) | 0.012 | 1.181 | 0.015 | 0.237 | 0.006 | 0.458 |
| Departure Headway (Hd) | 5.79 | 5.074 | 6.697 | 6.895 | 6.395 | 5.882 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 613 | 712 | 538 | 523 | 563 | 616 |
| Service Time | 3.569 | 2.852 | 4.697 | 4.895 | 4.095 | 3.582 |
| HCM Lane V/C Ratio | 0.013 | 1.177 | 0.017 | 0.252 | 0.005 | 0.476 |
| HCM Control Delay | 8.6 | 114.9 | 9.8 | 12 | 9.1 | 13.5 |
| HCM Lane LOS | A | F | A | B | A | B |
| HCM 95th-tile Q | 0 | 27.2 | 0 | 0.9 | 0 | 2.4 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 13 | 32 | 79 | 31 | 7 | 7 | 79 | 726 | 44 | 3 | 420 | 8 |
| Future Volume (vph) | 13 | 32 | 79 | 31 | 7 | 7 | 79 | 726 | 44 | 3 | 420 | 8 |
| Confl. Peds. (#/hr) | 4 | | 6 | 6 | | 4 | 8 | | | | | 8 |
| Confl. Bikes (#/hr) | | | 5 | | | 4 | | | 4 | | | 5 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Perm | NA | | Perm | NA | | Prot | NA | | Prot | NA | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 26.5 | 26.5 | | 26.5 | 26.5 | | 11.5 | 22.5 | | 11.5 | 22.5 | |
| Total Split (s) | 33.0 | 33.0 | | 33.0 | 33.0 | | 21.0 | 53.0 | | 14.0 | 46.0 | |
| Total Split (%) | 33.0% | 33.0% | | 33.0% | 33.0% | | 21.0% | 53.0% | | 14.0% | 46.0% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | | | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lead | | Lag | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 42.5 |
| Natural Cycle: 65 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 5: Magnolia Avenue & Woodglen Vista Drive/Len Street








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 13 | 32 | 79 | 31 | 7 | 7 | 79 | 726 | 44 | 3 | 420 | 8 |
| Future Volume (veh/h) | 13 | 32 | 79 | 31 | 7 | 7 | 79 | 726 | 44 | 3 | 420 | 8 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 0.99 | | 0.97 | 0.99 | | 0.97 | 1.00 | | 0.97 | 1.00 | | 0.96 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 14 | 35 | 86 | 34 | 8 | 8 | 86 | 789 | 48 | 3 | 457 | 9 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 503 | 92 | 225 | 296 | 69 | 36 | 203 | 1390 | 85 | 10 | 1073 | 21 |
| Arrive On Green | 0.19 | 0.19 | 0.19 | 0.19 | 0.19 | 0.19 | 0.11 | 0.41 | 0.41 | 0.01 | 0.30 | 0.30 |
| Sat Flow, veh/h | 1387 | 470 | 1156 | 624 | 354 | 186 | 1781 | 3395 | 206 | 1781 | 3561 | 70 |
| Grp Volume(v), veh/h | 14 | 0 | 121 | 50 | 0 | 0 | 86 | 413 | 424 | 3 | 228 | 238 |
| Grp Sat Flow(s),veh/h/ln | 1387 | 0 | 1626 | 1165 | 0 | 0 | 1781 | 1777 | 1825 | 1781 | 1777 | 1854 |
| Q Serve(g_s), s | 0.0 | 0.0 | 2.2 | 0.0 | 0.0 | 0.0 | 1.6 | 6.2 | 6.2 | 0.1 | 3.6 | 3.6 |
| Cycle Q Clear(g_c), s | 0.2 | 0.0 | 2.2 | 2.3 | 0.0 | 0.0 | 1.6 | 6.2 | 6.2 | 0.1 | 3.6 | 3.6 |
| Prop In Lane | 1.00 | | 0.71 | 0.68 | | 0.16 | 1.00 | | 0.11 | 1.00 | | 0.04 |
| Lane Grp Cap(c), veh/h | 503 | 0 | 317 | 402 | 0 | 0 | 203 | 727 | 747 | 10 | 535 | 559 |
| V/C Ratio(X) | 0.03 | 0.00 | 0.38 | 0.12 | 0.00 | 0.00 | 0.42 | 0.57 | 0.57 | 0.29 | 0.43 | 0.43 |
| Avail Cap(c_a), veh/h | 1375 | 0 | 1339 | 1265 | 0 | 0 | 849 | 2490 | 2557 | 489 | 2131 | 2224 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 11.3 | 0.0 | 12.1 | 11.6 | 0.0 | 0.0 | 14.3 | 7.9 | 7.9 | 17.1 | 9.7 | 9.7 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 0.8 | 0.1 | 0.0 | 0.0 | 1.4 | 0.7 | 0.7 | 15.0 | 0.5 | 0.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.1 | 0.0 | 0.7 | 0.3 | 0.0 | 0.0 | 0.5 | 1.4 | 1.4 | 0.1 | 1.0 | 1.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 11.3 | 0.0 | 12.9 | 11.7 | 0.0 | 0.0 | 15.7 | 8.6 | 8.5 | 32.2 | 10.2 | 10.2 |
| LnGrp LOS | B | A | B | B | A | A | B | A | A | C | B | B |
| Approach Vol, veh/h | | 135 | | | 50 | | | 923 | | | 469 | |
| Approach Delay, s/veh | | 12.7 | | | 11.7 | | | 9.2 | | | 10.4 | |
| Approach LOS | | B | | | B | | | A | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 4.7 | 18.7 | | 11.2 | 8.4 | 14.9 | | 11.2 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 9.5 | 48.5 | | 28.5 | 16.5 | 41.5 | | 28.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.1 | 8.2 | | 4.2 | 3.6 | 5.6 | | 4.3 | | | | |
| Green Ext Time (p_c), s | 0.0 | 5.7 | | 0.7 | 0.1 | 2.7 | | 0.2 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 9.9 | |
| HCM 6th LOS | A | |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 142.9 |
| Intersection LOS | F |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 1 | 1 | 5 | 99 | 8 | 3 | 13 | 782 | 106 | 3 | 388 | 0 |
| Future Vol, veh/h | 1 | 1 | 5 | 99 | 8 | 3 | 13 | 782 | 106 | 3 | 388 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 1 | 1 | 5 | 108 | 9 | 3 | 14 | 850 | 115 | 3 | 422 | 0 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay | 10.6 | 12.7 | 213.4 | 19.5 |
| HCM LOS | B | B | F | C |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 14% | 90% | 100% | 0% |
| Vol Thru, % | 0% | 88% | 14% | 7% | 0% | 100% |
| Vol Right, % | 0% | 12% | 71% | 3% | 0% | 0% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 13 | 888 | 7 | 110 | 3 | 388 |
| LT Vol | 13 | 0 | 1 | 99 | 3 | 0 |
| Through Vol | 0 | 782 | 1 | 8 | 0 | 388 |
| RT Vol | 0 | 106 | 5 | 3 | 0 | 0 |
| Lane Flow Rate | 14 | 965 | 8 | 120 | 3 | 422 |
| Geometry Grp | 7 | 7 | 2 | 2 | 7 | 7 |
| Degree of Util (X) | 0.023 | 1.426 | 0.014 | 0.224 | 0.006 | 0.658 |
| Departure Headway (Hd) | 5.909 | 5.319 | 7.517 | 7.539 | 6.541 | 6.033 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 602 | 685 | 479 | 479 | 550 | 603 |
| Service Time | 3.678 | 3.088 | 5.517 | 5.539 | 4.241 | 3.733 |
| HCM Lane V/C Ratio | 0.023 | 1.409 | 0.017 | 0.251 | 0.005 | 0.7 |
| HCM Control Delay | 8.8 | 216.4 | 10.6 | 12.7 | 9.3 | 19.6 |
| HCM Lane LOS | A | F | B | B | A | C |
| HCM 95th-tile Q | 0.1 | 43.7 | 0 | 0.9 | 0 | 4.8 |

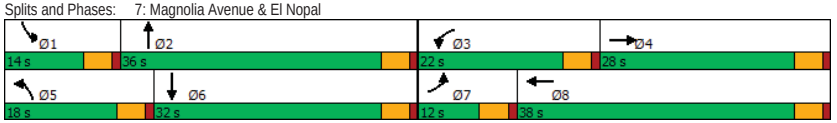




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 6 | 69 | 60 | 142 | 106 | 233 | 92 | 615 | 199 | 138 | 393 | 9 |
| Future Volume (vph) | 6 | 69 | 60 | 142 | 106 | 233 | 92 | 615 | 199 | 138 | 393 | 9 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | 1 | | | 1 | | | 3 | | | 5 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | | Prot | NA | |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 11.5 | 26.5 | | 11.5 | 25.5 | | 11.5 | 22.5 | | 11.5 | 22.5 | |
| Total Split (s) | 12.0 | 28.0 | | 22.0 | 38.0 | | 18.0 | 36.0 | | 14.0 | 32.0 | |
| Total Split (%) | 12.0% | 28.0% | | 22.0% | 38.0% | | 18.0% | 36.0% | | 14.0% | 32.0% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 77.4 |
| Natural Cycle: 80 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 7: Magnolia Avenue & El Nopal



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 6 | 69 | 60 | 142 | 106 | 233 | 92 | 615 | 199 | 138 | 393 | 9 |
| Future Volume (veh/h) | 6 | 69 | 60 | 142 | 106 | 233 | 92 | 615 | 199 | 138 | 393 | 9 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 7 | 75 | 65 | 154 | 115 | 253 | 100 | 668 | 216 | 150 | 427 | 10 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 23 | 162 | 140 | 199 | 142 | 312 | 159 | 868 | 281 | 189 | 1234 | 29 |
| Arrive On Green | 0.01 | 0.18 | 0.18 | 0.11 | 0.28 | 0.28 | 0.09 | 0.33 | 0.33 | 0.11 | 0.35 | 0.35 |
| Sat Flow, veh/h | 1781 | 918 | 796 | 1781 | 515 | 1134 | 1781 | 2623 | 848 | 1781 | 3547 | 83 |
| Grp Volume(v), veh/h | 7 | 0 | 140 | 154 | 0 | 368 | 100 | 452 | 432 | 150 | 214 | 223 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1714 | 1781 | 0 | 1649 | 1781 | 1777 | 1694 | 1781 | 1777 | 1853 |
| Q Serve(g_s), s | 0.3 | 0.0 | 4.8 | 5.5 | 0.0 | 13.6 | 3.5 | 15.0 | 15.0 | 5.4 | 5.8 | 5.9 |
| Cycle Q Clear(g_c), s | 0.3 | 0.0 | 4.8 | 5.5 | 0.0 | 13.6 | 3.5 | 15.0 | 15.0 | 5.4 | 5.8 | 5.9 |
| Prop In Lane | 1.00 | | 0.46 | 1.00 | | 0.69 | 1.00 | | 0.50 | 1.00 | | 0.04 |
| Lane Grp Cap(c), veh/h | 23 | 0 | 302 | 199 | 0 | 454 | 159 | 588 | 561 | 189 | 618 | 645 |
| V/C Ratio(X) | 0.31 | 0.00 | 0.46 | 0.77 | 0.00 | 0.81 | 0.63 | 0.77 | 0.77 | 0.79 | 0.35 | 0.35 |
| Avail Cap(c_a), veh/h | 204 | 0 | 615 | 476 | 0 | 843 | 367 | 854 | 814 | 258 | 746 | 777 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 32.1 | 0.0 | 24.2 | 28.3 | 0.0 | 22.2 | 28.8 | 19.7 | 19.7 | 28.6 | 15.8 | 15.8 |
| Incr Delay (d2), s/veh | 7.4 | 0.0 | 1.1 | 6.3 | 0.0 | 3.5 | 4.0 | 2.6 | 2.8 | 11.1 | 0.3 | 0.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.2 | 0.0 | 2.0 | 2.6 | 0.0 | 5.4 | 1.6 | 5.8 | 5.5 | 2.7 | 2.1 | 2.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 39.5 | 0.0 | 25.3 | 34.7 | 0.0 | 25.7 | 32.8 | 22.3 | 22.4 | 39.7 | 16.2 | 16.2 |
| LnGrp LOS | D | A | C | C | A | C | C | C | C | D | B | B |
| Approach Vol, veh/h | | 147 | | | 522 | | | 984 | | | 587 | |
| Approach Delay, s/veh | | 26.0 | | | 28.3 | | | 23.4 | | | 22.2 | |
| Approach LOS | | C | | | C | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 11.5 | 26.2 | 11.8 | 16.1 | 10.4 | 27.3 | 5.3 | 22.5 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 9.5 | 31.5 | 17.5 | 23.5 | 13.5 | 27.5 | 7.5 | 33.5 |
| Max Q Clear Time (g_c+I1), s | 7.4 | 17.0 | 7.5 | 6.8 | 5.5 | 7.9 | 2.3 | 15.6 |
| Green Ext Time (p_c), s | 0.1 | 4.7 | 0.3 | 0.7 | 0.1 | 2.3 | 0.0 | 2.4 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 24.4 |
| HCM 6th LOS | C |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 34.6 |
| Intersection LOS | D |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 326 | 11 | 151 | 453 | 9 | 194 |
| Future Vol, veh/h | 326 | 11 | 151 | 453 | 9 | 194 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 354 | 12 | 164 | 492 | 10 | 211 |
| Number of Lanes | 1 | 1 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB |
|---|---|---|---|
| Opposing Approach | WB | EB | |
| Opposing Lanes | 1 | 2 | 0 |
| Conflicting Approach Left | | NB | EB |
| Conflicting Lanes Left | 0 | 1 | 2 |
| Conflicting Approach Right | NB | | WB |
| Conflicting Lanes Right | 1 | 0 | 1 |
| HCM Control Delay | 16.8 | 52 | 12.4 |
| HCM LOS | C | F | B |

| Lane | NBLn1 | EBLn1 | EBLn2 | WBLn1 |
|---|---|---|---|---|
| Vol Left, % | 4% | 0% | 0% | 25% |
| Vol Thru, % | 0% | 100% | 0% | 75% |
| Vol Right, % | 96% | 0% | 100% | 0% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 203 | 326 | 11 | 604 |
| LT Vol | 9 | 0 | 0 | 151 |
| Through Vol | 0 | 326 | 0 | 453 |
| RT Vol | 194 | 0 | 11 | 0 |
| Lane Flow Rate | 221 | 354 | 12 | 657 |
| Geometry Grp | 2 | 7 | 7 | 5 |
| Degree of Util (X) | 0.365 | 0.59 | 0.018 | 0.976 |
| Departure Headway (Hd) | 5.956 | 5.99 | 5.278 | 5.352 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 600 | 602 | 675 | 676 |
| Service Time | 4.023 | 3.743 | 3.031 | 3.398 |
| HCM Lane V/C Ratio | 0.368 | 0.588 | 0.018 | 0.972 |
| HCM Control Delay | 12.4 | 17.1 | 8.1 | 52 |
| HCM Lane LOS | B | C | A | F |
| HCM 95th-tile Q | 1.7 | 3.8 | 0.1 | 14.7 |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 39.6 |
| Intersection LOS | F |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 52 | 87 | 845 | 91 | 41 | 436 |
| Future Vol, veh/h | 52 | 87 | 845 | 91 | 41 | 436 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 57 | 95 | 918 | 99 | 45 | 474 |
| Number of Lanes | 1 | 0 | 1 | 0 | 0 | 1 |

| Approach | WB | NB | SB |
|---|---|---|---|
| Opposing Approach | | SB | NB |
| Opposing Lanes | 0 | 1 | 1 |
| Conflicting Approach Left | NB | | WB |
| Conflicting Lanes Left | 1 | 0 | 1 |
| Conflicting Approach Right | SB | WB | |
| Conflicting Lanes Right | 1 | 1 | 0 |
| HCM Control Delay | 12.8 | 216.6 | 25.4 |
| HCM LOS | B | F | D |

| Lane | NBLn1 | WBLn1 | SBLn1 |
|---|---|---|---|
| Vol Left, % | 0% | 37% | 9% |
| Vol Thru, % | 90% | 0% | 91% |
| Vol Right, % | 10% | 63% | 0% |
| Sign Control | Stop | Stop | Stop |
| Traffic Vol by Lane | 936 | 139 | 477 |
| LT Vol | 0 | 52 | 41 |
| Through Vol | 845 | 0 | 436 |
| RT Vol | 91 | 87 | 0 |
| Lane Flow Rate | 1017 | 151 | 518 |
| Geometry Grp | 1 | 1 | 1 |
| Degree of Util (X) | 1.428 | 0.269 | 0.767 |
| Departure Headway (Hd) | 5.052 | 7.162 | 5.835 |
| Convergence, Y/N | Yes | Yes | Yes |
| Cap | 712 | 505 | 622 |
| Service Time | 3.132 | 5.162 | 3.835 |
| HCM Lane V/C Ratio | 1.428 | 0.299 | 0.833 |
| HCM Control Delay | 216.6 | 12.8 | 25.4 |
| HCM Lane LOS | F | B | D |
| HCM 95th-tile Q | 45.7 | 1.1 | 7.1 |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 10.4 |
| Intersection LOS | B |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 3 | 15 | 194 | 11 | 6 | 5 | 218 | 48 | 24 | 3 | 33 | 3 |
| Future Vol, veh/h | 3 | 15 | 194 | 11 | 6 | 5 | 218 | 48 | 24 | 3 | 33 | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 3 | 16 | 211 | 12 | 7 | 5 | 237 | 52 | 26 | 3 | 36 | 3 |
| Number of Lanes | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 2 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 2 | 2 | 3 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 3 | 2 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 3 | 2 | 1 | 2 |
| HCM Control Delay | 9.6 | 9.2 | 11.2 | 9.1 |
| HCM LOS | A | A | B | A |

| Lane | NBLn1 | NBLn2 | NBLn3 | EBLn1 | EBLn2 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 17% | 0% | 50% | 100% | 0% |
| Vol Thru, % | 0% | 100% | 40% | 83% | 0% | 27% | 0% | 92% |
| Vol Right, % | 0% | 0% | 60% | 0% | 100% | 23% | 0% | 8% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 218 | 32 | 40 | 18 | 194 | 22 | 3 | 36 |
| LT Vol | 218 | 0 | 0 | 3 | 0 | 11 | 3 | 0 |
| Through Vol | 0 | 32 | 16 | 15 | 0 | 6 | 0 | 33 |
| RT Vol | 0 | 0 | 24 | 0 | 194 | 5 | 0 | 3 |
| Lane Flow Rate | 237 | 35 | 43 | 20 | 211 | 24 | 3 | 39 |
| Geometry Grp | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| Degree of Util (X) | 0.384 | 0.051 | 0.059 | 0.031 | 0.288 | 0.041 | 0.006 | 0.064 |
| Departure Headway (Hd) | 5.827 | 5.325 | 4.902 | 5.706 | 4.922 | 6.112 | 6.428 | 5.864 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 614 | 667 | 724 | 625 | 725 | 580 | 552 | 605 |
| Service Time | 3.603 | 3.099 | 2.677 | 3.465 | 2.681 | 3.907 | 4.225 | 3.661 |
| HCM Lane V/C Ratio | 0.386 | 0.052 | 0.059 | 0.032 | 0.291 | 0.041 | 0.005 | 0.064 |
| HCM Control Delay | 12.2 | 8.4 | 8 | 8.6 | 9.7 | 9.2 | 9.3 | 9.1 |
| HCM Lane LOS | B | A | A | A | A | A | A | A |
| HCM 95th-tile Q | 1.8 | 0.2 | 0.2 | 0.1 | 1.2 | 0.1 | 0 | 0.2 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 5.1 |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 9 | 33 | 35 | 31 | 0 | 15 |
| Future Vol, veh/h | 9 | 33 | 35 | 31 | 0 | 15 |
| Conflicting Peds, #/hr | 4 | 1 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | 150 | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 10 | 36 | 38 | 34 | 0 | 16 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 122 | 9 | 16 | 0 | - | 0 |
| Stage 1 | 8 | - | - | - | - | - |
| Stage 2 | 114 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | 4.12 | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | 2.218 | - | - | - |
| Pot Cap-1 Maneuver | 873 | 1073 | 1602 | - | - | - |
| Stage 1 | 1015 | - | - | - | - | - |
| Stage 2 | 911 | - | - | - | - | - |
| Platoon blocked, % | | | | | - | - |
| Mov Cap-1 Maneuver | 852 | 1072 | 1602 | - | - | - |
| Mov Cap-2 Maneuver | 852 | - | - | - | - | - |
| Stage 1 | 991 | - | - | - | - | - |
| Stage 2 | 911 | - | - | - | - | - |

| Approach | EB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 8.7 | 3.9 | 0 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1602 | - | 1016 | - | - |
| HCM Lane V/C Ratio | 0.024 | - | 0.045 | - | - |
| HCM Control Delay (s) | 7.3 | - | 8.7 | - | - |
| HCM Lane LOS | A | - | A | - | - |
| HCM 95th %tile Q(veh) | 0.1 | - | 0.1 | - | - |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 158.1 |
| Intersection LOS | F |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 6 | 54 | 2 | 2 | 9 | 913 | 63 | 2 | 471 | 3 |
| Future Vol, veh/h | 0 | 0 | 6 | 54 | 2 | 2 | 9 | 913 | 63 | 2 | 471 | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 7 | 59 | 2 | 2 | 10 | 992 | 68 | 2 | 512 | 3 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 3 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 3 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 3 | 2 | 1 | 1 |
| HCM Control Delay | 10.7 | 12.8 | 221.2 | 47.2 |
| HCM LOS | B | B | F | E |

| Lane | NBLn1 | NBLn2 | NBLn3 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 0% | 93% | 100% | 0% |
| Vol Thru, % | 0% | 100% | 0% | 0% | 3% | 0% | 99% |
| Vol Right, % | 0% | 0% | 100% | 100% | 3% | 0% | 1% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 9 | 913 | 63 | 6 | 58 | 2 | 474 |
| LT Vol | 9 | 0 | 0 | 0 | 54 | 2 | 0 |
| Through Vol | 0 | 913 | 0 | 0 | 2 | 0 | 471 |
| RT Vol | 0 | 0 | 63 | 6 | 2 | 0 | 3 |
| Lane Flow Rate | 10 | 992 | 68 | 7 | 63 | 2 | 515 |
| Geometry Grp | 7 | 7 | 7 | 7 | 7 | 8 | 8 |
| Degree of Util (X) | 0.016 | 1.476 | 0.088 | 0.013 | 0.139 | 0.004 | 0.911 |
| Departure Headway (Hd) | 5.86 | 5.356 | 4.649 | 7.871 | 8.737 | 7.631 | 7.122 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 608 | 675 | 765 | 458 | 413 | 472 | 515 |
| Service Time | 3.625 | 3.12 | 2.413 | 5.571 | 6.437 | 5.331 | 4.822 |
| HCM Lane V/C Ratio | 0.016 | 1.47 | 0.089 | 0.015 | 0.153 | 0.004 | 1 |
| HCM Control Delay | 8.7 | 238 | 7.9 | 10.7 | 12.8 | 10.4 | 47.4 |
| HCM Lane LOS | A | F | A | B | B | B | E |
| HCM 95th-tile Q | 0 | 47.3 | 0.3 | 0 | 0.5 | 0 | 10.6 |

| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 80 | 20 | 970 | 156 | 28 | 631 |
| Future Volume (vph) | 80 | 20 | 970 | 156 | 28 | 631 |
| Confl. Peds. (#/hr) | | 8 | | 6 | | |
| Confl. Bikes (#/hr) | | | | 5 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | 0% | | | 0% |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | NA | | Prot | NA |
| Protected Phases | 8 | | 2 | | 1 | 6 |
| Permitted Phases | | 8 | | | | |
| Detector Phase | 8 | 8 | 2 | | 1 | 6 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | | 8.5 | 20.5 |
| Total Split (s) | 22.6 | 22.6 | 28.4 | | 9.0 | 37.4 |
| Total Split (%) | 37.7% | 37.7% | 47.3% | | 15.0% | 62.3% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Lead/Lag | | | Lag | | Lead | |
| Lead-Lag Optimize? | | | Yes | | Yes | |
| Recall Mode | None | None | Min | | None | Min |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 43.6 |
| Natural Cycle: 60 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 13: Magnolia Avenue & 2nd Street

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 80 | 20 | 970 | 156 | 28 | 631 |
| Future Volume (veh/h) | 80 | 20 | 970 | 156 | 28 | 631 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | | 0.97 | 1.00 | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | No | | | No |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 87 | 22 | 1054 | 170 | 30 | 686 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 134 | 119 | 1538 | 247 | 52 | 2358 |
| Arrive On Green | 0.08 | 0.08 | 0.50 | 0.50 | 0.03 | 0.66 |
| Sat Flow, veh/h | 1781 | 1585 | 3144 | 491 | 1781 | 3647 |
| Grp Volume(v), veh/h | 87 | 22 | 613 | 611 | 30 | 686 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 1777 | 1764 | 1781 | 1777 |
| Q Serve(g_s), s | 1.6 | 0.4 | 9.0 | 9.1 | 0.6 | 2.8 |
| Cycle Q Clear(g_c), s | 1.6 | 0.4 | 9.0 | 9.1 | 0.6 | 2.8 |
| Prop In Lane | 1.00 | 1.00 | | 0.28 | 1.00 | |
| Lane Grp Cap(c), veh/h | 134 | 119 | 896 | 889 | 52 | 2358 |
| V/C Ratio(X) | 0.65 | 0.18 | 0.68 | 0.69 | 0.58 | 0.29 |
| Avail Cap(c_a), veh/h | 936 | 833 | 1232 | 1224 | 233 | 3393 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 15.5 | 14.9 | 6.5 | 6.5 | 16.5 | 2.4 |
| Incr Delay (d2), s/veh | 5.2 | 0.7 | 0.9 | 1.0 | 9.9 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.7 | 0.2 | 1.5 | 1.6 | 0.3 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 20.7 | 15.7 | 7.4 | 7.4 | 26.5 | 2.5 |
| LnGrp LOS | C | B | A | A | C | A |
| Approach Vol, veh/h | 109 | | 1224 | | | 716 |
| Approach Delay, s/veh | 19.7 | | 7.4 | | | 3.5 |
| Approach LOS | B | | A | | | A |

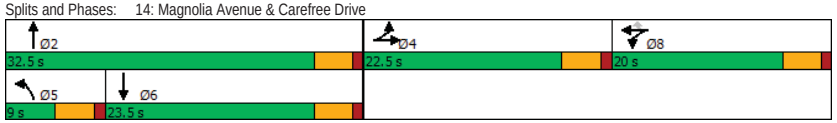
| Timer - Assigned Phs | 1 | 2 | | | 6 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.5 | 21.9 | | | 27.4 | 7.1 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 4.5 | 23.9 | | | 32.9 | 18.1 |
| Max Q Clear Time (g_c+I1), s | 2.6 | 11.1 | | | 4.8 | 3.6 |
| Green Ext Time (p_c), s | 0.0 | 6.3 | | | 4.8 | 0.2 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 6.7 |
| HCM 6th LOS | A |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 23 | 0 | 51 | 4 | 0 | 0 | 76 | 1105 | 0 | 0 | 675 | 16 |
| Future Volume (vph) | 23 | 0 | 51 | 4 | 0 | 0 | 76 | 1105 | 0 | 0 | 675 | 16 |
| Confl. Peds. (#/hr) | | | 22 | | | | | | 8 | | | 12 |
| Confl. Bikes (#/hr) | | | 4 | | | | | | | | | 6 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | 50% | | | | | | | | |
| Turn Type | Split | NA | | Split | NA | Perm | Prot | NA | | | NA | |
| Protected Phases | 4 | 4 | | 8 | 8 | | 5 | 2 | | | 6 | |
| Permitted Phases | | | | | | 8 | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | 8 | 5 | 2 | | | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | | 4.0 | |
| Minimum Split (s) | 22.5 | 22.5 | | 20.0 | 20.0 | 20.0 | 8.5 | 22.5 | | | 22.5 | |
| Total Split (s) | 22.5 | 22.5 | | 20.0 | 20.0 | 20.0 | 9.0 | 32.5 | | | 23.5 | |
| Total Split (%) | 30.0% | 30.0% | | 26.7% | 26.7% | 26.7% | 12.0% | 43.3% | | | 31.3% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | 0.0 | |
| Total Lost Time (s) | | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | | 4.5 | |
| Lead/Lag | | | | | | | Lead | | | | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | | | | Yes | |
| Recall Mode | None | None | | None | None | None | None | Min | | | Min | |

| Intersection Summary |
|---|
| Cycle Length: 75 |
| Actuated Cycle Length: 43.4 |
| Natural Cycle: 75 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 14: Magnolia Avenue & Carefree Drive






Existing + Proj PM
14: Magnolia Avenue & Carefree Drive
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 23 | 0 | 51 | 4 | 0 | 0 | 76 | 1105 | 0 | 0 | 675 | 16 |
| Future Volume (veh/h) | 23 | 0 | 51 | 4 | 0 | 0 | 76 | 1105 | 0 | 0 | 675 | 16 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.92 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.96 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 0 | 0 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 25 | 0 | 55 | 4 | 0 | 0 | 83 | 1201 | 0 | 0 | 734 | 17 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 0 | 0 | 2 | 2 |
| Cap, veh/h | 52 | 0 | 115 | 16 | 0 | 7 | 111 | 1833 | 0 | 0 | 1168 | 27 |
| Arrive On Green | 0.11 | 0.00 | 0.11 | 0.00 | 0.00 | 0.00 | 0.06 | 0.52 | 0.00 | 0.00 | 0.33 | 0.33 |
| Sat Flow, veh/h | 484 | 0 | 1064 | 3563 | 0 | 1585 | 1781 | 3647 | 0 | 0 | 3639 | 82 |
| Grp Volume(v), veh/h | 80 | 0 | 0 | 4 | 0 | 0 | 83 | 1201 | 0 | 0 | 368 | 383 |
| Grp Sat Flow(s),veh/h/ln | 1548 | 0 | 0 | 1781 | 0 | 1585 | 1781 | 1777 | 0 | 0 | 1777 | 1851 |
| Q Serve(g_s), s | 1.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.7 | 9.0 | 0.0 | 0.0 | 6.4 | 6.4 |
| Cycle Q Clear(g_c), s | 1.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.7 | 9.0 | 0.0 | 0.0 | 6.4 | 6.4 |
| Prop In Lane | 0.31 | | 0.69 | 1.00 | | 1.00 | 1.00 | | 0.00 | 0.00 | | 0.04 |
| Lane Grp Cap(c), veh/h | 168 | 0 | 0 | 16 | 0 | 7 | 111 | 1833 | 0 | 0 | 585 | 610 |
| V/C Ratio(X) | 0.48 | 0.00 | 0.00 | 0.26 | 0.00 | 0.00 | 0.75 | 0.66 | 0.00 | 0.00 | 0.63 | 0.63 |
| Avail Cap(c_a), veh/h | 767 | 0 | 0 | 1520 | 0 | 676 | 221 | 2739 | 0 | 0 | 929 | 968 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 15.2 | 0.0 | 0.0 | 18.0 | 0.0 | 0.0 | 16.7 | 6.4 | 0.0 | 0.0 | 10.3 | 10.3 |
| Incr Delay (d2), s/veh | 2.1 | 0.0 | 0.0 | 8.5 | 0.0 | 0.0 | 9.5 | 0.4 | 0.0 | 0.0 | 1.1 | 1.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.8 | 1.5 | 0.0 | 0.0 | 1.8 | 1.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 17.3 | 0.0 | 0.0 | 26.5 | 0.0 | 0.0 | 26.2 | 6.8 | 0.0 | 0.0 | 11.4 | 11.4 |
| LnGrp LOS | B | A | A | C | A | A | C | A | A | A | B | B |
| Approach Vol, veh/h | | 80 | | | 4 | | | 1284 | | | 751 | |
| Approach Delay, s/veh | | 17.3 | | | 26.5 | | | 8.1 | | | 11.4 | |
| Approach LOS | | B | | | C | | | A | | | B | |

| Timer - Assigned Phs | 2 | 4 | 5 | 6 | 8 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 23.2 | 8.4 | 6.8 | 16.5 | 4.7 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 28.0 | 18.0 | 4.5 | 19.0 | 15.5 |
| Max Q Clear Time (g_c+I1), s | 11.0 | 3.8 | 3.7 | 8.4 | 2.0 |
| Green Ext Time (p_c), s | 7.7 | 0.3 | 0.0 | 3.2 | 0.0 |

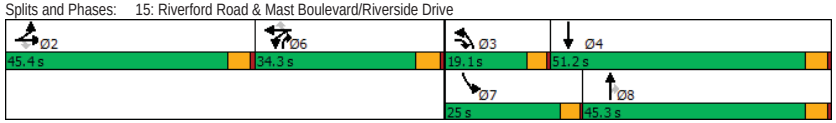
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 9.6 | |
| HCM 6th LOS | A | |

| Notes |
|---|
| User approved volume balancing among the lanes for turning movement. |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 15 | 7 | 31 | 506 | 38 | 367 | 65 | 323 | 450 | 234 | 222 | 22 |
| Future Volume (vph) | 15 | 7 | 31 | 506 | 38 | 367 | 65 | 323 | 450 | 234 | 222 | 22 |
| Confl. Peds. (#/hr) | | | | | | | | | 4 | | | |
| Confl. Bikes (#/hr) | | | 3 | | | 1 | | | 3 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Split | NA | pm+ov | Split | NA | Perm | Prot | NA | pm+ov | Prot | NA | |
| Protected Phases | 2 | 2 | 3 | 6 | 6 | | 3 | 8 | 6 | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | 8 | | | |
| Detector Phase | 2 | 2 | 3 | 6 | 6 | 6 | 3 | 8 | 6 | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 6.0 | 6.0 | 5.0 | 4.0 | 4.0 | 4.0 | 5.0 | 6.0 | 4.0 | 4.0 | 6.0 | |
| Minimum Split (s) | 45.3 | 45.3 | 9.1 | 34.3 | 34.3 | 34.3 | 9.1 | 45.3 | 34.3 | 8.6 | 49.9 | |
| Total Split (s) | 45.4 | 45.4 | 19.1 | 34.3 | 34.3 | 34.3 | 19.1 | 45.3 | 34.3 | 25.0 | 51.2 | |
| Total Split (%) | 30.3% | 30.3% | 12.7% | 22.9% | 22.9% | 22.9% | 12.7% | 30.2% | 22.9% | 16.7% | 34.1% | |
| Yellow Time (s) | 4.3 | 4.3 | 3.6 | 4.3 | 4.3 | 4.3 | 3.6 | 3.9 | 4.3 | 3.6 | 3.9 | |
| All-Red Time (s) | 1.0 | 1.0 | 0.5 | 1.0 | 1.0 | 1.0 | 0.5 | 1.0 | 1.0 | 0.5 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 5.3 | 5.3 | 4.1 | 5.3 | 5.3 | 5.3 | 4.1 | 4.9 | 5.3 | 4.1 | 4.9 | |
| Lead/Lag | | | Lead | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | Yes | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | None | None | None | None | None | Min | None | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 150 |
| Actuated Cycle Length: 99.4 |
| Natural Cycle: 150 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 15: Riverford Road & Mast Boulevard/Riverside Drive






Existing + Proj PM
15: Riverford Road & Mast Boulevard/Riverside Drive
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 15 | 7 | 31 | 506 | 38 | 367 | 65 | 323 | 450 | 234 | 222 | 22 |
| Future Volume (veh/h) | 15 | 7 | 31 | 506 | 38 | 367 | 65 | 323 | 450 | 234 | 222 | 22 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.96 | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 16 | 8 | 34 | 550 | 41 | 399 | 71 | 351 | 489 | 254 | 241 | 24 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 91 | 182 | 282 | 999 | 1028 | 449 | 92 | 516 | 887 | 294 | 650 | 65 |
| Arrive On Green | 0.05 | 0.05 | 0.05 | 0.29 | 0.29 | 0.29 | 0.05 | 0.28 | 0.28 | 0.17 | 0.39 | 0.39 |
| Sat Flow, veh/h | 1781 | 3554 | 2688 | 3456 | 3554 | 1551 | 1781 | 1870 | 1555 | 1781 | 1671 | 166 |
| Grp Volume(v), veh/h | 16 | 8 | 34 | 550 | 41 | 399 | 71 | 351 | 489 | 254 | 0 | 265 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1344 | 1728 | 1777 | 1551 | 1781 | 1870 | 1555 | 1781 | 0 | 1838 |
| Q Serve(g_s), s | 0.8 | 0.2 | 1.0 | 12.1 | 0.7 | 22.1 | 3.5 | 15.0 | 17.9 | 12.4 | 0.0 | 9.2 |
| Cycle Q Clear(g_c), s | 0.8 | 0.2 | 1.0 | 12.1 | 0.7 | 22.1 | 3.5 | 15.0 | 17.9 | 12.4 | 0.0 | 9.2 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.09 |
| Lane Grp Cap(c), veh/h | 91 | 182 | 282 | 999 | 1028 | 449 | 92 | 516 | 887 | 294 | 0 | 715 |
| V/C Ratio(X) | 0.18 | 0.04 | 0.12 | 0.55 | 0.04 | 0.89 | 0.77 | 0.68 | 0.55 | 0.86 | 0.00 | 0.37 |
| Avail Cap(c_a), veh/h | 797 | 1590 | 1347 | 1118 | 1150 | 502 | 298 | 843 | 1159 | 415 | 0 | 949 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 40.7 | 40.4 | 36.5 | 26.9 | 22.9 | 30.5 | 42.0 | 28.9 | 12.4 | 36.4 | 0.0 | 19.5 |
| Incr Delay (d2), s/veh | 0.9 | 0.1 | 0.2 | 0.5 | 0.0 | 16.5 | 12.4 | 1.6 | 0.5 | 12.5 | 0.0 | 0.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.4 | 0.1 | 0.3 | 4.8 | 0.3 | 10.0 | 1.8 | 6.8 | 10.9 | 6.3 | 0.0 | 3.9 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 41.6 | 40.5 | 36.7 | 27.4 | 22.9 | 46.9 | 54.4 | 30.5 | 12.9 | 48.9 | 0.0 | 19.9 |
| LnGrp LOS | D | D | D | C | C | D | D | C | B | D | A | B |
| Approach Vol, veh/h | | 58 | | | 990 | | | 911 | | | 519 | |
| Approach Delay, s/veh | | 38.6 | | | 35.1 | | | 22.9 | | | 34.1 | |
| Approach LOS | | D | | | D | | | C | | | C | |

| Timer - Assigned Phs | 2 | 3 | 4 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 9.9 | 8.8 | 39.8 | 31.2 | 18.9 | 29.6 |
| Change Period (Y+Rc), s | 5.3 | 4.1 | 4.9 | 5.3 | 4.1 | 4.9 |
| Max Green Setting (Gmax), s | 40.1 | 15.0 | 46.3 | 29.0 | 20.9 | 40.4 |
| Max Q Clear Time (g_c+I1), s | 3.0 | 5.5 | 11.2 | 24.1 | 14.4 | 19.9 |
| Green Ext Time (p_c), s | 0.2 | 0.1 | 1.7 | 1.9 | 0.4 | 4.1 |

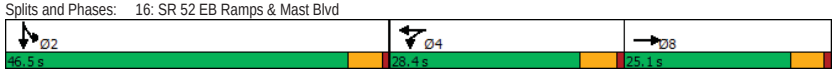
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 30.5 |
| HCM 6th LOS | | C |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 5 | 8 | 214 | 0 | 0 | 0 | 0 | 0 | 1545 | 1 | 6 |
| Future Volume (vph) | 0 | 5 | 8 | 214 | 0 | 0 | 0 | 0 | 0 | 1545 | 1 | 6 |
| Confl. Peds. (#/hr) | | | 5 | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | 50% | | |
| Turn Type | | NA | | Split | | | | | | Split | NA | |
| Protected Phases | | 8 | | 4 | 4 | | | | | 2 | 2 | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | | 8 | | 4 | 4 | | | | | 2 | 2 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | 7.0 | | 8.0 | 8.0 | | | | | 5.0 | 5.0 | |
| Minimum Split (s) | | 25.1 | | 28.4 | 28.4 | | | | | 32.3 | 32.3 | |
| Total Split (s) | | 25.1 | | 28.4 | 28.4 | | | | | 46.5 | 46.5 | |
| Total Split (%) | | 25.1% | | 28.4% | 28.4% | | | | | 46.5% | 46.5% | |
| Yellow Time (s) | | 4.1 | | 4.4 | 4.4 | | | | | 4.1 | 4.1 | |
| All-Red Time (s) | | 1.0 | | 1.0 | 1.0 | | | | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | | 0.0 | 0.0 | | | | | 0.0 | 0.0 | |
| Total Lost Time (s) | | 5.1 | | 5.4 | 5.4 | | | | | 5.1 | 5.1 | |
| Lead/Lag | | | | | | | | | | | | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Recall Mode | | None | | None | None | | | | | None | None | |

**Intersection Summary**

Cycle Length: 100
Actuated Cycle Length: 74.5
Natural Cycle: 110
Control Type: Actuated-Uncoordinated

Splits and Phases: 16: SR 52 EB Ramps & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 5 | 8 | 214 | 0 | 0 | 0 | 0 | 0 | 1545 | 1 | 6 |
| Future Volume (veh/h) | 0 | 5 | 8 | 214 | 0 | 0 | 0 | 0 | 0 | 1545 | 1 | 6 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | | | | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 1.00 | | | | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | | | | No | |
| Adj Sat Flow, veh/h/ln | 0 | 1870 | 1870 | 1870 | 1870 | 0 | | | | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 5 | 9 | 233 | 0 | 0 | | | | 1686 | 0 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 0 | 2 | 2 | 2 | 2 | 0 | | | | 2 | 2 | 2 |
| Cap, veh/h | 0 | 22 | 40 | 291 | 306 | 0 | | | | 1954 | 1026 | 0 |
| Arrive On Green | 0.00 | 0.04 | 0.04 | 0.16 | 0.00 | 0.00 | | | | 0.55 | 0.00 | 0.00 |
| Sat Flow, veh/h | 0 | 593 | 1068 | 1781 | 1870 | 0 | | | | 3563 | 1870 | 0 |
| Grp Volume(v), veh/h | 0 | 0 | 14 | 233 | 0 | 0 | | | | 1686 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 0 | 0 | 1661 | 1781 | 1870 | 0 | | | | 1781 | 1870 | 0 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.5 | 7.8 | 0.0 | 0.0 | | | | 25.2 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 0.0 | 0.0 | 0.5 | 7.8 | 0.0 | 0.0 | | | | 25.2 | 0.0 | 0.0 |
| Prop In Lane | 0.00 | | 0.64 | 1.00 | | 0.00 | | | | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 0 | 0 | 61 | 291 | 306 | 0 | | | | 1954 | 1026 | 0 |
| V/C Ratio(X) | 0.00 | 0.00 | 0.23 | 0.80 | 0.00 | 0.00 | | | | 0.86 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 0 | 0 | 534 | 659 | 692 | 0 | | | | 2372 | 1245 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | | | | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 0.0 | 0.0 | 29.1 | 25.0 | 0.0 | 0.0 | | | | 12.0 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 0.7 | 5.1 | 0.0 | 0.0 | | | | 3.0 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.0 | 0.2 | 3.5 | 0.0 | 0.0 | | | | 8.7 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 0.0 | 29.8 | 30.1 | 0.0 | 0.0 | | | | 15.0 | 0.0 | 0.0 |
| LnGrp LOS | A | A | C | C | A | A | | | | B | A | A |
| Approach Vol, veh/h | | 14 | | | 233 | | | | | | 1686 | |
| Approach Delay, s/veh | | 29.8 | | | 30.1 | | | | | | 15.0 | |
| Approach LOS | | C | | | C | | | | | | B | |

| Timer - Assigned Phs | | 2 | | 4 | | | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 39.2 | | 15.6 | | | | 7.4 | | | | |
| Change Period (Y+Rc), s | | 5.1 | | 5.4 | | | | 5.1 | | | | |
| Max Green Setting (Gmax), s | | 41.4 | | 23.0 | | | | 20.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 27.2 | | 9.8 | | | | 2.5 | | | | |
| Green Ext Time (p_c), s | | 6.9 | | 0.5 | | | | 0.0 | | | | |

**Intersection Summary**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HCM 6th Ctrl Delay | | | 17.0 | | | | | | | | | |
| HCM 6th LOS | | | B | | | | | | | | | |

**Notes**

User approved volume balancing among the lanes for turning movement.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 5 | 1545 | 0 | 0 | 214 | 522 | 0 | 3 | 495 | 0 | 0 | 0 |
| Future Volume (vph) | 5 | 1545 | 0 | 0 | 214 | 522 | 0 | 3 | 495 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | | | 6 | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | 4 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | 33% | | | 50% | | | |
| Turn Type | Prot | NA | | | NA | Perm | | NA | Perm | | | |
| Protected Phases | 5 | 2 | | | 6 | | | 8 | | | | |
| Permitted Phases | | | | | | 6 | 8 | | 8 | | | |
| Detector Phase | 5 | 2 | | | 6 | 6 | 8 | 8 | 8 | | | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 10.0 | | | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | | | |
| Minimum Split (s) | 11.7 | 38.6 | | | 28.4 | 28.4 | 43.1 | 43.1 | 43.1 | | | |
| Total Split (s) | 11.7 | 56.9 | | | 45.2 | 45.2 | 43.1 | 43.1 | 43.1 | | | |
| Total Split (%) | 11.7% | 56.9% | | | 45.2% | 45.2% | 43.1% | 43.1% | 43.1% | | | |
| Yellow Time (s) | 3.7 | 4.1 | | | 4.4 | 4.4 | 4.1 | 4.1 | 4.1 | | | |
| All-Red Time (s) | 1.0 | 1.0 | | | 1.0 | 1.0 | 2.0 | 2.0 | 2.0 | | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | 0.0 | | | |
| Total Lost Time (s) | 4.7 | 5.1 | | | 5.4 | 5.4 | | 6.1 | 6.1 | | | |
| Lead/Lag | Lead | | | | Lag | Lag | | | | | | |
| Lead-Lag Optimize? | Yes | | | | Yes | Yes | | | | | | |
| Recall Mode | None | Min | | | Min | Min | None | None | None | | | |

**Intersection Summary**

Cycle Length: 100
Actuated Cycle Length: 76.9
Natural Cycle: 85
Control Type: Actuated-Uncoordinated

Splits and Phases: 17: SR-52 WB Ramps & Mast Blvd

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 5 | 1545 | 0 | 0 | 214 | 522 | 0 | 3 | 495 | 0 | 0 | 0 |
| Future Volume (veh/h) | 5 | 1545 | 0 | 0 | 214 | 522 | 0 | 3 | 495 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.99 | 1.00 | | 1.00 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.99 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 0 | 0 | 1870 | 1945 | 1870 | 1870 | 1870 | | | |
| Adj Flow Rate, veh/h | 5 | 1679 | 0 | 0 | 484 | 400 | 0 | 0 | 540 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | |
| Percent Heavy Veh, % | 2 | 2 | 0 | 0 | 2 | 2 | 2 | 2 | 2 | | | |
| Cap, veh/h | 17 | 2179 | 0 | 0 | 996 | 866 | 0 | 391 | 671 | | | |
| Arrive On Green | 0.01 | 0.61 | 0.00 | 0.00 | 0.53 | 0.53 | 0.00 | 0.00 | 0.21 | | | |
| Sat Flow, veh/h | 1781 | 3647 | 0 | 0 | 1870 | 1626 | 0 | 1848 | 3170 | | | |
| Grp Volume(v), veh/h | 5 | 1679 | 0 | 0 | 484 | 400 | 0 | 0 | 540 | | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 0 | 0 | 1870 | 1626 | 0 | 1848 | 1585 | | | |
| Q Serve(g_s), s | 0.2 | 22.7 | 0.0 | 0.0 | 10.7 | 10.0 | 0.0 | 0.0 | 10.6 | | | |
| Cycle Q Clear(g_c), s | 0.2 | 22.7 | 0.0 | 0.0 | 10.7 | 10.0 | 0.0 | 0.0 | 10.6 | | | |
| Prop In Lane | 1.00 | | 0.00 | 0.00 | | 1.00 | 0.00 | | 1.00 | | | |
| Lane Grp Cap(c), veh/h | 17 | 2179 | 0 | 0 | 996 | 866 | 0 | 391 | 671 | | | |
| V/C Ratio(X) | 0.30 | 0.77 | 0.00 | 0.00 | 0.49 | 0.46 | 0.00 | 0.00 | 0.81 | | | |
| Avail Cap(c_a), veh/h | 190 | 2804 | 0 | 0 | 1134 | 986 | 0 | 1041 | 1787 | | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | | | |
| Uniform Delay (d), s/veh | 32.3 | 9.3 | 0.0 | 0.0 | 9.7 | 9.5 | 0.0 | 0.0 | 24.6 | | | |
| Incr Delay (d2), s/veh | 3.7 | 1.0 | 0.0 | 0.0 | 0.4 | 0.4 | 0.0 | 0.0 | 0.9 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ln | 0.1 | 6.6 | 0.0 | 0.0 | 3.6 | 3.0 | 0.0 | 0.0 | 3.8 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 36.0 | 10.3 | 0.0 | 0.0 | 10.1 | 9.9 | 0.0 | 0.0 | 25.5 | | | |
| LnGrp LOS | D | B | A | A | B | A | A | A | C | | | |
| Approach Vol, veh/h | | 1684 | | | 884 | | | 540 | | | | |
| Approach Delay, s/veh | | 10.4 | | | 10.0 | | | 25.5 | | | | |
| Approach LOS | | B | | | A | | | C | | | | |

| Timer - Assigned Phs | 2 | 5 | 6 | 8 |
|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 45.7 | 5.3 | 40.4 | 20.0 |
| Change Period (Y+Rc), s | * 5.4 | * 4.7 | 5.4 | 6.1 |
| Max Green Setting (Gmax), s | * 52 | * 7 | 39.8 | 37.0 |
| Max Q Clear Time (g_c+I1), s | 24.7 | 2.2 | 12.7 | 12.6 |
| Green Ext Time (p_c), s | 15.5 | 0.0 | 4.8 | 1.3 |

**Intersection Summary**

| | |
|---|---|
| HCM 6th Ctrl Delay | 12.9 |
| HCM 6th LOS | B |

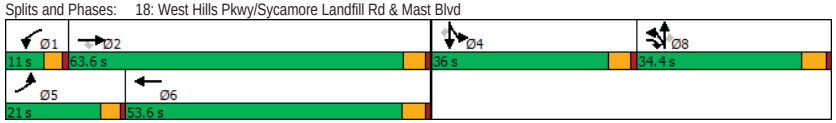
**Notes**

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 2 | 1546 | 450 | 172 | 519 | 0 | 190 | 1 | 442 | 0 | 3 | 16 |
| Future Volume (vph) | 2 | 1546 | 450 | 172 | 519 | 0 | 190 | 1 | 442 | 0 | 3 | 16 |
| Confl. Peds. (#/hr) | | | 12 | | | | | | | | | 4 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | 50% | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | | Split | NA | Perm | | NA | Perm |
| Protected Phases | 5 | 2 | 8 | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Permitted Phases | | | 2 | | | | | | 8 | | | 4 |
| Detector Phase | 5 | 2 | 8 | 1 | 6 | | 8 | 8 | 8 | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 10.0 | 10.0 | 4.0 | 10.0 | | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| Minimum Split (s) | 20.0 | 34.9 | 33.4 | 8.4 | 35.2 | | 33.4 | 33.4 | 33.4 | 34.9 | 34.9 | 34.9 |
| Total Split (s) | 21.0 | 63.6 | 34.4 | 11.0 | 53.6 | | 34.4 | 34.4 | 34.4 | 36.0 | 36.0 | 36.0 |
| Total Split (%) | 14.5% | 43.9% | 23.7% | 7.6% | 37.0% | | 23.7% | 23.7% | 23.7% | 24.8% | 24.8% | 24.8% |
| Yellow Time (s) | 3.4 | 3.9 | 4.4 | 3.4 | 4.2 | | 4.4 | 4.4 | 4.4 | 3.9 | 3.9 | 3.9 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.4 | 4.9 | 5.4 | 4.4 | 5.2 | | 5.4 | 5.4 | 5.4 | | 4.9 | 4.9 |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | Min | None | None | Min | | None | None | None | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 145 |
| Actuated Cycle Length: 108 |
| Natural Cycle: 145 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 18: West Hills Pkwy/Sycamore Landfill Rd & Mast Blvd






Existing + Proj PM
18: West Hills Pkwy/Sycamore Landfill Rd & Mast Blvd
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 2 | 1546 | 450 | 172 | 519 | 0 | 190 | 1 | 442 | 0 | 3 | 16 |
| Future Volume (veh/h) | 2 | 1546 | 450 | 172 | 519 | 0 | 190 | 1 | 442 | 0 | 3 | 16 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 2 | 1680 | 489 | 187 | 564 | 0 | 208 | 0 | 433 | 0 | 3 | 17 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 103 | 1728 | 1146 | 189 | 1716 | 0 | 857 | 0 | 381 | 0 | 100 | 84 |
| Arrive On Green | 0.06 | 0.49 | 0.49 | 0.05 | 0.48 | 0.00 | 0.24 | 0.00 | 0.24 | 0.00 | 0.05 | 0.05 |
| Sat Flow, veh/h | 1781 | 3554 | 1573 | 3456 | 3647 | 0 | 3563 | 0 | 1585 | 0 | 1870 | 1562 |
| Grp Volume(v), veh/h | 2 | 1680 | 489 | 187 | 564 | 0 | 208 | 0 | 433 | 0 | 3 | 17 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1573 | 1728 | 1777 | 0 | 1781 | 0 | 1585 | 0 | 1870 | 1562 |
| Q Serve(g_s), s | 0.1 | 55.6 | 14.9 | 6.5 | 11.8 | 0.0 | 5.7 | 0.0 | 29.0 | 0.0 | 0.2 | 1.3 |
| Cycle Q Clear(g_c), s | 0.1 | 55.6 | 14.9 | 6.5 | 11.8 | 0.0 | 5.7 | 0.0 | 29.0 | 0.0 | 0.2 | 1.3 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.00 | 1.00 | | 1.00 | 0.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 103 | 1728 | 1146 | 189 | 1716 | 0 | 857 | 0 | 381 | 0 | 100 | 84 |
| V/C Ratio(X) | 0.02 | 0.97 | 0.43 | 0.99 | 0.33 | 0.00 | 0.24 | 0.00 | 1.14 | 0.00 | 0.03 | 0.20 |
| Avail Cap(c_a), veh/h | 245 | 1729 | 1147 | 189 | 1716 | 0 | 857 | 0 | 381 | 0 | 482 | 403 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 53.6 | 30.2 | 6.5 | 57.0 | 19.2 | 0.0 | 37.0 | 0.0 | 45.8 | 0.0 | 54.1 | 54.6 |
| Incr Delay (d2), s/veh | 0.0 | 15.6 | 0.3 | 62.0 | 0.2 | 0.0 | 0.2 | 0.0 | 88.6 | 0.0 | 0.1 | 1.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.1 | 25.8 | 9.9 | 4.4 | 4.7 | 0.0 | 2.4 | 0.0 | 20.4 | 0.0 | 0.1 | 0.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 53.6 | 45.8 | 6.9 | 119.0 | 19.4 | 0.0 | 37.2 | 0.0 | 134.4 | 0.0 | 54.2 | 55.8 |
| LnGrp LOS | D | D | A | F | B | A | D | A | F | A | D | E |
| Approach Vol, veh/h | | 2171 | | | 751 | | | 641 | | | 20 | |
| Approach Delay, s/veh | | 37.0 | | | 44.2 | | | 102.8 | | | 55.5 | |
| Approach LOS | | D | | | D | | | F | | | E | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 11.0 | 63.8 | | 11.4 | 11.4 | 63.4 | | 34.4 | | | | |
| Change Period (Y+Rc), s | 4.4 | * 5.2 | | 4.9 | 4.4 | 5.2 | | 5.4 | | | | |
| Max Green Setting (Gmax), s | 6.6 | * 59 | | 31.1 | 16.6 | 48.4 | | 29.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 8.5 | 57.6 | | 3.3 | 2.1 | 13.8 | | 31.0 | | | | |
| Green Ext Time (p_c), s | 0.0 | 1.1 | | 0.0 | 0.0 | 7.6 | | 0.0 | | | | |

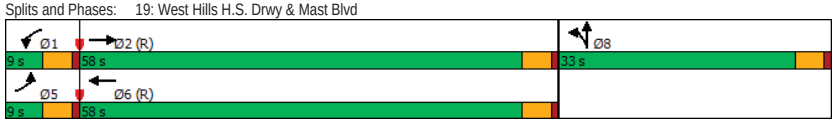
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 50.4 | |
| HCM 6th LOS | D | |

| Notes |
|---|
| User approved volume balancing among the lanes for turning movement. |
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 6 | 1672 | 20 | 38 | 659 | 0 | 46 | 0 | 107 | 0 | 0 | 0 |
| Future Volume (vph) | 6 | 1672 | 20 | 38 | 659 | 0 | 46 | 0 | 107 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | 4 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Split | NA | | | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | | | | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | | | | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | | | | |
| Minimum Split (s) | 8.5 | 22.5 | | 8.5 | 20.5 | | 31.5 | 31.5 | | | | |
| Total Split (s) | 9.0 | 58.0 | | 9.0 | 58.0 | | 33.0 | 33.0 | | | | |
| Total Split (%) | 9.0% | 58.0% | | 9.0% | 58.0% | | 33.0% | 33.0% | | | | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | | | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | | |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | | 4.5 | | | | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | | | | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 90 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 19: West Hills H.S. Drwy & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 6 | 1672 | 20 | 38 | 659 | 0 | 46 | 0 | 107 | 0 | 0 | 0 |
| Future Volume (veh/h) | 6 | 1672 | 20 | 38 | 659 | 0 | 46 | 0 | 107 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 0 | 1900 | 1870 | 1900 | | | |
| Adj Flow Rate, veh/h | 7 | 1817 | 22 | 41 | 716 | 0 | 50 | 0 | 116 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 0 | 0 | 2 | 0 | | | |
| Cap, veh/h | 13 | 2554 | 31 | 52 | 2603 | 0 | 62 | 0 | 144 | | | |
| Arrive On Green | 0.01 | 0.71 | 0.71 | 0.02 | 0.49 | 0.00 | 0.13 | 0.00 | 0.13 | | | |
| Sat Flow, veh/h | 1781 | 3596 | 43 | 1781 | 3647 | 0 | 494 | 0 | 1146 | | | |
| Grp Volume(v), veh/h | 7 | 896 | 943 | 41 | 716 | 0 | 166 | 0 | 0 | | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1863 | 1781 | 1777 | 0 | 1639 | 0 | 0 | | | |
| Q Serve(g_s), s | 0.4 | 29.5 | 29.7 | 2.3 | 11.9 | 0.0 | 9.9 | 0.0 | 0.0 | | | |
| Cycle Q Clear(g_c), s | 0.4 | 29.5 | 29.7 | 2.3 | 11.9 | 0.0 | 9.9 | 0.0 | 0.0 | | | |
| Prop In Lane | 1.00 | | 0.02 | 1.00 | | 0.00 | 0.30 | | 0.70 | | | |
| Lane Grp Cap(c), veh/h | 13 | 1262 | 1323 | 52 | 2603 | 0 | 206 | 0 | 0 | | | |
| V/C Ratio(X) | 0.56 | 0.71 | 0.71 | 0.79 | 0.28 | 0.00 | 0.81 | 0.00 | 0.00 | | | |
| Avail Cap(c_a), veh/h | 80 | 1262 | 1323 | 80 | 2603 | 0 | 467 | 0 | 0 | | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 0.67 | 0.67 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 0.43 | 0.43 | 0.43 | 0.97 | 0.97 | 0.00 | 1.00 | 0.00 | 0.00 | | | |
| Uniform Delay (d), s/veh | 49.5 | 8.5 | 8.5 | 48.7 | 9.8 | 0.0 | 42.5 | 0.0 | 0.0 | | | |
| Incr Delay (d2), s/veh | 15.4 | 1.5 | 1.4 | 23.5 | 0.3 | 0.0 | 7.3 | 0.0 | 0.0 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ln | 0.2 | 9.1 | 9.5 | 1.3 | 4.6 | 0.0 | 4.4 | 0.0 | 0.0 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 64.9 | 10.0 | 9.9 | 72.2 | 10.1 | 0.0 | 49.8 | 0.0 | 0.0 | | | |
| LnGrp LOS | E | A | A | E | B | A | D | A | A | | | |
| Approach Vol, veh/h | | 1846 | | | 757 | | | 166 | | | | |
| Approach Delay, s/veh | | 10.1 | | | 13.5 | | | 49.8 | | | | |
| Approach LOS | | B | | | B | | | D | | | | |

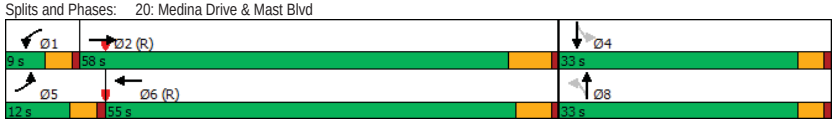
| Timer - Assigned Phs | 1 | 2 | | | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.4 | 75.5 | | | 5.2 | 77.7 | | 17.0 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 4.5 | 53.5 | | | 4.5 | 53.5 | | 28.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 4.3 | 31.7 | | | 2.4 | 13.9 | | 11.9 | | | | |
| Green Ext Time (p_c), s | 0.0 | 14.1 | | | 0.0 | 5.3 | | 0.8 | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 13.4 | |
| HCM 6th LOS | | B | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 35 | 1663 | 32 | 5 | 651 | 25 | 12 | 3 | 14 | 18 | 4 | 27 |
| Future Volume (vph) | 35 | 1663 | 32 | 5 | 651 | 25 | 12 | 3 | 14 | 18 | 4 | 27 |
| Confl. Peds. (#/hr) | | | 2 | | | | | | 2 | | | |
| Confl. Bikes (#/hr) | | | 2 | | | 5 | | | 2 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Perm | NA | | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | | 4 | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 22.0 | | 8.2 | 22.0 | | 32.2 | 32.2 | | 32.2 | 32.2 | |
| Total Split (s) | 12.0 | 58.0 | | 9.0 | 55.0 | | 33.0 | 33.0 | | 33.0 | 33.0 | |
| Total Split (%) | 12.0% | 58.0% | | 9.0% | 55.0% | | 33.0% | 33.0% | | 33.0% | 33.0% | |
| Yellow Time (s) | 3.2 | 5.1 | | 3.2 | 4.3 | | 3.2 | 3.2 | | 3.2 | 3.2 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | 0.0 | |
| Total Lost Time (s) | 4.2 | 6.1 | | 4.2 | 5.3 | | | 4.2 | | | 4.2 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 90 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 20: Medina Drive & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 35 | 1663 | 32 | 5 | 651 | 25 | 12 | 3 | 14 | 18 | 4 | 27 |
| Future Volume (veh/h) | 35 | 1663 | 32 | 5 | 651 | 25 | 12 | 3 | 14 | 18 | 4 | 27 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.97 | 0.99 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 38 | 1808 | 35 | 5 | 708 | 27 | 13 | 3 | 15 | 20 | 4 | 29 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 48 | 2782 | 54 | 9 | 2646 | 101 | 81 | 27 | 54 | 79 | 20 | 59 |
| Arrive On Green | 0.05 | 1.00 | 1.00 | 0.01 | 1.00 | 1.00 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 |
| Sat Flow, veh/h | 1781 | 3564 | 69 | 1781 | 3487 | 133 | 430 | 396 | 774 | 422 | 287 | 858 |
| Grp Volume(v), veh/h | 38 | 899 | 944 | 5 | 361 | 374 | 31 | 0 | 0 | 53 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1856 | 1781 | 1777 | 1843 | 1600 | 0 | 0 | 1568 | 0 | 0 |
| Q Serve(g_s), s | 2.1 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.3 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 2.1 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 | 1.7 | 0.0 | 0.0 | 3.1 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | | 0.04 | 1.00 | | 0.07 | 0.42 | | 0.48 | 0.38 | | 0.55 |
| Lane Grp Cap(c), veh/h | 48 | 1387 | 1449 | 9 | 1348 | 1398 | 162 | 0 | 0 | 158 | 0 | 0 |
| V/C Ratio(X) | 0.79 | 0.65 | 0.65 | 0.54 | 0.27 | 0.27 | 0.19 | 0.00 | 0.00 | 0.34 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 139 | 1387 | 1449 | 86 | 1348 | 1398 | 488 | 0 | 0 | 491 | 0 | 0 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.58 | 0.58 | 0.58 | 0.97 | 0.97 | 0.97 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 47.0 | 0.0 | 0.0 | 49.4 | 0.0 | 0.0 | 44.1 | 0.0 | 0.0 | 44.7 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 15.5 | 1.4 | 1.3 | 16.6 | 0.5 | 0.5 | 0.2 | 0.0 | 0.0 | 0.5 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.1 | 0.5 | 0.5 | 0.2 | 0.2 | 0.2 | 0.7 | 0.0 | 0.0 | 1.3 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 62.6 | 1.4 | 1.3 | 65.9 | 0.5 | 0.5 | 44.3 | 0.0 | 0.0 | 45.2 | 0.0 | 0.0 |
| LnGrp LOS | E | A | A | E | A | A | D | A | A | D | A | A |
| Approach Vol, veh/h | | 1881 | | | 740 | | | 31 | | | 53 | |
| Approach Delay, s/veh | | 2.6 | | | 0.9 | | | 44.3 | | | 45.2 | |
| Approach LOS | | A | | | A | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 4.7 | 84.2 | | 11.1 | 6.9 | 82.0 | | 11.1 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 6.1 | | * 4.2 | * 4.2 | * 6.1 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | * 4.8 | 51.9 | | * 29 | * 7.8 | * 50 | | * 29 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.3 | 2.0 | | 5.1 | 4.1 | 2.0 | | 3.7 | | | | |
| Green Ext Time (p_c), s | 0.0 | 35.5 | | 0.1 | 0.0 | 8.6 | | 0.1 | | | | |

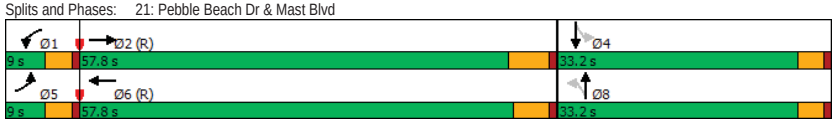
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 3.4 | |
| HCM 6th LOS | A | |

| Notes |
|---|
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 7 | 1637 | 13 | 6 | 648 | 47 | 10 | 3 | 13 | 49 | 0 | 12 |
| Future Volume (vph) | 7 | 1637 | 13 | 6 | 648 | 47 | 10 | 3 | 13 | 49 | 0 | 12 |
| Confl. Peds. (#/hr) | | | 9 | | | | | | 1 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Perm | NA | | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | | 4 | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 23.9 | | 8.2 | 23.3 | | 33.2 | 33.2 | | 32.2 | 32.2 | |
| Total Split (s) | 9.0 | 57.8 | | 9.0 | 57.8 | | 33.2 | 33.2 | | 33.2 | 33.2 | |
| Total Split (%) | 9.0% | 57.8% | | 9.0% | 57.8% | | 33.2% | 33.2% | | 33.2% | 33.2% | |
| Yellow Time (s) | 3.2 | 4.9 | | 3.2 | 4.3 | | 3.2 | 3.2 | | 3.2 | 3.2 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | 0.0 | |
| Total Lost Time (s) | 4.2 | 5.9 | | 4.2 | 5.3 | | | 4.2 | | | 4.2 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Max | | None | C-Max | | None | None | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 90 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 21: Pebble Beach Dr & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 7 | 1637 | 13 | 6 | 648 | 47 | 10 | 3 | 13 | 49 | 0 | 12 |
| Future Volume (veh/h) | 7 | 1637 | 13 | 6 | 648 | 47 | 10 | 3 | 13 | 49 | 0 | 12 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 8 | 1779 | 14 | 7 | 704 | 51 | 11 | 3 | 14 | 53 | 0 | 13 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 14 | 2825 | 22 | 13 | 2624 | 190 | 78 | 29 | 57 | 143 | 4 | 20 |
| Arrive On Green | 0.02 | 1.00 | 1.00 | 0.01 | 1.00 | 1.00 | 0.07 | 0.07 | 0.07 | 0.07 | 0.00 | 0.07 |
| Sat Flow, veh/h | 1781 | 3613 | 28 | 1781 | 3360 | 243 | 406 | 428 | 834 | 1154 | 58 | 297 |
| Grp Volume(v), veh/h | 8 | 874 | 919 | 7 | 372 | 383 | 28 | 0 | 0 | 66 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1865 | 1781 | 1777 | 1827 | 1667 | 0 | 0 | 1509 | 0 | 0 |
| Q Serve(g_s), s | 0.4 | 0.0 | 0.0 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.6 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 0.4 | 0.0 | 0.0 | 0.4 | 0.0 | 0.0 | 1.5 | 0.0 | 0.0 | 4.1 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | | 0.02 | 1.00 | | 0.13 | 0.39 | | 0.50 | 0.80 | | 0.20 |
| Lane Grp Cap(c), veh/h | 14 | 1389 | 1458 | 13 | 1388 | 1427 | 164 | 0 | 0 | 168 | 0 | 0 |
| V/C Ratio(X) | 0.56 | 0.63 | 0.63 | 0.56 | 0.27 | 0.27 | 0.17 | 0.00 | 0.00 | 0.39 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 86 | 1389 | 1458 | 86 | 1388 | 1427 | 503 | 0 | 0 | 484 | 0 | 0 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.71 | 0.71 | 0.71 | 0.77 | 0.77 | 0.77 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 49.0 | 0.0 | 0.0 | 49.1 | 0.0 | 0.0 | 44.2 | 0.0 | 0.0 | 45.2 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 8.9 | 1.5 | 1.5 | 10.5 | 0.4 | 0.4 | 0.2 | 0.0 | 0.0 | 0.6 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.2 | 0.6 | 0.6 | 0.2 | 0.1 | 0.1 | 0.7 | 0.0 | 0.0 | 1.6 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 57.9 | 1.5 | 1.5 | 59.6 | 0.4 | 0.4 | 44.3 | 0.0 | 0.0 | 45.8 | 0.0 | 0.0 |
| LnGrp LOS | E | A | A | E | A | A | D | A | A | D | A | A |
| Approach Vol, veh/h | | 1801 | | | 762 | | | 28 | | | 66 | |
| Approach Delay, s/veh | | 1.8 | | | 0.9 | | | 44.3 | | | 45.8 | |
| Approach LOS | | A | | | A | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 4.9 | 84.1 | | 11.0 | 5.0 | 84.0 | | 11.0 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 5.9 | | * 4.2 | * 4.2 | * 5.9 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | * 4.8 | 51.9 | | * 29 | * 4.8 | * 53 | | * 29 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.4 | 2.0 | | 6.1 | 2.4 | 2.0 | | 3.5 | | | | |
| Green Ext Time (p_c), s | 0.0 | 37.8 | | 0.2 | 0.0 | 12.5 | | 0.1 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 3.1 | |
| HCM 6th LOS | A | |

| Notes |
|---|
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 611 | 1060 | 49 | 26 | 435 | 82 | 33 | 262 | 29 | 60 | 140 | 285 |
| Future Volume (vph) | 611 | 1060 | 49 | 26 | 435 | 82 | 33 | 262 | 29 | 60 | 140 | 285 |
| Confl. Peds. (#/hr) | | | 12 | | | 1 | | | 3 | | | 5 |
| Confl. Bikes (#/hr) | | | | | | 5 | | | 1 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | | | | | | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 27.5 | 27.5 | 8.2 | 28.1 | | 8.2 | 35.1 | | 8.2 | 28.1 | 28.1 |
| Total Split (s) | 28.0 | 48.5 | 48.5 | 8.2 | 28.7 | | 10.5 | 35.1 | | 8.2 | 32.8 | 32.8 |
| Total Split (%) | 28.0% | 48.5% | 48.5% | 8.2% | 28.7% | | 10.5% | 35.1% | | 8.2% | 32.8% | 32.8% |
| Yellow Time (s) | 3.2 | 4.5 | 4.5 | 3.2 | 4.1 | | 3.2 | 4.1 | | 3.2 | 4.1 | 4.1 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.5 | 5.5 | 4.2 | 5.1 | | 4.2 | 5.1 | | 4.2 | 5.1 | 5.1 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | C-Max | C-Max | None | C-Max | | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 14.1 (14%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 120 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 22: Fanita Parkway & Mast Blvd

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 611 | 1060 | 49 | 26 | 435 | 82 | 33 | 262 | 29 | 60 | 140 | 285 |
| Future Volume (veh/h) | 611 | 1060 | 49 | 26 | 435 | 82 | 33 | 262 | 29 | 60 | 140 | 285 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.97 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 664 | 1152 | 53 | 28 | 473 | 89 | 36 | 285 | 32 | 65 | 152 | 310 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 424 | 1873 | 826 | 39 | 924 | 173 | 45 | 365 | 41 | 71 | 441 | 367 |
| Arrive On Green | 0.32 | 0.70 | 0.70 | 0.01 | 0.21 | 0.21 | 0.03 | 0.22 | 0.22 | 0.04 | 0.24 | 0.24 |
| Sat Flow, veh/h | 1781 | 3554 | 1567 | 1781 | 2973 | 556 | 1781 | 1648 | 185 | 1781 | 1870 | 1555 |
| Grp Volume(v), veh/h | 664 | 1152 | 53 | 28 | 281 | 281 | 36 | 0 | 317 | 65 | 152 | 310 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1567 | 1781 | 1777 | 1752 | 1781 | 0 | 1833 | 1781 | 1870 | 1555 |
| Q Serve(g_s), s | 23.8 | 17.0 | 1.1 | 1.6 | 14.0 | 14.2 | 2.0 | 0.0 | 16.3 | 3.6 | 6.8 | 19.0 |
| Cycle Q Clear(g_c), s | 23.8 | 17.0 | 1.1 | 1.6 | 14.0 | 14.2 | 2.0 | 0.0 | 16.3 | 3.6 | 6.8 | 19.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.32 | 1.00 | | 0.10 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 424 | 1873 | 826 | 39 | 552 | 544 | 45 | 0 | 406 | 71 | 441 | 367 |
| V/C Ratio(X) | 1.57 | 0.61 | 0.06 | 0.73 | 0.51 | 0.52 | 0.80 | 0.00 | 0.78 | 0.91 | 0.34 | 0.85 |
| Avail Cap(c_a), veh/h | 424 | 1873 | 826 | 71 | 552 | 544 | 112 | 0 | 550 | 71 | 518 | 431 |
| HCM Platoon Ratio | 1.33 | 1.33 | 1.33 | 0.67 | 0.67 | 0.67 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.73 | 0.73 | 0.73 | 0.89 | 0.89 | 0.89 | 0.96 | 0.00 | 0.96 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 34.2 | 9.6 | 7.2 | 49.0 | 32.8 | 32.9 | 48.5 | 0.0 | 36.7 | 47.8 | 31.8 | 36.5 |
| Incr Delay (d2), s/veh | 263.1 | 1.1 | 0.1 | 15.7 | 3.0 | 3.1 | 19.7 | 0.0 | 11.2 | 76.3 | 1.5 | 17.8 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 40.0 | 4.8 | 0.4 | 0.9 | 6.7 | 6.7 | 1.1 | 0.0 | 8.3 | 3.1 | 3.1 | 8.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 297.3 | 10.7 | 7.3 | 64.7 | 35.8 | 36.0 | 68.2 | 0.0 | 47.9 | 124.2 | 33.3 | 54.3 |
| LnGrp LOS | F | B | A | E | D | D | E | A | D | F | C | D |
| Approach Vol, veh/h | | 1869 | | | 590 | | | 353 | | | 527 | |
| Approach Delay, s/veh | | 112.4 | | | 37.3 | | | 49.9 | | | 56.8 | |
| Approach LOS | | F | | | D | | | D | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 6.4 | 58.2 | 6.7 | 28.7 | 28.0 | 36.6 | 8.2 | 27.2 |
| Change Period (Y+Rc), s | * 4.2 | 5.5 | * 4.2 | 5.1 | * 4.2 | * 5.5 | * 4.2 | 5.1 |
| Max Green Setting (Gmax), s | * 4 | 43.0 | * 6.3 | 27.7 | * 24 | * 24 | * 4 | 30.0 |
| Max Q Clear Time (g_c+I1), s | 3.6 | 19.0 | 4.0 | 21.0 | 25.8 | 16.2 | 5.6 | 18.3 |
| Green Ext Time (p_c), s | 0.0 | 17.0 | 0.0 | 2.4 | 0.0 | 3.8 | 0.0 | 2.9 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 83.8 | |
| HCM 6th LOS | F | |

Notes

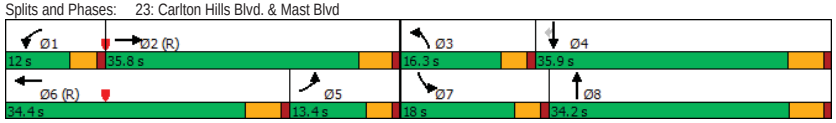
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 63 | 942 | 89 | 98 | 355 | 98 | 124 | 292 | 177 | 186 | 209 | 40 |
| Future Volume (vph) | 63 | 942 | 89 | 98 | 355 | 98 | 124 | 292 | 177 | 186 | 209 | 40 |
| Confl. Peds. (#/hr) | | | 3 | | | 7 | | | 11 | | | 8 |
| Confl. Bikes (#/hr) | | | 4 | | | 2 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 33.1 | | 8.2 | 32.4 | | 8.2 | 34.2 | | 8.2 | 32.4 | 32.4 |
| Total Split (s) | 13.4 | 35.8 | | 12.0 | 34.4 | | 16.3 | 34.2 | | 18.0 | 35.9 | 35.9 |
| Total Split (%) | 13.4% | 35.8% | | 12.0% | 34.4% | | 16.3% | 34.2% | | 18.0% | 35.9% | 35.9% |
| Yellow Time (s) | 3.2 | 4.1 | | 3.2 | 4.4 | | 3.2 | 4.2 | | 3.2 | 4.4 | 4.4 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.1 | | 4.2 | 5.4 | | 4.2 | 5.2 | | 4.2 | 5.4 | 5.4 |
| Lead/Lag | Lag | Lag | | Lead | Lead | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | C-Min | | None | C-Min | | None | Min | | None | Min | Min |

**Intersection Summary**

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 95
Control Type: Actuated-Coordinated

Splits and Phases: 23: Carlton Hills Blvd. & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 63 | 942 | 89 | 98 | 355 | 98 | 124 | 292 | 177 | 186 | 209 | 40 |
| Future Volume (veh/h) | 63 | 942 | 89 | 98 | 355 | 98 | 124 | 292 | 177 | 186 | 209 | 40 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.99 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 68 | 1024 | 97 | 107 | 386 | 107 | 135 | 317 | 192 | 202 | 227 | 43 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 402 | 1237 | 117 | 135 | 592 | 162 | 165 | 484 | 286 | 233 | 941 | 416 |
| Arrive On Green | 0.07 | 0.12 | 0.12 | 0.02 | 0.07 | 0.07 | 0.09 | 0.23 | 0.23 | 0.13 | 0.26 | 0.26 |
| Sat Flow, veh/h | 1781 | 3275 | 310 | 1781 | 2741 | 750 | 1781 | 2137 | 1262 | 1781 | 3554 | 1571 |
| Grp Volume(v), veh/h | 68 | 555 | 566 | 107 | 248 | 245 | 135 | 262 | 247 | 202 | 227 | 43 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1808 | 1781 | 1777 | 1714 | 1781 | 1777 | 1621 | 1781 | 1777 | 1571 |
| Q Serve(g_s), s | 3.6 | 30.5 | 30.5 | 6.0 | 13.6 | 13.9 | 7.4 | 13.4 | 13.9 | 11.1 | 5.0 | 1.1 |
| Cycle Q Clear(g_c), s | 3.6 | 30.5 | 30.5 | 6.0 | 13.6 | 13.9 | 7.4 | 13.4 | 13.9 | 11.1 | 5.0 | 1.1 |
| Prop In Lane | 1.00 | | 0.17 | 1.00 | | 0.44 | 1.00 | | 0.78 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 402 | 671 | 683 | 135 | 384 | 370 | 165 | 403 | 367 | 233 | 941 | 416 |
| V/C Ratio(X) | 0.17 | 0.83 | 0.83 | 0.79 | 0.65 | 0.66 | 0.82 | 0.65 | 0.67 | 0.87 | 0.24 | 0.10 |
| Avail Cap(c_a), veh/h | 402 | 671 | 683 | 139 | 515 | 497 | 216 | 515 | 470 | 246 | 1084 | 479 |
| HCM Platoon Ratio | 0.33 | 0.33 | 0.33 | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.71 | 0.71 | 0.71 | 0.98 | 0.98 | 0.98 | 0.71 | 0.71 | 0.71 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 37.5 | 40.6 | 40.6 | 48.0 | 42.7 | 42.9 | 44.5 | 35.1 | 35.3 | 42.6 | 28.9 | 8.4 |
| Incr Delay (d2), s/veh | 0.1 | 8.2 | 8.1 | 23.3 | 8.0 | 8.8 | 9.8 | 3.7 | 4.5 | 24.0 | 0.6 | 0.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.6 | 15.9 | 16.2 | 3.6 | 7.3 | 7.2 | 3.7 | 6.1 | 5.8 | 6.3 | 2.2 | 0.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 37.5 | 48.8 | 48.7 | 71.2 | 50.8 | 51.7 | 54.3 | 38.8 | 39.8 | 66.6 | 29.4 | 8.9 |
| LnGrp LOS | D | D | D | E | D | D | D | D | D | E | C | A |
| Approach Vol, veh/h | | 1189 | | | 600 | | | 644 | | | 472 | |
| Approach Delay, s/veh | | 48.1 | | | 54.8 | | | 42.4 | | | 43.5 | |
| Approach LOS | | D | | | D | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 11.8 | 42.9 | 13.5 | 31.9 | 27.7 | 27.0 | 17.3 | 28.1 |
| Change Period (Y+Rc), s | * 4.2 | 5.1 | * 4.2 | 5.4 | 5.1 | * 5.4 | * 4.2 | * 5.4 |
| Max Green Setting (Gmax), s | * 7.8 | 30.7 | * 12 | 30.5 | 9.2 | * 29 | * 14 | * 29 |
| Max Q Clear Time (g_c+I1), s | 8.0 | 32.5 | 9.4 | 7.0 | 5.6 | 15.9 | 13.1 | 15.9 |
| Green Ext Time (p_c), s | 0.0 | 0.0 | 0.0 | 3.8 | 0.0 | 4.9 | 0.0 | 4.8 |

**Intersection Summary**

| | |
|---|---|
| HCM 6th Ctrl Delay | 47.5 |
| HCM 6th LOS | D |

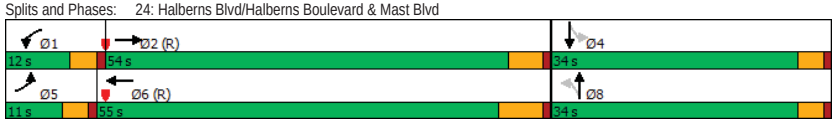
**Notes**

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 24 | 1124 | 44 | 38 | 545 | 44 | 29 | 56 | 124 | 45 | 37 | 18 |
| Future Volume (vph) | 24 | 1124 | 44 | 38 | 545 | 44 | 29 | 56 | 124 | 45 | 37 | 18 |
| Confl. Peds. (#/hr) | | | 1 | | | 5 | | | 1 | | | 2 |
| Confl. Bikes (#/hr) | | | 1 | | | 1 | | | 1 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Perm | NA | | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | | 4 | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 29.2 | | 8.2 | 28.3 | | 32.2 | 32.2 | | 32.2 | 32.2 | |
| Total Split (s) | 11.0 | 54.0 | | 12.0 | 55.0 | | 34.0 | 34.0 | | 34.0 | 34.0 | |
| Total Split (%) | 11.0% | 54.0% | | 12.0% | 55.0% | | 34.0% | 34.0% | | 34.0% | 34.0% | |
| Yellow Time (s) | 3.2 | 4.2 | | 3.2 | 5.3 | | 3.2 | 3.2 | | 3.2 | 3.2 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.2 | 5.2 | | 4.2 | 6.3 | | 4.2 | 4.2 | | 4.2 | 4.2 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Max | | None | C-Max | | None | None | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 75 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 24: Halberns Blvd/Halberns Boulevard & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 24 | 1124 | 44 | 38 | 545 | 44 | 29 | 56 | 124 | 45 | 37 | 18 |
| Future Volume (veh/h) | 24 | 1124 | 44 | 38 | 545 | 44 | 29 | 56 | 124 | 45 | 37 | 18 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.99 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 26 | 1222 | 48 | 41 | 592 | 48 | 32 | 61 | 135 | 49 | 40 | 20 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 37 | 2251 | 88 | 52 | 2175 | 176 | 271 | 91 | 201 | 151 | 209 | 104 |
| Arrive On Green | 0.04 | 1.00 | 1.00 | 0.01 | 0.22 | 0.22 | 0.18 | 0.18 | 0.18 | 0.18 | 0.18 | 0.18 |
| Sat Flow, veh/h | 1781 | 3484 | 137 | 1781 | 3322 | 269 | 1339 | 512 | 1134 | 1186 | 1175 | 587 |
| Grp Volume(v), veh/h | 26 | 623 | 647 | 41 | 316 | 324 | 32 | 0 | 196 | 49 | 0 | 60 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1844 | 1781 | 1777 | 1814 | 1339 | 0 | 1646 | 1186 | 0 | 1762 |
| Q Serve(g_s), s | 1.4 | 0.0 | 0.0 | 2.3 | 14.8 | 14.9 | 2.1 | 0.0 | 11.1 | 4.0 | 0.0 | 2.9 |
| Cycle Q Clear(g_c), s | 1.4 | 0.0 | 0.0 | 2.3 | 14.8 | 14.9 | 5.0 | 0.0 | 11.1 | 15.1 | 0.0 | 2.9 |
| Prop In Lane | 1.00 | | 0.07 | 1.00 | | 0.15 | 1.00 | | 0.69 | 1.00 | | 0.33 |
| Lane Grp Cap(c), veh/h | 37 | 1148 | 1191 | 52 | 1163 | 1188 | 271 | 0 | 292 | 151 | 0 | 313 |
| V/C Ratio(X) | 0.71 | 0.54 | 0.54 | 0.79 | 0.27 | 0.27 | 0.12 | 0.00 | 0.67 | 0.32 | 0.00 | 0.19 |
| Avail Cap(c_a), veh/h | 121 | 1148 | 1191 | 139 | 1163 | 1188 | 432 | 0 | 491 | 294 | 0 | 525 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.38 | 0.38 | 0.38 | 0.85 | 0.85 | 0.85 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 47.6 | 0.0 | 0.0 | 49.2 | 19.3 | 19.4 | 37.1 | 0.0 | 38.4 | 45.4 | 0.0 | 35.0 |
| Incr Delay (d2), s/veh | 3.6 | 0.7 | 0.7 | 8.0 | 0.5 | 0.5 | 0.1 | 0.0 | 1.0 | 0.5 | 0.0 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.7 | 0.2 | 0.2 | 1.1 | 7.1 | 7.3 | 0.7 | 0.0 | 4.5 | 1.2 | 0.0 | 1.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 51.2 | 0.7 | 0.7 | 57.2 | 19.8 | 19.8 | 37.2 | 0.0 | 39.4 | 45.9 | 0.0 | 35.1 |
| LnGrp LOS | D | A | A | E | B | B | D | A | D | D | A | D |
| Approach Vol, veh/h | | 1296 | | | 681 | | | 228 | | | 109 | |
| Approach Delay, s/veh | | 1.7 | | | 22.1 | | | 39.1 | | | 40.0 | |
| Approach LOS | | A | | | C | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.1 | 70.9 | | 22.0 | 6.3 | 71.8 | | 22.0 | | | | |
| Change Period (Y+Rc), s | * 4.2 | * 6.3 | | * 4.2 | * 4.2 | 6.3 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | * 7.8 | * 49 | | * 30 | * 6.8 | 48.7 | | * 30 | | | | |
| Max Q Clear Time (g_c+I1), s | 4.3 | 2.0 | | 17.1 | 3.4 | 16.9 | | 13.1 | | | | |
| Green Ext Time (p_c), s | 0.0 | 24.4 | | 0.2 | 0.0 | 8.5 | | 0.7 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 13.2 | |
| HCM 6th LOS | B | |

Notes

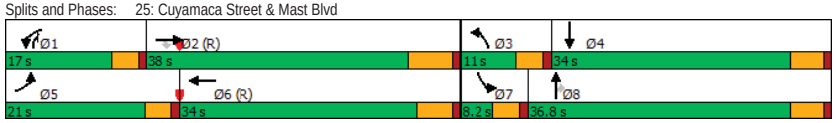
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 351 | 611 | 254 | 310 | 270 | 17 | 238 | 629 | 432 | 12 | 363 | 196 |
| Future Volume (vph) | 351 | 611 | 254 | 310 | 270 | 17 | 238 | 629 | 432 | 12 | 363 | 196 |
| Confl. Peds. (#/hr) | | | 11 | | | 3 | | | | | | 3 |
| Confl. Bikes (#/hr) | | | 2 | | | 2 | | | | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | | Prot | NA | pm+ov | Prot | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | 1 | 7 | 4 | |
| Permitted Phases | | | 2 | | | | | | 8 | | | |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | | 3 | 8 | 1 | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | | 4.0 | 7.0 | 4.0 | 4.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 34.3 | 34.3 | 8.2 | 32.3 | | 8.2 | 33.1 | 8.2 | 8.2 | 34.0 | |
| Total Split (s) | 21.0 | 38.0 | 38.0 | 17.0 | 34.0 | | 11.0 | 36.8 | 17.0 | 8.2 | 34.0 | |
| Total Split (%) | 21.0% | 38.0% | 38.0% | 17.0% | 34.0% | | 11.0% | 36.8% | 17.0% | 8.2% | 34.0% | |
| Yellow Time (s) | 3.2 | 5.3 | 5.3 | 3.2 | 4.3 | | 3.2 | 4.1 | 3.2 | 3.2 | 4.0 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.2 | 6.3 | 6.3 | 4.2 | 5.3 | | 4.2 | 5.1 | 4.2 | 4.2 | 5.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | |
| Recall Mode | None | C-Min | C-Min | None | C-Min | | None | None | None | None | None | |

**Intersection Summary**

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 21 (21%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 105
Control Type: Actuated-Coordinated

Splits and Phases: 25: Cuyamaca Street & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 351 | 611 | 254 | 310 | 270 | 17 | 238 | 629 | 432 | 12 | 363 | 196 |
| Future Volume (veh/h) | 351 | 611 | 254 | 310 | 270 | 17 | 238 | 629 | 432 | 12 | 363 | 196 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 1.00 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 382 | 664 | 276 | 337 | 293 | 18 | 259 | 684 | 470 | 13 | 395 | 213 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 299 | 1328 | 580 | 402 | 1095 | 67 | 235 | 1065 | 660 | 22 | 543 | 289 |
| Arrive On Green | 0.06 | 0.12 | 0.12 | 0.12 | 0.32 | 0.32 | 0.07 | 0.30 | 0.30 | 0.01 | 0.24 | 0.24 |
| Sat Flow, veh/h | 1781 | 3554 | 1550 | 3456 | 3398 | 208 | 3456 | 3554 | 1585 | 1781 | 2227 | 1184 |
| Grp Volume(v), veh/h | 382 | 664 | 276 | 337 | 152 | 159 | 259 | 684 | 470 | 13 | 314 | 294 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1550 | 1728 | 1777 | 1829 | 1728 | 1777 | 1585 | 1781 | 1777 | 1634 |
| Q Serve(g_s), s | 16.8 | 17.5 | 16.6 | 9.5 | 6.4 | 6.4 | 6.8 | 16.7 | 24.6 | 0.7 | 16.2 | 16.6 |
| Cycle Q Clear(g_c), s | 16.8 | 17.5 | 16.6 | 9.5 | 6.4 | 6.4 | 6.8 | 16.7 | 24.6 | 0.7 | 16.2 | 16.6 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.11 | 1.00 | | 1.00 | 1.00 | | 0.72 |
| Lane Grp Cap(c), veh/h | 299 | 1328 | 580 | 402 | 573 | 589 | 235 | 1065 | 660 | 22 | 433 | 398 |
| V/C Ratio(X) | 1.28 | 0.50 | 0.48 | 0.84 | 0.27 | 0.27 | 1.10 | 0.64 | 0.71 | 0.60 | 0.73 | 0.74 |
| Avail Cap(c_a), veh/h | 299 | 1328 | 580 | 442 | 573 | 589 | 235 | 1127 | 687 | 71 | 515 | 474 |
| HCM Platoon Ratio | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.84 | 0.84 | 0.84 | 0.98 | 0.98 | 0.98 | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 47.2 | 35.1 | 34.7 | 43.2 | 25.1 | 25.1 | 46.6 | 30.4 | 24.2 | 49.2 | 34.7 | 34.9 |
| Incr Delay (d2), s/veh | 144.5 | 1.1 | 2.3 | 11.0 | 1.1 | 1.1 | 65.2 | 0.5 | 1.2 | 9.6 | 5.1 | 6.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 20.0 | 8.4 | 7.2 | 4.6 | 2.8 | 2.9 | 5.0 | 7.0 | 9.0 | 0.4 | 7.4 | 7.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 191.7 | 36.2 | 37.1 | 54.3 | 26.2 | 26.2 | 111.8 | 30.8 | 25.5 | 58.8 | 39.9 | 40.9 |
| LnGrp LOS | F | D | D | D | C | C | F | C | C | E | D | D |
| Approach Vol, veh/h | | 1322 | | | 648 | | | 1413 | | | 621 | |
| Approach Delay, s/veh | | 81.3 | | | 40.8 | | | 43.9 | | | 40.8 | |
| Approach LOS | | F | | | D | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 15.8 | 43.7 | 11.0 | 29.5 | 21.0 | 38.5 | 5.4 | 35.1 |
| Change Period (Y+Rc), s | * 4.2 | 6.3 | * 4.2 | * 5.1 | * 4.2 | * 6.3 | * 4.2 | 5.1 |
| Max Green Setting (Gmax), s | * 13 | 31.7 | * 6.8 | * 29 | * 17 | * 29 | * 4 | 31.7 |
| Max Q Clear Time (g_c+I1), s | 11.5 | 19.5 | 8.8 | 18.6 | 18.8 | 8.4 | 2.7 | 26.6 |
| Green Ext Time (p_c), s | 0.1 | 5.7 | 0.0 | 3.8 | 0.0 | 2.0 | 0.0 | 3.4 |

**Intersection Summary**

| | |
|---|---|
| HCM 6th Ctrl Delay | 55.3 |
| HCM 6th LOS | E |

**Notes**

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 946 | 28 | 103 | 605 | 16 | 117 |
| Future Volume (vph) | 946 | 28 | 103 | 605 | 16 | 117 |
| Confl. Peds. (#/hr) | | 12 | | | | 20 |
| Confl. Bikes (#/hr) | | 4 | | | | 8 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | NA | | Prot | NA | Prot | Perm |
| Protected Phases | 2 | | 1 | 6 | 8 | |
| Permitted Phases | | | | | | 8 |
| Detector Phase | 2 | | 1 | 6 | 8 | 8 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 22.5 | | 8.5 | 20.5 | 22.5 | 22.5 |
| Total Split (s) | 55.0 | | 20.0 | 75.0 | 25.0 | 25.0 |
| Total Split (%) | 55.0% | | 20.0% | 75.0% | 25.0% | 25.0% |
| Yellow Time (s) | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lag | | Lead | | | |
| Lead-Lag Optimize? | Yes | | Yes | | | |
| Recall Mode | Min | | None | Min | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 56.3 |
| Natural Cycle: 60 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 26: Park Center Drive & Mast Blvd

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 946 | 28 | 103 | 605 | 16 | 117 |
| Future Volume (veh/h) | 946 | 28 | 103 | 605 | 16 | 117 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | 0.96 | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 1028 | 30 | 112 | 658 | 17 | 127 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 1648 | 48 | 147 | 2360 | 194 | 172 |
| Arrive On Green | 0.47 | 0.47 | 0.08 | 0.66 | 0.11 | 0.11 |
| Sat Flow, veh/h | 3615 | 103 | 1781 | 3647 | 1781 | 1585 |
| Grp Volume(v), veh/h | 519 | 539 | 112 | 658 | 17 | 127 |
| Grp Sat Flow(s),veh/h/ln | 1777 | 1847 | 1781 | 1777 | 1781 | 1585 |
| Q Serve(g_s), s | 8.7 | 8.7 | 2.4 | 3.0 | 0.3 | 3.1 |
| Cycle Q Clear(g_c), s | 8.7 | 8.7 | 2.4 | 3.0 | 0.3 | 3.1 |
| Prop In Lane | | 0.06 | 1.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 831 | 864 | 147 | 2360 | 194 | 172 |
| V/C Ratio(X) | 0.62 | 0.62 | 0.76 | 0.28 | 0.09 | 0.74 |
| Avail Cap(c_a), veh/h | 2265 | 2355 | 697 | 6325 | 922 | 820 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 7.9 | 7.9 | 17.8 | 2.7 | 15.9 | 17.1 |
| Incr Delay (d2), s/veh | 0.8 | 0.7 | 7.9 | 0.1 | 0.2 | 6.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.0 | 2.1 | 1.1 | 0.2 | 0.1 | 1.2 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 8.7 | 8.7 | 25.7 | 2.8 | 16.1 | 23.1 |
| LnGrp LOS | A | A | C | A | B | C |
| Approach Vol, veh/h | 1058 | | | 770 | 144 | |
| Approach Delay, s/veh | 8.7 | | | 6.1 | 22.3 | |
| Approach LOS | A | | | A | C | |

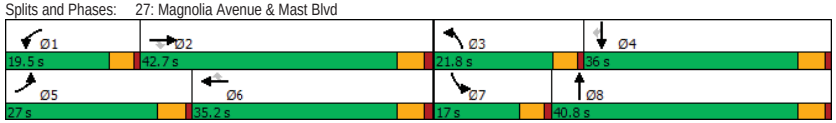
| Timer - Assigned Phs | 1 | 2 | | | 6 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.8 | 23.0 | | | 30.8 | 8.8 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 15.5 | 50.5 | | | 70.5 | 20.5 |
| Max Q Clear Time (g_c+I1), s | 4.4 | 10.7 | | | 5.0 | 5.1 |
| Green Ext Time (p_c), s | 0.2 | 7.8 | | | 4.9 | 0.3 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 8.7 | |
| HCM 6th LOS | A | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 395 | 239 | 248 | 102 | 133 | 27 | 286 | 709 | 100 | 81 | 499 | 212 |
| Future Volume (vph) | 395 | 239 | 248 | 102 | 133 | 27 | 286 | 709 | 100 | 81 | 499 | 212 |
| Confl. Peds. (#/hr) | | | 14 | | | 20 | | | 3 | | | 24 |
| Confl. Bikes (#/hr) | | | 1 | | | 4 | | | 2 | | | 6 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 11.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 9.0 | | 7.0 | 9.0 | 9.0 |
| Minimum Split (s) | 16.0 | 34.5 | 34.5 | 11.5 | 34.5 | 34.5 | 11.5 | 35.0 | | 11.5 | 36.0 | 36.0 |
| Total Split (s) | 27.0 | 42.7 | 42.7 | 19.5 | 35.2 | 35.2 | 21.8 | 40.8 | | 17.0 | 36.0 | 36.0 |
| Total Split (%) | 22.5% | 35.6% | 35.6% | 16.3% | 29.3% | 29.3% | 18.2% | 34.0% | | 14.2% | 30.0% | 30.0% |
| Yellow Time (s) | 4.0 | 4.0 | 4.0 | 3.5 | 4.0 | 4.0 | 3.5 | 4.0 | | 3.5 | 4.0 | 4.0 |
| All-Red Time (s) | 1.0 | 1.5 | 1.5 | 1.0 | 1.5 | 1.5 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 5.0 | 5.5 | 5.5 | 4.5 | 5.5 | 5.5 | 4.5 | 5.0 | | 4.5 | 5.0 | 5.0 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | Min | Min | None | Min | Min | None | Min | | None | Min | Min |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 85.5 |
| Natural Cycle: 100 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 27: Magnolia Avenue & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 395 | 239 | 248 | 102 | 133 | 27 | 286 | 709 | 100 | 81 | 499 | 212 |
| Future Volume (veh/h) | 395 | 239 | 248 | 102 | 133 | 27 | 286 | 709 | 100 | 81 | 499 | 212 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.95 | 1.00 | | 0.98 | 1.00 | | 0.96 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 429 | 260 | 270 | 111 | 145 | 29 | 311 | 771 | 109 | 88 | 542 | 230 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 561 | 950 | 412 | 145 | 638 | 271 | 406 | 1021 | 144 | 135 | 1016 | 435 |
| Arrive On Green | 0.16 | 0.27 | 0.27 | 0.08 | 0.18 | 0.18 | 0.12 | 0.33 | 0.33 | 0.08 | 0.29 | 0.29 |
| Sat Flow, veh/h | 3456 | 3554 | 1540 | 1781 | 3554 | 1507 | 3456 | 3119 | 441 | 1781 | 3554 | 1520 |
| Grp Volume(v), veh/h | 429 | 260 | 270 | 111 | 145 | 29 | 311 | 439 | 441 | 88 | 542 | 230 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1540 | 1781 | 1777 | 1507 | 1728 | 1777 | 1783 | 1781 | 1777 | 1520 |
| Q Serve(g_s), s | 9.3 | 4.5 | 12.2 | 4.8 | 2.7 | 1.3 | 6.9 | 17.4 | 17.4 | 3.8 | 10.1 | 10.0 |
| Cycle Q Clear(g_c), s | 9.3 | 4.5 | 12.2 | 4.8 | 2.7 | 1.3 | 6.9 | 17.4 | 17.4 | 3.8 | 10.1 | 10.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.25 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 561 | 950 | 412 | 145 | 638 | 271 | 406 | 582 | 584 | 135 | 1016 | 435 |
| V/C Ratio(X) | 0.76 | 0.27 | 0.66 | 0.77 | 0.23 | 0.11 | 0.77 | 0.75 | 0.76 | 0.65 | 0.53 | 0.53 |
| Avail Cap(c_a), veh/h | 967 | 1682 | 729 | 340 | 1343 | 569 | 761 | 809 | 812 | 283 | 1402 | 600 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 31.5 | 22.8 | 25.6 | 35.4 | 27.6 | 27.0 | 33.6 | 23.6 | 23.6 | 35.3 | 23.6 | 23.6 |
| Incr Delay (d2), s/veh | 2.6 | 0.2 | 2.1 | 3.2 | 0.2 | 0.2 | 1.2 | 2.6 | 2.6 | 2.0 | 0.4 | 1.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 3.9 | 1.8 | 4.4 | 2.1 | 1.1 | 0.4 | 2.8 | 7.0 | 7.1 | 1.6 | 4.0 | 3.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 34.1 | 23.0 | 27.7 | 38.6 | 27.8 | 27.2 | 34.8 | 26.2 | 26.2 | 37.2 | 24.1 | 24.6 |
| LnGrp LOS | C | C | C | D | C | C | C | C | C | D | C | C |
| Approach Vol, veh/h | | 959 | | | 285 | | | 1191 | | | 860 | |
| Approach Delay, s/veh | | 29.3 | | | 31.9 | | | 28.5 | | | 25.6 | |
| Approach LOS | | C | | | C | | | C | | | C | |

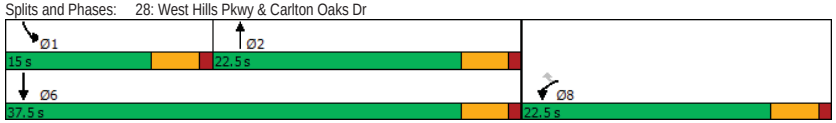
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 10.9 | 26.5 | 13.7 | 27.5 | 17.8 | 19.6 | 10.5 | 30.7 |
| Change Period (Y+Rc), s | 4.5 | 5.5 | 4.5 | 5.0 | 5.0 | 5.5 | 4.5 | 5.0 |
| Max Green Setting (Gmax), s | 15.0 | 37.2 | 17.3 | 31.0 | 22.0 | 29.7 | 12.5 | 35.8 |
| Max Q Clear Time (g_c+I1), s | 6.8 | 14.2 | 8.9 | 12.1 | 11.3 | 4.7 | 5.8 | 19.4 |
| Green Ext Time (p_c), s | 0.1 | 3.1 | 0.4 | 4.1 | 1.4 | 1.1 | 0.0 | 4.9 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 28.3 | |
| HCM 6th LOS | C | |

| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 81 | 121 | 502 | 183 | 249 | 511 |
| Future Volume (vph) | 81 | 121 | 502 | 183 | 249 | 511 |
| Confl. Peds. (#/hr) | | | | 1 | | |
| Confl. Bikes (#/hr) | | 1 | | 5 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | 0% | | | 0% |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | NA | | Prot | NA |
| Protected Phases | 8 | | 2 | | 1 | 6 |
| Permitted Phases | | 8 | | | | |
| Detector Phase | 8 | 8 | 2 | | 1 | 6 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | | 8.5 | 20.5 |
| Total Split (s) | 22.5 | 22.5 | 22.5 | | 15.0 | 37.5 |
| Total Split (%) | 37.5% | 37.5% | 37.5% | | 25.0% | 62.5% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Lead/Lag | | | Lag | | Lead | |
| Lead-Lag Optimize? | | | Yes | | Yes | |
| Recall Mode | None | None | Min | | None | Min |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 47.6 |
| Natural Cycle: 60 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 28: West Hills Pkwy & Carlton Oaks Dr








| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 81 | 121 | 502 | 183 | 249 | 511 |
| Future Volume (veh/h) | 81 | 121 | 502 | 183 | 249 | 511 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | | 0.97 | 1.00 | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | No | | | No |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 88 | 132 | 546 | 199 | 271 | 555 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 188 | 295 | 823 | 299 | 345 | 2288 |
| Arrive On Green | 0.11 | 0.11 | 0.33 | 0.33 | 0.19 | 0.64 |
| Sat Flow, veh/h | 1781 | 2790 | 2626 | 919 | 1781 | 3647 |
| Grp Volume(v), veh/h | 88 | 132 | 382 | 363 | 271 | 555 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1395 | 1777 | 1675 | 1781 | 1777 |
| Q Serve(g_s), s | 1.7 | 1.6 | 6.7 | 6.7 | 5.2 | 2.4 |
| Cycle Q Clear(g_c), s | 1.7 | 1.6 | 6.7 | 6.7 | 5.2 | 2.4 |
| Prop In Lane | 1.00 | 1.00 | | 0.55 | 1.00 | |
| Lane Grp Cap(c), veh/h | 188 | 295 | 578 | 544 | 345 | 2288 |
| V/C Ratio(X) | 0.47 | 0.45 | 0.66 | 0.67 | 0.79 | 0.24 |
| Avail Cap(c_a), veh/h | 892 | 1398 | 890 | 839 | 521 | 3264 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 15.1 | 15.1 | 10.4 | 10.4 | 13.8 | 2.7 |
| Incr Delay (d2), s/veh | 1.8 | 1.1 | 1.3 | 1.4 | 4.6 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.7 | 0.5 | 1.8 | 1.7 | 1.9 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 16.9 | 16.1 | 11.7 | 11.9 | 18.3 | 2.8 |
| LnGrp LOS | B | B | B | B | B | A |
| Approach Vol, veh/h | 220 | | 745 | | | 826 |
| Approach Delay, s/veh | 16.5 | | 11.8 | | | 7.9 |
| Approach LOS | B | | B | | | A |

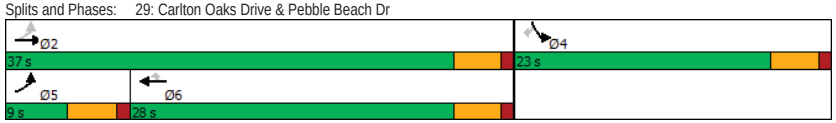
| Timer - Assigned Phs | 1 | 2 | | | 6 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 11.5 | 16.2 | | | 27.6 | 8.3 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 10.5 | 18.0 | | | 33.0 | 18.0 |
| Max Q Clear Time (g_c+I1), s | 7.2 | 8.7 | | | 4.4 | 3.7 |
| Green Ext Time (p_c), s | 0.2 | 2.9 | | | 3.6 | 0.6 |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 10.6 | |
| HCM 6th LOS | | B | |

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 10 | 379 | 285 | 35 | 24 | 7 |
| Future Volume (vph) | 10 | 379 | 285 | 35 | 24 | 7 |
| Confl. Peds. (#/hr) | | | | 8 | | |
| Confl. Bikes (#/hr) | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | pm+pt | NA | NA | Perm | Prot | Perm |
| Protected Phases | 5 | 2 | 6 | | 4 | |
| Permitted Phases | 2 | | | 6 | | 4 |
| Detector Phase | 5 | 2 | 6 | 6 | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 |
| Total Split (s) | 9.0 | 37.0 | 28.0 | 28.0 | 23.0 | 23.0 |
| Total Split (%) | 15.0% | 61.7% | 46.7% | 46.7% | 38.3% | 38.3% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | | Lag | Lag | | |
| Lead-Lag Optimize? | Yes | | Yes | Yes | | |
| Recall Mode | None | Min | Min | Min | None | None |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 35.8 |
| Natural Cycle: 55 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 29: Carlton Oaks Drive & Pebble Beach Dr








| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 10 | 379 | 285 | 35 | 24 | 7 |
| Future Volume (veh/h) | 10 | 379 | 285 | 35 | 24 | 7 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 0.99 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 11 | 412 | 310 | 38 | 26 | 8 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 553 | 1022 | 608 | 509 | 61 | 54 |
| Arrive On Green | 0.01 | 0.55 | 0.33 | 0.33 | 0.03 | 0.03 |
| Sat Flow, veh/h | 1781 | 1870 | 1870 | 1566 | 1781 | 1585 |
| Grp Volume(v), veh/h | 11 | 412 | 310 | 38 | 26 | 8 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1870 | 1566 | 1781 | 1585 |
| Q Serve(g_s), s | 0.1 | 2.8 | 2.9 | 0.4 | 0.3 | 0.1 |
| Cycle Q Clear(g_c), s | 0.1 | 2.8 | 2.9 | 0.4 | 0.3 | 0.1 |
| Prop In Lane | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 553 | 1022 | 608 | 509 | 61 | 54 |
| V/C Ratio(X) | 0.02 | 0.40 | 0.51 | 0.07 | 0.43 | 0.15 |
| Avail Cap(c_a), veh/h | 905 | 2831 | 2047 | 1713 | 1535 | 1366 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 4.1 | 2.8 | 5.9 | 5.0 | 10.2 | 10.1 |
| Incr Delay (d2), s/veh | 0.0 | 0.3 | 0.7 | 0.1 | 4.7 | 1.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.1 | 0.5 | 0.1 | 0.2 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 4.1 | 3.1 | 6.5 | 5.1 | 14.8 | 11.3 |
| LnGrp LOS | A | A | A | A | B | B |
| Approach Vol, veh/h | | 423 | 348 | | 34 | |
| Approach Delay, s/veh | | 3.1 | 6.4 | | 14.0 | |
| Approach LOS | | A | A | | B | |

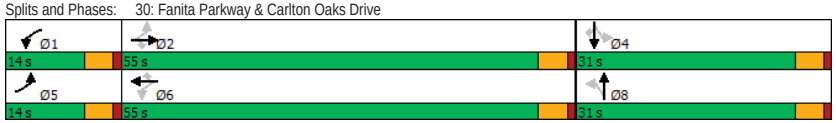
| Timer - Assigned Phs | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 16.2 | | 5.2 | 4.8 | 11.5 |
| Change Period (Y+Rc), s | 4.5 | | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 32.5 | | 18.5 | 4.5 | 23.5 |
| Max Q Clear Time (g_c+I1), s | 4.8 | | 2.3 | 2.1 | 4.9 |
| Green Ext Time (p_c), s | 2.6 | | 0.0 | 0.0 | 1.8 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 5.0 |
| HCM 6th LOS | A |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 72 | 322 | 2 | 9 | 254 | 245 | 2 | 0 | 8 | 180 | 1 | 44 |
| Future Volume (vph) | 72 | 322 | 2 | 9 | 254 | 245 | 2 | 0 | 8 | 180 | 1 | 44 |
| Confl. Peds. (#/hr) | | | 7 | | | 9 | | | 9 | | | 7 |
| Confl. Bikes (#/hr) | | | 3 | | | 1 | | | 1 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | pm+pt | NA | Perm | pm+pt | NA | Perm | Perm | NA | | Perm | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | 2 | | 2 | 6 | | 6 | 8 | | | 4 | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 8 | 8 | | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | | 7.0 | 7.0 | 7.0 |
| Minimum Split (s) | 11.5 | 26.5 | 26.5 | 11.5 | 20.5 | 20.5 | 22.5 | 22.5 | | 22.5 | 22.5 | 22.5 |
| Total Split (s) | 14.0 | 55.0 | 55.0 | 14.0 | 55.0 | 55.0 | 31.0 | 31.0 | | 31.0 | 31.0 | 31.0 |
| Total Split (%) | 14.0% | 55.0% | 55.0% | 14.0% | 55.0% | 55.0% | 31.0% | 31.0% | | 31.0% | 31.0% | 31.0% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | | | | | | |
| Recall Mode | None | Min | Min | None | Min | Min | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 46 |
| Natural Cycle: 65 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 30: Fanita Parkway & Carlton Oaks Drive








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 72 | 322 | 2 | 9 | 254 | 245 | 2 | 0 | 8 | 180 | 1 | 44 |
| Future Volume (veh/h) | 72 | 322 | 2 | 9 | 254 | 245 | 2 | 0 | 8 | 180 | 1 | 44 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 0.99 | | 0.97 | 0.99 | | 0.96 | 0.98 | | 0.96 | 0.98 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 78 | 350 | 2 | 10 | 276 | 266 | 2 | 0 | 9 | 196 | 1 | 48 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 540 | 702 | 576 | 479 | 537 | 438 | 144 | 39 | 269 | 505 | 399 | 333 |
| Arrive On Green | 0.11 | 0.38 | 0.38 | 0.02 | 0.29 | 0.29 | 0.21 | 0.00 | 0.21 | 0.21 | 0.21 | 0.21 |
| Sat Flow, veh/h | 1781 | 1870 | 1534 | 1781 | 1870 | 1527 | 97 | 183 | 1259 | 1377 | 1870 | 1559 |
| Grp Volume(v), veh/h | 78 | 350 | 2 | 10 | 276 | 266 | 11 | 0 | 0 | 196 | 1 | 48 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1534 | 1781 | 1870 | 1527 | 1539 | 0 | 0 | 1377 | 1870 | 1559 |
| Q Serve(g_s), s | 0.9 | 4.9 | 0.0 | 0.1 | 4.2 | 5.2 | 0.0 | 0.0 | 0.0 | 4.2 | 0.0 | 0.9 |
| Cycle Q Clear(g_c), s | 0.9 | 4.9 | 0.0 | 0.1 | 4.2 | 5.2 | 0.2 | 0.0 | 0.0 | 4.4 | 0.0 | 0.9 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 0.18 | | 0.82 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 540 | 702 | 576 | 479 | 537 | 438 | 452 | 0 | 0 | 505 | 399 | 333 |
| V/C Ratio(X) | 0.14 | 0.50 | 0.00 | 0.02 | 0.51 | 0.61 | 0.02 | 0.00 | 0.00 | 0.39 | 0.00 | 0.14 |
| Avail Cap(c_a), veh/h | 842 | 2745 | 2252 | 938 | 2745 | 2241 | 1277 | 0 | 0 | 1272 | 1441 | 1201 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 6.6 | 8.3 | 6.7 | 8.4 | 10.3 | 10.6 | 10.7 | 0.0 | 0.0 | 12.4 | 10.6 | 11.0 |
| Incr Delay (d2), s/veh | 0.1 | 0.5 | 0.0 | 0.0 | 0.8 | 1.4 | 0.0 | 0.0 | 0.0 | 0.5 | 0.0 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.2 | 1.3 | 0.0 | 0.0 | 1.3 | 1.4 | 0.1 | 0.0 | 0.0 | 1.1 | 0.0 | 0.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 6.8 | 8.8 | 6.7 | 8.4 | 11.0 | 11.9 | 10.7 | 0.0 | 0.0 | 12.8 | 10.6 | 11.2 |
| LnGrp LOS | A | A | A | A | B | B | B | A | A | B | B | B |
| Approach Vol, veh/h | | 430 | | | 552 | | | 11 | | | 245 | |
| Approach Delay, s/veh | | 8.4 | | | 11.4 | | | 10.7 | | | 12.5 | |
| Approach LOS | | A | | | B | | | B | | | B | |

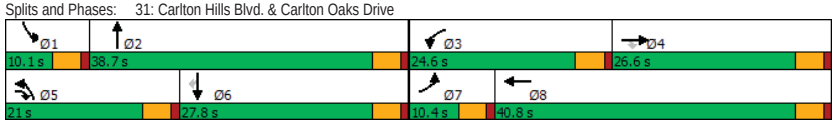
| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.1 | 17.4 | | 11.8 | 8.2 | 14.4 | | 11.8 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 9.5 | 50.5 | | 26.5 | 9.5 | 50.5 | | 26.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.1 | 6.9 | | 6.4 | 2.9 | 7.2 | | 2.2 | | | | |
| Green Ext Time (p_c), s | 0.0 | 2.2 | | 0.7 | 0.1 | 2.7 | | 0.0 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 10.6 | |
| HCM 6th LOS | B | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 26 | 177 | 369 | 184 | 81 | 14 | 501 | 667 | 238 | 22 | 382 | 15 |
| Future Volume (vph) | 26 | 177 | 369 | 184 | 81 | 14 | 501 | 667 | 238 | 22 | 382 | 15 |
| Confl. Peds. (#/hr) | | | 9 | | | 1 | | | 6 | | | 4 |
| Confl. Bikes (#/hr) | | | 5 | | | 3 | | | 1 | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 7 | 4 | 5 | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | | | | 6 |
| Detector Phase | 7 | 4 | 5 | 3 | 8 | | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 26.5 | 8.5 | 8.5 | 26.5 | | 8.5 | 22.5 | | 8.5 | 22.5 | 22.5 |
| Total Split (s) | 10.4 | 26.6 | 21.0 | 24.6 | 40.8 | | 21.0 | 38.7 | | 10.1 | 27.8 | 27.8 |
| Total Split (%) | 10.4% | 26.6% | 21.0% | 24.6% | 40.8% | | 21.0% | 38.7% | | 10.1% | 27.8% | 27.8% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | | None | Min | | None | Min | Min |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 79.6 |
| Natural Cycle: 80 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 31: Carlton Hills Blvd. & Carlton Oaks Drive








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 26 | 177 | 369 | 184 | 81 | 14 | 501 | 667 | 238 | 22 | 382 | 15 |
| Future Volume (veh/h) | 26 | 177 | 369 | 184 | 81 | 14 | 501 | 667 | 238 | 22 | 382 | 15 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 28 | 192 | 401 | 200 | 88 | 15 | 545 | 725 | 259 | 24 | 415 | 16 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 42 | 463 | 680 | 247 | 1103 | 183 | 649 | 900 | 322 | 37 | 661 | 289 |
| Arrive On Green | 0.02 | 0.25 | 0.25 | 0.14 | 0.36 | 0.36 | 0.19 | 0.35 | 0.35 | 0.02 | 0.19 | 0.19 |
| Sat Flow, veh/h | 1781 | 1870 | 1542 | 1781 | 3042 | 506 | 3456 | 2552 | 912 | 1781 | 3554 | 1552 |
| Grp Volume(v), veh/h | 28 | 192 | 401 | 200 | 50 | 53 | 545 | 505 | 479 | 24 | 415 | 16 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1542 | 1781 | 1777 | 1770 | 1728 | 1777 | 1687 | 1781 | 1777 | 1552 |
| Q Serve(g_s), s | 1.2 | 6.5 | 14.9 | 8.2 | 1.4 | 1.5 | 11.4 | 19.3 | 19.3 | 1.0 | 8.1 | 0.6 |
| Cycle Q Clear(g_c), s | 1.2 | 6.5 | 14.9 | 8.2 | 1.4 | 1.5 | 11.4 | 19.3 | 19.3 | 1.0 | 8.1 | 0.6 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.29 | 1.00 | | 0.54 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 42 | 463 | 680 | 247 | 644 | 642 | 649 | 627 | 595 | 37 | 661 | 289 |
| V/C Ratio(X) | 0.67 | 0.41 | 0.59 | 0.81 | 0.08 | 0.08 | 0.84 | 0.81 | 0.81 | 0.64 | 0.63 | 0.06 |
| Avail Cap(c_a), veh/h | 140 | 551 | 752 | 478 | 860 | 857 | 760 | 810 | 769 | 133 | 1104 | 482 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 36.3 | 23.7 | 16.1 | 31.3 | 15.7 | 15.7 | 29.4 | 21.9 | 21.9 | 36.4 | 28.1 | 25.1 |
| Incr Delay (d2), s/veh | 16.7 | 0.6 | 1.0 | 6.3 | 0.1 | 0.1 | 7.3 | 4.6 | 4.8 | 16.9 | 1.0 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.7 | 2.8 | 5.0 | 3.8 | 0.5 | 0.6 | 5.1 | 8.1 | 7.7 | 0.6 | 3.3 | 0.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 53.0 | 24.2 | 17.2 | 37.6 | 15.7 | 15.8 | 36.7 | 26.5 | 26.8 | 53.3 | 29.1 | 25.2 |
| LnGrp LOS | D | C | B | D | B | B | D | C | C | D | C | C |
| Approach Vol, veh/h | | 621 | | | 303 | | | 1529 | | | 455 | |
| Approach Delay, s/veh | | 21.0 | | | 30.2 | | | 30.2 | | | 30.3 | |
| Approach LOS | | C | | | C | | | C | | | C | |

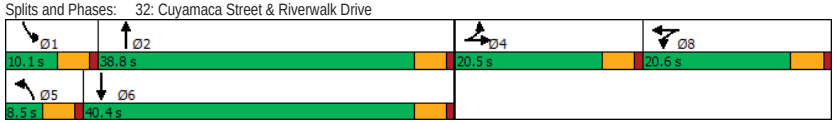
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 6.1 | 31.0 | 14.9 | 23.1 | 18.6 | 18.4 | 6.3 | 31.7 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 5.6 | 34.2 | 20.1 | 22.1 | 16.5 | 23.3 | 5.9 | 36.3 |
| Max Q Clear Time (g_c+I1), s | 3.0 | 21.3 | 10.2 | 16.9 | 13.4 | 10.1 | 3.2 | 3.5 |
| Green Ext Time (p_c), s | 0.0 | 5.2 | 0.4 | 1.3 | 0.7 | 2.2 | 0.0 | 0.5 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 28.2 |
| HCM 6th LOS | C |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 17 | 6 | 15 | 118 | 0 | 32 | 13 | 1317 | 174 | 78 | 1064 | 1 |
| Future Volume (vph) | 17 | 6 | 15 | 118 | 0 | 32 | 13 | 1317 | 174 | 78 | 1064 | 1 |
| Confl. Peds. (#/hr) | | | 7 | | | 5 | | | 15 | | | 5 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | 3 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Split | NA | | Split | NA | | Prot | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | 20.5 | 20.5 | | 20.5 | 20.5 | | 8.5 | 20.5 | | 8.5 | 20.5 | |
| Total Split (s) | 20.5 | 20.5 | | 20.6 | 20.6 | | 8.5 | 38.8 | | 10.1 | 40.4 | |
| Total Split (%) | 22.8% | 22.8% | | 22.9% | 22.9% | | 9.4% | 43.1% | | 11.2% | 44.9% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 90 |
| Actuated Cycle Length: 73.8 |
| Natural Cycle: 100 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 32: Cuyamaca Street & Riverwalk Drive








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 17 | 6 | 15 | 118 | 0 | 32 | 13 | 1317 | 174 | 78 | 1064 | 1 |
| Future Volume (veh/h) | 17 | 6 | 15 | 118 | 0 | 32 | 13 | 1317 | 174 | 78 | 1064 | 1 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.97 | 1.00 | | 0.96 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 18 | 7 | 16 | 128 | 0 | 35 | 14 | 1432 | 189 | 85 | 1157 | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 81 | 22 | 51 | 189 | 0 | 164 | 24 | 1606 | 209 | 109 | 2033 | 2 |
| Arrive On Green | 0.05 | 0.05 | 0.05 | 0.11 | 0.00 | 0.11 | 0.01 | 0.51 | 0.51 | 0.06 | 0.56 | 0.56 |
| Sat Flow, veh/h | 1781 | 493 | 1127 | 1781 | 0 | 1541 | 1781 | 3145 | 410 | 1781 | 3643 | 3 |
| Grp Volume(v), veh/h | 18 | 0 | 23 | 128 | 0 | 35 | 14 | 801 | 820 | 85 | 564 | 594 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1620 | 1781 | 0 | 1541 | 1781 | 1777 | 1778 | 1781 | 1777 | 1870 |
| Q Serve(g_s), s | 0.6 | 0.0 | 0.9 | 4.5 | 0.0 | 1.4 | 0.5 | 26.2 | 27.2 | 3.1 | 13.4 | 13.4 |
| Cycle Q Clear(g_c), s | 0.6 | 0.0 | 0.9 | 4.5 | 0.0 | 1.4 | 0.5 | 26.2 | 27.2 | 3.1 | 13.4 | 13.4 |
| Prop In Lane | 1.00 | | 0.70 | 1.00 | | 1.00 | 1.00 | | 0.23 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 81 | 0 | 74 | 189 | 0 | 164 | 24 | 907 | 908 | 109 | 991 | 1043 |
| V/C Ratio(X) | 0.22 | 0.00 | 0.31 | 0.68 | 0.00 | 0.21 | 0.57 | 0.88 | 0.90 | 0.78 | 0.57 | 0.57 |
| Avail Cap(c_a), veh/h | 438 | 0 | 398 | 441 | 0 | 381 | 109 | 937 | 937 | 153 | 991 | 1043 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 29.9 | 0.0 | 30.1 | 28.0 | 0.0 | 26.6 | 31.9 | 14.2 | 14.5 | 30.1 | 9.3 | 9.3 |
| Incr Delay (d2), s/veh | 1.4 | 0.0 | 2.4 | 4.2 | 0.0 | 0.6 | 19.3 | 9.8 | 11.7 | 15.3 | 0.8 | 0.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.3 | 0.0 | 0.4 | 2.1 | 0.0 | 0.5 | 0.3 | 10.9 | 11.7 | 1.7 | 4.2 | 4.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 31.3 | 0.0 | 32.4 | 32.2 | 0.0 | 27.2 | 51.2 | 24.0 | 26.2 | 45.5 | 10.1 | 10.1 |
| LnGrp LOS | C | A | C | C | A | C | D | C | C | D | B | B |
| Approach Vol, veh/h | | 41 | | | 163 | | | 1635 | | | 1243 | |
| Approach Delay, s/veh | | 31.9 | | | 31.1 | | | 25.3 | | | 12.5 | |
| Approach LOS | | C | | | C | | | C | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 8.5 | 37.7 | | 7.5 | 5.4 | 40.8 | | 11.4 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 5.6 | 34.3 | | 16.0 | 4.0 | 35.9 | | 16.1 | | | | |
| Max Q Clear Time (g_c+I1), s | 5.1 | 29.2 | | 2.9 | 2.5 | 15.4 | | 6.5 | | | | |
| Green Ext Time (p_c), s | 0.0 | 4.0 | | 0.1 | 0.0 | 7.7 | | 0.3 | | | | |

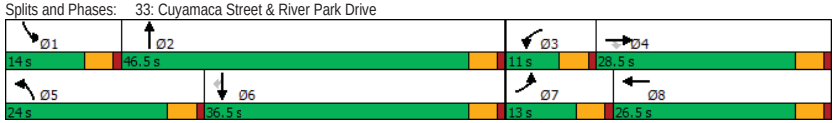
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 20.5 | |
| HCM 6th LOS | C | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 100 | 21 | 103 | 59 | 11 | 33 | 241 | 1304 | 82 | 96 | 1039 | 56 |
| Future Volume (vph) | 100 | 21 | 103 | 59 | 11 | 33 | 241 | 1304 | 82 | 96 | 1039 | 56 |
| Confl. Peds. (#/hr) | | | 3 | | | 5 | | | 6 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | | | | 6 |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 26.5 | 26.5 | 8.5 | 26.5 | | 8.5 | 22.5 | | 8.5 | 26.5 | 26.5 |
| Total Split (s) | 13.0 | 28.5 | 28.5 | 11.0 | 26.5 | | 24.0 | 46.5 | | 14.0 | 36.5 | 36.5 |
| Total Split (%) | 13.0% | 28.5% | 28.5% | 11.0% | 26.5% | | 24.0% | 46.5% | | 14.0% | 36.5% | 36.5% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | | None | Min | | None | Min | Min |

**Intersection Summary**

Cycle Length: 100
Actuated Cycle Length: 82.4
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 33: Cuyamaca Street & River Park Drive








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 100 | 21 | 103 | 59 | 11 | 33 | 241 | 1304 | 82 | 96 | 1039 | 56 |
| Future Volume (veh/h) | 100 | 21 | 103 | 59 | 11 | 33 | 241 | 1304 | 82 | 96 | 1039 | 56 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 109 | 23 | 112 | 64 | 12 | 36 | 262 | 1417 | 89 | 104 | 1129 | 61 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 140 | 219 | 184 | 82 | 34 | 103 | 313 | 1723 | 108 | 134 | 1450 | 645 |
| Arrive On Green | 0.08 | 0.12 | 0.12 | 0.05 | 0.08 | 0.08 | 0.18 | 0.51 | 0.51 | 0.08 | 0.41 | 0.41 |
| Sat Flow, veh/h | 1781 | 1870 | 1573 | 1781 | 406 | 1219 | 1781 | 3390 | 212 | 1781 | 3554 | 1581 |
| Grp Volume(v), veh/h | 109 | 23 | 112 | 64 | 0 | 48 | 262 | 740 | 766 | 104 | 1129 | 61 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1573 | 1781 | 0 | 1625 | 1781 | 1777 | 1825 | 1781 | 1777 | 1581 |
| Q Serve(g_s), s | 4.3 | 0.8 | 4.8 | 2.5 | 0.0 | 2.0 | 10.1 | 24.9 | 25.2 | 4.1 | 19.6 | 1.7 |
| Cycle Q Clear(g_c), s | 4.3 | 0.8 | 4.8 | 2.5 | 0.0 | 2.0 | 10.1 | 24.9 | 25.2 | 4.1 | 19.6 | 1.7 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.75 | 1.00 | | 0.12 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 140 | 219 | 184 | 82 | 0 | 137 | 313 | 903 | 928 | 134 | 1450 | 645 |
| V/C Ratio(X) | 0.78 | 0.11 | 0.61 | 0.78 | 0.00 | 0.35 | 0.84 | 0.82 | 0.83 | 0.78 | 0.78 | 0.09 |
| Avail Cap(c_a), veh/h | 213 | 632 | 532 | 163 | 0 | 503 | 489 | 1051 | 1079 | 238 | 1601 | 712 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 32.1 | 28.0 | 29.8 | 33.5 | 0.0 | 30.7 | 28.3 | 14.7 | 14.8 | 32.2 | 18.2 | 12.9 |
| Incr Delay (d2), s/veh | 9.7 | 0.2 | 3.2 | 14.9 | 0.0 | 1.5 | 7.3 | 4.6 | 4.7 | 9.2 | 2.3 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.1 | 0.4 | 1.9 | 1.4 | 0.0 | 0.8 | 4.7 | 9.5 | 9.9 | 2.0 | 7.5 | 0.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 41.8 | 28.2 | 33.0 | 48.4 | 0.0 | 32.2 | 35.6 | 19.3 | 19.5 | 41.4 | 20.5 | 13.0 |
| LnGrp LOS | D | C | C | D | A | C | D | B | B | D | C | B |
| Approach Vol, veh/h | | 244 | | | 112 | | | 1768 | | | 1294 | |
| Approach Delay, s/veh | | 36.5 | | | 41.5 | | | 21.8 | | | 21.9 | |
| Approach LOS | | D | | | D | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 9.8 | 40.6 | 7.8 | 12.8 | 17.0 | 33.5 | 10.1 | 10.5 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 9.5 | 42.0 | 6.5 | 24.0 | 19.5 | 32.0 | 8.5 | 22.0 |
| Max Q Clear Time (g_c+I1), s | 6.1 | 27.2 | 4.5 | 6.8 | 12.1 | 21.6 | 6.3 | 4.0 |
| Green Ext Time (p_c), s | 0.1 | 8.9 | 0.0 | 0.4 | 0.4 | 5.6 | 0.0 | 0.2 |

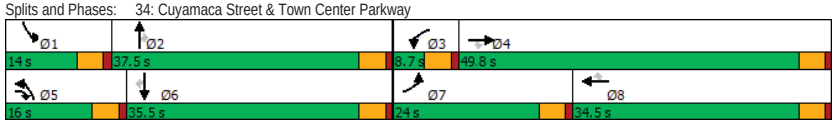
**Intersection Summary**

| | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 23.5 | |
| HCM 6th LOS | | C | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 647 | 68 | 135 | 43 | 61 | 91 | 372 | 1217 | 33 | 160 | 981 | 281 |
| Future Volume (vph) | 647 | 68 | 135 | 43 | 61 | 91 | 372 | 1217 | 33 | 160 | 981 | 281 |
| Confl. Peds. (#/hr) | | | 12 | | | 9 | | | 17 | | | 4 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | 2 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 7 | 4 | 5 | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | 2 | | | 6 |
| Detector Phase | 7 | 4 | 5 | 3 | 8 | 8 | 5 | 2 | 2 | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 34.5 | 8.5 | 8.5 | 34.5 | 34.5 | 8.5 | 34.5 | 34.5 | 8.5 | 34.5 | 34.5 |
| Total Split (s) | 24.0 | 49.8 | 16.0 | 8.7 | 34.5 | 34.5 | 16.0 | 37.5 | 37.5 | 14.0 | 35.5 | 35.5 |
| Total Split (%) | 21.8% | 45.3% | 14.5% | 7.9% | 31.4% | 31.4% | 14.5% | 34.1% | 34.1% | 12.7% | 32.3% | 32.3% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lead | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | None | None | Min | Min | None | Min | Min |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 88.9 |
| Natural Cycle: 110 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 34: Cuyamaca Street & Town Center Parkway








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 647 | 68 | 135 | 43 | 61 | 91 | 372 | 1217 | 33 | 160 | 981 | 281 |
| Future Volume (veh/h) | 647 | 68 | 135 | 43 | 61 | 91 | 372 | 1217 | 33 | 160 | 981 | 281 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.97 | 1.00 | | 0.95 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 703 | 74 | 147 | 47 | 66 | 99 | 404 | 1323 | 36 | 174 | 1066 | 305 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 754 | 624 | 727 | 106 | 520 | 225 | 445 | 1675 | 495 | 189 | 1560 | 476 |
| Arrive On Green | 0.22 | 0.33 | 0.33 | 0.03 | 0.15 | 0.15 | 0.13 | 0.33 | 0.33 | 0.11 | 0.31 | 0.31 |
| Sat Flow, veh/h | 3456 | 1870 | 1568 | 3456 | 3554 | 1535 | 3456 | 5106 | 1510 | 1781 | 5106 | 1559 |
| Grp Volume(v), veh/h | 703 | 74 | 147 | 47 | 66 | 99 | 404 | 1323 | 36 | 174 | 1066 | 305 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1870 | 1568 | 1728 | 1777 | 1535 | 1728 | 1702 | 1510 | 1781 | 1702 | 1559 |
| Q Serve(g_s), s | 17.9 | 2.5 | 5.0 | 1.2 | 1.4 | 5.3 | 10.3 | 21.0 | 1.5 | 8.6 | 16.4 | 15.1 |
| Cycle Q Clear(g_c), s | 17.9 | 2.5 | 5.0 | 1.2 | 1.4 | 5.3 | 10.3 | 21.0 | 1.5 | 8.6 | 16.4 | 15.1 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 754 | 624 | 727 | 106 | 520 | 225 | 445 | 1675 | 495 | 189 | 1560 | 476 |
| V/C Ratio(X) | 0.93 | 0.12 | 0.20 | 0.44 | 0.13 | 0.44 | 0.91 | 0.79 | 0.07 | 0.92 | 0.68 | 0.64 |
| Avail Cap(c_a), veh/h | 754 | 948 | 998 | 162 | 1192 | 515 | 445 | 1885 | 557 | 189 | 1771 | 541 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 34.3 | 20.7 | 14.3 | 42.6 | 33.2 | 34.8 | 38.4 | 27.2 | 20.7 | 39.6 | 27.2 | 26.8 |
| Incr Delay (d2), s/veh | 18.4 | 0.1 | 0.1 | 2.9 | 0.1 | 1.4 | 22.4 | 2.1 | 0.1 | 43.2 | 0.9 | 2.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 9.2 | 1.1 | 1.7 | 0.5 | 0.6 | 2.0 | 5.6 | 8.4 | 0.5 | 6.0 | 6.5 | 5.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 52.7 | 20.8 | 14.4 | 45.4 | 33.3 | 36.2 | 60.8 | 29.4 | 20.7 | 82.8 | 28.2 | 28.9 |
| LnGrp LOS | D | C | B | D | C | D | E | C | C | F | C | C |
| Approach Vol, veh/h | | 924 | | | 212 | | | 1763 | | | 1545 | |
| Approach Delay, s/veh | | 44.1 | | | 37.3 | | | 36.4 | | | 34.5 | |
| Approach LOS | | D | | | D | | | D | | | C | |

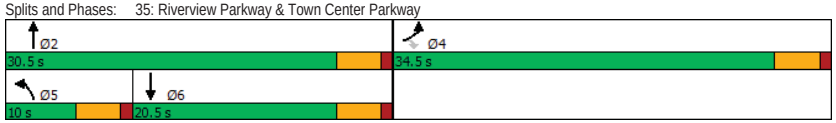
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 14.0 | 33.8 | 7.3 | 34.3 | 16.0 | 31.8 | 24.0 | 17.6 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 9.5 | 33.0 | 4.2 | 45.3 | 11.5 | 31.0 | 19.5 | 30.0 |
| Max Q Clear Time (g_c+I1), s | 10.6 | 23.0 | 3.2 | 7.0 | 12.3 | 18.4 | 19.9 | 7.3 |
| Green Ext Time (p_c), s | 0.0 | 6.1 | 0.0 | 0.9 | 0.0 | 6.6 | 0.0 | 0.7 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 37.4 |
| HCM 6th LOS | | D |

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 186 | 150 | 23 | 18 | 0 |
| Future Volume (vph) | 0 | 186 | 150 | 23 | 18 | 0 |
| Confl. Peds. (#/hr) | | | | | | |
| Confl. Bikes (#/hr) | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | Prot | NA | NA | |
| Protected Phases | 4 | | 5 | 2 | 6 | |
| Permitted Phases | | 4 | | | | |
| Detector Phase | 4 | 4 | 5 | 2 | 6 | |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Minimum Split (s) | 34.5 | 34.5 | 8.5 | 25.5 | 20.5 | |
| Total Split (s) | 34.5 | 34.5 | 10.0 | 30.5 | 20.5 | |
| Total Split (%) | 53.1% | 53.1% | 15.4% | 46.9% | 31.5% | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lead/Lag | | | Lead | | Lag | |
| Lead-Lag Optimize? | | | Yes | | Yes | |
| Recall Mode | None | None | None | Min | Min | |

| Intersection Summary |
|---|
| Cycle Length: 65 |
| Actuated Cycle Length: 36.2 |
| Natural Cycle: 65 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 35: Riverview Parkway & Town Center Parkway








| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 186 | 150 | 23 | 18 | 0 |
| Future Volume (veh/h) | 0 | 186 | 150 | 23 | 18 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 202 | 163 | 25 | 20 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 305 | 271 | 206 | 1642 | 579 | 0 |
| Arrive On Green | 0.00 | 0.17 | 0.12 | 0.46 | 0.16 | 0.00 |
| Sat Flow, veh/h | 1781 | 1585 | 1781 | 3647 | 3741 | 0 |
| Grp Volume(v), veh/h | 0 | 202 | 163 | 25 | 20 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 1781 | 1777 | 1777 | 0 |
| Q Serve(g_s), s | 0.0 | 3.0 | 2.2 | 0.1 | 0.1 | 0.0 |
| Cycle Q Clear(g_c), s | 0.0 | 3.0 | 2.2 | 0.1 | 0.1 | 0.0 |
| Prop In Lane | 1.00 | 1.00 | 1.00 | | | 0.00 |
| Lane Grp Cap(c), veh/h | 305 | 271 | 206 | 1642 | 579 | 0 |
| V/C Ratio(X) | 0.00 | 0.74 | 0.79 | 0.02 | 0.03 | 0.00 |
| Avail Cap(c_a), veh/h | 2177 | 1937 | 399 | 3764 | 2317 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | 0.0 | 9.7 | 10.6 | 3.6 | 8.6 | 0.0 |
| Incr Delay (d2), s/veh | 0.0 | 4.0 | 6.6 | 0.0 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.3 | 0.9 | 0.0 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 13.7 | 17.2 | 3.6 | 8.7 | 0.0 |
| LnGrp LOS | A | B | B | A | A | A |
| Approach Vol, veh/h | 202 | | | 188 | 20 | |
| Approach Delay, s/veh | 13.7 | | | 15.4 | 8.7 | |
| Approach LOS | B | | | B | A | |

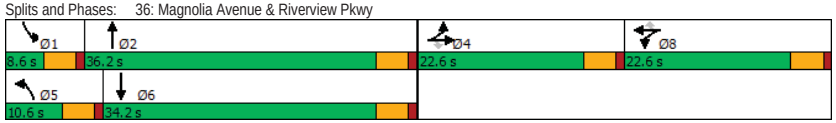
| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 15.8 | | 8.7 | 7.3 | 8.5 |
| Change Period (Y+Rc), s | | 4.5 | | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | | 26.0 | | 30.0 | 5.5 | 16.0 |
| Max Q Clear Time (g_c+I1), s | | 2.1 | | 5.0 | 4.2 | 2.1 |
| Green Ext Time (p_c), s | | 0.1 | | 0.6 | 0.1 | 0.0 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 14.2 | |
| HCM 6th LOS | B | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 1 | 0 | 28 | 47 | 0 | 13 | 56 | 1350 | 44 | 13 | 840 | 7 |
| Future Volume (vph) | 1 | 0 | 28 | 47 | 0 | 13 | 56 | 1350 | 44 | 13 | 840 | 7 |
| Confl. Peds. (#/hr) | | | 8 | | | | | | | | | 1 |
| Confl. Bikes (#/hr) | | | | | | 6 | | | 4 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Split | NA | Perm | Split | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | | | | |
| Detector Phase | 4 | 4 | 4 | 8 | 8 | 8 | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 8.5 | 22.5 | | 8.5 | 22.5 | |
| Total Split (s) | 22.6 | 22.6 | 22.6 | 22.6 | 22.6 | 22.6 | 10.6 | 36.2 | | 8.6 | 34.2 | |
| Total Split (%) | 25.1% | 25.1% | 25.1% | 25.1% | 25.1% | 25.1% | 11.8% | 40.2% | | 9.6% | 38.0% | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | None | None | None | None | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 90 |
| Actuated Cycle Length: 56.4 |
| Natural Cycle: 100 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 36: Magnolia Avenue & Riverview Pkwy








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 1 | 0 | 28 | 47 | 0 | 13 | 56 | 1350 | 44 | 13 | 840 | 7 |
| Future Volume (veh/h) | 1 | 0 | 28 | 47 | 0 | 13 | 56 | 1350 | 44 | 13 | 840 | 7 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.97 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 1 | 0 | 30 | 51 | 0 | 14 | 61 | 1467 | 48 | 14 | 913 | 8 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 82 | 0 | 71 | 85 | 0 | 73 | 81 | 1870 | 61 | 25 | 1810 | 16 |
| Arrive On Green | 0.05 | 0.00 | 0.05 | 0.05 | 0.00 | 0.05 | 0.05 | 0.53 | 0.53 | 0.01 | 0.50 | 0.50 |
| Sat Flow, veh/h | 1781 | 0 | 1537 | 1781 | 0 | 1540 | 1781 | 3509 | 115 | 1781 | 3609 | 32 |
| Grp Volume(v), veh/h | 1 | 0 | 30 | 51 | 0 | 14 | 61 | 741 | 774 | 14 | 449 | 472 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1537 | 1781 | 0 | 1540 | 1781 | 1777 | 1847 | 1781 | 1777 | 1864 |
| Q Serve(g_s), s | 0.0 | 0.0 | 1.0 | 1.4 | 0.0 | 0.4 | 1.7 | 16.8 | 16.9 | 0.4 | 8.5 | 8.5 |
| Cycle Q Clear(g_c), s | 0.0 | 0.0 | 1.0 | 1.4 | 0.0 | 0.4 | 1.7 | 16.8 | 16.9 | 0.4 | 8.5 | 8.5 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.06 | 1.00 | | 0.02 |
| Lane Grp Cap(c), veh/h | 82 | 0 | 71 | 85 | 0 | 73 | 81 | 947 | 984 | 25 | 891 | 935 |
| V/C Ratio(X) | 0.01 | 0.00 | 0.42 | 0.60 | 0.00 | 0.19 | 0.75 | 0.78 | 0.79 | 0.56 | 0.50 | 0.50 |
| Avail Cap(c_a), veh/h | 643 | 0 | 555 | 643 | 0 | 556 | 217 | 1124 | 1168 | 146 | 1053 | 1105 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 22.8 | 0.0 | 23.2 | 23.4 | 0.0 | 22.9 | 23.6 | 9.4 | 9.4 | 24.5 | 8.3 | 8.3 |
| Incr Delay (d2), s/veh | 0.1 | 0.0 | 3.9 | 6.7 | 0.0 | 1.3 | 12.9 | 3.1 | 3.1 | 17.8 | 0.4 | 0.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.0 | 0.4 | 0.7 | 0.0 | 0.2 | 0.9 | 4.9 | 5.0 | 0.3 | 2.1 | 2.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 22.9 | 0.0 | 27.2 | 30.1 | 0.0 | 24.2 | 36.5 | 12.5 | 12.5 | 42.3 | 8.8 | 8.8 |
| LnGrp LOS | C | A | C | C | A | C | D | B | B | D | A | A |
| Approach Vol, veh/h | | 31 | | | 65 | | | 1576 | | | 935 | |
| Approach Delay, s/veh | | 27.0 | | | 28.8 | | | 13.4 | | | 9.3 | |
| Approach LOS | | C | | | C | | | B | | | A | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.2 | 31.2 | | 6.8 | 6.8 | 29.6 | | 6.9 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 4.1 | 31.7 | | 18.1 | 6.1 | 29.7 | | 18.1 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.4 | 18.9 | | 3.0 | 3.7 | 10.5 | | 3.4 | | | | |
| Green Ext Time (p_c), s | 0.0 | 7.8 | | 0.0 | 0.0 | 5.2 | | 0.2 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 12.5 | |
| HCM 6th LOS | B | |

| Intersection | |
|---|---|
| Int Delay, s/veh | 6.7 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 0 | 14 | 0 | 138 | 280 | 670 | 0 | 0 | 291 | 656 |
| Future Vol, veh/h | 0 | 0 | 0 | 14 | 0 | 138 | 280 | 670 | 0 | 0 | 291 | 656 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| Sign Control | Free | Free | Free | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | 190 | - | - | - | - | - |
| Veh in Median Storage, # | - | 2 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 0 | 15 | 0 | 150 | 304 | 728 | 0 | 0 | 316 | 713 |

| Major/Minor | Minor1 | | | Major1 | | | Major2 | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 2009 | 2365 | 728 | 1029 | 0 | - | - | - | 0 |
| Stage 1 | 1336 | 1336 | - | - | - | - | - | - | - |
| Stage 2 | 673 | 1029 | - | - | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.52 | 6.22 | 4.12 | - | - | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 2.218 | - | - | - | - | - |
| Pot Cap-1 Maneuver | 65 | 35 | 423 | 675 | - | 0 | 0 | - | - |
| Stage 1 | 245 | 222 | - | - | - | 0 | 0 | - | - |
| Stage 2 | 507 | 311 | - | - | - | 0 | 0 | - | - |
| Platoon blocked, % | | | | | - | | | - | - |
| Mov Cap-1 Maneuver | 36 | 0 | 423 | 675 | - | - | - | - | - |
| Mov Cap-2 Maneuver | 36 | 0 | - | - | - | - | - | - | - |
| Stage 1 | 135 | 0 | - | - | - | - | - | - | - |
| Stage 2 | 507 | 0 | - | - | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 63.3 | 4.3 | 0 |
| HCM LOS | F | | |

| Minor Lane/Major Mvmt | NBL | NBT | WBLn1 | SBT | SBR |
|---|---|---|---|---|---|
| Capacity (veh/h) | 675 | - | 213 | - | - |
| HCM Lane V/C Ratio | 0.451 | - | 0.776 | - | - |
| HCM Control Delay (s) | 14.6 | - | 63.3 | - | - |
| HCM Lane LOS | B | - | F | - | - |
| HCM 95th %tile Q(veh) | 2.3 | - | 5.4 | - | - |

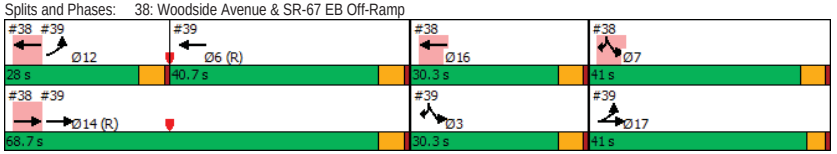




| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR | Ø3 | Ø6 | Ø12 | Ø16 | Ø17 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 588 | 134 | 0 | 760 | 112 | | | | | |
| Future Volume (vph) | 0 | 588 | 134 | 0 | 760 | 112 | | | | | |
| Confl. Peds. (#/hr) | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | | | |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | | | | | |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| Parking (#/hr) | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | | | | | | |
| Shared Lane Traffic (%) | | | | | | | | | | | |
| Turn Type | | NA | NA | | Prot | Prot | | | | | |
| Protected Phases | | 14 | 12 16 | | 7 | 7 | 3 | 6 | 12 | 16 | 17 |
| Permitted Phases | | | | | | | | | | | |
| Detector Phase | | 14 | 12 16 | | 7 | 7 | | | | | |
| Switch Phase | | | | | | | | | | | |
| Minimum Initial (s) | | 4.0 | | | 8.0 | 8.0 | 5.0 | 5.0 | 5.0 | 2.0 | 5.0 |
| Minimum Split (s) | | 20.0 | | | 27.3 | 27.3 | 30.3 | 29.3 | 24.3 | 20.0 | 9.2 |
| Total Split (s) | | 68.7 | | | 41.0 | 41.0 | 30.3 | 40.7 | 28.0 | 30.3 | 41.0 |
| Total Split (%) | | 49.1% | | | 29.3% | 29.3% | 22% | 29% | 20% | 22% | 29% |
| Yellow Time (s) | | 4.3 | | | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 3.2 |
| All-Red Time (s) | | 1.0 | | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | | 0.0 | | | 0.0 | 0.0 | | | | | |
| Total Lost Time (s) | | 5.3 | | | 5.3 | 5.3 | | | | | |
| Lead/Lag | | | | | | | | Lag | Lead | | |
| Lead-Lag Optimize? | | | | | | | | Yes | Yes | | |
| Recall Mode | | C-Max | | | Max | Max | None | C-Max | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 140 |
| Actuated Cycle Length: 140 |
| Offset: 0 (0%), Referenced to phase 6:WBT and 14:EBT, Start of Green |
| Natural Cycle: 125 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 38: Woodside Avenue & SR-67 EB Off-Ramp



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 588 | 134 | 0 | 760 | 112 |
| Future Volume (vph) | 0 | 588 | 134 | 0 | 760 | 112 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 5.3 | 5.3 | | 5.3 | 5.3 |
| Lane Util. Factor | | 0.95 | 1.00 | | 0.97 | 1.00 |
| Frt | | 1.00 | 1.00 | | 1.00 | 0.85 |
| Flt Protected | | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | | 3539 | 1863 | | 3433 | 1583 |
| Flt Permitted | | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (perm) | | 3539 | 1863 | | 3433 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 639 | 146 | 0 | 826 | 122 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 22 |
| Lane Group Flow (vph) | 0 | 639 | 146 | 0 | 826 | 100 |
| Turn Type | | NA | NA | | Prot | Prot |
| Protected Phases | | 14 | 12 16 | | 7 | 7 |
| Permitted Phases | | | | | | |
| Actuated Green, G (s) | | 63.4 | 42.2 | | 37.6 | 37.6 |
| Effective Green, g (s) | | 63.4 | 42.2 | | 37.6 | 37.6 |
| Actuated g/C Ratio | | 0.45 | 0.30 | | 0.27 | 0.27 |
| Clearance Time (s) | | 5.3 | | | 5.3 | 5.3 |
| Vehicle Extension (s) | | 1.0 | | | 3.0 | 3.0 |
| Lane Grp Cap (vph) | | 1602 | 561 | | 922 | 425 |
| v/s Ratio Prot | | c0.18 | c0.08 | | c0.24 | 0.06 |
| v/s Ratio Perm | | | | | | |
| v/c Ratio | | 0.40 | 0.26 | | 0.90 | 0.24 |
| Uniform Delay, d1 | | 25.6 | 37.1 | | 49.3 | 40.0 |
| Progression Factor | | 1.00 | 1.19 | | 1.00 | 1.00 |
| Incremental Delay, d2 | | 0.7 | 0.2 | | 13.1 | 1.3 |
| Delay (s) | | 26.3 | 44.2 | | 62.4 | 41.3 |
| Level of Service | | C | D | | E | D |
| Approach Delay (s) | | 26.3 | 44.2 | | 59.7 | |
| Approach LOS | | C | D | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 46.1 | HCM 2000 Level of Service | D |
| HCM 2000 Volume to Capacity ratio | 0.55 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 21.2 |
| Intersection Capacity Utilization | 46.8% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

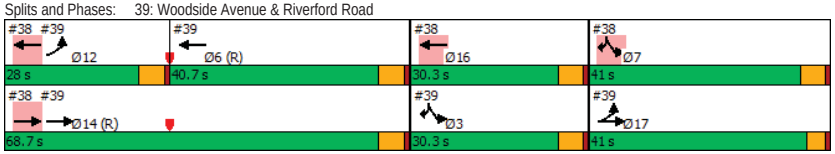




| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR | Ø7 | Ø12 | Ø14 | Ø16 | Ø17 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | |
| Traffic Volume (vph) | 637 | 713 | 104 | 322 | 233 | 34 | | | | | |
| Future Volume (vph) | 637 | 713 | 104 | 322 | 233 | 34 | | | | | |
| Confl. Peds. (#/hr) | | | | | | 2 | | | | | |
| Confl. Bikes (#/hr) | | | | 2 | | 1 | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | | | |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | | | | | |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| Parking (#/hr) | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | | | | | | |
| Shared Lane Traffic (%) | | | | | | | | | | | |
| Turn Type | Prot | NA | NA | | Prot | Prot | | | | | |
| Protected Phases | 12 17 | 14 17 | 6 | | 3 | 3 | 7 | 12 | 14 | 16 | 17 |
| Permitted Phases | | | | | | | | | | | |
| Detector Phase | 12 17 | 14 17 | 6 | | 3 | 3 | | | | | |
| Switch Phase | | | | | | | | | | | |
| Minimum Initial (s) | | | 5.0 | | 5.0 | 5.0 | 8.0 | 5.0 | 4.0 | 2.0 | 5.0 |
| Minimum Split (s) | | | 29.3 | | 30.3 | 30.3 | 27.3 | 24.3 | 20.0 | 20.0 | 9.2 |
| Total Split (s) | | | 40.7 | | 30.3 | 30.3 | 41.0 | 28.0 | 68.7 | 30.3 | 41.0 |
| Total Split (%) | | | 29.1% | | 21.6% | 21.6% | 29% | 20% | 49% | 22% | 29% |
| Yellow Time (s) | | | 4.3 | | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 3.2 |
| All-Red Time (s) | | | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | | | 0.0 | | 0.0 | 0.0 | | | | | |
| Total Lost Time (s) | | | 5.3 | | 5.3 | 5.3 | | | | | |
| Lead/Lag | | | Lag | | | | | Lead | | | |
| Lead-Lag Optimize? | | | Yes | | | | | Yes | | | |
| Recall Mode | | | C-Max | | None | None | Max | None | C-Max | None | None |

| Intersection Summary |
|---|
| Cycle Length: 140 |
| Actuated Cycle Length: 140 |
| Offset: 0 (0%), Referenced to phase 6:WBT and 14:EBT, Start of Green |
| Natural Cycle: 125 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 39: Woodside Avenue & Riverford Road



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 637 | 713 | 104 | 322 | 233 | 34 |
| Future Volume (vph) | 637 | 713 | 104 | 322 | 233 | 34 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.3 | 5.3 | 5.3 | | 5.3 | 5.3 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.98 | | 1.00 | 1.00 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.90 | | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | 1770 | 1863 | 1644 | | 1770 | 1583 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (perm) | 1770 | 1863 | 1644 | | 1770 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 692 | 775 | 113 | 350 | 253 | 37 |
| RTOR Reduction (vph) | 0 | 0 | 77 | 0 | 0 | 23 |
| Lane Group Flow (vph) | 692 | 775 | 386 | 0 | 253 | 14 |
| Confl. Peds. (#/hr) | | | | | | 2 |
| Confl. Bikes (#/hr) | | | | 2 | | 1 |
| Turn Type | Prot | NA | NA | | Prot | Prot |
| Protected Phases | 12 17 | 14 17 | 6 | | 3 | 3 |
| Permitted Phases | | | | | | |
| Actuated Green, G (s) | 62.0 | 106.3 | 39.0 | | 23.1 | 23.1 |
| Effective Green, g (s) | 57.8 | 102.1 | 39.0 | | 23.1 | 23.1 |
| Actuated g/C Ratio | 0.41 | 0.73 | 0.28 | | 0.17 | 0.17 |
| Clearance Time (s) | | | 5.3 | | 5.3 | 5.3 |
| Vehicle Extension (s) | | | 3.0 | | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 730 | 1358 | 457 | | 292 | 261 |
| v/s Ratio Prot | c0.39 | 0.42 | c0.23 | | c0.14 | 0.01 |
| v/s Ratio Perm | | | | | | |
| v/c Ratio | 0.95 | 0.57 | 0.84 | | 0.87 | 0.05 |
| Uniform Delay, d1 | 39.6 | 8.8 | 47.6 | | 56.9 | 49.2 |
| Progression Factor | 0.43 | 0.12 | 1.00 | | 1.00 | 1.00 |
| Incremental Delay, d2 | 17.1 | 0.4 | 17.1 | | 22.6 | 0.1 |
| Delay (s) | 34.2 | 1.5 | 64.8 | | 79.5 | 49.3 |
| Level of Service | C | A | E | | E | D |
| Approach Delay (s) | | 16.9 | 64.8 | | 75.7 | |
| Approach LOS | | B | E | | E | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| HCM 2000 Control Delay | 34.6 | HCM 2000 Level of Service | C |
| HCM 2000 Volume to Capacity ratio | 0.91 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 21.2 |
| Intersection Capacity Utilization | 87.2% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

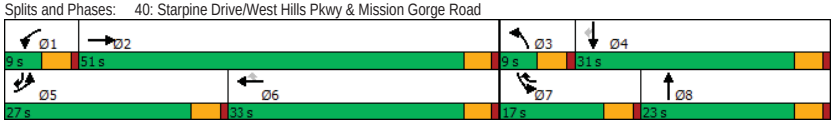




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 584 | 756 | 10 | 12 | 301 | 131 | 10 | 11 | 28 | 190 | 17 | 367 |
| Future Volume (vph) | 584 | 756 | 10 | 12 | 301 | 131 | 10 | 11 | 28 | 190 | 17 | 367 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | 1 |
| Confl. Bikes (#/hr) | | | 5 | | | 6 | | | | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Prot | NA | | Prot | NA | pm+ov |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 5 |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 5 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 29.5 | | 8.5 | 29.5 | 8.5 | 8.5 | 22.5 | | 8.5 | 29.5 | 8.5 |
| Total Split (s) | 27.0 | 51.0 | | 9.0 | 33.0 | 17.0 | 9.0 | 23.0 | | 17.0 | 31.0 | 27.0 |
| Total Split (%) | 27.0% | 51.0% | | 9.0% | 33.0% | 17.0% | 9.0% | 23.0% | | 17.0% | 31.0% | 27.0% |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | Lead |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | Min | | None | Min | None | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 62.8 |
| Natural Cycle: 90 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 40: Starpine Drive/West Hills Pkwy & Mission Gorge Road



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 584 | 756 | 10 | 12 | 301 | 131 | 10 | 11 | 28 | 190 | 17 | 367 |
| Future Volume (veh/h) | 584 | 756 | 10 | 12 | 301 | 131 | 10 | 11 | 28 | 190 | 17 | 367 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 1.00 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 635 | 822 | 11 | 13 | 327 | 142 | 11 | 12 | 30 | 207 | 18 | 399 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 868 | 1481 | 20 | 24 | 620 | 431 | 20 | 42 | 105 | 348 | 333 | 1183 |
| Arrive On Green | 0.25 | 0.41 | 0.41 | 0.01 | 0.17 | 0.17 | 0.01 | 0.09 | 0.09 | 0.10 | 0.18 | 0.18 |
| Sat Flow, veh/h | 3456 | 3589 | 48 | 1781 | 3554 | 1554 | 1781 | 474 | 1184 | 3456 | 1870 | 2703 |
| Grp Volume(v), veh/h | 635 | 407 | 426 | 13 | 327 | 142 | 11 | 0 | 42 | 207 | 18 | 399 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1860 | 1781 | 1777 | 1554 | 1781 | 0 | 1657 | 1728 | 1870 | 1352 |
| Q Serve(g_s), s | 7.9 | 8.2 | 8.2 | 0.3 | 3.9 | 3.4 | 0.3 | 0.0 | 1.1 | 2.7 | 0.4 | 4.6 |
| Cycle Q Clear(g_c), s | 7.9 | 8.2 | 8.2 | 0.3 | 3.9 | 3.4 | 0.3 | 0.0 | 1.1 | 2.7 | 0.4 | 4.6 |
| Prop In Lane | 1.00 | | 0.03 | 1.00 | | 1.00 | 1.00 | | 0.71 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 868 | 733 | 768 | 24 | 620 | 431 | 20 | 0 | 147 | 348 | 333 | 1183 |
| V/C Ratio(X) | 0.73 | 0.56 | 0.56 | 0.55 | 0.53 | 0.33 | 0.54 | 0.00 | 0.29 | 0.59 | 0.05 | 0.34 |
| Avail Cap(c_a), veh/h | 1661 | 1765 | 1848 | 171 | 2163 | 1106 | 171 | 0 | 655 | 923 | 1059 | 2231 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 16.1 | 10.5 | 10.5 | 23.0 | 17.6 | 13.5 | 23.0 | 0.0 | 19.9 | 20.1 | 16.0 | 8.9 |
| Incr Delay (d2), s/veh | 1.2 | 0.7 | 0.6 | 18.4 | 0.7 | 0.4 | 20.6 | 0.0 | 1.0 | 1.6 | 0.1 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.4 | 2.1 | 2.1 | 0.2 | 1.3 | 1.1 | 0.2 | 0.0 | 0.4 | 1.0 | 0.1 | 1.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 17.3 | 11.1 | 11.1 | 41.3 | 18.3 | 14.0 | 43.7 | 0.0 | 21.0 | 21.8 | 16.0 | 9.1 |
| LnGrp LOS | B | B | B | D | B | B | D | A | C | C | B | A |
| Approach Vol, veh/h | | 1468 | | | 482 | | | 53 | | | 624 | |
| Approach Delay, s/veh | | 13.8 | | | 17.6 | | | 25.7 | | | 13.5 | |
| Approach LOS | | B | | | B | | | C | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.1 | 23.8 | 5.0 | 12.8 | 16.3 | 12.7 | 9.2 | 8.7 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 4.5 | 46.5 | 4.5 | 26.5 | 22.5 | 28.5 | 12.5 | 18.5 |
| Max Q Clear Time (g_c+I1), s | 2.3 | 10.2 | 2.3 | 6.6 | 9.9 | 5.9 | 4.7 | 3.1 |
| Green Ext Time (p_c), s | 0.0 | 4.8 | 0.0 | 1.6 | 1.9 | 2.3 | 0.4 | 0.1 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 14.7 |
| HCM 6th LOS | B |

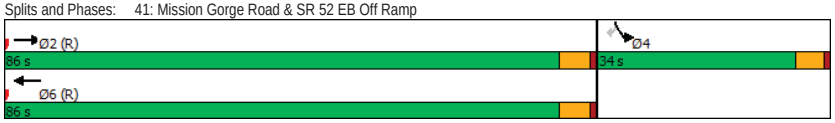




| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 1050 | 601 | 0 | 314 | 41 |
| Future Volume (vph) | 0 | 1050 | 601 | 0 | 314 | 41 |
| Confl. Peds. (#/hr) | | | | | | |
| Confl. Bikes (#/hr) | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | | NA | NA | | Prot | Perm |
| Protected Phases | | 2 | 6 | | 4 | |
| Permitted Phases | | | | | | 4 |
| Detector Phase | | 2 | 6 | | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | | 6.0 | 11.0 | | 10.0 | 10.0 |
| Minimum Split (s) | | 20.0 | 20.0 | | 20.0 | 20.0 |
| Total Split (s) | | 86.0 | 86.0 | | 34.0 | 34.0 |
| Total Split (%) | | 71.7% | 71.7% | | 28.3% | 28.3% |
| Yellow Time (s) | | 4.4 | 4.4 | | 4.1 | 4.1 |
| All-Red Time (s) | | 1.0 | 1.0 | | 1.0 | 1.0 |
| Lost Time Adjust (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | | 5.4 | 5.4 | | 5.1 | 5.1 |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | | C-Min | C-Min | | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green, Master Intersection |
| Natural Cycle: 45 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 41: Mission Gorge Road & SR 52 EB Off Ramp



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 1050 | 601 | 0 | 314 | 41 |
| Future Volume (veh/h) | 0 | 1050 | 601 | 0 | 314 | 41 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 0 | 1870 | 1870 | 0 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 1141 | 653 | 0 | 341 | 45 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 0 | 2 | 2 | 0 | 2 | 2 |
| Cap, veh/h | 0 | 2807 | 2807 | 0 | 424 | 195 |
| Arrive On Green | 0.00 | 0.79 | 1.00 | 0.00 | 0.12 | 0.12 |
| Sat Flow, veh/h | 0 | 3741 | 3741 | 0 | 3456 | 1585 |
| Grp Volume(v), veh/h | 0 | 1141 | 653 | 0 | 341 | 45 |
| Grp Sat Flow(s),veh/h/ln | 0 | 1777 | 1777 | 0 | 1728 | 1585 |
| Q Serve(g_s), s | 0.0 | 11.9 | 0.0 | 0.0 | 11.5 | 3.1 |
| Cycle Q Clear(g_c), s | 0.0 | 11.9 | 0.0 | 0.0 | 11.5 | 3.1 |
| Prop In Lane | 0.00 | | | 0.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 0 | 2807 | 2807 | 0 | 424 | 195 |
| V/C Ratio(X) | 0.00 | 0.41 | 0.23 | 0.00 | 0.80 | 0.23 |
| Avail Cap(c_a), veh/h | 0 | 2807 | 2807 | 0 | 832 | 382 |
| HCM Platoon Ratio | 1.00 | 1.00 | 2.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.00 | 1.00 | 0.99 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 0.0 | 3.9 | 0.0 | 0.0 | 51.2 | 47.5 |
| Incr Delay (d2), s/veh | 0.0 | 0.4 | 0.2 | 0.0 | 3.6 | 0.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 3.6 | 0.1 | 0.0 | 5.2 | 1.3 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 4.3 | 0.2 | 0.0 | 54.8 | 48.1 |
| LnGrp LOS | A | A | A | A | D | D |
| Approach Vol, veh/h | | 1141 | 653 | | 386 | |
| Approach Delay, s/veh | | 4.3 | 0.2 | | 54.1 | |
| Approach LOS | | A | A | | D | |

| Timer - Assigned Phs | | 2 | | 4 | | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 100.2 | | 19.8 | | 100.2 |
| Change Period (Y+Rc), s | | 5.4 | | 5.1 | | 5.4 |
| Max Green Setting (Gmax), s | | 80.6 | | 28.9 | | 80.6 |
| Max Q Clear Time (g_c+I1), s | | 13.9 | | 13.5 | | 2.0 |
| Green Ext Time (p_c), s | | 11.8 | | 1.2 | | 4.8 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 11.9 |
| HCM 6th LOS | B |

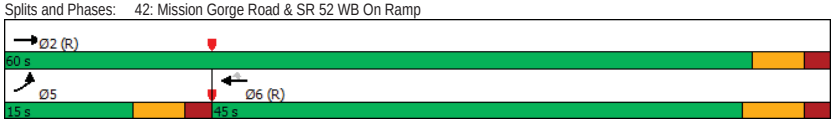




| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 16 | 1286 | 593 | 174 | 0 | 0 |
| Future Volume (vph) | 16 | 1286 | 593 | 174 | 0 | 0 |
| Confl. Peds. (#/hr) | | | | | | |
| Confl. Bikes (#/hr) | | | | 1 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | |
| Shared Lane Traffic (%) | | | | 10% | | |
| Turn Type | Prot | NA | NA | Perm | | |
| Protected Phases | 5 | 2 | 6 | | | |
| Permitted Phases | | | | 6 | | |
| Detector Phase | 5 | 2 | 6 | 6 | | |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 10.0 | 10.0 | | |
| Minimum Split (s) | 10.7 | 21.0 | 22.4 | 22.4 | | |
| Total Split (s) | 15.0 | 60.0 | 45.0 | 45.0 | | |
| Total Split (%) | 25.0% | 100.0% | 75.0% | 75.0% | | |
| Yellow Time (s) | 3.7 | 3.7 | 4.4 | 4.4 | | |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | | |
| Total Lost Time (s) | 5.7 | 5.7 | 6.4 | 6.4 | | |
| Lead/Lag | Lead | | Lag | Lag | | |
| Lead-Lag Optimize? | Yes | | Yes | Yes | | |
| Recall Mode | None | C-Min | C-Min | C-Min | | |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 60 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 40 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 42: Mission Gorge Road & SR 52 WB On Ramp



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 16 | 1286 | 593 | 174 | 0 | 0 |
| Future Volume (veh/h) | 16 | 1286 | 593 | 174 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 0.98 | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Work Zone On Approach | | No | No | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | | |
| Adj Flow Rate, veh/h | 17 | 1398 | 645 | 189 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | | |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | | |
| Cap, veh/h | 37 | 3175 | 2909 | 1208 | | |
| Arrive On Green | 0.04 | 1.00 | 1.00 | 1.00 | | |
| Sat Flow, veh/h | 1781 | 3647 | 3741 | 1553 | | |
| Grp Volume(v), veh/h | 17 | 1398 | 645 | 189 | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1870 | 1553 | | |
| Q Serve(g_s), s | 0.6 | 0.0 | 0.0 | 0.0 | | |
| Cycle Q Clear(g_c), s | 0.6 | 0.0 | 0.0 | 0.0 | | |
| Prop In Lane | 1.00 | | | 1.00 | | |
| Lane Grp Cap(c), veh/h | 37 | 3175 | 2909 | 1208 | | |
| V/C Ratio(X) | 0.46 | 0.44 | 0.22 | 0.16 | | |
| Avail Cap(c_a), veh/h | 276 | 3216 | 2909 | 1208 | | |
| HCM Platoon Ratio | 2.00 | 2.00 | 1.33 | 1.33 | | |
| Upstream Filter(I) | 0.87 | 0.87 | 0.98 | 0.98 | | |
| Uniform Delay (d), s/veh | 28.4 | 0.0 | 0.0 | 0.0 | | |
| Incr Delay (d2), s/veh | 7.8 | 0.4 | 0.2 | 0.3 | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | | |
| %ile BackOfQ(50%),veh/ln | 0.3 | 0.2 | 0.1 | 0.1 | | |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 36.2 | 0.4 | 0.2 | 0.3 | | |
| LnGrp LOS | D | A | A | A | | |
| Approach Vol, veh/h | | 1415 | 834 | | | |
| Approach Delay, s/veh | | 0.8 | 0.2 | | | |
| Approach LOS | | A | A | | | |

| Timer - Assigned Phs | | 2 | | | 5 | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 60.0 | | | 6.9 | 53.1 |
| Change Period (Y+Rc), s | | * 6.4 | | | * 5.7 | 6.4 |
| Max Green Setting (Gmax), s | | * 54 | | | * 9.3 | 38.6 |
| Max Q Clear Time (g_c+I1), s | | 2.0 | | | 2.6 | 2.0 |
| Green Ext Time (p_c), s | | 3.8 | | | 0.0 | 5.3 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 0.6 |
| HCM 6th LOS | A |

**Notes**

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

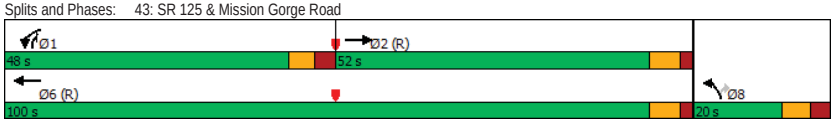




| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 1070 | 183 | 908 | 692 | 156 | 1196 |
| Future Volume (vph) | 1070 | 183 | 908 | 692 | 156 | 1196 |
| Confl. Peds. (#/hr) | | 5 | | | | |
| Confl. Bikes (#/hr) | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | NA | | Prot | NA | Prot | pm+ov |
| Protected Phases | 2 | | 1 | 6 | 8 | 1 |
| Permitted Phases | | | | | | 8 |
| Detector Phase | 2 | | 1 | 6 | 8 | 1 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 11.0 | | 5.0 | 10.0 | 5.0 | 5.0 |
| Minimum Split (s) | 17.4 | | 11.7 | 20.0 | 20.0 | 11.7 |
| Total Split (s) | 52.0 | | 48.0 | 100.0 | 20.0 | 48.0 |
| Total Split (%) | 43.3% | | 40.0% | 83.3% | 16.7% | 40.0% |
| Yellow Time (s) | 4.4 | | 3.7 | 4.4 | 4.1 | 3.7 |
| All-Red Time (s) | 2.0 | | 3.0 | 2.0 | 3.0 | 3.0 |
| Lost Time Adjust (s) | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.4 | | 6.7 | 6.4 | 7.1 | 6.7 |
| Lead/Lag | Lag | | Lead | | | Lead |
| Lead-Lag Optimize? | Yes | | Yes | | | Yes |
| Recall Mode | C-Max | | None | C-Max | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 107 (89%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 90 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 43: SR 125 & Mission Gorge Road



| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 1070 | 183 | 908 | 692 | 156 | 1196 |
| Future Volume (veh/h) | 1070 | 183 | 908 | 692 | 156 | 1196 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | 0.99 | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 1163 | 199 | 987 | 752 | 170 | 1300 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 1790 | 306 | 1092 | 3983 | 371 | 1181 |
| Arrive On Green | 0.82 | 0.82 | 0.10 | 0.26 | 0.11 | 0.11 |
| Sat Flow, veh/h | 4552 | 750 | 3456 | 5274 | 3456 | 2790 |
| Grp Volume(v), veh/h | 903 | 459 | 987 | 752 | 170 | 1300 |
| Grp Sat Flow(s),veh/h/ln | 1702 | 1730 | 1728 | 1702 | 1728 | 1395 |
| Q Serve(g_s), s | 12.5 | 12.5 | 33.9 | 13.8 | 5.5 | 12.9 |
| Cycle Q Clear(g_c), s | 12.5 | 12.5 | 33.9 | 13.8 | 5.5 | 12.9 |
| Prop In Lane | | 0.43 | 1.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 1389 | 706 | 1092 | 3983 | 371 | 1181 |
| V/C Ratio(X) | 0.65 | 0.65 | 0.90 | 0.19 | 0.46 | 1.10 |
| Avail Cap(c_a), veh/h | 1389 | 706 | 1189 | 3983 | 371 | 1181 |
| HCM Platoon Ratio | 2.00 | 2.00 | 0.33 | 0.33 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.92 | 0.92 | 0.92 | 0.92 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 7.7 | 7.7 | 51.9 | 14.9 | 50.3 | 34.6 |
| Incr Delay (d2), s/veh | 2.2 | 4.2 | 8.7 | 0.1 | 0.9 | 58.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.9 | 3.4 | 17.0 | 6.3 | 2.4 | 26.3 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 9.8 | 11.9 | 60.6 | 15.0 | 51.1 | 92.8 |
| LnGrp LOS | A | B | E | B | D | F |
| Approach Vol, veh/h | 1362 | | | 1739 | 1470 | |
| Approach Delay, s/veh | 10.5 | | | 40.9 | 87.9 | |
| Approach LOS | B | | | D | F | |

| Timer - Assigned Phs | 1 | 2 | 6 | 8 |
|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 44.6 | 55.4 | 100.0 | 20.0 |
| Change Period (Y+Rc), s | * 6.7 | 6.4 | 6.4 | 7.1 |
| Max Green Setting (Gmax), s | * 41 | 45.6 | 93.6 | 12.9 |
| Max Q Clear Time (g_c+I1), s | 35.9 | 14.5 | 15.8 | 14.9 |
| Green Ext Time (p_c), s | 2.0 | 10.9 | 5.8 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 47.0 |
| HCM 6th LOS | D |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

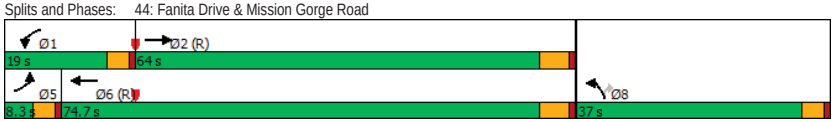




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 5 | 1859 | 406 | 303 | 1245 | 0 | 329 | 0 | 404 | 0 | 0 | 0 |
| Future Volume (vph) | 5 | 1859 | 406 | 303 | 1245 | 0 | 329 | 0 | 404 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | | | 6 | | | | | | | | | |
| Confl. Bikes (#/hr) | | | 4 | | | 3 | | | 3 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | | Perm | | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | | | | | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | | 8 | | | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 7.0 | | 7.0 | | | |
| Minimum Split (s) | 8.2 | 33.3 | | 8.2 | 20.0 | | 34.2 | | 34.2 | | | |
| Total Split (s) | 8.3 | 64.0 | | 19.0 | 74.7 | | 37.0 | | 37.0 | | | |
| Total Split (%) | 6.9% | 53.3% | | 15.8% | 62.3% | | 30.8% | | 30.8% | | | |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | | 3.2 | | 3.2 | | | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | | 1.0 | | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | | 0.0 | | | |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | | 4.2 | | 4.2 | | | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | | None | | | |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 9 (8%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 110 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 44: Fanita Drive & Mission Gorge Road



Existing + Proj PM
44: Fanita Drive & Mission Gorge Road

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 5 | 1859 | 406 | 303 | 1245 | 0 | 329 | 0 | 404 | 0 | 0 | 0 |
| Future Volume (veh/h) | 5 | 1859 | 406 | 303 | 1245 | 0 | 329 | 0 | 404 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 1.00 | 1.00 | | 1.00 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 0 | 1870 | 0 | 1870 | | | |
| Adj Flow Rate, veh/h | 5 | 2021 | 441 | 329 | 1353 | 0 | 358 | 0 | 439 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 0 | 2 | 0 | 2 | | | |
| Cap, veh/h | 9 | 2107 | 442 | 384 | 3101 | 0 | 945 | 0 | 433 | | | |
| Arrive On Green | 0.00 | 0.34 | 0.34 | 0.11 | 0.61 | 0.00 | 0.27 | 0.00 | 0.27 | | | |
| Sat Flow, veh/h | 1781 | 4203 | 882 | 3456 | 5274 | 0 | 3456 | 0 | 1585 | | | |
| Grp Volume(v), veh/h | 5 | 1621 | 841 | 329 | 1353 | 0 | 358 | 0 | 439 | | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1702 | 1681 | 1728 | 1702 | 0 | 1728 | 0 | 1585 | | | |
| Q Serve(g_s), s | 0.3 | 55.7 | 60.0 | 11.2 | 17.0 | 0.0 | 10.1 | 0.0 | 32.8 | | | |
| Cycle Q Clear(g_c), s | 0.3 | 55.7 | 60.0 | 11.2 | 17.0 | 0.0 | 10.1 | 0.0 | 32.8 | | | |
| Prop In Lane | 1.00 | | 0.52 | 1.00 | | 0.00 | 1.00 | | 1.00 | | | |
| Lane Grp Cap(c), veh/h | 9 | 1706 | 843 | 384 | 3101 | 0 | 945 | 0 | 433 | | | |
| V/C Ratio(X) | 0.55 | 0.95 | 1.00 | 0.86 | 0.44 | 0.00 | 0.38 | 0.00 | 1.01 | | | |
| Avail Cap(c_a), veh/h | 61 | 1706 | 843 | 426 | 3101 | 0 | 945 | 0 | 433 | | | |
| HCM Platoon Ratio | 0.67 | 0.67 | 0.67 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 0.49 | 0.49 | 0.49 | 0.77 | 0.77 | 0.00 | 1.00 | 0.00 | 1.00 | | | |
| Uniform Delay (d), s/veh | 59.7 | 38.4 | 39.8 | 52.4 | 12.6 | 0.0 | 35.3 | 0.0 | 43.6 | | | |
| Incr Delay (d2), s/veh | 22.8 | 7.4 | 21.2 | 10.7 | 0.3 | 0.0 | 0.3 | 0.0 | 46.6 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ln | 0.2 | 25.5 | 30.1 | 5.4 | 6.1 | 0.0 | 4.2 | 0.0 | 18.1 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 82.5 | 45.8 | 61.0 | 63.1 | 12.9 | 0.0 | 35.6 | 0.0 | 90.2 | | | |
| LnGrp LOS | F | D | E | E | B | A | D | A | F | | | |
| Approach Vol, veh/h | | 2467 | | | 1682 | | | 797 | | | | |
| Approach Delay, s/veh | | 51.0 | | | 22.7 | | | 65.7 | | | | |
| Approach LOS | | D | | | C | | | E | | | | |

| Timer - Assigned Phs | 1 | 2 | | | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 17.5 | 65.5 | | | 4.8 | 78.2 | | 37.0 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | | | * 4.2 | 5.3 | | 4.2 | | | | |
| Max Green Setting (Gmax), s | * 15 | 58.7 | | | * 4.1 | 69.4 | | 32.8 | | | | |
| Max Q Clear Time (g_c+I1), s | 13.2 | 62.0 | | | 2.3 | 19.0 | | 34.8 | | | | |
| Green Ext Time (p_c), s | 0.1 | 0.0 | | | 0.0 | 15.4 | | 0.0 | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | | 43.8 |
| HCM 6th LOS | | | D |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
N:\2462\Analysis\Intersections\Synchro\4 Existing + Proj PM.syn

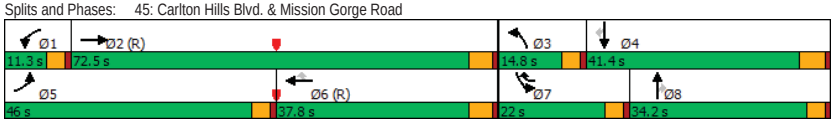
Existing + Proj PM
45: Carlton Hills Blvd. & Mission Gorge Road

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 909 | 1273 | 67 | 33 | 905 | 504 | 58 | 79 | 22 | 353 | 31 | 636 |
| Future Volume (vph) | 909 | 1273 | 67 | 33 | 905 | 504 | 58 | 79 | 22 | 353 | 31 | 636 |
| Confl. Peds. (#/hr) | | | 8 | | | | | | 8 | | | 2 |
| Confl. Bikes (#/hr) | | | 1 | | | 2 | | | 1 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | 48% |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | 6 | | | 8 | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | 8 | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 23.3 | | 8.2 | 34.3 | 8.2 | 8.2 | 34.2 | 34.2 | 8.2 | 32.4 | 32.4 |
| Total Split (s) | 46.0 | 72.5 | | 11.3 | 37.8 | 22.0 | 14.8 | 34.2 | 34.2 | 22.0 | 41.4 | 41.4 |
| Total Split (%) | 32.9% | 51.8% | | 8.1% | 27.0% | 15.7% | 10.6% | 24.4% | 24.4% | 15.7% | 29.6% | 29.6% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | 3.2 | 3.2 | 3.2 | 3.2 | 3.2 | 4.4 | 4.4 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | 4.2 | 4.2 | 4.2 | 4.2 | 4.2 | 5.4 | 5.4 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | C-Min | | None | C-Min | None | None | None | None | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 140 |
| Actuated Cycle Length: 140 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 125 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 45: Carlton Hills Blvd. & Mission Gorge Road




Timings
N:\2462\Analysis\Intersections\Synchro\4 Existing + Proj PM.syn

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 909 | 1273 | 67 | 33 | 905 | 504 | 58 | 79 | 22 | 353 | 31 | 636 |
| Future Volume (veh/h) | 909 | 1273 | 67 | 33 | 905 | 504 | 58 | 79 | 22 | 353 | 31 | 636 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.99 | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 988 | 1384 | 73 | 36 | 984 | 548 | 63 | 86 | 24 | 384 | 0 | 646 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 1026 | 2816 | 149 | 46 | 1517 | 657 | 81 | 278 | 228 | 432 | 0 | 709 |
| Arrive On Green | 0.30 | 0.57 | 0.57 | 0.03 | 0.30 | 0.30 | 0.05 | 0.15 | 0.15 | 0.12 | 0.00 | 0.22 |
| Sat Flow, veh/h | 3456 | 4957 | 261 | 1781 | 5106 | 1564 | 1781 | 1870 | 1539 | 3563 | 0 | 3162 |
| Grp Volume(v), veh/h | 988 | 950 | 507 | 36 | 984 | 548 | 63 | 86 | 24 | 384 | 0 | 646 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1702 | 1815 | 1781 | 1702 | 1564 | 1781 | 1870 | 1539 | 1781 | 0 | 1581 |
| Q Serve(g_s), s | 39.4 | 23.4 | 23.4 | 2.8 | 23.5 | 41.6 | 4.9 | 5.7 | 1.9 | 14.9 | 0.0 | 27.9 |
| Cycle Q Clear(g_c), s | 39.4 | 23.4 | 23.4 | 2.8 | 23.5 | 41.6 | 4.9 | 5.7 | 1.9 | 14.9 | 0.0 | 27.9 |
| Prop In Lane | 1.00 | | 0.14 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 1026 | 1934 | 1031 | 46 | 1517 | 657 | 81 | 278 | 228 | 432 | 0 | 709 |
| V/C Ratio(X) | 0.96 | 0.49 | 0.49 | 0.78 | 0.65 | 0.83 | 0.78 | 0.31 | 0.11 | 0.89 | 0.00 | 0.91 |
| Avail Cap(c_a), veh/h | 1032 | 1934 | 1031 | 90 | 1517 | 657 | 135 | 401 | 330 | 453 | 0 | 813 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.27 | 0.27 | 0.27 | 0.81 | 0.81 | 0.81 | 1.00 | 1.00 | 1.00 | 0.79 | 0.00 | 0.79 |
| Uniform Delay (d), s/veh | 48.5 | 18.1 | 18.1 | 67.8 | 42.8 | 36.5 | 66.1 | 53.2 | 51.6 | 60.6 | 0.0 | 52.9 |
| Incr Delay (d2), s/veh | 7.8 | 0.2 | 0.5 | 8.3 | 1.8 | 9.9 | 15.0 | 0.2 | 0.1 | 14.8 | 0.0 | 10.9 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 17.7 | 8.9 | 9.6 | 1.4 | 10.0 | 18.4 | 2.6 | 2.7 | 0.7 | 7.6 | 0.0 | 12.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 56.3 | 18.4 | 18.6 | 76.1 | 44.6 | 46.4 | 81.1 | 53.4 | 51.6 | 75.4 | 0.0 | 63.8 |
| LnGrp LOS | E | B | B | E | D | D | F | D | D | E | A | E |
| Approach Vol, veh/h | | 2445 | | | 1568 | | | 173 | | | 1030 | |
| Approach Delay, s/veh | | 33.7 | | | 45.9 | | | 63.3 | | | 68.1 | |
| Approach LOS | | C | | | D | | | E | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.8 | 84.8 | 10.5 | 36.8 | 45.8 | 46.9 | 21.2 | 26.2 |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | * 4.2 | 5.4 | * 4.2 | 5.3 | * 4.2 | * 5.4 |
| Max Green Setting (Gmax), s | * 7.1 | 67.2 | * 11 | 36.0 | * 42 | 32.5 | * 18 | * 30 |
| Max Q Clear Time (g_c+I1), s | 4.8 | 25.4 | 6.9 | 29.9 | 41.4 | 43.6 | 16.9 | 7.7 |
| Green Ext Time (p_c), s | 0.0 | 14.8 | 0.0 | 1.5 | 0.1 | 0.0 | 0.1 | 0.3 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 45.2 |
| HCM 6th LOS | D |

**Notes**

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

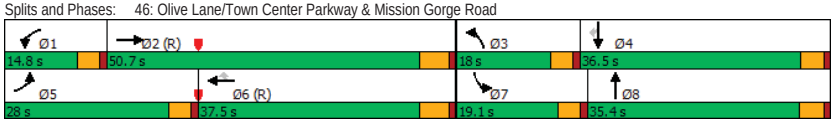




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 584 | 1097 | 103 | 68 | 631 | 317 | 320 | 215 | 48 | 311 | 179 | 503 |
| Future Volume (vph) | 584 | 1097 | 103 | 68 | 631 | 317 | 320 | 215 | 48 | 311 | 179 | 503 |
| Confl. Peds. (#/hr) | | | 9 | | | 16 | | | 3 | | | 6 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | Perm | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | 10.0 | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 26.3 | | 8.2 | 36.3 | 36.3 | 8.2 | 34.6 | | 8.2 | 36.5 | 36.5 |
| Total Split (s) | 28.0 | 50.7 | | 14.8 | 37.5 | 37.5 | 18.0 | 35.4 | | 19.1 | 36.5 | 36.5 |
| Total Split (%) | 23.3% | 42.3% | | 12.3% | 31.3% | 31.3% | 15.0% | 29.5% | | 15.9% | 30.4% | 30.4% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | 4.3 | 3.2 | 3.6 | | 3.2 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | 5.3 | 4.2 | 4.6 | | 4.2 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | C-Min | | None | C-Min | C-Min | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 61 (51%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 110 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 46: Olive Lane/Town Center Parkway & Mission Gorge Road



Existing + Proj PM
46: Olive Lane/Town Center Parkway & Mission Gorge Road

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 584 | 1097 | 103 | 68 | 631 | 317 | 320 | 215 | 48 | 311 | 179 | 503 |
| Future Volume (veh/h) | 584 | 1097 | 103 | 68 | 631 | 317 | 320 | 215 | 48 | 311 | 179 | 503 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 1.00 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 635 | 1192 | 112 | 74 | 686 | 345 | 348 | 234 | 52 | 338 | 195 | 547 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 683 | 2096 | 197 | 94 | 1518 | 464 | 397 | 354 | 79 | 393 | 445 | 658 |
| Arrive On Green | 0.20 | 0.44 | 0.44 | 0.05 | 0.30 | 0.30 | 0.12 | 0.24 | 0.24 | 0.11 | 0.24 | 0.24 |
| Sat Flow, veh/h | 3456 | 4743 | 446 | 1781 | 5106 | 1559 | 3456 | 1481 | 329 | 3456 | 1870 | 2769 |
| Grp Volume(v), veh/h | 635 | 855 | 449 | 74 | 686 | 345 | 348 | 0 | 286 | 338 | 195 | 547 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1702 | 1785 | 1781 | 1702 | 1559 | 1728 | 0 | 1810 | 1728 | 1870 | 1384 |
| Q Serve(g_s), s | 21.7 | 22.5 | 22.5 | 4.9 | 13.1 | 24.0 | 11.9 | 0.0 | 17.1 | 11.5 | 10.6 | 22.5 |
| Cycle Q Clear(g_c), s | 21.7 | 22.5 | 22.5 | 4.9 | 13.1 | 24.0 | 11.9 | 0.0 | 17.1 | 11.5 | 10.6 | 22.5 |
| Prop In Lane | 1.00 | | 0.25 | 1.00 | | 1.00 | 1.00 | | 0.18 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 683 | 1504 | 789 | 94 | 1518 | 464 | 397 | 0 | 432 | 393 | 445 | 658 |
| V/C Ratio(X) | 0.93 | 0.57 | 0.57 | 0.78 | 0.45 | 0.74 | 0.88 | 0.00 | 0.66 | 0.86 | 0.44 | 0.83 |
| Avail Cap(c_a), veh/h | 685 | 1504 | 789 | 157 | 1518 | 464 | 397 | 0 | 464 | 429 | 499 | 738 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.81 | 0.81 | 0.81 | 0.75 | 0.75 | 0.75 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 47.3 | 25.0 | 25.0 | 56.1 | 34.2 | 38.0 | 52.3 | 0.0 | 41.3 | 52.2 | 38.9 | 43.5 |
| Incr Delay (d2), s/veh | 16.2 | 1.3 | 2.4 | 4.0 | 0.7 | 7.9 | 18.5 | 0.0 | 3.7 | 14.0 | 1.3 | 8.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 10.6 | 9.0 | 9.7 | 2.3 | 5.4 | 10.1 | 6.2 | 0.0 | 8.1 | 5.8 | 5.1 | 8.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 63.6 | 26.2 | 27.4 | 60.2 | 35.0 | 46.0 | 70.7 | 0.0 | 45.0 | 66.3 | 40.2 | 51.8 |
| LnGrp LOS | E | C | C | E | C | D | E | A | D | E | D | D |
| Approach Vol, veh/h | | 1939 | | | 1105 | | | 634 | | | 1080 | |
| Approach Delay, s/veh | | 38.7 | | | 40.1 | | | 59.1 | | | 54.3 | |
| Approach LOS | | D | | | D | | | E | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 10.6 | 58.3 | 18.0 | 33.1 | 27.9 | 41.0 | 17.8 | 33.3 |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | * 4.2 | * 4.6 | * 4.2 | 5.3 | * 4.2 | 4.6 |
| Max Green Setting (Gmax), s | * 11 | 45.4 | * 14 | * 32 | * 24 | 32.2 | * 15 | 30.8 |
| Max Q Clear Time (g_c+I1), s | 6.9 | 24.5 | 13.9 | 24.5 | 23.7 | 26.0 | 13.5 | 19.1 |
| Green Ext Time (p_c), s | 0.0 | 9.9 | 0.0 | 3.4 | 0.0 | 3.8 | 0.1 | 1.7 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 45.3 |
| HCM 6th LOS | D |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



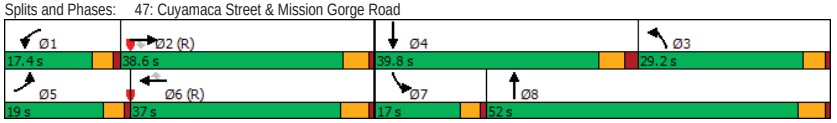
Existing + Proj PM
47: Cuyamaca Street & Mission Gorge Road

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 380 | 632 | 293 | 265 | 481 | 173 | 534 | 920 | 178 | 283 | 867 | 189 |
| Future Volume (vph) | 380 | 632 | 293 | 265 | 481 | 173 | 534 | 920 | 178 | 283 | 867 | 189 |
| Confl. Peds. (#/hr) | | | 31 | | | 31 | | | 34 | | | 23 |
| Confl. Bikes (#/hr) | | | 4 | | | 2 | | | 3 | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | 10.0 | 4.0 | 7.0 | | 4.0 | 15.0 | |
| Minimum Split (s) | 19.0 | 34.8 | 34.8 | 8.2 | 34.3 | 34.3 | 8.2 | 38.0 | | 8.2 | 37.0 | |
| Total Split (s) | 19.0 | 38.6 | 38.6 | 17.4 | 37.0 | 37.0 | 29.2 | 52.0 | | 17.0 | 39.8 | |
| Total Split (%) | 15.2% | 30.9% | 30.9% | 13.9% | 29.6% | 29.6% | 23.4% | 41.6% | | 13.6% | 31.8% | |
| Yellow Time (s) | 3.2 | 3.8 | 3.8 | 3.2 | 4.3 | 4.3 | 3.2 | 4.0 | | 3.2 | 4.0 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 2.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.2 | 4.8 | 4.8 | 4.2 | 5.3 | 5.3 | 4.2 | 5.0 | | 4.2 | 6.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lag | Lag | | Lead | Lead | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | C-Min | C-Min | None | C-Min | C-Min | None | None | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 125 |
| Actuated Cycle Length: 125 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green, Master Intersection |
| Natural Cycle: 120 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 47: Cuyamaca Street & Mission Gorge Road



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 380 | 632 | 293 | 265 | 481 | 173 | 534 | 920 | 178 | 283 | 867 | 189 |
| Future Volume (veh/h) | 380 | 632 | 293 | 265 | 481 | 173 | 534 | 920 | 178 | 283 | 867 | 189 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.96 | 1.00 | | 0.96 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1683 | 1683 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 413 | 687 | 318 | 288 | 523 | 188 | 580 | 1000 | 193 | 308 | 942 | 205 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 409 | 1397 | 413 | 340 | 1295 | 382 | 692 | 998 | 192 | 354 | 1099 | 238 |
| Arrive On Green | 0.12 | 0.27 | 0.27 | 0.10 | 0.25 | 0.25 | 0.20 | 0.38 | 0.38 | 0.10 | 0.26 | 0.26 |
| Sat Flow, veh/h | 3456 | 5106 | 1508 | 3456 | 5106 | 1506 | 3456 | 2654 | 511 | 3456 | 4164 | 902 |
| Grp Volume(v), veh/h | 413 | 687 | 318 | 288 | 523 | 188 | 580 | 602 | 591 | 308 | 769 | 378 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1702 | 1508 | 1728 | 1702 | 1506 | 1728 | 1599 | 1566 | 1728 | 1702 | 1663 |
| Q Serve(g_s), s | 14.8 | 14.1 | 14.8 | 10.2 | 10.6 | 13.3 | 20.2 | 47.0 | 47.0 | 11.0 | 26.9 | 27.0 |
| Cycle Q Clear(g_c), s | 14.8 | 14.1 | 14.8 | 10.2 | 10.6 | 13.3 | 20.2 | 47.0 | 47.0 | 11.0 | 26.9 | 27.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.33 | 1.00 | | 0.54 |
| Lane Grp Cap(c), veh/h | 409 | 1397 | 413 | 340 | 1295 | 382 | 692 | 601 | 589 | 354 | 898 | 439 |
| V/C Ratio(X) | 1.01 | 0.49 | 0.77 | 0.85 | 0.40 | 0.49 | 0.84 | 1.00 | 1.00 | 0.87 | 0.86 | 0.86 |
| Avail Cap(c_a), veh/h | 409 | 1397 | 413 | 365 | 1295 | 382 | 692 | 601 | 589 | 354 | 920 | 450 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.76 | 0.76 | 0.76 | 0.96 | 0.96 | 0.96 | 0.20 | 0.20 | 0.20 | 0.79 | 0.79 | 0.79 |
| Uniform Delay (d), s/veh | 55.1 | 38.1 | 15.6 | 55.4 | 38.8 | 39.8 | 48.0 | 39.0 | 39.0 | 55.3 | 43.8 | 43.8 |
| Incr Delay (d2), s/veh | 41.1 | 0.9 | 10.1 | 14.2 | 0.9 | 4.3 | 1.9 | 16.6 | 17.6 | 16.1 | 7.5 | 14.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 8.7 | 5.9 | 6.1 | 5.1 | 4.5 | 5.4 | 8.8 | 20.6 | 20.4 | 5.5 | 12.1 | 12.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 96.2 | 39.1 | 25.8 | 69.6 | 39.7 | 44.1 | 49.9 | 55.6 | 56.6 | 71.4 | 51.2 | 58.2 |
| LnGrp LOS | F | D | C | E | D | D | D | F | F | E | D | E |
| Approach Vol, veh/h | | 1418 | | | 999 | | | 1773 | | | 1455 | |
| Approach Delay, s/veh | | 52.7 | | | 49.2 | | | 54.1 | | | 57.3 | |
| Approach LOS | | D | | | D | | | D | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 16.5 | 39.5 | 30.0 | 39.0 | 19.0 | 37.0 | 17.0 | 52.0 |
| Change Period (Y+Rc), s | * 4.2 | * 5.3 | 5.0 | * 6 | * 4.2 | 5.3 | * 4.2 | 5.0 |
| Max Green Setting (Gmax), s | * 13 | * 34 | 25.0 | * 34 | * 15 | 31.7 | * 13 | 47.0 |
| Max Q Clear Time (g_c+I1), s | 12.2 | 16.8 | 22.2 | 29.0 | 16.8 | 15.3 | 13.0 | 49.0 |
| Green Ext Time (p_c), s | 0.1 | 10.5 | 0.4 | 3.9 | 0.0 | 5.7 | 0.0 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 53.7 |
| HCM 6th LOS | D |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

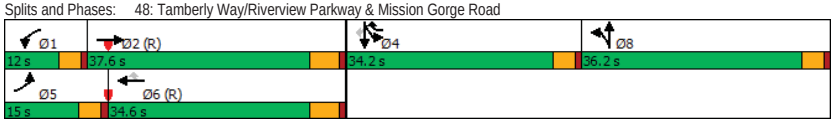




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 80 | 979 | 23 | 42 | 791 | 165 | 43 | 11 | 43 | 243 | 16 | 113 |
| Future Volume (vph) | 80 | 979 | 23 | 42 | 791 | 165 | 43 | 11 | 43 | 243 | 16 | 113 |
| Confl. Peds. (#/hr) | | | 13 | | | 13 | | | 10 | | | 8 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | 2 | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | 47% | | |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Split | NA | | Split | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 4 | 8 | 8 | | 4 | 4 | |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 4 | 8 | 8 | | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | 7.0 | 4.0 | 4.0 | | 7.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 23.3 | | 8.2 | 34.3 | 34.2 | 36.2 | 36.2 | | 34.2 | 34.2 | 34.2 |
| Total Split (s) | 15.0 | 37.6 | | 12.0 | 34.6 | 34.2 | 36.2 | 36.2 | | 34.2 | 34.2 | 34.2 |
| Total Split (%) | 12.5% | 31.3% | | 10.0% | 28.8% | 28.5% | 30.2% | 30.2% | | 28.5% | 28.5% | 28.5% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | 3.2 | 3.2 | 3.2 | | 3.2 | 3.2 | 3.2 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | 4.2 | 4.2 | 4.2 | | 4.2 | 4.2 | 4.2 |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | None | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 34 (28%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 115 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 48: Tamberly Way/Riverview Parkway & Mission Gorge Road



Existing + Proj PM
48: Tamberly Way/Riverview Parkway & Mission Gorge Road

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 80 | 979 | 23 | 42 | 791 | 165 | 43 | 11 | 43 | 243 | 16 | 113 |
| Future Volume (veh/h) | 80 | 979 | 23 | 42 | 791 | 165 | 43 | 11 | 43 | 243 | 16 | 113 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.95 | 1.00 | | 0.96 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 87 | 1064 | 25 | 46 | 860 | 179 | 47 | 12 | 47 | 276 | 0 | 123 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 109 | 3143 | 74 | 59 | 2983 | 1097 | 154 | 28 | 108 | 423 | 0 | 182 |
| Arrive On Green | 0.06 | 0.61 | 0.61 | 0.07 | 1.00 | 1.00 | 0.09 | 0.09 | 0.09 | 0.12 | 0.00 | 0.12 |
| Sat Flow, veh/h | 1781 | 5131 | 120 | 1781 | 5106 | 1555 | 1781 | 319 | 1248 | 3563 | 0 | 1529 |
| Grp Volume(v), veh/h | 87 | 706 | 383 | 46 | 860 | 179 | 47 | 0 | 59 | 276 | 0 | 123 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1702 | 1847 | 1781 | 1702 | 1555 | 1781 | 0 | 1567 | 1781 | 0 | 1529 |
| Q Serve(g_s), s | 5.8 | 12.2 | 12.2 | 3.1 | 0.0 | 0.0 | 3.0 | 0.0 | 4.3 | 8.9 | 0.0 | 9.3 |
| Cycle Q Clear(g_c), s | 5.8 | 12.2 | 12.2 | 3.1 | 0.0 | 0.0 | 3.0 | 0.0 | 4.3 | 8.9 | 0.0 | 9.3 |
| Prop In Lane | 1.00 | | 0.07 | 1.00 | | 1.00 | 1.00 | | 0.80 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 109 | 2085 | 1132 | 59 | 2983 | 1097 | 154 | 0 | 135 | 423 | 0 | 182 |
| V/C Ratio(X) | 0.79 | 0.34 | 0.34 | 0.78 | 0.29 | 0.16 | 0.31 | 0.00 | 0.44 | 0.65 | 0.00 | 0.68 |
| Avail Cap(c_a), veh/h | 160 | 2085 | 1132 | 116 | 2983 | 1097 | 475 | 0 | 418 | 891 | 0 | 382 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.70 | 0.70 | 0.70 | 0.98 | 0.98 | 0.98 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 55.6 | 11.4 | 11.4 | 55.6 | 0.0 | 0.0 | 51.4 | 0.0 | 52.0 | 50.5 | 0.0 | 50.7 |
| Incr Delay (d2), s/veh | 6.6 | 0.3 | 0.6 | 7.9 | 0.2 | 0.3 | 0.4 | 0.0 | 0.8 | 0.6 | 0.0 | 1.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.8 | 4.3 | 4.8 | 1.4 | 0.1 | 0.1 | 1.3 | 0.0 | 1.7 | 4.0 | 0.0 | 3.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 62.2 | 11.7 | 11.9 | 63.5 | 0.2 | 0.3 | 51.9 | 0.0 | 52.9 | 51.1 | 0.0 | 52.3 |
| LnGrp LOS | E | B | B | E | A | A | D | A | D | D | A | D |
| Approach Vol, veh/h | | 1176 | | | 1085 | | | 106 | | | 399 | |
| Approach Delay, s/veh | | 15.5 | | | 2.9 | | | 52.4 | | | 51.5 | |
| Approach LOS | | B | | | A | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 8.2 | 78.8 | | 18.5 | 11.6 | 75.4 | | 14.6 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | | * 4.2 | * 4.2 | 5.3 | | 4.2 | | | | |
| Max Green Setting (Gmax), s | * 7.8 | 32.3 | | * 30 | * 11 | 29.3 | | 32.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 5.1 | 14.2 | | 11.3 | 7.8 | 2.0 | | 6.3 | | | | |
| Green Ext Time (p_c), s | 0.0 | 10.4 | | 0.7 | 0.0 | 11.4 | | 0.3 | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | | 17.2 |
| HCM 6th LOS | | | B |

Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
N:\2462\Analysis\Intersections\Synchro\4 Existing + Proj PM.syn

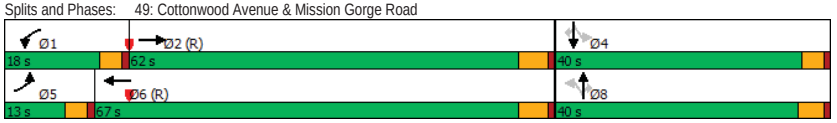
Existing + Proj PM
49: Cottonwood Avenue & Mission Gorge Road

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 17 | 1189 | 98 | 54 | 839 | 4 | 90 | 1 | 81 | 3 | 2 | 9 |
| Future Volume (vph) | 17 | 1189 | 98 | 54 | 839 | 4 | 90 | 1 | 81 | 3 | 2 | 9 |
| Confl. Peds. (#/hr) | | | 3 | | | 14 | | | 1 | | | 4 |
| Confl. Bikes (#/hr) | | | 3 | | | 1 | | | 2 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Perm | NA | Perm | Perm | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | 8 | 4 | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | 8 | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 4.0 | 4.0 | 4.0 | 7.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 23.3 | | 8.2 | 24.3 | | 33.8 | 33.8 | 33.8 | 32.2 | 32.2 | 32.2 |
| Total Split (s) | 13.0 | 62.0 | | 18.0 | 67.0 | | 40.0 | 40.0 | 40.0 | 40.0 | 40.0 | 40.0 |
| Total Split (%) | 10.8% | 51.7% | | 15.0% | 55.8% | | 33.3% | 33.3% | 33.3% | 33.3% | 33.3% | 33.3% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | | 3.8 | 3.8 | 3.8 | 3.2 | 3.2 | 3.2 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | | | 4.8 | 4.8 | | 4.2 | 4.2 |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | None | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 44 (37%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 70 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 49: Cottonwood Avenue & Mission Gorge Road




Timings
N:\2462\Analysis\Intersections\Synchro\4 Existing + Proj PM.syn

Existing + Proj PM
49: Cottonwood Avenue & Mission Gorge Road

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 17 | 1189 | 98 | 54 | 839 | 4 | 90 | 1 | 81 | 3 | 2 | 9 |
| Future Volume (veh/h) | 17 | 1189 | 98 | 54 | 839 | 4 | 90 | 1 | 81 | 3 | 2 | 9 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 0.99 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 18 | 1292 | 107 | 59 | 912 | 4 | 98 | 1 | 88 | 3 | 2 | 10 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 27 | 2589 | 214 | 76 | 2977 | 13 | 60 | 0 | 466 | 48 | 21 | 465 |
| Arrive On Green | 0.03 | 1.00 | 1.00 | 0.08 | 1.00 | 1.00 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 |
| Sat Flow, veh/h | 1781 | 4794 | 397 | 1781 | 5246 | 23 | 0 | 1 | 1562 | 0 | 70 | 1559 |
| Grp Volume(v), veh/h | 18 | 917 | 482 | 59 | 592 | 324 | 99 | 0 | 88 | 5 | 0 | 10 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1702 | 1787 | 1781 | 1702 | 1865 | 1 | 0 | 1562 | 70 | 0 | 1559 |
| Q Serve(g_s), s | 1.2 | 0.0 | 0.0 | 3.9 | 0.0 | 0.0 | 0.0 | 0.0 | 5.0 | 0.0 | 0.0 | 0.5 |
| Cycle Q Clear(g_c), s | 1.2 | 0.0 | 0.0 | 3.9 | 0.0 | 0.0 | 35.8 | 0.0 | 5.0 | 35.8 | 0.0 | 0.5 |
| Prop In Lane | 1.00 | | 0.22 | 1.00 | | 0.01 | 0.99 | | 1.00 | 0.60 | | 1.00 |
| Lane Grp Cap(c), veh/h | 27 | 1838 | 965 | 76 | 1932 | 1058 | 60 | 0 | 466 | 69 | 0 | 465 |
| V/C Ratio(X) | 0.67 | 0.50 | 0.50 | 0.78 | 0.31 | 0.31 | 1.65 | 0.00 | 0.19 | 0.07 | 0.00 | 0.02 |
| Avail Cap(c_a), veh/h | 131 | 1838 | 965 | 205 | 1932 | 1058 | 60 | 0 | 466 | 69 | 0 | 465 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.92 | 0.92 | 0.92 | 0.71 | 0.71 | 0.71 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 57.9 | 0.0 | 0.0 | 54.4 | 0.0 | 0.0 | 59.8 | 0.0 | 31.3 | 34.6 | 0.0 | 29.7 |
| Incr Delay (d2), s/veh | 9.5 | 0.9 | 1.7 | 4.6 | 0.3 | 0.5 | 353.8 | 0.0 | 0.1 | 0.2 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.6 | 0.2 | 0.5 | 1.8 | 0.1 | 0.2 | 7.8 | 0.0 | 1.9 | 0.1 | 0.0 | 0.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 67.4 | 0.9 | 1.7 | 59.0 | 0.3 | 0.5 | 413.7 | 0.0 | 31.4 | 34.7 | 0.0 | 29.7 |
| LnGrp LOS | E | A | A | E | A | A | F | A | C | C | A | C |
| Approach Vol, veh/h | | 1417 | | | 975 | | | 187 | | | 15 | |
| Approach Delay, s/veh | | 2.0 | | | 3.9 | | | 233.8 | | | 31.4 | |
| Approach LOS | | A | | | A | | | F | | | C | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 9.3 | 70.1 | | 40.6 | 6.0 | 73.4 | | 40.6 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | | * 4.8 | * 4.2 | 5.3 | | * 4.8 | | | | |
| Max Green Setting (Gmax), s | * 14 | 56.7 | | * 36 | * 8.8 | 61.7 | | * 35 | | | | |
| Max Q Clear Time (g_c+I1), s | 5.9 | 2.0 | | 37.8 | 3.2 | 2.0 | | 37.8 | | | | |
| Green Ext Time (p_c), s | 0.0 | 10.4 | | 0.0 | 0.0 | 10.8 | | 0.0 | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | | 19.6 |
| HCM 6th LOS | | | B |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
N:\2462\Analysis\Intersections\Synchro\4 Existing + Proj PM.syn

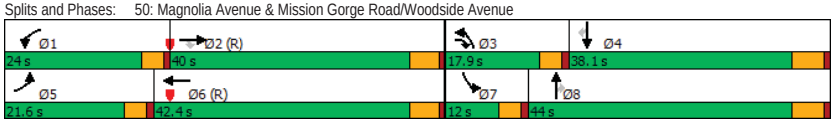
Existing + Proj PM
50: Magnolia Avenue & Mission Gorge Road/Woodside Avenue

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 374 | 644 | 269 | 453 | 544 | 187 | 209 | 932 | 432 | 162 | 565 | 204 |
| Future Volume (vph) | 374 | 644 | 269 | 453 | 544 | 187 | 209 | 932 | 432 | 162 | 565 | 204 |
| Confl. Peds. (#/hr) | | | 2 | | | 9 | | | 13 | | | 1 |
| Confl. Bikes (#/hr) | | | 2 | | | 1 | | | 3 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | | | | 8 | | | 4 |
| Detector Phase | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | 8 | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 4.0 | 4.0 | 10.0 | | 4.0 | 7.0 | 7.0 | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 38.3 | 8.2 | 8.2 | 35.3 | | 8.2 | 34.7 | 34.7 | 8.2 | 35.7 | 35.7 |
| Total Split (s) | 21.6 | 40.0 | 17.9 | 24.0 | 42.4 | | 17.9 | 44.0 | 44.0 | 12.0 | 38.1 | 38.1 |
| Total Split (%) | 18.0% | 33.3% | 14.9% | 20.0% | 35.3% | | 14.9% | 36.7% | 36.7% | 10.0% | 31.8% | 31.8% |
| Yellow Time (s) | 3.2 | 4.3 | 3.2 | 3.2 | 4.3 | | 3.2 | 4.7 | 4.7 | 3.2 | 4.7 | 4.7 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | 4.2 | 4.2 | 5.3 | | 4.2 | 5.7 | 5.7 | 4.2 | 5.7 | 5.7 |
| Lead/Lag | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | C-Min | None | None | C-Min | | None | None | None | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 71 (59%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 105 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 50: Magnolia Avenue & Mission Gorge Road/Woodside Avenue




Timings
N:\2462\Analysis\Intersections\Synchro\4 Existing + Proj PM.syn

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 374 | 644 | 269 | 453 | 544 | 187 | 209 | 932 | 432 | 162 | 565 | 204 |
| Future Volume (veh/h) | 374 | 644 | 269 | 453 | 544 | 187 | 209 | 932 | 432 | 162 | 565 | 204 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 407 | 700 | 292 | 492 | 591 | 203 | 227 | 1013 | 470 | 176 | 614 | 222 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 455 | 1054 | 594 | 545 | 832 | 285 | 287 | 1134 | 493 | 225 | 1070 | 477 |
| Arrive On Green | 0.26 | 0.59 | 0.59 | 0.16 | 0.32 | 0.32 | 0.03 | 0.11 | 0.11 | 0.07 | 0.30 | 0.30 |
| Sat Flow, veh/h | 3456 | 3554 | 1561 | 3456 | 2581 | 885 | 3456 | 3554 | 1544 | 3456 | 3554 | 1583 |
| Grp Volume(v), veh/h | 407 | 700 | 292 | 492 | 406 | 388 | 227 | 1013 | 470 | 176 | 614 | 222 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1561 | 1728 | 1777 | 1689 | 1728 | 1777 | 1544 | 1728 | 1777 | 1583 |
| Q Serve(g_s), s | 13.6 | 15.9 | 12.9 | 16.8 | 24.1 | 24.2 | 7.8 | 33.8 | 36.3 | 6.0 | 17.5 | 13.7 |
| Cycle Q Clear(g_c), s | 13.6 | 15.9 | 12.9 | 16.8 | 24.1 | 24.2 | 7.8 | 33.8 | 36.3 | 6.0 | 17.5 | 13.7 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.52 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 455 | 1054 | 594 | 545 | 573 | 545 | 287 | 1134 | 493 | 225 | 1070 | 477 |
| V/C Ratio(X) | 0.89 | 0.66 | 0.49 | 0.90 | 0.71 | 0.71 | 0.79 | 0.89 | 0.95 | 0.78 | 0.57 | 0.47 |
| Avail Cap(c_a), veh/h | 501 | 1054 | 594 | 570 | 573 | 545 | 395 | 1134 | 493 | 225 | 1070 | 477 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.93 | 0.93 | 0.93 | 1.00 | 1.00 | 1.00 | 0.78 | 0.78 | 0.78 | 0.93 | 0.93 | 0.93 |
| Uniform Delay (d), s/veh | 43.4 | 20.4 | 15.7 | 49.6 | 35.7 | 35.7 | 57.3 | 51.7 | 52.8 | 55.3 | 35.4 | 34.1 |
| Incr Delay (d2), s/veh | 15.4 | 3.1 | 2.7 | 16.6 | 7.3 | 7.7 | 3.9 | 7.6 | 25.0 | 14.2 | 0.8 | 0.9 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 5.9 | 5.0 | 3.7 | 8.4 | 11.3 | 10.8 | 3.6 | 17.2 | 18.4 | 3.0 | 7.4 | 5.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 58.8 | 23.5 | 18.4 | 66.3 | 43.0 | 43.4 | 61.2 | 59.3 | 77.8 | 69.4 | 36.2 | 34.9 |
| LnGrp LOS | E | C | B | E | D | D | E | E | E | E | D | C |
| Approach Vol, veh/h | | 1399 | | | 1286 | | | 1710 | | | 1012 | |
| Approach Delay, s/veh | | 32.7 | | | 52.0 | | | 64.6 | | | 41.7 | |
| Approach LOS | | C | | | D | | | E | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 23.1 | 40.9 | 14.2 | 41.8 | 20.0 | 44.0 | 12.0 | 44.0 |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | * 4.2 | 5.7 | * 4.2 | 5.3 | * 4.2 | 5.7 |
| Max Green Setting (Gmax), s | * 20 | 34.7 | * 14 | 32.4 | * 17 | 37.1 | * 7.8 | 38.3 |
| Max Q Clear Time (g_c+I1), s | 18.8 | 17.9 | 9.8 | 19.5 | 15.6 | 26.2 | 8.0 | 38.3 |
| Green Ext Time (p_c), s | 0.1 | 6.2 | 0.1 | 4.7 | 0.2 | 5.3 | 0.0 | 0.0 |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 49.1 | |
| HCM 6th LOS | | D | |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 16.3 |
| Intersection LOS | C |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 30 | 237 | 215 | 1 | 0 | 176 | 0 | 0 | 10 | 501 | 7 |
| Future Vol, veh/h | 0 | 30 | 237 | 215 | 1 | 0 | 176 | 0 | 0 | 10 | 501 | 7 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 33 | 258 | 234 | 1 | 0 | 191 | 0 | 0 | 11 | 545 | 8 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 2 | 0 |

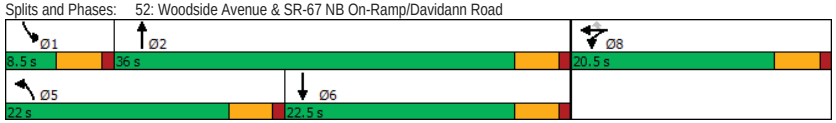
| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay | 15.4 | 15.9 | 16.2 | 16.9 |
| HCM LOS | C | C | C | C |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 100% | 4% | 0% |
| Vol Thru, % | 0% | 100% | 11% | 0% | 96% | 97% |
| Vol Right, % | 0% | 0% | 89% | 0% | 0% | 3% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 176 | 0 | 267 | 216 | 261 | 258 |
| LT Vol | 176 | 0 | 0 | 215 | 10 | 0 |
| Through Vol | 0 | 0 | 30 | 1 | 251 | 251 |
| RT Vol | 0 | 0 | 237 | 0 | 0 | 7 |
| Lane Flow Rate | 191 | 0 | 290 | 235 | 283 | 280 |
| Geometry Grp | 7 | 7 | 2 | 2 | 7 | 7 |
| Degree of Util (X) | 0.417 | 0 | 0.501 | 0.458 | 0.532 | 0.523 |
| Departure Headway (Hd) | 7.852 | 7.338 | 6.212 | 7.03 | 6.77 | 6.731 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 457 | 0 | 580 | 512 | 532 | 535 |
| Service Time | 5.61 | 5.095 | 4.26 | 5.083 | 4.52 | 4.481 |
| HCM Lane V/C Ratio | 0.418 | 0 | 0.5 | 0.459 | 0.532 | 0.523 |
| HCM Control Delay | 16.2 | 10.1 | 15.4 | 15.9 | 17 | 16.7 |
| HCM Lane LOS | C | N | C | C | C | C |
| HCM 95th-tile Q | 2 | 0 | 2.8 | 2.4 | 3.1 | 3 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 0 | 27 | 1 | 8 | 367 | 555 | 58 | 1 | 183 | 2 |
| Future Volume (vph) | 0 | 0 | 0 | 27 | 1 | 8 | 367 | 555 | 58 | 1 | 183 | 2 |
| Confl. Peds. (#/hr) | | | 2 | | | | | | 2 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 2 | | | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | | | | Split | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | | | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | 8 | | | | | | |
| Detector Phase | | | | 8 | 8 | 8 | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | | | | 20.5 | 20.5 | 20.5 | 8.5 | 22.5 | | 8.5 | 22.5 | |
| Total Split (s) | | | | 20.5 | 20.5 | 20.5 | 22.0 | 36.0 | | 8.5 | 22.5 | |
| Total Split (%) | | | | 31.5% | 31.5% | 31.5% | 33.8% | 55.4% | | 13.1% | 34.6% | |
| Yellow Time (s) | | | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | | | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | | | | | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | | | | | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | | | | None | None | None | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 65 |
| Actuated Cycle Length: 39.1 |
| Natural Cycle: 65 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 52: Woodside Avenue & SR-67 NB On-Ramp/Davidann Road






Existing + Proj PM
52: Woodside Avenue & SR-67 NB On-Ramp/Davidann Road
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 27 | 1 | 8 | 367 | 555 | 58 | 1 | 183 | 2 |
| Future Volume (veh/h) | 0 | 0 | 0 | 27 | 1 | 8 | 367 | 555 | 58 | 1 | 183 | 2 |
| Initial Q (Qb), veh | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | | | 1.00 | | 1.00 | 1.00 | | 0.98 | 1.00 | | 0.97 |
| Parking Bus, Adj | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | | | | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | | | | 29 | 1 | 9 | 399 | 603 | 63 | 1 | 199 | 2 |
| Peak Hour Factor | | | | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | | | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | | | | 64 | 2 | 59 | 519 | 844 | 88 | 6 | 404 | 4 |
| Arrive On Green | | | | 0.04 | 0.04 | 0.04 | 0.29 | 0.51 | 0.51 | 0.00 | 0.22 | 0.22 |
| Sat Flow, veh/h | | | | 1725 | 59 | 1585 | 1781 | 1661 | 174 | 1781 | 1848 | 19 |
| Grp Volume(v), veh/h | | | | 30 | 0 | 9 | 399 | 0 | 666 | 1 | 0 | 201 |
| Grp Sat Flow(s),veh/h/ln | | | | 1784 | 0 | 1585 | 1781 | 0 | 1834 | 1781 | 0 | 1866 |
| Q Serve(g_s), s | | | | 0.5 | 0.0 | 0.2 | 6.1 | 0.0 | 8.3 | 0.0 | 0.0 | 2.8 |
| Cycle Q Clear(g_c), s | | | | 0.5 | 0.0 | 0.2 | 6.1 | 0.0 | 8.3 | 0.0 | 0.0 | 2.8 |
| Prop In Lane | | | | 0.97 | | 1.00 | 1.00 | | 0.09 | 1.00 | | 0.01 |
| Lane Grp Cap(c), veh/h | | | | 66 | 0 | 59 | 519 | 0 | 933 | 6 | 0 | 408 |
| V/C Ratio(X) | | | | 0.45 | 0.00 | 0.15 | 0.77 | 0.00 | 0.71 | 0.17 | 0.00 | 0.49 |
| Avail Cap(c_a), veh/h | | | | 959 | 0 | 852 | 1047 | 0 | 1940 | 239 | 0 | 1128 |
| HCM Platoon Ratio | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | | | | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | | | | 14.0 | 0.0 | 13.9 | 9.6 | 0.0 | 5.6 | 14.8 | 0.0 | 10.2 |
| Incr Delay (d2), s/veh | | | | 4.8 | 0.0 | 1.2 | 2.4 | 0.0 | 1.0 | 12.6 | 0.0 | 0.9 |
| Initial Q Delay(d3),s/veh | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | | 0.2 | 0.0 | 0.1 | 1.9 | 0.0 | 1.5 | 0.0 | 0.0 | 0.9 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | 18.8 | 0.0 | 15.1 | 12.1 | 0.0 | 6.7 | 27.5 | 0.0 | 11.1 |
| LnGrp LOS | | | | B | A | B | B | A | A | C | A | B |
| Approach Vol, veh/h | | | | | 39 | | | 1065 | | | 202 | |
| Approach Delay, s/veh | | | | | 18.0 | | | 8.7 | | | 11.2 | |
| Approach LOS | | | | | B | | | A | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 5 | 6 | | 8 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 4.5 | 19.6 | | 13.2 | 11.0 | | 5.6 | | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | | | | | |
| Max Green Setting (Gmax), s | 4.0 | 31.5 | | 17.5 | 18.0 | | 16.0 | | | | | |
| Max Q Clear Time (g_c+I1), s | 2.0 | 10.3 | | 8.1 | 4.8 | | 2.5 | | | | | |
| Green Ext Time (p_c), s | 0.0 | 4.8 | | 0.9 | 0.8 | | 0.1 | | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 9.4 | |
| HCM 6th LOS | A | |

| Intersection | |
|---|---|
| Int Delay, s/veh | 5 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 147 | 403 | 338 | 0 | 0 | 746 |
| Future Vol, veh/h | 147 | 403 | 338 | 0 | 0 | 746 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 1 | 1 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | 300 | - | - | - | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 160 | 438 | 367 | 0 | 0 | 811 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 773 | 184 | 0 | - | - | - |
| Stage 1 | 367 | - | - | - | - | - |
| Stage 2 | 406 | - | - | - | - | - |
| Critical Hdwy | 6.84 | 6.94 | - | - | - | - |
| Critical Hdwy Stg 1 | 5.84 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.84 | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 3.32 | - | - | - | - |
| Pot Cap-1 Maneuver | 336 | 827 | - | 0 | 0 | - |
| Stage 1 | 671 | - | - | 0 | 0 | - |
| Stage 2 | 641 | - | - | 0 | 0 | - |
| Platoon blocked, % | | | - | | | - |
| Mov Cap-1 Maneuver | 336 | 827 | - | - | - | - |
| Mov Cap-2 Maneuver | 453 | - | - | - | - | - |
| Stage 1 | 671 | - | - | - | - | - |
| Stage 2 | 641 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 14.9 | 0 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBT | WBLn1 | WBLn2 | SBT |
|---|---|---|---|---|
| Capacity (veh/h) | - | 453 | 827 | - |
| HCM Lane V/C Ratio | - | 0.353 | 0.53 | - |
| HCM Control Delay (s) | - | 17.2 | 14.1 | - |
| HCM Lane LOS | - | C | B | - |
| HCM 95th %tile Q(veh) | - | 1.6 | 3.2 | - |





| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 338 | 85 | 367 | 526 |
| Future Volume (Veh/h) | 0 | 0 | 338 | 85 | 367 | 526 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 0 | 367 | 92 | 399 | 572 |
| Pedestrians | 1 | | | | | |
| Lane Width (ft) | 0.0 | | | | | |
| Walking Speed (ft/s) | 4.0 | | | | | |
| Percent Blockage | 0 | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | 769 | | | 1029 |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 1498 | 230 | | | 460 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 1498 | 230 | | | 460 | |
| tC, single (s) | 6.8 | 6.9 | | | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 100 | 100 | | | 64 | |
| cM capacity (veh/h) | 72 | 772 | | | 1097 | |

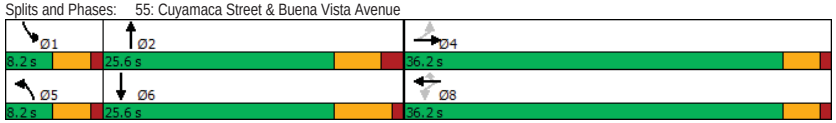
| Direction, Lane # | NB 1 | NB 2 | SB 1 | SB 2 | SB 3 |
|---|---|---|---|---|---|
| Volume Total | 245 | 214 | 399 | 286 | 286 |
| Volume Left | 0 | 0 | 399 | 0 | 0 |
| Volume Right | 0 | 92 | 0 | 0 | 0 |
| cSH | 1700 | 1700 | 1097 | 1700 | 1700 |
| Volume to Capacity | 0.14 | 0.13 | 0.36 | 0.17 | 0.17 |
| Queue Length 95th (ft) | 0 | 0 | 42 | 0 | 0 |
| Control Delay (s) | 0.0 | 0.0 | 10.1 | 0.0 | 0.0 |
| Lane LOS | | | B | | |
| Approach Delay (s) | 0.0 | | 4.2 | | |
| Approach LOS | | | | | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Average Delay | 2.8 | | | |
| Intersection Capacity Utilization | 41.1% | ICU Level of Service | | A |
| Analysis Period (min) | 15 | | | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 28 | 4 | 47 | 179 | 4 | 41 | 20 | 1777 | 208 | 50 | 1614 | 15 |
| Future Volume (vph) | 28 | 4 | 47 | 179 | 4 | 41 | 20 | 1777 | 208 | 50 | 1614 | 15 |
| Confl. Peds. (#/hr) | | | 5 | | | 11 | | | 14 | | | 3 |
| Confl. Bikes (#/hr) | | | 1 | | | 1 | | | 2 | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Perm | NA | | Perm | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | 8 | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | 8 | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 10.0 | | 4.0 | 10.0 | |
| Minimum Split (s) | 36.2 | 36.2 | | 34.2 | 34.2 | 34.2 | 8.2 | 24.0 | | 8.2 | 24.0 | |
| Total Split (s) | 36.2 | 36.2 | | 36.2 | 36.2 | 36.2 | 8.2 | 25.6 | | 8.2 | 25.6 | |
| Total Split (%) | 51.7% | 51.7% | | 51.7% | 51.7% | 51.7% | 11.7% | 36.6% | | 11.7% | 36.6% | |
| Yellow Time (s) | 3.2 | 3.2 | | 3.2 | 3.2 | 3.2 | 3.2 | 4.0 | | 3.2 | 4.9 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 2.0 | | 1.0 | 1.1 | |
| Lost Time Adjust (s) | | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | | 4.2 | | | 4.2 | 4.2 | 4.2 | 6.0 | | 4.2 | 6.0 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | None | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 70 |
| Actuated Cycle Length: 52.7 |
| Natural Cycle: 90 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 55: Cuyamaca Street & Buena Vista Avenue








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 28 | 4 | 47 | 179 | 4 | 41 | 20 | 1777 | 208 | 50 | 1614 | 15 |
| Future Volume (veh/h) | 28 | 4 | 47 | 179 | 4 | 41 | 20 | 1777 | 208 | 50 | 1614 | 15 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 0.99 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.96 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 30 | 4 | 51 | 195 | 4 | 45 | 22 | 1932 | 226 | 54 | 1754 | 16 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 146 | 53 | 152 | 437 | 8 | 426 | 37 | 1817 | 210 | 75 | 2163 | 20 |
| Arrive On Green | 0.28 | 0.28 | 0.28 | 0.28 | 0.28 | 0.28 | 0.02 | 0.39 | 0.39 | 0.04 | 0.41 | 0.41 |
| Sat Flow, veh/h | 174 | 193 | 551 | 1069 | 28 | 1546 | 1781 | 4618 | 534 | 1781 | 5217 | 48 |
| Grp Volume(v), veh/h | 85 | 0 | 0 | 199 | 0 | 45 | 22 | 1418 | 740 | 54 | 1144 | 626 |
| Grp Sat Flow(s),veh/h/ln | 918 | 0 | 0 | 1097 | 0 | 1546 | 1781 | 1702 | 1748 | 1781 | 1702 | 1860 |
| Q Serve(g_s), s | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 1.1 | 0.6 | 19.6 | 19.6 | 1.5 | 14.8 | 14.8 |
| Cycle Q Clear(g_c), s | 9.5 | 0.0 | 0.0 | 9.2 | 0.0 | 1.1 | 0.6 | 19.6 | 19.6 | 1.5 | 14.8 | 14.8 |
| Prop In Lane | 0.35 | | 0.60 | 0.98 | | 1.00 | 1.00 | | 0.31 | 1.00 | | 0.03 |
| Lane Grp Cap(c), veh/h | 350 | 0 | 0 | 445 | 0 | 426 | 37 | 1339 | 688 | 75 | 1411 | 771 |
| V/C Ratio(X) | 0.24 | 0.00 | 0.00 | 0.45 | 0.00 | 0.11 | 0.59 | 1.06 | 1.08 | 0.72 | 0.81 | 0.81 |
| Avail Cap(c_a), veh/h | 896 | 0 | 0 | 941 | 0 | 993 | 143 | 1339 | 688 | 143 | 1411 | 771 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 14.1 | 0.0 | 0.0 | 16.4 | 0.0 | 13.5 | 24.2 | 15.1 | 15.1 | 23.6 | 12.9 | 12.9 |
| Incr Delay (d2), s/veh | 0.1 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 | 5.3 | 41.9 | 56.3 | 4.7 | 3.9 | 6.9 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.7 | 0.0 | 0.0 | 1.8 | 0.0 | 0.3 | 0.3 | 13.6 | 16.8 | 0.7 | 5.1 | 6.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 14.3 | 0.0 | 0.0 | 16.7 | 0.0 | 13.5 | 29.5 | 57.0 | 71.4 | 28.3 | 16.7 | 19.7 |
| LnGrp LOS | B | A | A | B | A | B | C | F | F | C | B | B |
| Approach Vol, veh/h | | 85 | | | 244 | | | 2180 | | | 1824 | |
| Approach Delay, s/veh | | 14.3 | | | 16.1 | | | 61.6 | | | 18.1 | |
| Approach LOS | | B | | | B | | | E | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 6.3 | 25.6 | | 18.0 | 5.2 | 26.7 | | 18.0 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 6.0 | | * 4.2 | * 4.2 | * 6 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | * 4 | 19.6 | | * 32 | * 4 | * 20 | | * 32 | | | | |
| Max Q Clear Time (g_c+I1), s | 3.5 | 21.6 | | 11.5 | 2.6 | 16.8 | | 11.2 | | | | |
| Green Ext Time (p_c), s | 0.0 | 0.0 | | 0.3 | 0.0 | 2.6 | | 0.8 | | | | |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 39.8 |
| HCM 6th LOS | D |

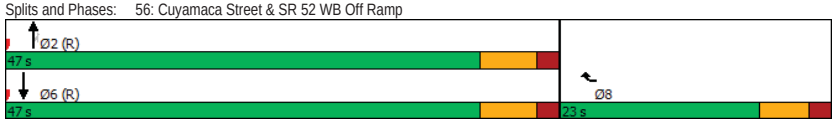
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 637 | 1204 | 324 | 0 | 1706 |
| Future Volume (vph) | 0 | 637 | 1204 | 324 | 0 | 1706 |
| Confl. Peds. (#/hr) | | | | 4 | | |
| Confl. Bikes (#/hr) | | | | 3 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | 0% | | | 0% |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | | Prot | NA | Perm | | NA |
| Protected Phases | | 8 | 2 | | | 6 |
| Permitted Phases | | | | 2 | | |
| Detector Phase | | 8 | 2 | 2 | | 6 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | | 5.0 | 14.0 | 14.0 | | 14.0 |
| Minimum Split (s) | | 20.0 | 45.8 | 45.8 | | 20.8 |
| Total Split (s) | | 23.0 | 47.0 | 47.0 | | 47.0 |
| Total Split (%) | | 32.9% | 67.1% | 67.1% | | 67.1% |
| Yellow Time (s) | | 4.1 | 4.8 | 4.8 | | 4.8 |
| All-Red Time (s) | | 2.0 | 2.0 | 2.0 | | 2.0 |
| Lost Time Adjust (s) | | 0.0 | 0.0 | 0.0 | | 0.0 |
| Total Lost Time (s) | | 6.1 | 6.8 | 6.8 | | 6.8 |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | | None | C-Max | C-Max | | C-Max |

| Intersection Summary |
|---|
| Cycle Length: 70 |
| Actuated Cycle Length: 70 |
| Offset: 22 (31%), Referenced to phase 2:NBT and 6:SBT, Start of Green |
| Natural Cycle: 70 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 56: Cuyamaca Street & SR 52 WB Off Ramp








| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 637 | 1204 | 324 | 0 | 1706 |
| Future Volume (veh/h) | 0 | 637 | 1204 | 324 | 0 | 1706 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | | 0.98 | 1.00 | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | No | | | No |
| Adj Sat Flow, veh/h/ln | 0 | 1870 | 1870 | 1870 | 0 | 1870 |
| Adj Flow Rate, veh/h | 0 | 692 | 1309 | 352 | 0 | 1854 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 0 | 2 | 2 | 2 | 0 | 2 |
| Cap, veh/h | 0 | 0 | 4610 | 1398 | 0 | 4610 |
| Arrive On Green | 0.00 | 0.00 | 0.90 | 0.90 | 0.00 | 0.90 |
| Sat Flow, veh/h | 0 | | 5274 | 1548 | 0 | 5443 |
| Grp Volume(v), veh/h | 0.0 | | 1309 | 352 | 0 | 1854 |
| Grp Sat Flow(s),veh/h/ln | | | 1702 | 1548 | 0 | 1702 |
| Q Serve(g_s), s | | | 2.3 | 2.0 | 0.0 | 3.9 |
| Cycle Q Clear(g_c), s | | | 2.3 | 2.0 | 0.0 | 3.9 |
| Prop In Lane | | | | 1.00 | 0.00 | |
| Lane Grp Cap(c), veh/h | | | 4610 | 1398 | 0 | 4610 |
| V/C Ratio(X) | | | 0.28 | 0.25 | 0.00 | 0.40 |
| Avail Cap(c_a), veh/h | | | 4610 | 1398 | 0 | 4610 |
| HCM Platoon Ratio | | | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | | | 0.98 | 0.98 | 0.00 | 0.67 |
| Uniform Delay (d), s/veh | | | 0.4 | 0.4 | 0.0 | 0.5 |
| Incr Delay (d2), s/veh | | | 0.2 | 0.4 | 0.0 | 0.2 |
| Initial Q Delay(d3),s/veh | | | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | 0.1 | 0.2 | 0.0 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | | | 0.6 | 0.9 | 0.0 | 0.7 |
| LnGrp LOS | | | A | A | A | A |
| Approach Vol, veh/h | | | 1661 | | | 1854 |
| Approach Delay, s/veh | | | 0.7 | | | 0.7 |
| Approach LOS | | | A | | | A |

| Timer - Assigned Phs | 2 | 6 |
|---|---|---|
| Phs Duration (G+Y+Rc), s | 70.0 | 70.0 |
| Change Period (Y+Rc), s | 6.8 | 6.8 |
| Max Green Setting (Gmax), s | 40.2 | 40.2 |
| Max Q Clear Time (g_c+I1), s | 4.3 | 5.9 |
| Green Ext Time (p_c), s | 14.2 | 19.0 |

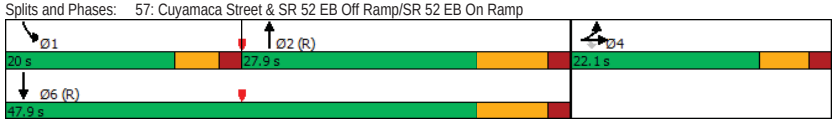
| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 0.7 |
| HCM 6th LOS | A |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 632 | 5 | 343 | 0 | 0 | 0 | 0 | 896 | 211 | 610 | 575 | 0 |
| Future Volume (vph) | 632 | 5 | 343 | 0 | 0 | 0 | 0 | 896 | 211 | 610 | 575 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | | | | 9 | | | 13 |
| Confl. Bikes (#/hr) | | | | | | | | | 2 | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | 50% | | | | | | | | | | | |
| Turn Type | Split | NA | Perm | | | | | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | | | | | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | | | | |
| Detector Phase | 4 | 4 | 4 | | | | | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | | | | | 11.0 | | 5.0 | 12.0 | |
| Minimum Split (s) | 22.1 | 22.1 | 22.1 | | | | | 27.0 | | 10.7 | 32.0 | |
| Total Split (s) | 22.1 | 22.1 | 22.1 | | | | | 27.9 | | 20.0 | 47.9 | |
| Total Split (%) | 31.6% | 31.6% | 31.6% | | | | | 39.9% | | 28.6% | 68.4% | |
| Yellow Time (s) | 4.1 | 4.1 | 4.1 | | | | | 6.0 | | 3.7 | 6.0 | |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | | | | | 2.0 | | 2.0 | 2.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | | | | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 6.1 | 6.1 | 6.1 | | | | | 8.0 | | 5.7 | 8.0 | |
| Lead/Lag | | | | | | | | Lag | | Lead | | |
| Lead-Lag Optimize? | | | | | | | | Yes | | Yes | | |
| Recall Mode | None | None | None | | | | | C-Min | | None | C-Min | |

**Intersection Summary**

Cycle Length: 70
Actuated Cycle Length: 70
Offset: 10 (14%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 57: Cuyamaca Street & SR 52 EB Off Ramp/SR 52 EB On Ramp








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 632 | 5 | 343 | 0 | 0 | 0 | 0 | 896 | 211 | 610 | 575 | 0 |
| Future Volume (veh/h) | 632 | 5 | 343 | 0 | 0 | 0 | 0 | 896 | 211 | 610 | 575 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | | | | 1.00 | | 0.98 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | | | | 0 | 1870 | 1870 | 1870 | 1870 | 0 |
| Adj Flow Rate, veh/h | 691 | 0 | 336 | | | | 0 | 974 | 206 | 663 | 625 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | | | | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | | | | 0 | 2 | 2 | 2 | 2 | 0 |
| Cap, veh/h | 814 | 0 | 361 | | | | 0 | 1195 | 252 | 706 | 2026 | 0 |
| Arrive On Green | 0.23 | 0.00 | 0.23 | | | | 0.00 | 0.09 | 0.09 | 0.20 | 0.57 | 0.00 |
| Sat Flow, veh/h | 3563 | 0 | 1581 | | | | 0 | 4372 | 887 | 3456 | 3647 | 0 |
| Grp Volume(v), veh/h | 691 | 0 | 336 | | | | 0 | 788 | 392 | 663 | 625 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1581 | | | | 0 | 1702 | 1686 | 1728 | 1777 | 0 |
| Q Serve(g_s), s | 13.0 | 0.0 | 14.6 | | | | 0.0 | 15.9 | 16.0 | 13.2 | 6.4 | 0.0 |
| Cycle Q Clear(g_c), s | 13.0 | 0.0 | 14.6 | | | | 0.0 | 15.9 | 16.0 | 13.2 | 6.4 | 0.0 |
| Prop In Lane | 1.00 | | 1.00 | | | | 0.00 | | 0.53 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 814 | 0 | 361 | | | | 0 | 968 | 479 | 706 | 2026 | 0 |
| V/C Ratio(X) | 0.85 | 0.00 | 0.93 | | | | 0.00 | 0.81 | 0.82 | 0.94 | 0.31 | 0.00 |
| Avail Cap(c_a), veh/h | 814 | 0 | 361 | | | | 0 | 968 | 479 | 706 | 2026 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | | | | 1.00 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | | | | 0.00 | 0.90 | 0.90 | 0.94 | 0.94 | 0.00 |
| Uniform Delay (d), s/veh | 25.8 | 0.0 | 26.5 | | | | 0.0 | 29.9 | 29.9 | 27.4 | 7.9 | 0.0 |
| Incr Delay (d2), s/veh | 8.4 | 0.0 | 30.1 | | | | 0.0 | 6.8 | 13.1 | 19.3 | 0.4 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 6.1 | 0.0 | 8.2 | | | | 0.0 | 8.0 | 8.8 | 7.0 | 2.1 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 34.2 | 0.0 | 56.5 | | | | 0.0 | 36.7 | 43.0 | 46.7 | 8.2 | 0.0 |
| LnGrp LOS | C | A | E | | | | A | D | D | D | A | A |
| Approach Vol, veh/h | | 1027 | | | | | | 1180 | | | 1288 | |
| Approach Delay, s/veh | | 41.5 | | | | | | 38.8 | | | 28.0 | |
| Approach LOS | | D | | | | | | D | | | C | |

| Timer - Assigned Phs | 1 | 2 | 4 | 6 |
|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 20.0 | 27.9 | 22.1 | 47.9 |
| Change Period (Y+Rc), s | * 5.7 | 8.0 | 6.1 | 8.0 |
| Max Green Setting (Gmax), s | * 14 | 19.9 | 16.0 | 39.9 |
| Max Q Clear Time (g_c+I1), s | 15.2 | 18.0 | 16.6 | 8.4 |
| Green Ext Time (p_c), s | 0.0 | 1.3 | 0.0 | 4.5 |

**Intersection Summary**

| | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 35.6 |
| HCM 6th LOS | | D |

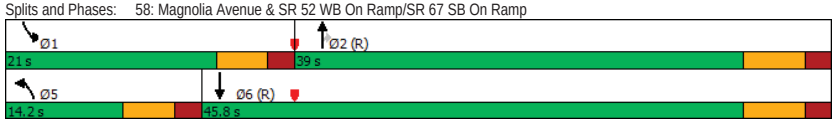
**Notes**

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 218 | 1543 | 134 | 590 | 585 | 318 |
| Future Volume (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 218 | 1543 | 134 | 590 | 585 | 318 |
| Confl. Peds. (#/hr) | | | | | | | | | 2 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | | | | | | | Prot | NA | Perm | Prot | NA | |
| Protected Phases | | | | | | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | | | 2 | | | |
| Detector Phase | | | | | | | 5 | 2 | 2 | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | | | | | | 5.0 | 6.0 | 6.0 | 5.0 | 7.0 | |
| Minimum Split (s) | | | | | | | 10.7 | 38.4 | 38.4 | 10.7 | 39.4 | |
| Total Split (s) | | | | | | | 14.2 | 39.0 | 39.0 | 21.0 | 45.8 | |
| Total Split (%) | | | | | | | 23.7% | 65.0% | 65.0% | 35.0% | 76.3% | |
| Yellow Time (s) | | | | | | | 3.7 | 4.4 | 4.4 | 3.7 | 4.4 | |
| All-Red Time (s) | | | | | | | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | |
| Lost Time Adjust (s) | | | | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | | | | | | | 5.7 | 6.4 | 6.4 | 5.7 | 6.4 | |
| Lead/Lag | | | | | | | Lead | Lag | Lag | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | Yes | Yes | Yes | |
| Recall Mode | | | | | | | None | C-Max | C-Max | None | C-Max | |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 60 |
| Offset: 17 (28%), Referenced to phase 2:NBT and 6:SBT, Start of Green |
| Natural Cycle: 60 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 58: Magnolia Avenue & SR 52 WB On Ramp/SR 67 SB On Ramp








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 0 | 0 | 0 | 218 | 1543 | 134 | 590 | 585 | 318 |
| Future Volume (veh/h) | 0 | 0 | 0 | 0 | 0 | 0 | 218 | 1543 | 134 | 590 | 585 | 318 |
| Initial Q (Qb), veh | | | | | | | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | | | | | | 1.00 | | 1.00 | 1.00 | | 0.98 |
| Parking Bus, Adj | | | | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | | | | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | | | | | | | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | | | | | | | 237 | 1677 | 146 | 641 | 636 | 346 |
| Peak Hour Factor | | | | | | | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | | | | | | | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | | | | | | | 337 | 2983 | 924 | 740 | 1543 | 839 |
| Arrive On Green | | | | | | | 0.19 | 1.00 | 1.00 | 0.36 | 1.00 | 1.00 |
| Sat Flow, veh/h | | | | | | | 3456 | 5106 | 1582 | 3456 | 2201 | 1197 |
| Grp Volume(v), veh/h | | | | | | | 237 | 1677 | 146 | 641 | 513 | 469 |
| Grp Sat Flow(s),veh/h/ln | | | | | | | 1728 | 1702 | 1582 | 1728 | 1777 | 1622 |
| Q Serve(g_s), s | | | | | | | 3.8 | 0.0 | 0.0 | 10.4 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | | | | | | | 3.8 | 0.0 | 0.0 | 10.4 | 0.0 | 0.0 |
| Prop In Lane | | | | | | | 1.00 | | 1.00 | 1.00 | | 0.74 |
| Lane Grp Cap(c), veh/h | | | | | | | 337 | 2983 | 924 | 740 | 1245 | 1137 |
| V/C Ratio(X) | | | | | | | 0.70 | 0.56 | 0.16 | 0.87 | 0.41 | 0.41 |
| Avail Cap(c_a), veh/h | | | | | | | 490 | 2983 | 924 | 881 | 1245 | 1137 |
| HCM Platoon Ratio | | | | | | | 2.00 | 2.00 | 2.00 | 1.67 | 1.67 | 1.67 |
| Upstream Filter(I) | | | | | | | 0.33 | 0.33 | 0.33 | 0.69 | 0.69 | 0.69 |
| Uniform Delay (d), s/veh | | | | | | | 23.3 | 0.0 | 0.0 | 18.5 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | | | | | | | 0.3 | 0.3 | 0.1 | 5.0 | 0.7 | 0.8 |
| Initial Q Delay(d3),s/veh | | | | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | | | | | 1.4 | 0.1 | 0.0 | 3.5 | 0.2 | 0.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | | | | 23.7 | 0.3 | 0.1 | 23.5 | 0.7 | 0.8 |
| LnGrp LOS | | | | | | | C | A | A | C | A | A |
| Approach Vol, veh/h | | | | | | | | 2060 | | | 1623 | |
| Approach Delay, s/veh | | | | | | | | 2.9 | | | 9.7 | |
| Approach LOS | | | | | | | | A | | | A | |

| Timer - Assigned Phs | 1 | 2 | | 5 | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 18.5 | 41.5 | | 11.5 | 48.5 |
| Change Period (Y+Rc), s | * 5.7 | 6.4 | | * 5.7 | 6.4 |
| Max Green Setting (Gmax), s | * 15 | 32.6 | | * 8.5 | 39.4 |
| Max Q Clear Time (g_c+I1), s | 12.4 | 2.0 | | 5.8 | 2.0 |
| Green Ext Time (p_c), s | 0.5 | 17.0 | | 0.1 | 7.1 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 5.9 | |
| HCM 6th LOS | A | |

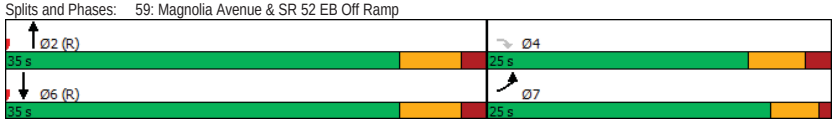
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 456 | 458 | 0 | 1450 | 555 | 0 |
| Future Volume (vph) | 456 | 458 | 0 | 1450 | 555 | 0 |
| Confl. Peds. (#/hr) | | | | | | 1 |
| Confl. Bikes (#/hr) | | | | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | | NA | NA | |
| Protected Phases | 7 | | | 2 | 6 | |
| Permitted Phases | | 4 | | | | |
| Detector Phase | 7 | 4 | | 2 | 6 | |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 5.0 | | 5.0 | 5.0 | |
| Minimum Split (s) | 8.5 | 22.1 | | 22.4 | 27.4 | |
| Total Split (s) | 25.0 | 25.0 | | 35.0 | 35.0 | |
| Total Split (%) | 41.7% | 41.7% | | 58.3% | 58.3% | |
| Yellow Time (s) | 3.5 | 4.1 | | 4.4 | 4.4 | |
| All-Red Time (s) | 1.0 | 2.0 | | 2.0 | 2.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 6.1 | | 6.4 | 6.4 | |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | None | None | | C-Max | C-Max | |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 60 |
| Offset: 2 (3%), Referenced to phase 2:NBT and 6:SBT, Start of Green |
| Natural Cycle: 70 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 59: Magnolia Avenue & SR 52 EB Off Ramp








| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 456 | 458 | 0 | 1450 | 555 | 0 |
| Future Volume (veh/h) | 456 | 458 | 0 | 1450 | 555 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 0 | 1870 | 1870 | 0 |
| Adj Flow Rate, veh/h | 496 | 498 | 0 | 1576 | 603 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 0 | 2 | 2 | 0 |
| Cap, veh/h | 604 | 537 | 0 | 1704 | 1704 | 0 |
| Arrive On Green | 0.34 | 0.34 | 0.00 | 0.48 | 0.96 | 0.00 |
| Sat Flow, veh/h | 1781 | 1585 | 0 | 3741 | 3741 | 0 |
| Grp Volume(v), veh/h | 496 | 498 | 0 | 1576 | 603 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 0 | 1777 | 1777 | 0 |
| Q Serve(g_s), s | 15.3 | 18.2 | 0.0 | 24.9 | 0.6 | 0.0 |
| Cycle Q Clear(g_c), s | 15.3 | 18.2 | 0.0 | 24.9 | 0.6 | 0.0 |
| Prop In Lane | 1.00 | 1.00 | 0.00 | | | 0.00 |
| Lane Grp Cap(c), veh/h | 604 | 537 | 0 | 1704 | 1704 | 0 |
| V/C Ratio(X) | 0.82 | 0.93 | 0.00 | 0.92 | 0.35 | 0.00 |
| Avail Cap(c_a), veh/h | 609 | 542 | 0 | 1704 | 1704 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 2.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.66 | 0.90 | 0.00 |
| Uniform Delay (d), s/veh | 18.2 | 19.1 | 0.0 | 14.6 | 0.7 | 0.0 |
| Incr Delay (d2), s/veh | 8.8 | 22.2 | 0.0 | 7.1 | 0.5 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 7.1 | 9.2 | 0.0 | 8.9 | 0.2 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 27.0 | 41.3 | 0.0 | 21.7 | 1.2 | 0.0 |
| LnGrp LOS | C | D | A | C | A | A |
| Approach Vol, veh/h | 994 | | | 1576 | 603 | |
| Approach Delay, s/veh | 34.2 | | | 21.7 | 1.2 | |
| Approach LOS | C | | | C | A | |

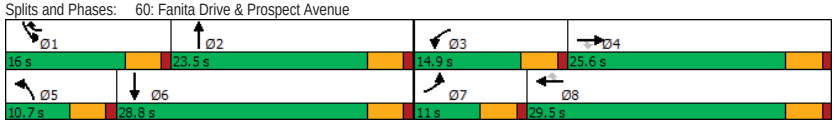
| Timer - Assigned Phs | 2 | 4 | 6 |
|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 35.2 | 24.8 | 35.2 |
| Change Period (Y+Rc), s | 6.4 | 4.5 | 6.4 |
| Max Green Setting (Gmax), s | 28.6 | 20.5 | 28.6 |
| Max Q Clear Time (g_c+I1), s | 26.9 | 20.2 | 2.6 |
| Green Ext Time (p_c), s | 1.4 | 0.2 | 3.8 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 21.7 | |
| HCM 6th LOS | C | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 88 | 88 | 37 | 98 | 101 | 142 | 40 | 206 | 85 | 189 | 230 | 104 |
| Future Volume (vph) | 88 | 88 | 37 | 98 | 101 | 142 | 40 | 206 | 85 | 189 | 230 | 104 |
| Confl. Peds. (#/hr) | | | 6 | | | 4 | | | 2 | | | 1 |
| Confl. Bikes (#/hr) | | | 4 | | | 4 | | | 1 | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | pm+ov | Prot | NA | | Prot | NA | |
| Protected Phases | 7 | 4 | | 3 | 8 | 1 | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | | | | |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | 1 | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | 8.5 | 24.5 | 24.5 | 8.5 | 29.5 | 8.5 | 8.5 | 22.5 | | 8.5 | 24.5 | |
| Total Split (s) | 11.0 | 25.6 | 25.6 | 14.9 | 29.5 | 16.0 | 10.7 | 23.5 | | 16.0 | 28.8 | |
| Total Split (%) | 13.8% | 32.0% | 32.0% | 18.6% | 36.9% | 20.0% | 13.4% | 29.4% | | 20.0% | 36.0% | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | None | None | None | None | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 80 |
| Actuated Cycle Length: 59.2 |
| Natural Cycle: 80 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 60: Fanita Drive & Prospect Avenue








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 88 | 88 | 37 | 98 | 101 | 142 | 40 | 206 | 85 | 189 | 230 | 104 |
| Future Volume (veh/h) | 88 | 88 | 37 | 98 | 101 | 142 | 40 | 206 | 85 | 189 | 230 | 104 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 96 | 96 | 40 | 107 | 110 | 154 | 43 | 224 | 92 | 205 | 250 | 113 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 123 | 291 | 240 | 139 | 309 | 488 | 65 | 296 | 122 | 262 | 829 | 362 |
| Arrive On Green | 0.07 | 0.16 | 0.16 | 0.08 | 0.16 | 0.16 | 0.04 | 0.24 | 0.24 | 0.15 | 0.35 | 0.35 |
| Sat Flow, veh/h | 1781 | 1870 | 1539 | 1781 | 1870 | 1546 | 1781 | 1249 | 513 | 1781 | 2386 | 1041 |
| Grp Volume(v), veh/h | 96 | 96 | 40 | 107 | 110 | 154 | 43 | 0 | 316 | 205 | 184 | 179 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1539 | 1781 | 1870 | 1546 | 1781 | 0 | 1762 | 1781 | 1777 | 1651 |
| Q Serve(g_s), s | 2.5 | 2.2 | 1.1 | 2.8 | 2.5 | 3.6 | 1.1 | 0.0 | 7.9 | 5.2 | 3.5 | 3.7 |
| Cycle Q Clear(g_c), s | 2.5 | 2.2 | 1.1 | 2.8 | 2.5 | 3.6 | 1.1 | 0.0 | 7.9 | 5.2 | 3.5 | 3.7 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.29 | 1.00 | | 0.63 |
| Lane Grp Cap(c), veh/h | 123 | 291 | 240 | 139 | 309 | 488 | 65 | 0 | 417 | 262 | 617 | 573 |
| V/C Ratio(X) | 0.78 | 0.33 | 0.17 | 0.77 | 0.36 | 0.32 | 0.66 | 0.00 | 0.76 | 0.78 | 0.30 | 0.31 |
| Avail Cap(c_a), veh/h | 246 | 838 | 690 | 393 | 993 | 1054 | 235 | 0 | 711 | 435 | 917 | 852 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 21.6 | 17.7 | 17.2 | 21.3 | 17.4 | 12.4 | 22.4 | 0.0 | 16.7 | 19.4 | 11.2 | 11.2 |
| Incr Delay (d2), s/veh | 10.3 | 0.7 | 0.3 | 8.7 | 0.7 | 0.4 | 10.9 | 0.0 | 2.8 | 5.1 | 0.3 | 0.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.3 | 0.9 | 0.3 | 1.4 | 1.0 | 1.1 | 0.6 | 0.0 | 2.9 | 2.2 | 1.1 | 1.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 31.9 | 18.3 | 17.6 | 29.9 | 18.1 | 12.7 | 33.2 | 0.0 | 19.5 | 24.4 | 11.5 | 11.6 |
| LnGrp LOS | C | B | B | C | B | B | C | A | B | C | B | B |
| Approach Vol, veh/h | | 232 | | | 371 | | | 359 | | | 568 | |
| Approach Delay, s/veh | | 23.8 | | | 19.3 | | | 21.2 | | | 16.2 | |
| Approach LOS | | C | | | B | | | C | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 11.4 | 15.7 | 8.2 | 11.8 | 6.2 | 20.9 | 7.7 | 12.3 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 11.5 | 19.0 | 10.4 | 21.1 | 6.2 | 24.3 | 6.5 | 25.0 |
| Max Q Clear Time (g_c+I1), s | 7.2 | 9.9 | 4.8 | 4.2 | 3.1 | 5.7 | 4.5 | 5.6 |
| Green Ext Time (p_c), s | 0.2 | 1.2 | 0.1 | 0.5 | 0.0 | 1.9 | 0.0 | 1.0 |

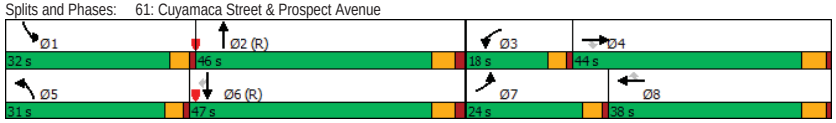
| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 19.3 |
| HCM 6th LOS | B |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 116 | 167 | 169 | 67 | 167 | 206 | 172 | 769 | 74 | 179 | 576 | 158 |
| Future Volume (vph) | 116 | 167 | 169 | 67 | 167 | 206 | 172 | 769 | 74 | 179 | 576 | 158 |
| Confl. Peds. (#/hr) | | | 4 | | | 10 | | | 7 | | | 6 |
| Confl. Bikes (#/hr) | | | 2 | | | 2 | | | 4 | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | | | | 6 |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | 8 | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 7.0 | 7.0 | 4.0 | 7.0 | 7.0 | 4.0 | 10.0 | | 4.0 | 10.0 | 10.0 |
| Minimum Split (s) | 8.2 | 35.2 | 35.2 | 8.2 | 36.2 | 36.2 | 8.2 | 33.0 | | 8.2 | 31.0 | 31.0 |
| Total Split (s) | 24.0 | 44.0 | 44.0 | 18.0 | 38.0 | 38.0 | 31.0 | 46.0 | | 32.0 | 47.0 | 47.0 |
| Total Split (%) | 17.1% | 31.4% | 31.4% | 12.9% | 27.1% | 27.1% | 22.1% | 32.9% | | 22.9% | 33.6% | 33.6% |
| Yellow Time (s) | 3.2 | 4.2 | 4.2 | 3.2 | 4.2 | 4.2 | 3.2 | 4.0 | | 3.2 | 4.1 | 4.1 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 2.0 | | 1.0 | 1.9 | 1.9 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.2 | 5.2 | 4.2 | 5.2 | 5.2 | 4.2 | 6.0 | | 4.2 | 6.0 | 6.0 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | None | None | C-Min | | None | C-Min | C-Min |

**Intersection Summary**

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 26 (19%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 61: Cuyamaca Street & Prospect Avenue








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 116 | 167 | 169 | 67 | 167 | 206 | 172 | 769 | 74 | 179 | 576 | 158 |
| Future Volume (veh/h) | 116 | 167 | 169 | 67 | 167 | 206 | 172 | 769 | 74 | 179 | 576 | 158 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 0.97 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 126 | 182 | 184 | 73 | 182 | 224 | 187 | 836 | 80 | 195 | 626 | 172 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 150 | 391 | 325 | 92 | 628 | 271 | 212 | 2258 | 215 | 217 | 1708 | 749 |
| Arrive On Green | 0.08 | 0.21 | 0.21 | 0.05 | 0.18 | 0.18 | 0.12 | 0.48 | 0.48 | 0.24 | 0.96 | 0.96 |
| Sat Flow, veh/h | 1781 | 1870 | 1554 | 1781 | 3554 | 1536 | 1781 | 4727 | 450 | 1781 | 3554 | 1559 |
| Grp Volume(v), veh/h | 126 | 182 | 184 | 73 | 182 | 224 | 187 | 601 | 315 | 195 | 626 | 172 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1554 | 1781 | 1777 | 1536 | 1781 | 1702 | 1773 | 1781 | 1777 | 1559 |
| Q Serve(g_s), s | 9.8 | 11.9 | 14.9 | 5.7 | 6.2 | 19.7 | 14.5 | 15.7 | 15.8 | 14.8 | 1.5 | 0.8 |
| Cycle Q Clear(g_c), s | 9.8 | 11.9 | 14.9 | 5.7 | 6.2 | 19.7 | 14.5 | 15.7 | 15.8 | 14.8 | 1.5 | 0.8 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.25 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 150 | 391 | 325 | 92 | 628 | 271 | 212 | 1626 | 847 | 217 | 1708 | 749 |
| V/C Ratio(X) | 0.84 | 0.47 | 0.57 | 0.79 | 0.29 | 0.83 | 0.88 | 0.37 | 0.37 | 0.90 | 0.37 | 0.23 |
| Avail Cap(c_a), veh/h | 252 | 518 | 431 | 176 | 833 | 360 | 341 | 1626 | 847 | 354 | 1708 | 749 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 2.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 0.97 | 0.97 | 0.97 | 1.00 | 1.00 | 1.00 | 0.89 | 0.89 | 0.89 |
| Uniform Delay (d), s/veh | 63.2 | 48.5 | 49.7 | 65.6 | 50.0 | 55.6 | 60.7 | 23.2 | 23.2 | 52.1 | 1.4 | 1.4 |
| Incr Delay (d2), s/veh | 4.8 | 0.9 | 1.7 | 5.4 | 0.1 | 9.4 | 9.3 | 0.6 | 1.3 | 9.6 | 0.5 | 0.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 4.6 | 5.7 | 5.9 | 2.7 | 2.8 | 8.3 | 7.1 | 6.4 | 6.9 | 6.4 | 0.5 | 0.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 68.0 | 49.5 | 51.4 | 71.1 | 50.2 | 64.9 | 70.0 | 23.8 | 24.5 | 61.7 | 2.0 | 2.1 |
| LnGrp LOS | E | D | D | E | D | E | E | C | C | E | A | A |
| Approach Vol, veh/h | | 492 | | | 479 | | | 1103 | | | 993 | |
| Approach Delay, s/veh | | 54.9 | | | 60.3 | | | 31.8 | | | 13.7 | |
| Approach LOS | | D | | | E | | | C | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 21.2 | 72.9 | 11.5 | 34.4 | 20.8 | 73.3 | 16.0 | 29.9 |
| Change Period (Y+Rc), s | * 4.2 | 6.0 | * 4.2 | 5.2 | * 4.2 | * 6 | * 4.2 | 5.2 |
| Max Green Setting (Gmax), s | * 28 | 40.0 | * 14 | 38.8 | * 27 | * 41 | * 20 | 32.8 |
| Max Q Clear Time (g_c+I1), s | 16.8 | 17.8 | 7.7 | 16.9 | 16.5 | 3.5 | 11.8 | 21.7 |
| Green Ext Time (p_c), s | 0.2 | 8.7 | 0.0 | 1.7 | 0.2 | 8.0 | 0.1 | 1.0 |

**Intersection Summary**

| | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 34.1 |
| HCM 6th LOS | | C |

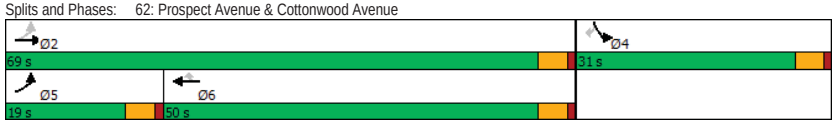
**Notes**

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 91 | 333 | 247 | 95 | 75 | 44 |
| Future Volume (vph) | 91 | 333 | 247 | 95 | 75 | 44 |
| Confl. Peds. (#/hr) | | | | 1 | | 4 |
| Confl. Bikes (#/hr) | | | | 3 | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | pm+pt | NA | NA | Perm | Prot | Perm |
| Protected Phases | 5 | 2 | 6 | | 4 | |
| Permitted Phases | 2 | | | 6 | | 4 |
| Detector Phase | 5 | 2 | 6 | 6 | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 |
| Total Split (s) | 19.0 | 69.0 | 50.0 | 50.0 | 31.0 | 31.0 |
| Total Split (%) | 19.0% | 69.0% | 50.0% | 50.0% | 31.0% | 31.0% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | | Lag | Lag | | |
| Lead-Lag Optimize? | Yes | | Yes | Yes | | |
| Recall Mode | None | Min | Min | Min | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 40.6 |
| Natural Cycle: 55 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 62: Prospect Avenue & Cottonwood Avenue








| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 91 | 333 | 247 | 95 | 75 | 44 |
| Future Volume (veh/h) | 91 | 333 | 247 | 95 | 75 | 44 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 0.97 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 99 | 362 | 268 | 103 | 82 | 48 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 595 | 1015 | 527 | 435 | 170 | 151 |
| Arrive On Green | 0.08 | 0.54 | 0.28 | 0.28 | 0.10 | 0.10 |
| Sat Flow, veh/h | 1781 | 1870 | 1870 | 1544 | 1781 | 1585 |
| Grp Volume(v), veh/h | 99 | 362 | 268 | 103 | 82 | 48 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1870 | 1544 | 1781 | 1585 |
| Q Serve(g_s), s | 0.8 | 2.7 | 3.0 | 1.3 | 1.1 | 0.7 |
| Cycle Q Clear(g_c), s | 0.8 | 2.7 | 3.0 | 1.3 | 1.1 | 0.7 |
| Prop In Lane | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 595 | 1015 | 527 | 435 | 170 | 151 |
| V/C Ratio(X) | 0.17 | 0.36 | 0.51 | 0.24 | 0.48 | 0.32 |
| Avail Cap(c_a), veh/h | 1492 | 4854 | 3424 | 2827 | 1899 | 1690 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 4.7 | 3.2 | 7.5 | 6.9 | 10.7 | 10.5 |
| Incr Delay (d2), s/veh | 0.1 | 0.2 | 0.8 | 0.3 | 2.1 | 1.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.1 | 0.1 | 0.7 | 0.2 | 0.4 | 0.7 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 4.8 | 3.4 | 8.2 | 7.1 | 12.8 | 11.7 |
| LnGrp LOS | A | A | A | A | B | B |
| Approach Vol, veh/h | | 461 | 371 | | 130 | |
| Approach Delay, s/veh | | 3.7 | 7.9 | | 12.4 | |
| Approach LOS | | A | A | | B | |

| Timer - Assigned Phs | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 18.0 | | 6.9 | 6.5 | 11.5 |
| Change Period (Y+Rc), s | 4.5 | | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 64.5 | | 26.5 | 14.5 | 45.5 |
| Max Q Clear Time (g_c+I1), s | 4.7 | | 3.1 | 2.8 | 5.0 |
| Green Ext Time (p_c), s | 2.3 | | 0.3 | 0.2 | 2.0 |

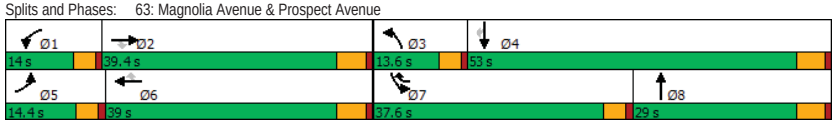
| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 6.5 |
| HCM 6th LOS | A |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 144 | 280 | 85 | 62 | 274 | 912 | 36 | 422 | 88 | 604 | 380 | 72 |
| Future Volume (vph) | 144 | 280 | 85 | 62 | 274 | 912 | 36 | 422 | 88 | 604 | 380 | 72 |
| Confl. Peds. (#/hr) | | | 9 | | | 1 | | | 5 | | | 4 |
| Confl. Bikes (#/hr) | | | 2 | | | 1 | | | 1 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | pm+ov | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | 4.0 | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 39.3 | 39.3 | 8.2 | 37.4 | 8.2 | 8.2 | 23.2 | | 8.2 | 36.2 | 36.2 |
| Total Split (s) | 14.4 | 39.4 | 39.4 | 14.0 | 39.0 | 37.6 | 13.6 | 29.0 | | 37.6 | 53.0 | 53.0 |
| Total Split (%) | 12.0% | 32.8% | 32.8% | 11.7% | 32.5% | 31.3% | 11.3% | 24.2% | | 31.3% | 44.2% | 44.2% |
| Yellow Time (s) | 3.2 | 4.3 | 4.3 | 3.2 | 4.4 | 3.2 | 3.2 | 4.2 | | 3.2 | 4.2 | 4.2 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | 5.3 | 4.2 | 5.4 | 4.2 | 4.2 | 5.2 | | 4.2 | 5.2 | 5.2 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | Min | Min | None | Min | None | None | None | | None | None | None |

**Intersection Summary**

Cycle Length: 120
Actuated Cycle Length: 97.9
Natural Cycle: 95
Control Type: Actuated-Uncoordinated

Splits and Phases: 63: Magnolia Avenue & Prospect Avenue








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 144 | 280 | 85 | 62 | 274 | 912 | 36 | 422 | 88 | 604 | 380 | 72 |
| Future Volume (veh/h) | 144 | 280 | 85 | 62 | 274 | 912 | 36 | 422 | 88 | 604 | 380 | 72 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 157 | 304 | 92 | 67 | 298 | 991 | 39 | 459 | 96 | 657 | 413 | 78 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 227 | 629 | 522 | 87 | 1134 | 1498 | 49 | 563 | 117 | 779 | 1388 | 609 |
| Arrive On Green | 0.07 | 0.34 | 0.34 | 0.05 | 0.32 | 0.32 | 0.03 | 0.19 | 0.19 | 0.23 | 0.39 | 0.39 |
| Sat Flow, veh/h | 3456 | 1870 | 1551 | 1781 | 3554 | 2726 | 1781 | 2917 | 606 | 3456 | 3554 | 1560 |
| Grp Volume(v), veh/h | 157 | 304 | 92 | 67 | 298 | 991 | 39 | 278 | 277 | 657 | 413 | 78 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1870 | 1551 | 1781 | 1777 | 1363 | 1781 | 1777 | 1746 | 1728 | 1777 | 1560 |
| Q Serve(g_s), s | 4.3 | 12.4 | 4.0 | 3.6 | 6.0 | 25.1 | 2.1 | 14.5 | 14.7 | 17.6 | 7.7 | 3.1 |
| Cycle Q Clear(g_c), s | 4.3 | 12.4 | 4.0 | 3.6 | 6.0 | 25.1 | 2.1 | 14.5 | 14.7 | 17.6 | 7.7 | 3.1 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.35 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 227 | 629 | 522 | 87 | 1134 | 1498 | 49 | 343 | 337 | 779 | 1388 | 609 |
| V/C Ratio(X) | 0.69 | 0.48 | 0.18 | 0.77 | 0.26 | 0.66 | 0.79 | 0.81 | 0.82 | 0.84 | 0.30 | 0.13 |
| Avail Cap(c_a), veh/h | 365 | 661 | 548 | 181 | 1237 | 1577 | 173 | 438 | 430 | 1196 | 1760 | 773 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 44.1 | 25.4 | 22.6 | 45.4 | 24.4 | 15.7 | 46.7 | 37.3 | 37.4 | 35.8 | 20.3 | 18.9 |
| Incr Delay (d2), s/veh | 3.7 | 0.6 | 0.2 | 13.5 | 0.1 | 1.0 | 23.8 | 8.8 | 9.6 | 3.5 | 0.1 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.9 | 5.5 | 1.5 | 1.9 | 2.5 | 7.5 | 1.3 | 7.0 | 7.1 | 7.6 | 3.2 | 1.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 47.8 | 26.0 | 22.8 | 58.9 | 24.6 | 16.7 | 70.4 | 46.0 | 47.0 | 39.3 | 20.4 | 19.0 |
| LnGrp LOS | D | C | C | E | C | B | E | D | D | D | C | B |
| Approach Vol, veh/h | | 553 | | | 1356 | | | 594 | | | 1148 | |
| Approach Delay, s/veh | | 31.6 | | | 20.5 | | | 48.1 | | | 31.1 | |
| Approach LOS | | C | | | C | | | D | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 8.9 | 37.9 | 6.9 | 42.9 | 10.6 | 36.2 | 26.0 | 23.8 |
| Change Period (Y+Rc), s | * 4.2 | * 5.4 | * 4.2 | 5.2 | * 4.2 | 5.4 | * 4.2 | 5.2 |
| Max Green Setting (Gmax), s | * 9.8 | * 34 | * 9.4 | 47.8 | * 10 | 33.6 | * 33 | 23.8 |
| Max Q Clear Time (g_c+I1), s | 5.6 | 14.4 | 4.1 | 9.7 | 6.3 | 27.1 | 19.6 | 16.7 |
| Green Ext Time (p_c), s | 0.0 | 2.0 | 0.0 | 3.3 | 0.2 | 3.5 | 2.2 | 2.0 |

**Intersection Summary**

| | |
|---|---|
| HCM 6th Ctrl Delay | 30.0 |
| HCM 6th LOS | C |

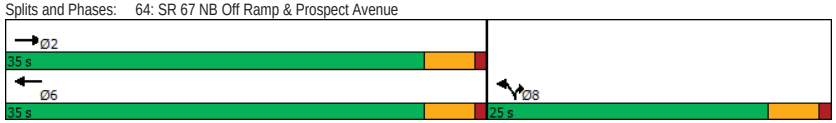
**Notes**

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 1030 | 0 | 0 | 603 | 705 | 142 |
| Future Volume (vph) | 1030 | 0 | 0 | 603 | 705 | 142 |
| Confl. Peds. (#/hr) | | 5 | | | | |
| Confl. Bikes (#/hr) | | 3 | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | NA | | | NA | Prot | Prot |
| Protected Phases | 2 | | | 6 | 8 | 8 |
| Permitted Phases | | | | | | |
| Detector Phase | 2 | | | 6 | 8 | 8 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 5.0 | | | 10.0 | 5.0 | 5.0 |
| Minimum Split (s) | 20.6 | | | 20.6 | 20.6 | 20.6 |
| Total Split (s) | 35.0 | | | 35.0 | 25.0 | 25.0 |
| Total Split (%) | 58.3% | | | 58.3% | 41.7% | 41.7% |
| Yellow Time (s) | 3.6 | | | 3.6 | 3.6 | 3.6 |
| All-Red Time (s) | 1.0 | | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.6 | | | 4.6 | 4.6 | 4.6 |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | Min | | | Min | None | None |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 45 |
| Natural Cycle: 45 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 64: SR 67 NB Off Ramp & Prospect Avenue






Existing + Proj PM
64: SR 67 NB Off Ramp & Prospect Avenue
Fanita Ranch
06/06/2019

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 1030 | 0 | 0 | 603 | 705 | 142 |
| Future Volume (veh/h) | 1030 | 0 | 0 | 603 | 705 | 142 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | 1.00 | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 0 | 0 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 1120 | 0 | 0 | 655 | 766 | 154 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 0 | 0 | 2 | 2 | 2 |
| Cap, veh/h | 1607 | 0 | 0 | 1607 | 1031 | 473 |
| Arrive On Green | 0.45 | 0.00 | 0.00 | 0.45 | 0.30 | 0.30 |
| Sat Flow, veh/h | 3741 | 0 | 0 | 3741 | 3456 | 1585 |
| Grp Volume(v), veh/h | 1120 | 0 | 0 | 655 | 766 | 154 |
| Grp Sat Flow(s),veh/h/ln | 1777 | 0 | 0 | 1777 | 1728 | 1585 |
| Q Serve(g_s), s | 9.3 | 0.0 | 0.0 | 4.6 | 7.4 | 2.8 |
| Cycle Q Clear(g_c), s | 9.3 | 0.0 | 0.0 | 4.6 | 7.4 | 2.8 |
| Prop In Lane | | 0.00 | 0.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 1607 | 0 | 0 | 1607 | 1031 | 473 |
| V/C Ratio(X) | 0.70 | 0.00 | 0.00 | 0.41 | 0.74 | 0.33 |
| Avail Cap(c_a), veh/h | 2931 | 0 | 0 | 2931 | 1913 | 877 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 8.1 | 0.0 | 0.0 | 6.8 | 11.7 | 10.1 |
| Incr Delay (d2), s/veh | 0.2 | 0.0 | 0.0 | 0.2 | 0.4 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.1 | 0.0 | 0.0 | 1.0 | 2.2 | 0.8 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 8.3 | 0.0 | 0.0 | 6.9 | 12.1 | 10.2 |
| LnGrp LOS | A | A | A | A | B | B |
| Approach Vol, veh/h | 1120 | | | 655 | 920 | |
| Approach Delay, s/veh | 8.3 | | | 6.9 | 11.8 | |
| Approach LOS | A | | | A | B | |

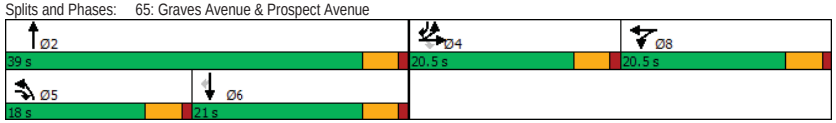
| Timer - Assigned Phs | 2 | | | 6 | 8 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 21.3 | | | 21.3 | 15.6 |
| Change Period (Y+Rc), s | 4.6 | | | 4.6 | 4.6 |
| Max Green Setting (Gmax), s | 30.4 | | | 30.4 | 20.4 |
| Max Q Clear Time (g_c+I1), s | 11.3 | | | 6.6 | 9.4 |
| Green Ext Time (p_c), s | 5.4 | | | 4.5 | 1.6 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 9.1 | |
| HCM 6th LOS | A | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 310 | 10 | 753 | 2 | 7 | 0 | 440 | 30 | 1 | 0 | 42 | 180 |
| Future Volume (vph) | 310 | 10 | 753 | 2 | 7 | 0 | 440 | 30 | 1 | 0 | 42 | 180 |
| Confl. Peds. (#/hr) | | | | | | 1 | | | 6 | | | |
| Confl. Bikes (#/hr) | | | 3 | | | 1 | | | 2 | | | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | 48% | | | | | | | | | | | |
| Turn Type | Split | NA | pm+ov | Split | NA | | Prot | NA | | | NA | pm+ov |
| Protected Phases | 4 | 4 | 5 | 8 | 8 | | 5 | 2 | | | 6 | 4 |
| Permitted Phases | | | 4 | | | | | | | | | 6 |
| Detector Phase | 4 | 4 | 5 | 8 | 8 | | 5 | 2 | | | 6 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | | 4.0 | 4.0 |
| Minimum Split (s) | 20.5 | 20.5 | 8.5 | 20.5 | 20.5 | | 8.5 | 20.5 | | | 20.5 | 20.5 |
| Total Split (s) | 20.5 | 20.5 | 18.0 | 20.5 | 20.5 | | 18.0 | 39.0 | | | 21.0 | 20.5 |
| Total Split (%) | 25.6% | 25.6% | 22.5% | 25.6% | 25.6% | | 22.5% | 48.8% | | | 26.3% | 25.6% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | | | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | | | 4.5 | 4.5 |
| Lead/Lag | | | Lead | | | | Lead | | | | Lag | |
| Lead-Lag Optimize? | | | Yes | | | | Yes | | | | Yes | |
| Recall Mode | None | None | None | None | None | | None | Min | | | Min | None |

| Intersection Summary |
|---|
| Cycle Length: 80 |
| Actuated Cycle Length: 46 |
| Natural Cycle: 80 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 65: Graves Avenue & Prospect Avenue








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 310 | 10 | 753 | 2 | 7 | 0 | 440 | 30 | 1 | 0 | 42 | 180 |
| Future Volume (veh/h) | 310 | 10 | 753 | 2 | 7 | 0 | 440 | 30 | 1 | 0 | 42 | 180 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 1.00 | 1.00 | | 0.97 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 0 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 345 | 0 | 818 | 2 | 8 | 0 | 478 | 33 | 1 | 0 | 46 | 196 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 0 | 2 | 2 |
| Cap, veh/h | 1123 | 0 | 783 | 22 | 23 | 0 | 644 | 733 | 22 | 0 | 246 | 704 |
| Arrive On Green | 0.32 | 0.00 | 0.32 | 0.01 | 0.01 | 0.00 | 0.19 | 0.41 | 0.41 | 0.00 | 0.13 | 0.13 |
| Sat Flow, veh/h | 3563 | 0 | 1548 | 1781 | 1870 | 0 | 3456 | 1804 | 55 | 0 | 1870 | 1558 |
| Grp Volume(v), veh/h | 345 | 0 | 818 | 2 | 8 | 0 | 478 | 0 | 34 | 0 | 46 | 196 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1548 | 1781 | 1870 | 0 | 1728 | 0 | 1859 | 0 | 1870 | 1558 |
| Q Serve(g_s), s | 3.7 | 0.0 | 16.0 | 0.1 | 0.2 | 0.0 | 6.6 | 0.0 | 0.6 | 0.0 | 1.1 | 4.0 |
| Cycle Q Clear(g_c), s | 3.7 | 0.0 | 16.0 | 0.1 | 0.2 | 0.0 | 6.6 | 0.0 | 0.6 | 0.0 | 1.1 | 4.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.00 | 1.00 | | 0.03 | 0.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 1123 | 0 | 783 | 22 | 23 | 0 | 644 | 0 | 755 | 0 | 246 | 704 |
| V/C Ratio(X) | 0.31 | 0.00 | 1.04 | 0.09 | 0.34 | 0.00 | 0.74 | 0.00 | 0.05 | 0.00 | 0.19 | 0.28 |
| Avail Cap(c_a), veh/h | 1123 | 0 | 783 | 561 | 589 | 0 | 919 | 0 | 1263 | 0 | 608 | 1006 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 13.2 | 0.0 | 12.7 | 24.8 | 24.9 | 0.0 | 19.5 | 0.0 | 9.1 | 0.0 | 19.6 | 8.9 |
| Incr Delay (d2), s/veh | 0.2 | 0.0 | 44.4 | 1.7 | 8.3 | 0.0 | 2.0 | 0.0 | 0.0 | 0.0 | 0.4 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.3 | 0.0 | 16.2 | 0.0 | 0.1 | 0.0 | 2.6 | 0.0 | 0.2 | 0.0 | 0.5 | 2.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 13.3 | 0.0 | 57.1 | 26.5 | 33.2 | 0.0 | 21.5 | 0.0 | 9.1 | 0.0 | 20.0 | 9.1 |
| LnGrp LOS | B | A | F | C | C | A | C | A | A | A | B | A |
| Approach Vol, veh/h | | 1163 | | | 10 | | | 512 | | | 242 | |
| Approach Delay, s/veh | | 44.1 | | | 31.9 | | | 20.6 | | | 11.2 | |
| Approach LOS | | D | | | C | | | C | | | B | |

| Timer - Assigned Phs | 2 | | 4 | 5 | 6 | | 8 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 25.1 | | 20.5 | 14.0 | 11.2 | | 5.1 | | | | |
| Change Period (Y+Rc), s | | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | | 34.5 | | 16.0 | 13.5 | 16.5 | | 16.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 2.6 | | 18.0 | 8.6 | 6.0 | | 2.2 | | | | |
| Green Ext Time (p_c), s | | 0.1 | | 0.0 | 0.8 | 0.6 | | 0.0 | | | | |

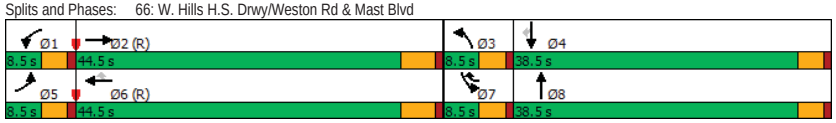
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 33.7 | |
| HCM 6th LOS | C | |

| Notes |
|---|
| User approved volume balancing among the lanes for turning movement. |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 2091 | 3 | 13 | 767 | 0 | 0 | 0 | 4 | 0 | 0 | 0 |
| Future Volume (vph) | 0 | 2091 | 3 | 13 | 767 | 0 | 0 | 0 | 4 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Prot | NA | | Prot | | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | 4.0 | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.5 | 22.5 | | 8.5 | 27.3 | 8.5 | 8.5 | 38.5 | | 8.5 | 33.5 | 33.5 |
| Total Split (s) | 8.5 | 44.5 | | 8.5 | 44.5 | 8.5 | 8.5 | 38.5 | | 8.5 | 38.5 | 38.5 |
| Total Split (%) | 8.5% | 44.5% | | 8.5% | 44.5% | 8.5% | 8.5% | 38.5% | | 8.5% | 38.5% | 38.5% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | 3.2 | 3.2 | 3.2 | | 3.2 | 3.2 | 3.2 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | 4.2 | 4.2 | 4.2 | | 4.2 | 4.2 | 4.2 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | C-Min | | None | C-Min | None | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 81 (81%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 145 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 66: W. Hills H.S. Drwy/Weston Rd & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 2091 | 3 | 13 | 767 | 0 | 0 | 0 | 4 | 0 | 0 | 0 |
| Future Volume (veh/h) | 0 | 2091 | 3 | 13 | 767 | 0 | 0 | 0 | 4 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 2273 | 3 | 14 | 834 | 0 | 0 | 0 | 4 | 0 | 0 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 2 | 3069 | 4 | 23 | 3190 | 1356 | 2 | 0 | 12 | 2 | 14 | 12 |
| Arrive On Green | 0.00 | 1.00 | 1.00 | 0.03 | 1.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 |
| Sat Flow, veh/h | 1781 | 3642 | 5 | 1781 | 3554 | 1585 | 1781 | 0 | 1585 | 1781 | 1870 | 1585 |
| Grp Volume(v), veh/h | 0 | 1109 | 1167 | 14 | 834 | 0 | 0 | 0 | 4 | 0 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1869 | 1781 | 1777 | 1585 | 1781 | 0 | 1585 | 1781 | 1870 | 1585 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.0 | 0.8 | 0.0 | 4.2 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 0.0 | 0.0 | 0.0 | 0.8 | 0.0 | 4.2 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | | 0.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 2 | 1497 | 1576 | 23 | 3190 | 1356 | 2 | 0 | 12 | 2 | 14 | 12 |
| V/C Ratio(X) | 0.00 | 0.74 | 0.74 | 0.61 | 0.26 | 0.00 | 0.00 | 0.00 | 0.34 | 0.00 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 77 | 1497 | 1576 | 77 | 3190 | 1356 | 77 | 0 | 544 | 77 | 642 | 544 |
| HCM Platoon Ratio | 1.33 | 1.33 | 1.33 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.00 | 0.61 | 0.61 | 0.97 | 0.97 | 0.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 0.0 | 0.0 | 0.0 | 48.5 | 0.0 | 0.0 | 0.0 | 0.0 | 49.4 | 0.0 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 0.0 | 2.1 | 2.0 | 22.7 | 0.2 | 0.0 | 0.0 | 0.0 | 16.5 | 0.0 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.9 | 0.9 | 0.5 | 0.1 | 0.0 | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 2.1 | 2.0 | 71.2 | 0.2 | 0.0 | 0.0 | 0.0 | 65.9 | 0.0 | 0.0 | 0.0 |
| LnGrp LOS | A | A | A | E | A | A | A | A | E | A | A | A |
| Approach Vol, veh/h | | 2276 | | | 848 | | | 4 | | | 0 | |
| Approach Delay, s/veh | | 2.0 | | | 1.4 | | | 65.9 | | | 0.0 | |
| Approach LOS | | A | | | A | | | E | | | | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.5 | 89.6 | 0.0 | 4.9 | 0.0 | 95.1 | 0.0 | 4.9 |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | * 4.2 | * 4.2 | * 4.2 | 5.3 | * 4.2 | * 4.2 |
| Max Green Setting (Gmax), s | * 4.3 | 39.2 | * 4.3 | * 34 | * 4.3 | 39.2 | * 4.3 | * 34 |
| Max Q Clear Time (g_c+I1), s | 2.8 | 2.0 | 0.0 | 0.0 | 0.0 | 6.2 | 0.0 | 2.3 |
| Green Ext Time (p_c), s | 0.0 | 27.4 | 0.0 | 0.0 | 0.0 | 6.2 | 0.0 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 1.9 |
| HCM 6th LOS | A |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

# APPENDIX F-2

## EXISTING + PROJECT PEAK HOUR HCS FREEWAY SHEETS

## HCS7 Basic Freeway Report

### Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Proj |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-52 EB: Santo Rd to Mast Blvd | | |

### Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Rolling |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 0.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 73.1 |
| Right-Side Lateral Clearance, ft | 10 | | |

### Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

### Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 1765 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.951 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 658 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.27 |
| Passenger Car Equivalent ($E_T$) | 3.000 | | |

### Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 73.1 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 9.0 |
| Total Ramp Density Adjustment | 2.3 | Level of Service (LOS) | A |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 73.1 | | |

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## HCS7 Basic Freeway Report

### Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Proj |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-52 EB: Santo Rd to Mast Blvd | | |

### Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Rolling |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 0.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 73.1 |
| Right-Side Lateral Clearance, ft | 10 | | |

### Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | Mostly Familiar | Final Speed Adjustment Factor (SAF) | 0.975 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 0.968 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

### Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 6011 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.951 |
| Peak Hour Factor (PHF) | 0.92 | Flow Rate ($v_p$), pc/h/ln | 2290 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2323 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.99 |
| Passenger Car Equivalent ($E_T$) | 3.000 | | |

### Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 52.7 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 43.5 |
| Total Ramp Density Adjustment | 2.3 | Level of Service (LOS) | E |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 71.3 | | |

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## HCS7 Basic Freeway Report

### Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Proj |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-52 WB: Mast Blvd to Santo Rd | | |

### Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Rolling |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 0.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 73.1 |
| Right-Side Lateral Clearance, ft | 10 | | |

### Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | Mostly Familiar | Final Speed Adjustment Factor (SAF) | 0.975 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 0.968 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

### Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 6448 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.951 |
| Peak Hour Factor (PHF) | 0.92 | Flow Rate ($v_p$), pc/h/ln | 2457 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2323 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 1.06 |
| Passenger Car Equivalent ($E_T$) | 3.000 | | |

### Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | - |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | - |
| Total Ramp Density Adjustment | 2.3 | Level of Service (LOS) | F |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 71.3 | | |

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## HCS7 Basic Freeway Report

### Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Proj |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-52 WB: Mast Blvd to Santo Rd | | |

### Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Rolling |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 0.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 73.1 |
| Right-Side Lateral Clearance, ft | 10 | | |

### Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

### Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 2655 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.951 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 990 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.41 |
| Passenger Car Equivalent ($E_T$) | 3.000 | | |

### Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 73.1 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 13.5 |
| Total Ramp Density Adjustment | 2.3 | Level of Service (LOS) | B |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 73.1 | | |

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## HCS7 Basic Freeway Report

### Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Proj |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-52 EB: Mast Blvd to SR-125 | | |

### Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 2 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.50 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.9 |
| Right-Side Lateral Clearance, ft | 10 | | |

### Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

### Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 1502 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 820 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.34 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

### Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 70.9 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 11.6 |
| Total Ramp Density Adjustment | 4.5 | Level of Service (LOS) | B |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.9 | | |

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## HCS7 Basic Freeway Report

### Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Proj |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-52 EB: Mast Blvd to SR-125 | | |

### Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 2 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.50 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.9 |
| Right-Side Lateral Clearance, ft | 10 | | |

### Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

### Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 4699 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 2564 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 1.07 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

### Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | - |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | - |
| Total Ramp Density Adjustment | 4.5 | Level of Service (LOS) | F |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.9 | | |

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## HCS7 Basic Freeway Report

### Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Proj |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-52 WB: SR-125 to Mast Blvd | | |

### Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 2 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.4 |
| Right-Side Lateral Clearance, ft | 10 | | |

### Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

### Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 4142 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 2260 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.94 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

### Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 57.0 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 39.6 |
| Total Ramp Density Adjustment | 5.0 | Level of Service (LOS) | E |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.4 | | |

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## HCS7 Basic Freeway Report

### Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Proj |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-52 WB: SR-125 to Mast Blvd | | |

### Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 2 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.4 |
| Right-Side Lateral Clearance, ft | 10 | | |

### Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

### Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 2532 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1382 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.58 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

### Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 69.9 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 19.8 |
| Total Ramp Density Adjustment | 5.0 | Level of Service (LOS) | C |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.4 | | |

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## HCS7 Basic Freeway Report

### Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-52 EB: SR-125 to Cuyamaca St | | |

### Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.4 |
| Right-Side Lateral Clearance, ft | 8 | | |

### Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

### Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 1753 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 638 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.27 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

### Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 70.4 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 9.1 |
| Total Ramp Density Adjustment | 5.0 | Level of Service (LOS) | A |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.4 | | |

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## HCS7 Basic Freeway Report

### Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Proj |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-52 EB: SR-125 to Cuyamaca St | | |

### Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.4 |
| Right-Side Lateral Clearance, ft | 8 | | |

### Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

### Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 4335 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1577 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.66 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

### Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 68.6 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 23.0 |
| Total Ramp Density Adjustment | 5.0 | Level of Service (LOS) | C |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.4 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Proj |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-52 WB: Cuyamaca St to SR-125 | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.83 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.1 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 3274 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1191 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.50 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 70.1 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 17.0 |
| Total Ramp Density Adjustment | 5.4 | Level of Service (LOS) | B |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.1 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Proj |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-52 WB: Cuyamaca St to SR-125 | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.83 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.1 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 2870 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1044 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.43 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 70.1 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 14.9 |
| Total Ramp Density Adjustment | 5.4 | Level of Service (LOS) | B |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.1 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Proj |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-52 EB: Cuyamaca St to SR-67 | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.33 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 71.3 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 1345 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 489 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.20 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 71.3 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 6.9 |
| Total Ramp Density Adjustment | 4.1 | Level of Service (LOS) | A |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 71.3 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Proj |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-52 EB: Cuyamaca St to SR-67 | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.33 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 71.3 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 4028 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1465 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.61 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 70.1 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 20.9 |
| Total Ramp Density Adjustment | 4.1 | Level of Service (LOS) | C |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 71.3 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Proj |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-52 WB: SR-67 to Cuyamaca St | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.50 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.9 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 3236 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1177 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.49 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 70.9 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 16.6 |
| Total Ramp Density Adjustment | 4.5 | Level of Service (LOS) | B |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.9 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Proj |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-52 WB: SR-67 to Cuyamaca St | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.50 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.9 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 2526 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 919 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.38 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 70.9 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 13.0 |
| Total Ramp Density Adjustment | 4.5 | Level of Service (LOS) | B |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.9 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Proj |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-67 NB: SR-52 to Riverford Rd | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 2 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.00 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 69.6 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 2338 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.932 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1334 |
| Total Trucks, % | 7.30 | Capacity (c), pc/h/ln | 2396 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2396 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.56 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 69.4 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 19.2 |
| Total Ramp Density Adjustment | 5.8 | Level of Service (LOS) | C |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 69.6 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Proj |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-67 NB: SR-52 to Riverford Rd | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 2 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.00 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 69.6 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 3747 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.932 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 2138 |
| Total Trucks, % | 7.30 | Capacity (c), pc/h/ln | 2396 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2396 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.89 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 59.6 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 35.9 |
| Total Ramp Density Adjustment | 5.8 | Level of Service (LOS) | E |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 69.6 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Proj |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-67 SB: Riverford Rd to SR-52 | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 2 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.17 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 69.2 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 3291 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.932 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1878 |
| Total Trucks, % | 7.30 | Capacity (c), pc/h/ln | 2392 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2392 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.79 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 64.2 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 29.3 |
| Total Ramp Density Adjustment | 6.2 | Level of Service (LOS) | D |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 69.2 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Proj |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-67 SB: Riverford Rd to SR-52 | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 2 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.17 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 69.2 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 2777 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.932 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1585 |
| Total Trucks, % | 7.30 | Capacity (c), pc/h/ln | 2392 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2392 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.66 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 67.7 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 23.4 |
| Total Ramp Density Adjustment | 6.2 | Level of Service (LOS) | C |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 69.2 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Proj |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-67 NB: Bradley Ave to SR-52 | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 4 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.17 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 69.2 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 2872 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.937 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 815 |
| Total Trucks, % | 6.70 | Capacity (c), pc/h/ln | 2392 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2392 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.34 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 69.2 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 11.8 |
| Total Ramp Density Adjustment | 6.2 | Level of Service (LOS) | B |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 69.2 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Proj |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-67 NB: Bradley Ave to SR-52 | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 4 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.17 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 69.2 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 4650 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.937 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1320 |
| Total Trucks, % | 6.70 | Capacity (c), pc/h/ln | 2392 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2392 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.55 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 69.1 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 19.1 |
| Total Ramp Density Adjustment | 6.2 | Level of Service (LOS) | C |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 69.2 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Proj |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-67 SB: SR-52 to Bradley Ave | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.16 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 69.3 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 4095 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.937 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1550 |
| Total Trucks, % | 6.70 | Capacity (c), pc/h/ln | 2393 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2393 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.65 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 68.1 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 22.8 |
| Total Ramp Density Adjustment | 6.1 | Level of Service (LOS) | C |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 69.3 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Proj |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-67 SB: SR-52 to Bradley Ave | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.16 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 69.3 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 3401 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.937 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1287 |
| Total Trucks, % | 6.70 | Capacity (c), pc/h/ln | 2393 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2393 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.54 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 69.3 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 18.6 |
| Total Ramp Density Adjustment | 6.1 | Level of Service (LOS) | C |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 69.3 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Proj |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-125 NB: Grossmont College Dr to SR-52 | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 5 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.4 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 3221 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.958 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 715 |
| Total Trucks, % | 4.40 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.30 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 70.4 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 10.2 |
| Total Ramp Density Adjustment | 5.0 | Level of Service (LOS) | A |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.4 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Proj |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-125 NB: Grossmont College Dr to SR-52 | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 5 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.4 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 3028 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.958 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 673 |
| Total Trucks, % | 4.40 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.28 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 70.4 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 9.6 |
| Total Ramp Density Adjustment | 5.0 | Level of Service (LOS) | A |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.4 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Proj |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-125 SB: SR-52 to Grossmont College Dr | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 4 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.4 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 2286 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.958 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 635 |
| Total Trucks, % | 4.40 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.26 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 70.4 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 9.0 |
| Total Ramp Density Adjustment | 5.0 | Level of Service (LOS) | A |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.4 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Proj |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-125 SB: SR-52 to Grossmont College Dr | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 4 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.4 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 3608 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.958 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1002 |
| Total Trucks, % | 4.40 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.42 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 70.4 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 14.2 |
| Total Ramp Density Adjustment | 5.0 | Level of Service (LOS) | B |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.4 | | |

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# APPENDIX G

## CUMULATIVE PROJECTS TRAFFIC VOLUME ASSIGNMENT

| INTERSECTION | DIRECTION | TOTAL CUMULATIVE | | | | | |
|---|---|---|---|---|---|---|---|
| | | Ram | Rpm | Tam | Tpm | Lam | Lpm |
| 1 Princess Joann Rd / Cuyamaca St (future) | Sb | 0 | 0 | 0 | 0 | 0 | 0 |
| | Wb | 0 | 0 | 0 | 0 | 0 | 0 |
| | Nb | 0 | 0 | 0 | 0 | 0 | 0 |
| | Eb | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 Princess Joann Rd / Magnolia Ave | Sb | 0 | 0 | 5 | 5 | 0 | 0 |
| | Wb | 0 | 0 | 4 | 8 | 1 | 0 |
| | Nb | 0 | 1 | 0 | 0 | 1 | 2 |
| | Eb | 1 | 1 | 0 | 0 | 0 | 0 |
| 3 Ganley Rd / Fanita Pkwy | Sb | 0 | 0 | 5 | 5 | 0 | 0 |
| | Wb | 0 | 0 | 0 | 0 | 3 | 1 |
| | Nb | 1 | 2 | 5 | 5 | 0 | 0 |
| | Eb | 0 | 0 | 0 | 0 | 0 | 0 |
| 4 Woodglen Vista Dr / Cuyamaca St | Sb | 0 | 0 | 1 | 0 | 0 | 0 |
| | Wb | 0 | 0 | 0 | 0 | 6 | 3 |
| | Nb | 2 | 6 | 0 | 1 | 0 | 0 |
| | Eb | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 Woodglen Vista Dr / Magnolia Ave | Sb | 0 | 0 | 12 | 10 | 0 | 0 |
| | Wb | 0 | 0 | 0 | 0 | 1 | 1 |
| | Nb | 0 | 1 | 7 | 15 | 1 | 2 |
| | Eb | 2 | 2 | 0 | 1 | 0 | 0 |
| 6 El Nopal / Cuyamaca St | Sb | 0 | 0 | 7 | 4 | 0 | 0 |
| | Wb | 0 | 0 | 0 | 0 | 6 | 3 |
| | Nb | 2 | 3 | 3 | 7 | 0 | 0 |
| | Eb | 0 | 0 | 0 | 0 | 0 | 0 |
| 7 El Nopal / Magnolia Ave | Sb | 2 | 0 | 14 | 13 | 4 | 4 |
| | Wb | 4 | 3 | 3 | 3 | 4 | 4 |
| | Nb | 2 | 5 | 10 | 16 | 3 | 3 |
| | Eb | 3 | 3 | 1 | 3 | 1 | 0 |
| 8 El Nopal / Los Ranchitos Rd | Sb | 0 | 0 | 0 | 0 | 0 | 0 |
| | Wb | 0 | 0 | 5 | 7 | 3 | 3 |
| | Nb | 4 | 4 | 0 | 0 | 3 | 2 |
| | Eb | 1 | 4 | 6 | 6 | 0 | 0 |
| 9 Lake Canyon Rd / Fanita Pkwy | Sb | 0 | 0 | 22 | 22 | 0 | 0 |
| | Wb | 0 | 0 | 0 | 0 | 2 | 1 |
| | Nb | 1 | 2 | 21 | 23 | 0 | 0 |
| | Eb | 0 | 0 | 0 | 0 | 0 | 0 |
| 10 Lake Canyon Rd / Carlton Hills Blvd | Sb | 0 | 0 | 1 | 1 | 0 | 0 |
| | Wb | 0 | 0 | 1 | 0 | 0 | 0 |
| | Nb | 0 | 0 | 1 | 1 | 4 | 3 |
| | Eb | 4 | 3 | 0 | 0 | 0 | 0 |
| 11 Lake Canyon Rd / Halberns Blvd | Sb | 1 | 0 | 0 | 0 | 0 | 0 |
| | Wb | 0 | 0 | 0 | 0 | 0 | 0 |
| | Nb | 0 | 0 | 0 | 1 | 0 | 1 |
| | Eb | 1 | 1 | 0 | 0 | 0 | 0 |
| 12 Beck Dr / Cuyamaca St | Sb | 0 | 0 | 11 | 7 | 0 | 0 |
| | Wb | 0 | 0 | 0 | 0 | 3 | 3 |
| | Nb | 3 | 2 | 5 | 10 | 0 | 0 |
| | Eb | 0 | 0 | 0 | 0 | 0 | 0 |
| 13 2nd Street / Magnolia Ave | Sb | 0 | 0 | 22 | 23 | 2 | 1 |
| | Wb | 1 | 0 | 0 | 0 | 5 | 7 |
| | Nb | 8 | 5 | 19 | 27 | 0 | 0 |
| | Eb | 0 | 0 | 0 | 0 | 0 | 0 |
| 14 Carefree Dr / Magnolia Ave | Sb | 0 | 0 | 27 | 29 | 0 | 0 |
| | Wb | 1 | 0 | 0 | 0 | 4 | 0 |
| | Nb | 0 | 0 | 24 | 25 | 0 | 2 |
| | Eb | 1 | 1 | 0 | 0 | 0 | 0 |
| 15 Riverford Rd / Riverside Dr | Sb | 0 | 0 | 6 | 4 | 5 | 4 |
| | Wb | 4 | 6 | 0 | 3 | 12 | 13 |
| | Nb | 9 | 12 | 4 | 5 | 2 | 7 |
| | Eb | 6 | 4 | 2 | 1 | 1 | 0 |

| INTERSECTION | DIRECTION | TOTAL CUMULATIVE | | | | | |
|---|---|---|---|---|---|---|---|
| | | Ram | Rpm | Tam | Tpm | Lam | Lpm |
| 16 Mast Blvd / SR-52 EB Ramps | Sb | 0 | 0 | 0 | 0 | 98 | 137 |
| | Wb | 0 | 0 | 0 | 0 | 85 | 46 |
| | Nb | 0 | 0 | 0 | 0 | 0 | 0 |
| | Eb | 0 | 0 | 0 | 0 | 0 | 0 |
| 17 Mast Blvd / SR-52 WB Ramps | Sb | 0 | 0 | 0 | 0 | 0 | 0 |
| | Wb | 158 | 83 | 85 | 46 | 0 | 0 |
| | Nb | 33 | 103 | 0 | 0 | 0 | 0 |
| | Eb | 0 | 0 | 98 | 137 | 0 | 0 |
| 18 Mast Blvd / West Hills Pkwy | Sb | 57 | 50 | 1 | 0 | 3 | 11 |
| | Wb | 11 | 4 | 153 | 69 | 55 | 37 |
| | Nb | 22 | 66 | 2 | 1 | 70 | 32 |
| | Eb | 22 | 74 | 37 | 167 | 85 | 34 |
| 19 Mast Blvd / West Hills H.S. | Sb | 0 | 0 | 0 | 0 | 0 | 0 |
| | Wb | 0 | 0 | 211 | 99 | 6 | 4 |
| | Nb | 1 | 7 | 0 | 0 | 1 | 3 |
| | Eb | 3 | 1 | 57 | 231 | 0 | 0 |
| 20 Mast Blvd / Medina Dr | Sb | 1 | 1 | 0 | 0 | 0 | 0 |
| | Wb | 0 | 1 | 56 | 119 | 0 | 0 |
| | Nb | 0 | 0 | 0 | 0 | 1 | 0 |
| | Eb | 1 | 1 | 112 | 76 | 0 | 1 |
| 21 Mast Blvd / Pebble Beach Dr | Sb | 2 | 9 | 0 | 0 | 1 | 1 |
| | Wb | 0 | 1 | 54 | 103 | 0 | 0 |
| | Nb | 1 | 0 | 0 | 0 | 1 | 6 |
| | Eb | 9 | 4 | 99 | 70 | 6 | 3 |
| 22 Mast Blvd / Fanita Pkwy | Sb | 11 | 25 | 6 | 6 | 10 | 11 |
| | Wb | 11 | 11 | 48 | 69 | 2 | 3 |
| | Nb | 3 | 1 | 6 | 6 | 6 | 24 |
| | Eb | 20 | 9 | 63 | 57 | 26 | 17 |
| 23 Mast Blvd / Carlton Hills Blvd | Sb | 2 | 4 | 5 | 6 | 2 | 5 |
| | Wb | 3 | 2 | 44 | 57 | 3 | 2 |
| | Nb | 2 | 4 | 5 | 6 | 4 | 6 |
| | Eb | 6 | 2 | 51 | 52 | 4 | 2 |
| 24 Mast Blvd / Calrton Oaks/ Halberns Blvd | Sb | 1 | 0 | 1 | 1 | 1 | 1 |
| | Wb | 0 | 1 | 41 | 51 | 5 | 3 |
| | Nb | 2 | 4 | 0 | 1 | 1 | 1 |
| | Eb | 0 | 2 | 48 | 46 | 0 | 0 |
| 25 Mast Blvd / Cuyamaca St | Sb | 9 | 5 | 8 | 10 | 1 | 2 |
| | Wb | 1 | 1 | 44 | 36 | 19 | 16 |
| | Nb | 11 | 23 | 7 | 10 | 13 | 20 |
| | Eb | 19 | 19 | 31 | 52 | 6 | 5 |
| 26 Mast Blvd / Park Center Dr | Sb | 0 | 0 | 0 | 0 | 0 | 0 |
| | Wb | 0 | 0 | 56 | 37 | 2 | 2 |
| | Nb | 2 | 2 | 0 | 0 | 0 | 0 |
| | Eb | 1 | 1 | 29 | 67 | 0 | 0 |
| 27 Mast Blvd / Magnolia Ave | Sb | 12 | 10 | 16 | 18 | 3 | 7 |
| | Wb | 6 | 4 | 49 | 25 | 24 | 14 |
| | Nb | 10 | 26 | 23 | 17 | 12 | 10 |
| | Eb | 7 | 10 | 18 | 53 | 9 | 14 |
| 28 Carlton Oaks Dr / West Hills Pkwy | Sb | 0 | 0 | 85 | 85 | 3 | 37 |
| | Wb | 43 | 8 | 0 | 0 | 38 | 19 |
| | Nb | 14 | 31 | 67 | 96 | 0 | 0 |
| | Eb | 0 | 0 | 0 | 0 | 0 | 0 |
| 29 Carlton Oaks Dr / Pebble Beach Dr | Sb | 1 | 0 | 0 | 0 | 3 | 0 |
| | Wb | 3 | 1 | 22 | 68 | 0 | 0 |
| | Nb | 0 | 0 | 0 | 0 | 0 | 0 |
| | Eb | 0 | 0 | 62 | 23 | 0 | 0 |
| 30 Carlton Oaks Dr / Fanita Pkwy | Sb | 2 | 3 | 0 | 0 | 23 | 11 |
| | Wb | 7 | 23 | 23 | 67 | 0 | 0 |
| | Nb | 0 | 0 | 0 | 0 | 0 | 0 |
| | Eb | 0 | 0 | 60 | 21 | 3 | 1 |

| INTERSECTION | DIRECTION | TOTAL CUMULATIVE | | | | | |
|---|---|---|---|---|---|---|---|
| | | Ram | Rpm | Tam | Tpm | Lam | Lpm |
| 31 Carlton Oaks Dr / Carlton Hills Blvd | Sb | 2 | 0 | 19 | 15 | 0 | 1 |
| | Wb | 1 | 0 | 13 | 15 | 4 | 4 |
| | Nb | 4 | 5 | 13 | 21 | 14 | 76 |
| | Eb | 75 | 17 | 10 | 15 | 0 | 3 |
| 32 Riverwalk Dr / Cuyamaca St | Sb | 0 | 0 | 24 | 26 | 2 | 2 |
| | Wb | 1 | 1 | 0 | 0 | 2 | 2 |
| | Nb | 2 | 3 | 16 | 26 | 0 | 0 |
| | Eb | 0 | 0 | 0 | 0 | 0 | 0 |
| 33 Riverpark Dr / Cuyamaca St | Sb | 1 | 1 | 28 | 29 | 0 | 2 |
| | Wb | 1 | 1 | 1 | 0 | 2 | 1 |
| | Nb | 2 | 2 | 21 | 35 | 5 | 7 |
| | Eb | 4 | 5 | 1 | 0 | 1 | 2 |
| 34 Town Center Pkwy / Cuyamca St | Sb | 12 | 18 | 35 | 42 | 17 | 18 |
| | Wb | 4 | 16 | 7 | 21 | 5 | 20 |
| | Nb | 17 | 16 | 24 | 59 | 2 | 7 |
| | Eb | 2 | 3 | 18 | 18 | 14 | 24 |
| 35 Town Center Pwky / Riverview Pkwy | Sb | 5 | 2 | 32 | 14 | 0 | 0 |
| | Wb | 0 | 0 | 0 | 0 | 0 | 0 |
| | Nb | 0 | 0 | 10 | 31 | 2 | 3 |
| | Eb | 2 | 3 | 0 | 0 | 1 | 5 |
| 36 Riverview Pkwy / Magnolia Ave | Sb | 0 | 0 | 79 | 44 | 0 | 0 |
| | Wb | 0 | 0 | 0 | 0 | 3 | 3 |
| | Nb | 1 | 2 | 42 | 75 | 2 | 2 |
| | Eb | 0 | 1 | 0 | 0 | 0 | 0 |
| 37 Riverford Rd / SR 67 SB Ramps | Sb | 12 | 14 | 9 | 7 | 0 | 0 |
| | Wb | 4 | 4 | 0 | 0 | 0 | 0 |
| | Nb | 0 | 0 | 12 | 16 | 9 | 7 |
| | Eb | 0 | 0 | 0 | 0 | 0 | 0 |
| 38 Woodside Ave / SR 67 NB Off Ramp | Sb | 4 | 4 | 0 | 0 | 10 | 15 |
| | Wb | 0 | 0 | 3 | 3 | 0 | 0 |
| | Nb | 0 | 0 | 0 | 0 | 0 | 0 |
| | Eb | 0 | 0 | 8 | 14 | 0 | 0 |
| 39 Riverford Rd / Woodside Ave | Sb | 3 | 2 | 0 | 0 | 9 | 6 |
| | Wb | 11 | 8 | 2 | 2 | 0 | 0 |
| | Nb | 0 | 0 | 0 | 0 | 0 | 0 |
| | Eb | 0 | 0 | 7 | 14 | 11 | 15 |
| 40 Mission Gorge Rd / West Hills Pkwy | Sb | 39 | 31 | 56 | 26 | 15 | 21 |
| | Wb | 25 | 17 | 52 | 35 | 68 | 32 |
| | Nb | 64 | 31 | 51 | 27 | 29 | 13 |
| | Eb | 30 | 14 | 31 | 51 | 24 | 47 |
| 41 Mission Gorge Rd / SR 52 EB Ramp | Sb | 0 | 1 | 0 | 0 | 6 | 18 |
| | Wb | 0 | 0 | 57 | 56 | 0 | 0 |
| | Nb | 0 | 0 | 0 | 0 | 0 | 0 |
| | Eb | 0 | 0 | 53 | 58 | 0 | 0 |
| 42 Mission Gorge Rd / SR 52 WB Ramp | Sb | 0 | 0 | 0 | 0 | 0 | 0 |
| | Wb | 26 | 8 | 56 | 56 | 0 | 0 |
| | Nb | 0 | 0 | 0 | 0 | 0 | 0 |
| | Eb | 0 | 0 | 57 | 74 | 1 | 0 |
| 43 Mission Gorge Rd / SR 125 | Sb | 0 | 0 | 0 | 0 | 0 | 0 |
| | Wb | 0 | 0 | 61 | 47 | 37 | 28 |
| | Nb | 26 | 41 | 0 | 0 | 17 | 17 |
| | Eb | 17 | 10 | 40 | 64 | 0 | 0 |
| 44 Mission Gorge Rd / Fanita Dr | Sb | 0 | 0 | 0 | 0 | 0 | 0 |
| | Wb | 0 | 0 | 70 | 57 | 14 | 12 |
| | Nb | 12 | 15 | 0 | 0 | 27 | 19 |
| | Eb | 18 | 24 | 46 | 82 | 0 | 0 |
| 45 Mission Gorge Rd / Carlton Hills Blvd | Sb | 21 | 11 | 3 | 2 | 25 | 22 |
| | Wb | 19 | 28 | 62 | 57 | 0 | 1 |
| | Nb | 0 | 0 | 2 | 5 | 1 | 1 |
| | Eb | 0 | 1 | 45 | 78 | 14 | 17 |

| INTERSECTION | DIRECTION | TOTAL CUMULATIVE | | | | | |
|---|---|---|---|---|---|---|---|
| | | Ram | Rpm | Tam | Tpm | Lam | Lpm |
| 46 Mission Gorge Rd / Town Center Pkwy | Sb | 23 | 31 | 2 | 4 | 18 | 25 |
| | Wb | 19 | 24 | 53 | 42 | 2 | 1 |
| | Nb | 1 | 1 | 2 | 4 | 4 | 6 |
| | Eb | 3 | 2 | 34 | 59 | 23 | 32 |
| 47 Mission Gorge Rd / Cuyamaca St | Sb | 8 | 17 | 31 | 47 | 28 | 30 |
| | Wb | 32 | 26 | 65 | 51 | 41 | 26 |
| | Nb | 25 | 34 | 32 | 54 | 31 | 50 |
| | Eb | 37 | 29 | 50 | 63 | 15 | 15 |
| 48 Mission Gorge Rd / Riverview Pkwy | Sb | 34 | 17 | 0 | 0 | 7 | 11 |
| | Wb | 10 | 9 | 75 | 65 | 1 | 1 |
| | Nb | 0 | 1 | 0 | 0 | 1 | 1 |
| | Eb | 0 | 0 | 57 | 77 | 78 | 73 |
| 49 Mission Gorge Rd / Cottonwood Ave | Sb | 0 | 0 | 0 | 0 | 0 | 0 |
| | Wb | 0 | 0 | 62 | 55 | 1 | 1 |
| | Nb | 1 | 2 | 0 | 0 | 2 | 2 |
| | Eb | 1 | 2 | 40 | 71 | 0 | 0 |
| 50 Mission Gorge Rd / Magnolia Ave | Sb | 31 | 19 | 72 | 35 | 17 | 8 |
| | Wb | 9 | 13 | 14 | 17 | 12 | 14 |
| | Nb | 12 | 14 | 32 | 71 | 25 | 53 |
| | Eb | 49 | 36 | 10 | 16 | 13 | 33 |
| 51 Woodside Ave N. / SR-67 SB Off-Ramp | Sb | 1 | 0 | 20 | 26 | 0 | 0 |
| | Wb | 0 | 0 | 0 | 0 | 7 | 5 |
| | Nb | 27 | 28 | 0 | 0 | 9 | 7 |
| | Eb | 6 | 8 | 0 | 1 | 0 | 0 |
| 52 Woodside Ave / SR-67 NB On-Ramp | Sb | 0 | 0 | 10 | 10 | 0 | 0 |
| | Wb | 0 | 0 | 0 | 0 | 1 | 1 |
| | Nb | 0 | 1 | 5 | 12 | 21 | 17 |
| | Eb | 0 | 0 | 0 | 0 | 0 | 0 |
| 53 Fanita Dr / SR 52 WB Off-Ramp | Sb | 0 | 0 | 27 | 33 | 0 | 0 |
| | Wb | 12 | 14 | 0 | 0 | 5 | 8 |
| | Nb | 0 | 0 | 24 | 15 | 0 | 0 |
| | Eb | 0 | 0 | 0 | 0 | 0 | 0 |
| 54 Fanita Dr / SR 52 EB On-Ramp | Sb | 0 | 0 | 17 | 31 | 14 | 10 |
| | Wb | 0 | 0 | 0 | 0 | 0 | 0 |
| | Nb | 8 | 6 | 24 | 15 | 0 | 0 |
| | Eb | 0 | 0 | 0 | 0 | 0 | 0 |
| 55 Buena Vista Ave / Cuyamaca St | Sb | 1 | 0 | 68 | 65 | 36 | 24 |
| | Wb | 15 | 48 | 0 | 0 | 50 | 168 |
| | Nb | 11 | 26 | 54 | 66 | 9 | 6 |
| | Eb | 0 | 1 | 3 | 14 | 0 | 1 |
| 56 Cuyamaca St / SR 52 WB Ramps | Sb | 0 | 0 | 128 | 237 | 0 | 0 |
| | Wb | 67 | 44 | 0 | 0 | 0 | 0 |
| | Nb | 12 | 12 | 126 | 126 | 0 | 0 |
| | Eb | 0 | 0 | 0 | 0 | 0 | 0 |
| 57 Cuyamaca St / SR 52 EB Ramps | Sb | 0 | 0 | 57 | 61 | 20 | 69 |
| | Wb | 0 | 0 | 0 | 0 | 0 | 0 |
| | Nb | 10 | 10 | 61 | 62 | 0 | 0 |
| | Eb | 17 | 13 | 0 | 0 | 77 | 77 |
| 58 Magnolia Ave / SR 52 WB Ramps / SR 67 SB On-Ramp | Sb | 59 | 31 | 43 | 62 | 26 | 20 |
| | Wb | 0 | 0 | 0 | 0 | 0 | 0 |
| | Nb | 8 | 8 | 57 | 96 | 25 | 25 |
| | Eb | 0 | 0 | 0 | 0 | 0 | 0 |
| 59 Magnolia Ave / SR 52 EB Off-Ramp | Sb | 0 | 0 | 36 | 33 | 0 | 0 |
| | Wb | 0 | 0 | 0 | 0 | 0 | 0 |
| | Nb | 0 | 0 | 78 | 94 | 0 | 0 |
| | Eb | 24 | 30 | 0 | 0 | 20 | 64 |
| 60 Prospect Ave / Fanita Dr | Sb | 2 | 2 | 13 | 25 | 3 | 4 |
| | Wb | 5 | 3 | 4 | 5 | 3 | 5 |
| | Nb | 4 | 4 | 23 | 16 | 1 | 2 |
| | Eb | 2 | 2 | 3 | 3 | 3 | 2 |

| INTERSECTION | DIRECTION | TOTAL CUMULATIVE | | | | | |
|---|---|---|---|---|---|---|---|
| | | Ram | Rpm | Tam | Tpm | Lam | Lpm |
| 61 Prospect Ave / Cuyamaca St | Sb | 47 | 54 | 32 | 39 | 6 | 4 |
| | Wb | 6 | 5 | 8 | 13 | 25 | 26 |
| | Nb | 1 | 1 | 45 | 51 | 2 | 6 |
| | Eb | 4 | 5 | 2 | 3 | 9 | 11 |
| 62 Prospect Ave / Cottonwood Ave | Sb | 2 | 1 | 0 | 0 | 1 | 2 |
| | Wb | 2 | 2 | 11 | 11 | 0 | 0 |
| | Nb | 0 | 0 | 0 | 0 | 0 | 0 |
| | Eb | 0 | 0 | 8 | 10 | 1 | 2 |
| 63 Prospect Ave / Magnolia Ave | Sb | 2 | 1 | 13 | 10 | 44 | 52 |
| | Wb | 72 | 78 | 11 | 8 | 3 | 1 |
| | Nb | 1 | 2 | 5 | 14 | 1 | 4 |
| | Eb | 3 | 2 | 5 | 9 | 1 | 3 |
| 64 Prospect Ave / SR 67 NB Off-Ramp | Sb | 0 | 0 | 0 | 0 | 0 | 0 |
| | Wb | 0 | 0 | 64 | 59 | 0 | 0 |
| | Nb | 6 | 8 | 0 | 0 | 21 | 30 |
| | Eb | 0 | 0 | 50 | 63 | 0 | 0 |
| 65 Prospect Ave / Graves Ave | Sb | 46 | 46 | 4 | 4 | 0 | 0 |
| | Wb | 0 | 0 | 5 | 5 | 0 | 0 |
| | Nb | 0 | 0 | 3 | 4 | 12 | 9 |
| | Eb | 7 | 15 | 5 | 5 | 43 | 48 |
| 66 Mast Blvd / Weston Rd | Sb | 173 | 81 | 8 | 4 | 94 | 44 |
| | Wb | 23 | 102 | 37 | 15 | 2 | 0 |
| | Nb | 2 | 0 | 2 | 9 | 0 | 0 |
| | Eb | 1 | 0 | 12 | 38 | 44 | 190 |

| STREET SEGMENT | TOTAL CUMULATIVE ONLY |
|---|---|
| | |
| **Princess Joann Road** | |
| Cuyamaca St. to Magnolia Ave. | 155 |
| **Woodglen Vista Dr.** | |
| Cuyamaca St. to Magnolia Ave. | 59 |
| **El Nopal** | |
| Cuyamaca St. to Magnolia Ave. | 106 |
| Magnolia Ave. to Los Ranchitos Rd. | 276 |
| Los Ranchitos Rd. to Riverford Rd. | 320 |
| **Mast Boulevard** | |
| SR 52 to West Hills Pkwy | 4,290 |
| West Hills Pkwy. To Pebble Beach Dr | 3,422 |
| Pebble Beach Dr to Fanita Pkwy | 1,771 |
| Fanita Pkwy to Carlton Hills Blvd | 1,222 |
| Carlton Hills Blvd to Halberns Blvd | 1,079 |
| Halberns Blvd. to Cuyamaca St. | 1,469 |
| Cuyamaca St. to Magnolia Ave. | 1,126 |
| Magnolia Ave. to Los Ranchitos Rd. | 1,346 |
| West of Riverford Rd | 1,176 |
| **Carlton Oaks Drive** | |
| West Hills Pkwy to Fanita Pkwy | 471 |
| Fanita Pkwy. to Carlton Hills Blvd. | 634 |
| **Mission Gorge Road** | |
| Western City Limits to West Hills Pkwy. | 1,758 |
| West Hills Pkwy to SR 52/SR 125 Interchange | 1,965 |
| SR 52/SR 125 Interchange to Fanita Dr. | 2,586 |
| Fanita Dr. to Carlton Hills Blvd. | 1,929 |
| Carlton Hills Blvd. to Town Center Pkwy | 2,200 |
| Town Center Pkwy to Cuyamaca St | 2,786 |
| Cuyamaca St to Riverview Pkwy | 3,706 |
| Riverview Pkwy to Cottonwood Ave | 2,222 |
| Cottonwood Ave to Magnolia Ave | 1,986 |
| **Prospect Avenue** | |
| Fanita Dr to Cuyamaca St | 402 |
| Cuyamaca St to Cottonwood Dr | 363 |
| **West Hills Parkway** | |
| Mast Blvd. to Mission Gorge Rd. | 1,846 |
| **Fanita Parkway** | |
| Project Site to Ganley Dr./ Santee Lakes Blvd. (future) | 0 |
| Ganley Dr./ Santee Lakes Blvd. to Lake Canyon Rd. | 172 |
| Lake Canyon Rd. to Mast Blvd. | 298 |
| Mast Blvd. to Carlton Oaks Dr. | 383 |
| **Fanita Drive** | |
| Mission Gorge Rd to SR-52 Ramps | 846 |
| SR 52 Ramps to Prospect Ave. | 611 |
| South of Prospect Avenue | 354 |
| **Carlton Hills Boulevard** | |
| Lake Canyon Rd. to Mast Blvd. | 255 |
| Mast Blvd. to Carlton Oaks Dr. | 462 |
| Carlton Oaks Dr. to Mission Gorge Rd. | 1,033 |
| **Halberns Blvd** | |
| Lake Canyon Rd. to Mast Blvd. | 44 |
| **Town Center Parkway** | |
| Mission Gorge Rd. to Cuyamaca St. | 1,951 |
| Cuyamaca St. to Riverview Pkwy | 1,122 |

| STREET SEGMENT | TOTAL CUMULATIVE ONLY |
|---|---|
| **Cuyamaca Street** | |
| Project Site to Magnolia Avenue (future) | 0 |
| Future Magnolia Ave to Princess Joann Rd (future) | 0 |
| Princess Joann Rd to Chaparral Dr (future) | 0 |
| Chaparral Dr to Woodglen Vista Dr | 13 |
| Woodglen Vista Dr to El Nopal | 112 |
| El Nopal to Mast Blvd. | 313 |
| Mast Blvd to River Park Dr | 927 |
| River Park Dr to Town Center Parkway | 1,394 |
| Town Center Pkwy. to Mission Gorge Rd | 2,395 |
| Mission Gorge Rd. to SR 52 Ramps | **3,619** |
| SR 52 Ramps to south of Prospect Ave. | 2,911 |
| **Riverview Parkway** | |
| Mission Gorge Road to Town Center Parkway | 800 |
| Town Center Parkway to Magnolia Avenue (future) | 22 |
| **Magnolia Avenue** | |
| Cuyamaca Street to Princess Joann Road (future) | 0 |
| Princess Joann Rd. to Woodglen Vista Dr | 184 |
| Woodglen Vista Dr to El Nopal | 385 |
| El Nopal to Mast Blvd. | 601 |
| Mast Blvd to Riverview Pkwy | 1,154 |
| Riverview Pkwy to Mission Gorge Rd | 1,967 |
| Mission Gorge Rd. to SR 52 Ramps | 2,855 |
| SR 52 Ramps to south of Prospect Ave. | 498 |
| **Woodside Avenue** | |
| East of Magnolia Avenue | 953 |
| **N Woodside Avenue** | |
| Riverford Road to Woodside Avenue | 134 |
| **Riverford Road** | |
| Riverside Dr. to SR 67 Ramps | 526 |

# APPENDIX H

## EXISTING + CUMULATIVE PROJECTS PEAK HOUR ANALYSES

# APPENDIX H-1

## EXISTING + CUMULATIVE PROJECTS PEAK HOUR SYNCHRO INTERSECTION SHEETS

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 7.7 |
| Intersection LOS | A |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 55 | 32 | 8 | 0 | 33 | 4 | 8 | 0 | 7 | 0 |
| Future Vol, veh/h | 0 | 0 | 55 | 32 | 8 | 0 | 33 | 4 | 8 | 0 | 7 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 60 | 35 | 9 | 0 | 36 | 4 | 9 | 0 | 8 | 0 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 3 | 3 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 3 | 3 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 3 | 3 | 1 | 1 |
| HCM Control Delay | 7 | 8.2 | 8 | 7.6 |
| HCM LOS | A | A | A | A |

| Lane | NBLn1 | NBLn2 | NBLn3 | EBLn1 | WBLn1 | SBLn1 | SBLn2 | SBLn3 |
|---|---|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 0% | 80% | 0% | 0% | 0% |
| Vol Thru, % | 0% | 100% | 0% | 0% | 20% | 100% | 100% | 100% |
| Vol Right, % | 0% | 0% | 100% | 100% | 0% | 0% | 0% | 0% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 33 | 4 | 8 | 55 | 40 | 0 | 7 | 0 |
| LT Vol | 33 | 0 | 0 | 0 | 32 | 0 | 0 | 0 |
| Through Vol | 0 | 4 | 0 | 0 | 8 | 0 | 7 | 0 |
| RT Vol | 0 | 0 | 8 | 55 | 0 | 0 | 0 | 0 |
| Lane Flow Rate | 36 | 4 | 9 | 60 | 43 | 0 | 8 | 0 |
| Geometry Grp | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| Degree of Util (X) | 0.052 | 0.006 | 0.01 | 0.066 | 0.061 | 0 | 0.01 | 0 |
| Departure Headway (Hd) | 5.219 | 4.718 | 4.017 | 3.951 | 5.06 | 4.743 | 4.743 | 4.743 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 681 | 752 | 881 | 897 | 704 | 0 | 746 | 0 |
| Service Time | 2.989 | 2.488 | 1.786 | 1.715 | 2.819 | 2.528 | 2.528 | 2.528 |
| HCM Lane V/C Ratio | 0.053 | 0.005 | 0.01 | 0.067 | 0.061 | 0 | 0.011 | 0 |
| HCM Control Delay | 8.3 | 7.5 | 6.8 | 7 | 8.2 | 7.5 | 7.6 | 7.5 |
| HCM Lane LOS | A | A | A | A | A | N | A | N |
| HCM 95th-tile Q | 0.2 | 0 | 0 | 0.2 | 0.2 | 0 | 0 | 0 |





| Intersection | |
|---|---|
| Int Delay, s/veh | 6.2 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 128 | 1 | 5 | 58 | 1 | 5 |
| Future Vol, veh/h | 128 | 1 | 5 | 58 | 1 | 5 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 139 | 1 | 5 | 63 | 1 | 5 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 44 | 37 | 0 | 0 | 68 | 0 |
| Stage 1 | 37 | - | - | - | - | - |
| Stage 2 | 7 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | - | - | 4.12 | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | - | - | 2.218 | - |
| Pot Cap-1 Maneuver | 967 | 1035 | - | - | 1533 | - |
| Stage 1 | 985 | - | - | - | - | - |
| Stage 2 | 1016 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 966 | 1035 | - | - | 1533 | - |
| Mov Cap-2 Maneuver | 966 | - | - | - | - | - |
| Stage 1 | 984 | - | - | - | - | - |
| Stage 2 | 1016 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 9.4 | 0 | 1.2 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | SBL | SBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 966 | 1533 | - |
| HCM Lane V/C Ratio | - | - | 0.145 | 0.001 | - |
| HCM Control Delay (s) | - | - | 9.4 | 7.4 | 0 |
| HCM Lane LOS | - | - | A | A | A |
| HCM 95th %tile Q(veh) | - | - | 0.5 | 0 | - |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 8.9 |
| Intersection LOS | A |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 1 | 12 | 233 | 0 | 4 | 3 | 6 | 68 | 8 | 28 | 0 |
| Future Vol, veh/h | 0 | 1 | 12 | 233 | 0 | 4 | 3 | 6 | 68 | 8 | 28 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 1 | 13 | 253 | 0 | 4 | 3 | 7 | 74 | 9 | 30 | 0 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay | 7 | 9.5 | 7.8 | 8.3 |
| HCM LOS | A | A | A | A |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 98% | 100% | 0% |
| Vol Thru, % | 0% | 8% | 8% | 0% | 0% | 100% |
| Vol Right, % | 0% | 92% | 92% | 2% | 0% | 0% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 3 | 74 | 13 | 237 | 8 | 28 |
| LT Vol | 3 | 0 | 0 | 233 | 8 | 0 |
| Through Vol | 0 | 6 | 1 | 0 | 0 | 28 |
| RT Vol | 0 | 68 | 12 | 4 | 0 | 0 |
| Lane Flow Rate | 3 | 80 | 14 | 258 | 9 | 30 |
| Geometry Grp | 7 | 7 | 2 | 2 | 7 | 7 |
| Degree of Util (X) | 0.005 | 0.102 | 0.016 | 0.318 | 0.014 | 0.044 |
| Departure Headway (Hd) | 5.723 | 4.572 | 3.959 | 4.445 | 5.759 | 5.256 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 627 | 785 | 905 | 814 | 623 | 683 |
| Service Time | 3.443 | 2.291 | 1.978 | 2.445 | 3.481 | 2.977 |
| HCM Lane V/C Ratio | 0.005 | 0.102 | 0.015 | 0.317 | 0.014 | 0.044 |
| HCM Control Delay | 8.5 | 7.8 | 7 | 9.5 | 8.6 | 8.2 |
| HCM Lane LOS | A | A | A | A | A | A |
| HCM 95th-tile Q | 0 | 0.3 | 0 | 1.4 | 0 | 0.1 |

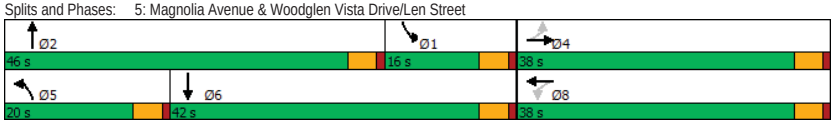




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 17 | 1 | 111 | 45 | 13 | 10 | 36 | 148 | 14 | 7 | 348 | 11 |
| Future Volume (vph) | 17 | 1 | 111 | 45 | 13 | 10 | 36 | 148 | 14 | 7 | 348 | 11 |
| Confl. Peds. (#/hr) | | | 95 | | | 4 | | | 15 | | | 95 |
| Confl. Bikes (#/hr) | | | 1 | | | 1 | | | | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Perm | NA | | Perm | NA | | Prot | NA | | Prot | NA | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 26.5 | 26.5 | | 26.5 | 26.5 | | 11.5 | 22.5 | | 11.5 | 22.5 | |
| Total Split (s) | 38.0 | 38.0 | | 38.0 | 38.0 | | 20.0 | 46.0 | | 16.0 | 42.0 | |
| Total Split (%) | 38.0% | 38.0% | | 38.0% | 38.0% | | 20.0% | 46.0% | | 16.0% | 42.0% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | | | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lead | | Lag | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 32 |
| Natural Cycle: 65 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 5: Magnolia Avenue & Woodglen Vista Drive/Len Street



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 17 | 1 | 111 | 45 | 13 | 10 | 36 | 148 | 14 | 7 | 348 | 11 |
| Future Volume (veh/h) | 17 | 1 | 111 | 45 | 13 | 10 | 36 | 148 | 14 | 7 | 348 | 11 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.90 | 0.93 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 0.82 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 18 | 1 | 121 | 49 | 14 | 11 | 39 | 161 | 15 | 8 | 378 | 12 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 638 | 4 | 450 | 364 | 101 | 56 | 108 | 957 | 88 | 126 | 1052 | 33 |
| Arrive On Green | 0.32 | 0.32 | 0.32 | 0.32 | 0.32 | 0.32 | 0.06 | 0.29 | 0.29 | 0.07 | 0.30 | 0.30 |
| Sat Flow, veh/h | 1381 | 12 | 1417 | 700 | 318 | 178 | 1781 | 3282 | 302 | 1781 | 3489 | 110 |
| Grp Volume(v), veh/h | 18 | 0 | 122 | 74 | 0 | 0 | 39 | 86 | 90 | 8 | 192 | 198 |
| Grp Sat Flow(s),veh/h/ln | 1381 | 0 | 1428 | 1195 | 0 | 0 | 1781 | 1777 | 1807 | 1781 | 1777 | 1823 |
| Q Serve(g_s), s | 0.0 | 0.0 | 2.7 | 0.4 | 0.0 | 0.0 | 0.9 | 1.5 | 1.6 | 0.2 | 3.6 | 3.6 |
| Cycle Q Clear(g_c), s | 0.3 | 0.0 | 2.7 | 3.1 | 0.0 | 0.0 | 0.9 | 1.5 | 1.6 | 0.2 | 3.6 | 3.6 |
| Prop In Lane | 1.00 | | 0.99 | 0.66 | | 0.15 | 1.00 | | 0.17 | 1.00 | | 0.06 |
| Lane Grp Cap(c), veh/h | 638 | 0 | 453 | 521 | 0 | 0 | 108 | 518 | 527 | 126 | 536 | 550 |
| V/C Ratio(X) | 0.03 | 0.00 | 0.27 | 0.14 | 0.00 | 0.00 | 0.36 | 0.17 | 0.17 | 0.06 | 0.36 | 0.36 |
| Avail Cap(c_a), veh/h | 1297 | 0 | 1135 | 1152 | 0 | 0 | 655 | 1749 | 1778 | 486 | 1580 | 1621 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 9.9 | 0.0 | 10.7 | 10.5 | 0.0 | 0.0 | 19.0 | 11.1 | 11.1 | 18.3 | 11.5 | 11.5 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 0.3 | 0.1 | 0.0 | 0.0 | 2.0 | 0.1 | 0.2 | 0.2 | 0.4 | 0.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.1 | 0.0 | 0.7 | 0.4 | 0.0 | 0.0 | 0.4 | 0.5 | 0.5 | 0.1 | 1.1 | 1.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 9.9 | 0.0 | 11.1 | 10.6 | 0.0 | 0.0 | 21.0 | 11.3 | 11.3 | 18.5 | 11.9 | 11.9 |
| LnGrp LOS | A | A | B | B | A | A | C | B | B | B | B | B |
| Approach Vol, veh/h | | 140 | | | 74 | | | 215 | | | 398 | |
| Approach Delay, s/veh | | 10.9 | | | 10.6 | | | 13.0 | | | 12.1 | |
| Approach LOS | | B | | | B | | | B | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.5 | 16.8 | | 17.9 | 7.1 | 17.2 | | 17.9 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 11.5 | 41.5 | | 33.5 | 15.5 | 37.5 | | 33.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.2 | 3.6 | | 4.7 | 2.9 | 5.6 | | 5.1 | | | | |
| Green Ext Time (p_c), s | 0.0 | 0.9 | | 0.9 | 0.0 | 2.2 | | 0.4 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 12.0 |
| HCM 6th LOS | | B |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 12.3 |
| Intersection LOS | B |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 1 | 7 | 264 | 4 | 3 | 5 | 80 | 48 | 1 | 285 | 1 |
| Future Vol, veh/h | 0 | 1 | 7 | 264 | 4 | 3 | 5 | 80 | 48 | 1 | 285 | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 1 | 8 | 287 | 4 | 3 | 5 | 87 | 52 | 1 | 310 | 1 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |

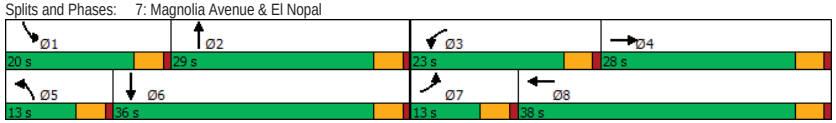
| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay | 8.3 | 12.5 | 9.8 | 13.3 |
| HCM LOS | A | B | A | B |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 97% | 100% | 0% |
| Vol Thru, % | 0% | 62% | 12% | 1% | 0% | 100% |
| Vol Right, % | 0% | 38% | 88% | 1% | 0% | 0% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 5 | 128 | 8 | 271 | 1 | 286 |
| LT Vol | 5 | 0 | 0 | 264 | 1 | 0 |
| Through Vol | 0 | 80 | 1 | 4 | 0 | 285 |
| RT Vol | 0 | 48 | 7 | 3 | 0 | 1 |
| Lane Flow Rate | 5 | 139 | 9 | 295 | 1 | 311 |
| Geometry Grp | 7 | 7 | 2 | 2 | 7 | 7 |
| Degree of Util (X) | 0.01 | 0.215 | 0.013 | 0.435 | 0.002 | 0.476 |
| Departure Headway (Hd) | 6.338 | 5.565 | 5.212 | 5.319 | 6.021 | 5.514 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 568 | 648 | 689 | 669 | 588 | 647 |
| Service Time | 4.04 | 3.267 | 3.222 | 3.413 | 3.82 | 3.312 |
| HCM Lane V/C Ratio | 0.009 | 0.215 | 0.013 | 0.441 | 0.002 | 0.481 |
| HCM Control Delay | 9.1 | 9.8 | 8.3 | 12.5 | 8.8 | 13.3 |
| HCM Lane LOS | A | A | A | B | A | B |
| HCM 95th-tile Q | 0 | 0.8 | 0 | 2.2 | 0 | 2.6 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 46 | 64 | 96 | 140 | 122 | 103 | 51 | 272 | 55 | 118 | 472 | 85 |
| Future Volume (vph) | 46 | 64 | 96 | 140 | 122 | 103 | 51 | 272 | 55 | 118 | 472 | 85 |
| Confl. Peds. (#/hr) | | | | | | 2 | | | | | | |
| Confl. Bikes (#/hr) | | | 2 | | | 2 | | | 1 | | | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | | Prot | NA | |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 11.5 | 26.5 | | 11.5 | 25.5 | | 11.5 | 22.5 | | 11.5 | 22.5 | |
| Total Split (s) | 13.0 | 28.0 | | 23.0 | 38.0 | | 13.0 | 29.0 | | 20.0 | 36.0 | |
| Total Split (%) | 13.0% | 28.0% | | 23.0% | 38.0% | | 13.0% | 29.0% | | 20.0% | 36.0% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | | None | Max | | None | Max | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 78.7 |
| Natural Cycle: 75 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 7: Magnolia Avenue & El Nopal








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 46 | 64 | 96 | 140 | 122 | 103 | 51 | 272 | 55 | 118 | 472 | 85 |
| Future Volume (veh/h) | 46 | 64 | 96 | 140 | 122 | 103 | 51 | 272 | 55 | 118 | 472 | 85 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 50 | 70 | 104 | 152 | 133 | 112 | 55 | 296 | 60 | 128 | 513 | 92 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 109 | 96 | 142 | 194 | 177 | 149 | 115 | 1198 | 239 | 165 | 1306 | 233 |
| Arrive On Green | 0.06 | 0.14 | 0.14 | 0.11 | 0.19 | 0.19 | 0.06 | 0.41 | 0.41 | 0.09 | 0.44 | 0.44 |
| Sat Flow, veh/h | 1781 | 673 | 1000 | 1781 | 930 | 783 | 1781 | 2940 | 587 | 1781 | 3001 | 535 |
| Grp Volume(v), veh/h | 50 | 0 | 174 | 152 | 0 | 245 | 55 | 177 | 179 | 128 | 303 | 302 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1672 | 1781 | 0 | 1713 | 1781 | 1777 | 1750 | 1781 | 1777 | 1759 |
| Q Serve(g_s), s | 2.0 | 0.0 | 7.2 | 6.0 | 0.0 | 9.8 | 2.2 | 4.7 | 4.9 | 5.1 | 8.4 | 8.5 |
| Cycle Q Clear(g_c), s | 2.0 | 0.0 | 7.2 | 6.0 | 0.0 | 9.8 | 2.2 | 4.7 | 4.9 | 5.1 | 8.4 | 8.5 |
| Prop In Lane | 1.00 | | 0.60 | 1.00 | | 0.46 | 1.00 | | 0.34 | 1.00 | | 0.30 |
| Lane Grp Cap(c), veh/h | 109 | 0 | 238 | 194 | 0 | 325 | 115 | 724 | 713 | 165 | 773 | 766 |
| V/C Ratio(X) | 0.46 | 0.00 | 0.73 | 0.78 | 0.00 | 0.75 | 0.48 | 0.24 | 0.25 | 0.78 | 0.39 | 0.39 |
| Avail Cap(c_a), veh/h | 209 | 0 | 543 | 455 | 0 | 793 | 209 | 724 | 713 | 382 | 773 | 766 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 32.8 | 0.0 | 29.7 | 31.4 | 0.0 | 27.7 | 32.7 | 14.1 | 14.2 | 32.1 | 13.9 | 13.9 |
| Incr Delay (d2), s/veh | 3.0 | 0.0 | 4.3 | 6.7 | 0.0 | 3.5 | 3.0 | 0.8 | 0.8 | 7.6 | 1.5 | 1.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.9 | 0.0 | 3.1 | 2.9 | 0.0 | 4.2 | 1.0 | 1.8 | 1.9 | 2.4 | 3.2 | 3.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 35.8 | 0.0 | 34.0 | 38.1 | 0.0 | 31.2 | 35.7 | 14.9 | 15.0 | 39.7 | 15.4 | 15.5 |
| LnGrp LOS | D | A | C | D | A | C | D | B | B | D | B | B |
| Approach Vol, veh/h | | 224 | | | 397 | | | 411 | | | 733 | |
| Approach Delay, s/veh | | 34.4 | | | 33.9 | | | 17.7 | | | 19.7 | |
| Approach LOS | | C | | | C | | | B | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 11.2 | 34.0 | 12.4 | 14.8 | 9.2 | 36.0 | 8.9 | 18.2 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 15.5 | 24.5 | 18.5 | 23.5 | 8.5 | 31.5 | 8.5 | 33.5 |
| Max Q Clear Time (g_c+I1), s | 7.1 | 6.9 | 8.0 | 9.2 | 4.2 | 10.5 | 4.0 | 11.8 |
| Green Ext Time (p_c), s | 0.2 | 1.8 | 0.3 | 0.8 | 0.0 | 3.4 | 0.0 | 1.5 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 24.3 |
| HCM 6th LOS | C |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 14.4 |
| Intersection LOS | B |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 245 | 21 | 173 | 230 | 17 | 224 |
| Future Vol, veh/h | 245 | 21 | 173 | 230 | 17 | 224 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 266 | 23 | 188 | 250 | 18 | 243 |
| Number of Lanes | 1 | 1 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB |
|---|---|---|---|
| Opposing Approach | WB | EB | |
| Opposing Lanes | 1 | 2 | 0 |
| Conflicting Approach Left | | NB | EB |
| Conflicting Lanes Left | 0 | 1 | 2 |
| Conflicting Approach Right | NB | | WB |
| Conflicting Lanes Right | 1 | 0 | 1 |
| HCM Control Delay | 12.4 | 17.5 | 11.6 |
| HCM LOS | B | C | B |

| Lane | NBLn1 | EBLn1 | EBLn2 | WBLn1 |
|---|---|---|---|---|
| Vol Left, % | 7% | 0% | 0% | 43% |
| Vol Thru, % | 0% | 100% | 0% | 57% |
| Vol Right, % | 93% | 0% | 100% | 0% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 241 | 245 | 21 | 403 |
| LT Vol | 17 | 0 | 0 | 173 |
| Through Vol | 0 | 245 | 0 | 230 |
| RT Vol | 224 | 0 | 21 | 0 |
| Lane Flow Rate | 262 | 266 | 23 | 438 |
| Geometry Grp | 2 | 7 | 7 | 5 |
| Degree of Util (X) | 0.383 | 0.428 | 0.032 | 0.645 |
| Departure Headway (Hd) | 5.265 | 5.789 | 5.08 | 5.298 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 684 | 623 | 705 | 683 |
| Service Time | 3.305 | 3.521 | 2.811 | 3.325 |
| HCM Lane V/C Ratio | 0.383 | 0.427 | 0.033 | 0.641 |
| HCM Control Delay | 11.6 | 12.8 | 8 | 17.5 |
| HCM Lane LOS | B | B | A | C |
| HCM 95th-tile Q | 1.8 | 2.1 | 0.1 | 4.7 |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 8.1 |
| Intersection LOS | A |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 90 | 9 | 61 | 75 | 3 | 124 |
| Future Vol, veh/h | 90 | 9 | 61 | 75 | 3 | 124 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 98 | 10 | 66 | 82 | 3 | 135 |
| Number of Lanes | 1 | 0 | 1 | 0 | 0 | 1 |

| Approach | WB | NB | SB |
|---|---|---|---|
| Opposing Approach | | SB | NB |
| Opposing Lanes | 0 | 1 | 1 |
| Conflicting Approach Left | NB | | WB |
| Conflicting Lanes Left | 1 | 0 | 1 |
| Conflicting Approach Right | SB | WB | |
| Conflicting Lanes Right | 1 | 1 | 0 |
| HCM Control Delay | 8.5 | 7.8 | 8.2 |
| HCM LOS | A | A | A |

| Lane | NBLn1 | WBLn1 | SBLn1 |
|---|---|---|---|
| Vol Left, % | 0% | 91% | 2% |
| Vol Thru, % | 45% | 0% | 98% |
| Vol Right, % | 55% | 9% | 0% |
| Sign Control | Stop | Stop | Stop |
| Traffic Vol by Lane | 136 | 99 | 127 |
| LT Vol | 0 | 90 | 3 |
| Through Vol | 61 | 0 | 124 |
| RT Vol | 75 | 9 | 0 |
| Lane Flow Rate | 148 | 108 | 138 |
| Geometry Grp | 1 | 1 | 1 |
| Degree of Util (X) | 0.165 | 0.14 | 0.167 |
| Departure Headway (Hd) | 4.015 | 4.675 | 4.35 |
| Convergence, Y/N | Yes | Yes | Yes |
| Cap | 896 | 769 | 827 |
| Service Time | 2.027 | 2.692 | 2.362 |
| HCM Lane V/C Ratio | 0.165 | 0.14 | 0.167 |
| HCM Control Delay | 7.8 | 8.5 | 8.2 |
| HCM Lane LOS | A | A | A |
| HCM 95th-tile Q | 0.6 | 0.5 | 0.6 |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 10.4 |
| Intersection LOS | B |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 3 | 20 | 197 | 8 | 27 | 10 | 210 | 37 | 4 | 2 | 27 | 1 |
| Future Vol, veh/h | 3 | 20 | 197 | 8 | 27 | 10 | 210 | 37 | 4 | 2 | 27 | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 3 | 22 | 214 | 9 | 29 | 11 | 228 | 40 | 4 | 2 | 29 | 1 |
| Number of Lanes | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 2 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 2 | 2 | 3 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 3 | 2 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 3 | 2 | 1 | 2 |
| HCM Control Delay | 9.5 | 9.2 | 11.6 | 9.1 |
| HCM LOS | A | A | B | A |

| Lane | NBLn1 | NBLn2 | NBLn3 | EBLn1 | EBLn2 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 13% | 0% | 18% | 100% | 0% |
| Vol Thru, % | 0% | 100% | 76% | 87% | 0% | 60% | 0% | 96% |
| Vol Right, % | 0% | 0% | 24% | 0% | 100% | 22% | 0% | 4% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 210 | 25 | 16 | 23 | 197 | 45 | 2 | 28 |
| LT Vol | 210 | 0 | 0 | 3 | 0 | 8 | 2 | 0 |
| Through Vol | 0 | 25 | 12 | 20 | 0 | 27 | 0 | 27 |
| RT Vol | 0 | 0 | 4 | 0 | 197 | 10 | 0 | 1 |
| Lane Flow Rate | 228 | 27 | 18 | 25 | 214 | 49 | 2 | 30 |
| Geometry Grp | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| Degree of Util (X) | 0.374 | 0.04 | 0.026 | 0.039 | 0.29 | 0.08 | 0.004 | 0.051 |
| Departure Headway (Hd) | 5.894 | 5.391 | 5.219 | 5.635 | 4.869 | 5.852 | 6.559 | 6.028 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 605 | 658 | 680 | 632 | 734 | 606 | 549 | 598 |
| Service Time | 3.675 | 3.172 | 2.999 | 3.397 | 2.63 | 3.647 | 4.259 | 3.728 |
| HCM Lane V/C Ratio | 0.377 | 0.041 | 0.026 | 0.04 | 0.292 | 0.081 | 0.004 | 0.05 |
| HCM Control Delay | 12.2 | 8.4 | 8.1 | 8.6 | 9.6 | 9.2 | 9.3 | 9.1 |
| HCM Lane LOS | B | A | A | A | A | A | A | A |
| HCM 95th-tile Q | 1.7 | 0.1 | 0.1 | 0.1 | 1.2 | 0.3 | 0 | 0.2 |





| Intersection | |
|---|---|
| Int Delay, s/veh | 4.8 |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 8 | 42 | 23 | 20 | 0 | 32 |
| Future Vol, veh/h | 8 | 42 | 23 | 20 | 0 | 32 |
| Conflicting Peds, #/hr | 1 | 1 | 1 | 0 | 0 | 1 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | 150 | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 9 | 46 | 25 | 22 | 0 | 35 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 92 | 20 | 36 | 0 | - | 0 |
| Stage 1 | 19 | - | - | - | - | - |
| Stage 2 | 73 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | 4.12 | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | 2.218 | - | - | - |
| Pot Cap-1 Maneuver | 908 | 1058 | 1575 | - | - | - |
| Stage 1 | 1004 | - | - | - | - | - |
| Stage 2 | 950 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 892 | 1056 | 1574 | - | - | - |
| Mov Cap-2 Maneuver | 892 | - | - | - | - | - |
| Stage 1 | 987 | - | - | - | - | - |
| Stage 2 | 949 | - | - | - | - | - |

| Approach | EB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 8.7 | 3.9 | 0 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1574 | - | 1026 | - | - |
| HCM Lane V/C Ratio | 0.016 | - | 0.053 | - | - |
| HCM Control Delay (s) | 7.3 | - | 8.7 | - | - |
| HCM Lane LOS | A | - | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | 0.2 | - | - |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 24.1 |
| Intersection LOS | C |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 11 | 93 | 1 | 1 | 1 | 142 | 32 | 3 | 528 | 0 |
| Future Vol, veh/h | 0 | 0 | 11 | 93 | 1 | 1 | 1 | 142 | 32 | 3 | 528 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 12 | 101 | 1 | 1 | 1 | 154 | 35 | 3 | 574 | 0 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 3 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 3 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 3 | 2 | 1 | 1 |
| HCM Control Delay | 8.9 | 11.5 | 9.6 | 31.4 |
| HCM LOS | A | B | A | D |

| Lane | NBLn1 | NBLn2 | NBLn3 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 0% | 98% | 100% | 0% |
| Vol Thru, % | 0% | 100% | 0% | 0% | 1% | 0% | 100% |
| Vol Right, % | 0% | 0% | 100% | 100% | 1% | 0% | 0% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 1 | 142 | 32 | 11 | 95 | 3 | 528 |
| LT Vol | 1 | 0 | 0 | 0 | 93 | 3 | 0 |
| Through Vol | 0 | 142 | 0 | 0 | 1 | 0 | 528 |
| RT Vol | 0 | 0 | 32 | 11 | 1 | 0 | 0 |
| Lane Flow Rate | 1 | 154 | 35 | 12 | 103 | 3 | 574 |
| Geometry Grp | 7 | 7 | 7 | 7 | 7 | 8 | 8 |
| Degree of Util (X) | 0.002 | 0.239 | 0.047 | 0.02 | 0.201 | 0.005 | 0.853 |
| Departure Headway (Hd) | 6.07 | 5.564 | 4.856 | 6.087 | 7.02 | 5.856 | 5.353 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 593 | 650 | 742 | 590 | 514 | 605 | 671 |
| Service Time | 3.77 | 3.264 | 2.556 | 3.801 | 4.728 | 3.652 | 3.149 |
| HCM Lane V/C Ratio | 0.002 | 0.237 | 0.047 | 0.02 | 0.2 | 0.005 | 0.855 |
| HCM Control Delay | 8.8 | 10 | 7.8 | 8.9 | 11.5 | 8.7 | 31.5 |
| HCM Lane LOS | A | A | A | A | B | A | D |
| HCM 95th-tile Q | 0 | 0.9 | 0.1 | 0.1 | 0.7 | 0 | 9.7 |

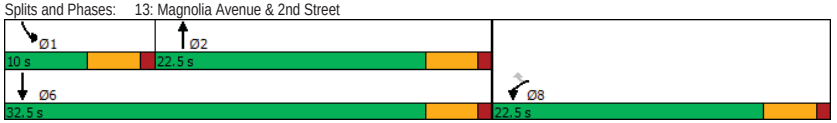




| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 163 | 34 | 366 | 111 | 111 | 736 |
| Future Volume (vph) | 163 | 34 | 366 | 111 | 111 | 736 |
| Confl. Peds. (#/hr) | | 4 | | 11 | | |
| Confl. Bikes (#/hr) | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | 0% | | | 0% |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | NA | | Prot | NA |
| Protected Phases | 8 | | 2 | | 1 | 6 |
| Permitted Phases | | 8 | | | | |
| Detector Phase | 8 | 8 | 2 | | 1 | 6 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | | 8.5 | 20.5 |
| Total Split (s) | 22.5 | 22.5 | 22.5 | | 10.0 | 32.5 |
| Total Split (%) | 40.9% | 40.9% | 40.9% | | 18.2% | 59.1% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Lead/Lag | | | Lag | | Lead | |
| Lead-Lag Optimize? | | | Yes | | Yes | |
| Recall Mode | None | None | Min | | None | Min |

| Intersection Summary |
|---|
| Cycle Length: 55 |
| Actuated Cycle Length: 39.6 |
| Natural Cycle: 55 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 13: Magnolia Avenue & 2nd Street



| Movement | WBL | WBR | NBT | NBR | SBL | SBT | |
|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | |
| Traffic Volume (veh/h) | 163 | 34 | 366 | 111 | 111 | 736 | |
| Future Volume (veh/h) | 163 | 34 | 366 | 111 | 111 | 736 | |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | | 0.98 | 1.00 | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Work Zone On Approach | No | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | |
| Adj Flow Rate, veh/h | 177 | 37 | 398 | 121 | 121 | 800 | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | |
| Cap, veh/h | 264 | 235 | 785 | 236 | 154 | 1908 | |
| Arrive On Green | 0.15 | 0.15 | 0.29 | 0.29 | 0.09 | 0.54 | |
| Sat Flow, veh/h | 1781 | 1585 | 2773 | 804 | 1781 | 3647 | |
| Grp Volume(v), veh/h | 177 | 37 | 262 | 257 | 121 | 800 | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 1777 | 1707 | 1781 | 1777 | |
| Q Serve(g_s), s | 2.7 | 0.6 | 3.5 | 3.6 | 1.9 | 3.8 | |
| Cycle Q Clear(g_c), s | 2.7 | 0.6 | 3.5 | 3.6 | 1.9 | 3.8 | |
| Prop In Lane | 1.00 | 1.00 | | 0.47 | 1.00 | | |
| Lane Grp Cap(c), veh/h | 264 | 235 | 521 | 500 | 154 | 1908 | |
| V/C Ratio(X) | 0.67 | 0.16 | 0.50 | 0.51 | 0.79 | 0.42 | |
| Avail Cap(c_a), veh/h | 1122 | 999 | 1120 | 1076 | 343 | 3483 | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Uniform Delay (d), s/veh | 11.5 | 10.6 | 8.4 | 8.4 | 12.8 | 4.0 | |
| Incr Delay (d2), s/veh | 3.0 | 0.3 | 0.8 | 0.8 | 8.5 | 0.1 | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| %ile BackOfQ(50%),veh/ln | 1.0 | 0.2 | 0.8 | 0.8 | 0.9 | 0.2 | |
| Unsig. Movement Delay, s/veh | | | | | | | |
| LnGrp Delay(d),s/veh | 14.5 | 10.9 | 9.1 | 9.2 | 21.3 | 4.1 | |
| LnGrp LOS | B | B | A | A | C | A | |
| Approach Vol, veh/h | 214 | | 519 | | | 921 | |
| Approach Delay, s/veh | 13.9 | | 9.2 | | | 6.4 | |
| Approach LOS | B | | A | | | A | |

| Timer - Assigned Phs | 1 | 2 | | | | 6 | 8 |
|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.0 | 12.9 | | | | 19.8 | 8.7 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 5.5 | 18.0 | | | | 28.0 | 18.0 |
| Max Q Clear Time (g_c+I1), s | 3.9 | 5.6 | | | | 5.8 | 4.7 |
| Green Ext Time (p_c), s | 0.0 | 2.4 | | | | 5.4 | 0.5 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 8.2 |
| HCM 6th LOS | A |

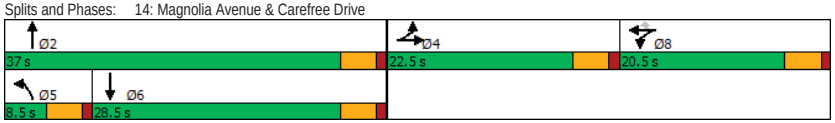




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 5 | 0 | 58 | 189 | 0 | 31 | 17 | 452 | 0 | 0 | 868 | 2 |
| Future Volume (vph) | 5 | 0 | 58 | 189 | 0 | 31 | 17 | 452 | 0 | 0 | 868 | 2 |
| Confl. Peds. (#/hr) | | | 115 | | | | | | 13 | | | 18 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | 50% | | | | | | | | |
| Turn Type | Split | NA | | Split | NA | Perm | Prot | NA | | | NA | |
| Protected Phases | 4 | 4 | | 8 | 8 | | 5 | 2 | | | 6 | |
| Permitted Phases | | | | | | 8 | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | 8 | 5 | 2 | | | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | | 4.0 | |
| Minimum Split (s) | 22.5 | 22.5 | | 20.5 | 20.5 | 20.5 | 8.5 | 22.5 | | | 22.5 | |
| Total Split (s) | 22.5 | 22.5 | | 20.5 | 20.5 | 20.5 | 8.5 | 37.0 | | | 28.5 | |
| Total Split (%) | 28.1% | 28.1% | | 25.6% | 25.6% | 25.6% | 10.6% | 46.3% | | | 35.6% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | 0.0 | |
| Total Lost Time (s) | | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | | 4.5 | |
| Lead/Lag | | | | | | | Lead | | | | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | | | | Yes | |
| Recall Mode | None | None | | None | None | None | None | Min | | | Min | |

| Intersection Summary |
|---|
| Cycle Length: 80 |
| Actuated Cycle Length: 49 |
| Natural Cycle: 80 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 14: Magnolia Avenue & Carefree Drive



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 5 | 0 | 58 | 189 | 0 | 31 | 17 | 452 | 0 | 0 | 868 | 2 |
| Future Volume (veh/h) | 5 | 0 | 58 | 189 | 0 | 31 | 17 | 452 | 0 | 0 | 868 | 2 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.84 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.95 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 0 | 0 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 5 | 0 | 63 | 205 | 0 | 34 | 18 | 491 | 0 | 0 | 943 | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 0 | 0 | 2 | 2 |
| Cap, veh/h | 22 | 0 | 271 | 354 | 0 | 158 | 31 | 1556 | 0 | 0 | 1230 | 3 |
| Arrive On Green | 0.22 | 0.00 | 0.22 | 0.10 | 0.00 | 0.10 | 0.02 | 0.44 | 0.00 | 0.00 | 0.34 | 0.34 |
| Sat Flow, veh/h | 100 | 0 | 1257 | 3563 | 0 | 1585 | 1781 | 3647 | 0 | 0 | 3731 | 8 |
| Grp Volume(v), veh/h | 68 | 0 | 0 | 205 | 0 | 34 | 18 | 491 | 0 | 0 | 461 | 484 |
| Grp Sat Flow(s),veh/h/ln | 1357 | 0 | 0 | 1781 | 0 | 1585 | 1781 | 1777 | 0 | 0 | 1777 | 1869 |
| Q Serve(g_s), s | 2.3 | 0.0 | 0.0 | 3.0 | 0.0 | 1.1 | 0.5 | 4.9 | 0.0 | 0.0 | 12.7 | 12.7 |
| Cycle Q Clear(g_c), s | 2.3 | 0.0 | 0.0 | 3.0 | 0.0 | 1.1 | 0.5 | 4.9 | 0.0 | 0.0 | 12.7 | 12.7 |
| Prop In Lane | 0.07 | | 0.93 | 1.00 | | 1.00 | 1.00 | | 0.00 | 0.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 293 | 0 | 0 | 354 | 0 | 158 | 31 | 1556 | 0 | 0 | 601 | 632 |
| V/C Ratio(X) | 0.23 | 0.00 | 0.00 | 0.58 | 0.00 | 0.22 | 0.58 | 0.32 | 0.00 | 0.00 | 0.77 | 0.77 |
| Avail Cap(c_a), veh/h | 446 | 0 | 0 | 1042 | 0 | 464 | 130 | 2111 | 0 | 0 | 780 | 820 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 17.7 | 0.0 | 0.0 | 23.5 | 0.0 | 22.7 | 26.7 | 10.0 | 0.0 | 0.0 | 16.2 | 16.2 |
| Incr Delay (d2), s/veh | 0.4 | 0.0 | 0.0 | 1.5 | 0.0 | 0.7 | 15.7 | 0.1 | 0.0 | 0.0 | 3.4 | 3.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.7 | 0.0 | 0.0 | 1.2 | 0.0 | 0.4 | 0.3 | 1.5 | 0.0 | 0.0 | 4.8 | 5.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 18.1 | 0.0 | 0.0 | 25.0 | 0.0 | 23.3 | 42.4 | 10.1 | 0.0 | 0.0 | 19.6 | 19.4 |
| LnGrp LOS | B | A | A | C | A | C | D | B | A | A | B | B |
| Approach Vol, veh/h | | 68 | | | 239 | | | 509 | | | 945 | |
| Approach Delay, s/veh | | 18.1 | | | 24.8 | | | 11.3 | | | 19.5 | |
| Approach LOS | | B | | | C | | | B | | | B | |

| Timer - Assigned Phs | 2 | | 4 | 5 | 6 | | 8 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 28.5 | | 16.3 | 5.5 | 23.0 | | 9.9 | | | | | |
| Change Period (Y+Rc), s | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | | |
| Max Green Setting (Gmax), s | 32.5 | | 18.0 | 4.0 | 24.0 | | 16.0 | | | | | |
| Max Q Clear Time (g_c+I1), s | 6.9 | | 4.3 | 2.5 | 14.7 | | 5.0 | | | | | |
| Green Ext Time (p_c), s | 3.1 | | 0.3 | 0.0 | 3.8 | | 0.6 | | | | | |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 17.8 |
| HCM 6th LOS | B |

**Notes**

User approved volume balancing among the lanes for turning movement.

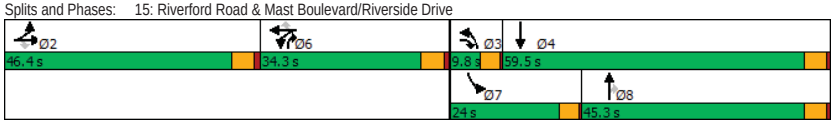




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 31 | 32 | 56 | 456 | 11 | 224 | 18 | 181 | 330 | 273 | 296 | 13 |
| Future Volume (vph) | 31 | 32 | 56 | 456 | 11 | 224 | 18 | 181 | 330 | 273 | 296 | 13 |
| Confl. Peds. (#/hr) | | | 4 | | | 3 | | | 7 | | | |
| Confl. Bikes (#/hr) | | | 1 | | | 2 | | | 2 | | | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Split | NA | pm+ov | Split | NA | Perm | Prot | NA | pm+ov | Prot | NA | |
| Protected Phases | 2 | 2 | 3 | 6 | 6 | | 3 | 8 | 6 | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | 8 | | | |
| Detector Phase | 2 | 2 | 3 | 6 | 6 | 6 | 3 | 8 | 6 | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 6.0 | 6.0 | 5.0 | 4.0 | 4.0 | 4.0 | 5.0 | 6.0 | 4.0 | 4.0 | 6.0 | |
| Minimum Split (s) | 45.3 | 45.3 | 9.1 | 34.3 | 34.3 | 34.3 | 9.1 | 45.3 | 34.3 | 8.6 | 49.9 | |
| Total Split (s) | 46.4 | 46.4 | 9.8 | 34.3 | 34.3 | 34.3 | 9.8 | 45.3 | 34.3 | 24.0 | 59.5 | |
| Total Split (%) | 30.9% | 30.9% | 6.5% | 22.9% | 22.9% | 22.9% | 6.5% | 30.2% | 22.9% | 16.0% | 39.7% | |
| Yellow Time (s) | 4.3 | 4.3 | 3.6 | 4.3 | 4.3 | 4.3 | 3.6 | 3.9 | 4.3 | 3.6 | 3.9 | |
| All-Red Time (s) | 1.0 | 1.0 | 0.5 | 1.0 | 1.0 | 1.0 | 0.5 | 1.0 | 1.0 | 0.5 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 5.3 | 5.3 | 4.1 | 5.3 | 5.3 | 5.3 | 4.1 | 4.9 | 5.3 | 4.1 | 4.9 | |
| Lead/Lag | | | Lead | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | Yes | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | None | None | None | None | None | Min | None | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 150 |
| Actuated Cycle Length: 90.5 |
| Natural Cycle: 150 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 15: Riverford Road & Mast Boulevard/Riverside Drive



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 31 | 32 | 56 | 456 | 11 | 224 | 18 | 181 | 330 | 273 | 296 | 13 |
| Future Volume (veh/h) | 31 | 32 | 56 | 456 | 11 | 224 | 18 | 181 | 330 | 273 | 296 | 13 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.95 | 1.00 | | 0.97 | 1.00 | | 0.98 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 34 | 35 | 61 | 496 | 12 | 243 | 20 | 197 | 359 | 297 | 322 | 14 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 165 | 330 | 310 | 734 | 755 | 327 | 40 | 457 | 715 | 344 | 738 | 32 |
| Arrive On Green | 0.09 | 0.09 | 0.09 | 0.21 | 0.21 | 0.21 | 0.02 | 0.24 | 0.24 | 0.19 | 0.41 | 0.41 |
| Sat Flow, veh/h | 1781 | 3554 | 2664 | 3456 | 3554 | 1537 | 1781 | 1870 | 1550 | 1781 | 1778 | 77 |
| Grp Volume(v), veh/h | 34 | 35 | 61 | 496 | 12 | 243 | 20 | 197 | 359 | 297 | 0 | 336 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1332 | 1728 | 1777 | 1537 | 1781 | 1870 | 1550 | 1781 | 0 | 1855 |
| Q Serve(g_s), s | 1.3 | 0.7 | 1.6 | 10.1 | 0.2 | 11.3 | 0.8 | 6.8 | 12.5 | 12.3 | 0.0 | 9.9 |
| Cycle Q Clear(g_c), s | 1.3 | 0.7 | 1.6 | 10.1 | 0.2 | 11.3 | 0.8 | 6.8 | 12.5 | 12.3 | 0.0 | 9.9 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.04 |
| Lane Grp Cap(c), veh/h | 165 | 330 | 310 | 734 | 755 | 327 | 40 | 457 | 715 | 344 | 0 | 770 |
| V/C Ratio(X) | 0.21 | 0.11 | 0.20 | 0.68 | 0.02 | 0.74 | 0.50 | 0.43 | 0.50 | 0.86 | 0.00 | 0.44 |
| Avail Cap(c_a), veh/h | 961 | 1917 | 1500 | 1315 | 1353 | 585 | 133 | 992 | 1159 | 465 | 0 | 1329 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 32.0 | 31.7 | 30.5 | 27.6 | 23.7 | 28.1 | 36.8 | 24.3 | 14.6 | 29.8 | 0.0 | 15.9 |
| Incr Delay (d2), s/veh | 0.6 | 0.1 | 0.3 | 1.1 | 0.0 | 3.4 | 9.1 | 0.6 | 0.5 | 11.9 | 0.0 | 0.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.6 | 0.3 | 0.5 | 4.0 | 0.1 | 4.3 | 0.5 | 3.0 | 6.2 | 6.2 | 0.0 | 4.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 32.6 | 31.8 | 30.8 | 28.7 | 23.7 | 31.4 | 45.9 | 25.0 | 15.2 | 41.7 | 0.0 | 16.3 |
| LnGrp LOS | C | C | C | C | C | C | D | C | B | D | A | B |
| Approach Vol, veh/h | | 130 | | | 751 | | | 576 | | | 633 | |
| Approach Delay, s/veh | | 31.5 | | | 29.5 | | | 19.6 | | | 28.2 | |
| Approach LOS | | C | | | C | | | B | | | C | |

| Timer - Assigned Phs | 2 | 3 | 4 | | 6 | 7 | 8 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 12.4 | 5.8 | 36.5 | | 21.5 | 18.8 | 23.5 | | | | | |
| Change Period (Y+Rc), s | 5.3 | 4.1 | 4.9 | | 5.3 | 4.1 | 4.9 | | | | | |
| Max Green Setting (Gmax), s | 41.1 | 5.7 | 54.6 | | 29.0 | 19.9 | 40.4 | | | | | |
| Max Q Clear Time (g_c+I1), s | 3.6 | 2.8 | 11.9 | | 13.3 | 14.3 | 14.5 | | | | | |
| Green Ext Time (p_c), s | 0.5 | 0.0 | 2.3 | | 2.5 | 0.4 | 2.5 | | | | | |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 26.5 |
| HCM 6th LOS | C |





| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 6 | 0 | 173 | 3 | 0 | 0 | 0 | 0 | 352 | 0 | 2 |
| Future Volume (vph) | 0 | 6 | 0 | 173 | 3 | 0 | 0 | 0 | 0 | 352 | 0 | 2 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | 1 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | 50% | | |
| Turn Type | | NA | | Split | NA | | | | | Split | NA | |
| Protected Phases | | 8 | | 4 | 4 | | | | | 2 | 2 | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | | 8 | | 4 | 4 | | | | | 2 | 2 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | 7.0 | | 8.0 | 8.0 | | | | | 5.0 | 5.0 | |
| Minimum Split (s) | | 25.1 | | 28.4 | 28.4 | | | | | 32.3 | 32.3 | |
| Total Split (s) | | 25.1 | | 30.0 | 30.0 | | | | | 34.9 | 34.9 | |
| Total Split (%) | | 27.9% | | 33.3% | 33.3% | | | | | 38.8% | 38.8% | |
| Yellow Time (s) | | 4.1 | | 4.4 | 4.4 | | | | | 4.1 | 4.1 | |
| All-Red Time (s) | | 1.0 | | 1.0 | 1.0 | | | | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | | 0.0 | 0.0 | | | | | 0.0 | 0.0 | |
| Total Lost Time (s) | | 5.1 | | 5.4 | 5.4 | | | | | 5.1 | 5.1 | |
| Lead/Lag | | | | | | | | | | | | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Recall Mode | | None | | None | None | | | | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 90 |
| Actuated Cycle Length: 37.8 |
| Natural Cycle: 90 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 16: SR 52 EB Ramps & Mast Blvd

Existing + Cuml AM
16: SR 52 EB Ramps & Mast Blvd

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 6 | 0 | 173 | 3 | 0 | 0 | 0 | 0 | 352 | 0 | 2 |
| Future Volume (veh/h) | 0 | 6 | 0 | 173 | 3 | 0 | 0 | 0 | 0 | 352 | 0 | 2 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | | | | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | | | | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | | | | No | |
| Adj Sat Flow, veh/h/ln | 0 | 1870 | 1870 | 1870 | 1870 | 0 | | | | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 7 | 0 | 188 | 3 | 0 | | | | 385 | 0 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 0 | 2 | 2 | 2 | 2 | 0 | | | | 2 | 2 | 2 |
| Cap, veh/h | 0 | 25 | 0 | 394 | 413 | 0 | | | | 743 | 390 | 0 |
| Arrive On Green | 0.00 | 0.01 | 0.00 | 0.22 | 0.22 | 0.00 | | | | 0.21 | 0.00 | 0.00 |
| Sat Flow, veh/h | 0 | 1870 | 0 | 1781 | 1870 | 0 | | | | 3563 | 1870 | 0 |
| Grp Volume(v), veh/h | 0 | 7 | 0 | 188 | 3 | 0 | | | | 385 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 0 | 1870 | 0 | 1781 | 1870 | 0 | | | | 1781 | 1870 | 0 |
| Q Serve(g_s), s | 0.0 | 0.1 | 0.0 | 2.6 | 0.0 | 0.0 | | | | 2.7 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 0.0 | 0.1 | 0.0 | 2.6 | 0.0 | 0.0 | | | | 2.7 | 0.0 | 0.0 |
| Prop In Lane | 0.00 | | 0.00 | 1.00 | | 0.00 | | | | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 0 | 25 | 0 | 394 | 413 | 0 | | | | 743 | 390 | 0 |
| V/C Ratio(X) | 0.00 | 0.28 | 0.00 | 0.48 | 0.01 | 0.00 | | | | 0.52 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 0 | 1336 | 0 | 1565 | 1643 | 0 | | | | 3791 | 1990 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | | | | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 0.0 | 13.7 | 0.0 | 9.5 | 8.5 | 0.0 | | | | 9.8 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 0.0 | 2.3 | 0.0 | 0.9 | 0.0 | 0.0 | | | | 0.6 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.0 | 0.0 | 0.7 | 0.0 | 0.0 | | | | 0.8 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 16.0 | 0.0 | 10.4 | 8.5 | 0.0 | | | | 10.4 | 0.0 | 0.0 |
| LnGrp LOS | A | B | A | B | A | A | | | | B | A | A |
| Approach Vol, veh/h | | 7 | | | 191 | | | | | | 385 | |
| Approach Delay, s/veh | | 16.0 | | | 10.4 | | | | | | 10.4 | |
| Approach LOS | | B | | | B | | | | | | B | |

| Timer - Assigned Phs | | 2 | | 4 | | | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 10.9 | | 11.6 | | | | 5.5 | | | | |
| Change Period (Y+Rc), s | | 5.1 | | 5.4 | | | | 5.1 | | | | |
| Max Green Setting (Gmax), s | | 29.8 | | 24.6 | | | | 20.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 4.7 | | 4.6 | | | | 2.1 | | | | |
| Green Ext Time (p_c), s | | 1.4 | | 0.5 | | | | 0.0 | | | | |

| Intersection Summary | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HCM 6th Ctrl Delay | | | 10.5 | | | | | | | | | |
| HCM 6th LOS | | | B | | | | | | | | | |

Notes

User approved volume balancing among the lanes for turning movement.



Existing + Cuml AM
17: SR-52 WB Ramps & Mast Blvd

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 7 | 351 | 0 | 0 | 170 | 2207 | 6 | 0 | 51 | 0 | 0 | 0 |
| Future Volume (vph) | 7 | 351 | 0 | 0 | 170 | 2207 | 6 | 0 | 51 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | 47% | | | 44% | | | |
| Turn Type | Prot | NA | | | NA | Perm | Perm | NA | Perm | | | |
| Protected Phases | 5 | 2 | | | 6 | | | 8 | | | | |
| Permitted Phases | | | | | | 6 | 8 | | 8 | | | |
| Detector Phase | 5 | 2 | | | 6 | 6 | 8 | 8 | 8 | | | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 10.0 | | | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | | | |
| Minimum Split (s) | 11.7 | 38.6 | | | 28.4 | 28.4 | 43.1 | 43.1 | 43.1 | | | |
| Total Split (s) | 11.7 | 86.9 | | | 75.2 | 75.2 | 43.1 | 43.1 | 43.1 | | | |
| Total Split (%) | 9.0% | 66.8% | | | 57.8% | 57.8% | 33.2% | 33.2% | 33.2% | | | |
| Yellow Time (s) | 3.7 | 4.1 | | | 4.4 | 4.4 | 4.1 | 4.1 | 4.1 | | | |
| All-Red Time (s) | 1.0 | 1.0 | | | 1.0 | 1.0 | 2.0 | 2.0 | 2.0 | | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | 0.0 | | | |
| Total Lost Time (s) | 4.7 | 5.1 | | | 5.4 | 5.4 | | 6.1 | 6.1 | | | |
| Lead/Lag | Lead | | | | Lag | Lag | | | | | | |
| Lead-Lag Optimize? | Yes | | | | Yes | Yes | | | | | | |
| Recall Mode | None | Min | | | Min | Min | None | None | None | | | |

| Intersection Summary |
|---|
| Cycle Length: 130 |
| Actuated Cycle Length: 106.1 |
| Natural Cycle: 145 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 17: SR-52 WB Ramps & Mast Blvd

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 7 | 351 | 0 | 0 | 170 | 2207 | 6 | 0 | 51 | 0 | 0 | 0 |
| Future Volume (veh/h) | 7 | 351 | 0 | 0 | 170 | 2207 | 6 | 0 | 51 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.98 | 1.00 | | 1.00 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.99 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 0 | 0 | 1870 | 1945 | 1870 | 1870 | 1870 | | | |
| Adj Flow Rate, veh/h | 8 | 382 | 0 | 0 | 0 | 2522 | 0 | 0 | 62 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | |
| Percent Heavy Veh, % | 2 | 2 | 0 | 0 | 2 | 2 | 2 | 2 | 2 | | | |
| Cap, veh/h | 25 | 2825 | 0 | 0 | 1368 | 2363 | 0 | 156 | 268 | | | |
| Arrive On Green | 0.01 | 0.79 | 0.00 | 0.00 | 0.00 | 0.73 | 0.00 | 0.00 | 0.08 | | | |
| Sat Flow, veh/h | 1781 | 3647 | 0 | 0 | 1870 | 3229 | 0 | 1848 | 3170 | | | |
| Grp Volume(v), veh/h | 8 | 382 | 0 | 0 | 0 | 2522 | 0 | 0 | 62 | | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 0 | 0 | 1870 | 1615 | 0 | 1848 | 1585 | | | |
| Q Serve(g_s), s | 0.4 | 2.4 | 0.0 | 0.0 | 0.0 | 69.8 | 0.0 | 0.0 | 1.7 | | | |
| Cycle Q Clear(g_c), s | 0.4 | 2.4 | 0.0 | 0.0 | 0.0 | 69.8 | 0.0 | 0.0 | 1.7 | | | |
| Prop In Lane | 1.00 | | 0.00 | 0.00 | | 1.00 | 0.00 | | 1.00 | | | |
| Lane Grp Cap(c), veh/h | 25 | 2825 | 0 | 0 | 1368 | 2363 | 0 | 156 | 268 | | | |
| V/C Ratio(X) | 0.32 | 0.14 | 0.00 | 0.00 | 0.00 | 1.07 | 0.00 | 0.00 | 0.23 | | | |
| Avail Cap(c_a), veh/h | 131 | 3047 | 0 | 0 | 1368 | 2363 | 0 | 717 | 1229 | | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | | | |
| Uniform Delay (d), s/veh | 46.6 | 2.2 | 0.0 | 0.0 | 0.0 | 12.8 | 0.0 | 0.0 | 40.8 | | | |
| Incr Delay (d2), s/veh | 2.7 | 0.0 | 0.0 | 0.0 | 0.0 | 39.6 | 0.0 | 0.0 | 0.2 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ln | 0.2 | 0.5 | 0.0 | 0.0 | 0.0 | 30.7 | 0.0 | 0.0 | 0.7 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 49.3 | 2.3 | 0.0 | 0.0 | 0.0 | 52.4 | 0.0 | 0.0 | 40.9 | | | |
| LnGrp LOS | D | A | A | A | A | F | A | A | D | | | |
| Approach Vol, veh/h | | 390 | | | 2522 | | | 62 | | | | |
| Approach Delay, s/veh | | 3.2 | | | 52.4 | | | 40.9 | | | | |
| Approach LOS | | A | | | D | | | D | | | | |
| Timer - Assigned Phs | | 2 | | | 5 | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 81.2 | | | 6.0 | 75.2 | | 14.2 | | | | |
| Change Period (Y+Rc), s | | * 5.4 | | | * 4.7 | 5.4 | | 6.1 | | | | |
| Max Green Setting (Gmax), s | | * 82 | | | * 7 | 69.8 | | 37.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 4.4 | | | 2.4 | 71.8 | | 3.7 | | | | |
| Green Ext Time (p_c), s | | 2.7 | | | 0.0 | 0.0 | | 0.1 | | | | |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 45.7 |
| HCM 6th LOS | D |

Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

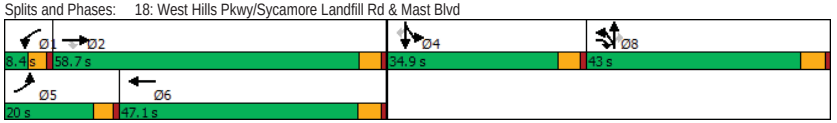




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 119 | 191 | 105 | 67 | 1247 | 17 | 1070 | 13 | 189 | 6 | 4 | 97 |
| Future Volume (vph) | 119 | 191 | 105 | 67 | 1247 | 17 | 1070 | 13 | 189 | 6 | 4 | 97 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | 49% | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | | Split | NA | Perm | Split | NA | Perm |
| Protected Phases | 5 | 2 | 8 | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Permitted Phases | | | 2 | | | | | | 8 | | | 4 |
| Detector Phase | 5 | 2 | 8 | 1 | 6 | | 8 | 8 | 8 | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 10.0 | 10.0 | 4.0 | 10.0 | | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| Minimum Split (s) | 20.0 | 34.9 | 33.4 | 8.4 | 35.2 | | 33.4 | 33.4 | 33.4 | 34.9 | 34.9 | 34.9 |
| Total Split (s) | 20.0 | 58.7 | 43.0 | 8.4 | 47.1 | | 43.0 | 43.0 | 43.0 | 34.9 | 34.9 | 34.9 |
| Total Split (%) | 13.8% | 40.5% | 29.7% | 5.8% | 32.5% | | 29.7% | 29.7% | 29.7% | 24.1% | 24.1% | 24.1% |
| Yellow Time (s) | 3.4 | 3.9 | 4.4 | 3.4 | 4.2 | | 4.4 | 4.4 | 4.4 | 3.9 | 3.9 | 3.9 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.4 | 4.9 | 5.4 | 4.4 | 5.2 | | 5.4 | 5.4 | 5.4 | | 4.9 | 4.9 |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | Min | None | None | Min | | None | None | None | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 145 |
| Actuated Cycle Length: 122.3 |
| Natural Cycle: 145 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 18: West Hills Pkwy/Sycamore Landfill Rd & Mast Blvd



Existing + Cuml AM
18: West Hills Pkwy/Sycamore Landfill Rd & Mast Blvd

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 119 | 191 | 105 | 67 | 1247 | 17 | 1070 | 13 | 189 | 6 | 4 | 97 |
| Future Volume (veh/h) | 119 | 191 | 105 | 67 | 1247 | 17 | 1070 | 13 | 189 | 6 | 4 | 97 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.98 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 129 | 208 | 114 | 73 | 1355 | 18 | 1173 | 0 | 205 | 7 | 4 | 105 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 157 | 1437 | 1138 | 115 | 1255 | 17 | 1117 | 0 | 497 | 95 | 54 | 131 |
| Arrive On Green | 0.09 | 0.40 | 0.40 | 0.03 | 0.35 | 0.35 | 0.31 | 0.00 | 0.31 | 0.08 | 0.08 | 0.08 |
| Sat Flow, veh/h | 1781 | 3554 | 1585 | 3456 | 3590 | 48 | 3563 | 0 | 1585 | 1154 | 659 | 1585 |
| Grp Volume(v), veh/h | 129 | 208 | 114 | 73 | 670 | 703 | 1173 | 0 | 205 | 11 | 0 | 105 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1585 | 1728 | 1777 | 1861 | 1781 | 0 | 1585 | 1813 | 0 | 1585 |
| Q Serve(g_s), s | 8.5 | 4.4 | 2.6 | 2.5 | 41.9 | 41.9 | 37.6 | 0.0 | 12.2 | 0.7 | 0.0 | 7.8 |
| Cycle Q Clear(g_c), s | 8.5 | 4.4 | 2.6 | 2.5 | 41.9 | 41.9 | 37.6 | 0.0 | 12.2 | 0.7 | 0.0 | 7.8 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.03 | 1.00 | | 1.00 | 0.64 | | 1.00 |
| Lane Grp Cap(c), veh/h | 157 | 1437 | 1138 | 115 | 621 | 650 | 1117 | 0 | 497 | 150 | 0 | 131 |
| V/C Ratio(X) | 0.82 | 0.14 | 0.10 | 0.63 | 1.08 | 1.08 | 1.05 | 0.00 | 0.41 | 0.07 | 0.00 | 0.80 |
| Avail Cap(c_a), veh/h | 232 | 1595 | 1208 | 115 | 621 | 650 | 1117 | 0 | 497 | 454 | 0 | 397 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 53.7 | 22.6 | 5.1 | 57.2 | 39.0 | 39.0 | 41.1 | 0.0 | 32.4 | 50.8 | 0.0 | 54.0 |
| Incr Delay (d2), s/veh | 8.6 | 0.1 | 0.0 | 8.3 | 59.5 | 59.0 | 41.0 | 0.0 | 0.8 | 0.2 | 0.0 | 10.8 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 4.1 | 1.8 | 2.0 | 1.2 | 27.7 | 29.0 | 22.1 | 0.0 | 4.7 | 0.3 | 0.0 | 3.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 62.3 | 22.6 | 5.2 | 65.6 | 98.5 | 98.0 | 82.1 | 0.0 | 33.2 | 51.0 | 0.0 | 64.8 |
| LnGrp LOS | E | C | A | E | F | F | F | A | C | D | A | E |
| Approach Vol, veh/h | | 451 | | | 1446 | | | 1378 | | | 116 | |
| Approach Delay, s/veh | | 29.6 | | | 96.6 | | | 74.9 | | | 63.5 | |
| Approach LOS | | C | | | F | | | E | | | E | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 8.4 | 53.7 | | 14.8 | 15.0 | 47.1 | | 43.0 | | | | |
| Change Period (Y+Rc), s | 4.4 | * 5.2 | | 4.9 | 4.4 | 5.2 | | 5.4 | | | | |
| Max Green Setting (Gmax), s | 4.0 | * 54 | | 30.0 | 15.6 | 41.9 | | 37.6 | | | | |
| Max Q Clear Time (g_c+I1), s | 4.5 | 6.4 | | 9.8 | 10.5 | 43.9 | | 39.6 | | | | |
| Green Ext Time (p_c), s | 0.0 | 2.3 | | 0.3 | 0.1 | 0.0 | | 0.0 | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | | 77.7 |
| HCM 6th LOS | | | E |

**Notes**

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Existing + Cuml AM
19: West Hills H.S. Drwy & Mast Blvd

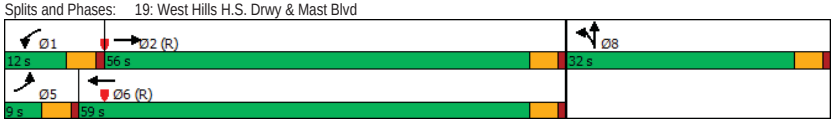
Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 2 | 321 | 36 | 28 | 1255 | 0 | 28 | 0 | 17 | 0 | 0 | 0 |
| Future Volume (vph) | 2 | 321 | 36 | 28 | 1255 | 0 | 28 | 0 | 17 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | 9 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Split | NA | | | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | | | | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | | | | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | | | | |
| Minimum Split (s) | 8.5 | 22.5 | | 8.5 | 20.5 | | 31.5 | 31.5 | | | | |
| Total Split (s) | 9.0 | 56.0 | | 12.0 | 59.0 | | 32.0 | 32.0 | | | | |
| Total Split (%) | 9.0% | 56.0% | | 12.0% | 59.0% | | 32.0% | 32.0% | | | | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | | | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | | |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | | 4.5 | | | | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | | | | |

**Intersection Summary**

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated

Splits and Phases: 19: West Hills H.S. Drwy & Mast Blvd



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 2 | 321 | 36 | 28 | 1255 | 0 | 28 | 0 | 17 | 0 | 0 | 0 |
| Future Volume (veh/h) | 2 | 321 | 36 | 28 | 1255 | 0 | 28 | 0 | 17 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 0 | 1900 | 1870 | 1900 | | | |
| Adj Flow Rate, veh/h | 2 | 349 | 39 | 30 | 1364 | 0 | 30 | 0 | 18 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 0 | 0 | 2 | 0 | | | |
| Cap, veh/h | 4 | 2598 | 288 | 40 | 2936 | 0 | 39 | 0 | 23 | | | |
| Arrive On Green | 0.00 | 0.81 | 0.81 | 0.03 | 1.00 | 0.00 | 0.04 | 0.00 | 0.04 | | | |
| Sat Flow, veh/h | 1781 | 3225 | 358 | 1781 | 3647 | 0 | 1064 | 0 | 638 | | | |
| Grp Volume(v), veh/h | 2 | 191 | 197 | 30 | 1364 | 0 | 48 | 0 | 0 | | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1806 | 1781 | 1777 | 0 | 1702 | 0 | 0 | | | |
| Q Serve(g_s), s | 0.1 | 2.3 | 2.4 | 1.7 | 0.0 | 0.0 | 2.8 | 0.0 | 0.0 | | | |
| Cycle Q Clear(g_c), s | 0.1 | 2.3 | 2.4 | 1.7 | 0.0 | 0.0 | 2.8 | 0.0 | 0.0 | | | |
| Prop In Lane | 1.00 | | 0.20 | 1.00 | | 0.00 | 0.62 | | 0.37 | | | |
| Lane Grp Cap(c), veh/h | 4 | 1432 | 1455 | 40 | 2936 | 0 | 62 | 0 | 0 | | | |
| V/C Ratio(X) | 0.52 | 0.13 | 0.14 | 0.74 | 0.46 | 0.00 | 0.77 | 0.00 | 0.00 | | | |
| Avail Cap(c_a), veh/h | 80 | 1432 | 1455 | 134 | 2936 | 0 | 468 | 0 | 0 | | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.33 | 1.33 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 0.98 | 0.98 | 0.98 | 0.63 | 0.63 | 0.00 | 1.00 | 0.00 | 0.00 | | | |
| Uniform Delay (d), s/veh | 49.8 | 2.1 | 2.1 | 48.2 | 0.0 | 0.0 | 47.8 | 0.0 | 0.0 | | | |
| Incr Delay (d2), s/veh | 78.5 | 0.2 | 0.2 | 15.6 | 0.3 | 0.0 | 17.8 | 0.0 | 0.0 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ln | 0.1 | 0.5 | 0.5 | 0.9 | 0.1 | 0.0 | 1.5 | 0.0 | 0.0 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 128.3 | 2.3 | 2.3 | 63.8 | 0.3 | 0.0 | 65.6 | 0.0 | 0.0 | | | |
| LnGrp LOS | F | A | A | E | A | A | E | A | A | | | |
| Approach Vol, veh/h | | 390 | | | 1394 | | | 48 | | | | |
| Approach Delay, s/veh | | 3.0 | | | 1.7 | | | 65.6 | | | | |
| Approach LOS | | A | | | A | | | E | | | | |
| Timer - Assigned Phs | 1 | 2 | | | 5 | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 6.8 | 85.1 | | | 4.7 | 87.1 | | 8.2 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 7.5 | 51.5 | | | 4.5 | 54.5 | | 27.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 3.7 | 4.4 | | | 2.1 | 2.0 | | 4.8 | | | | |
| Green Ext Time (p_c), s | 0.0 | 2.3 | | | 0.0 | 13.9 | | 0.2 | | | | |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 3.6 |
| HCM 6th LOS | A |

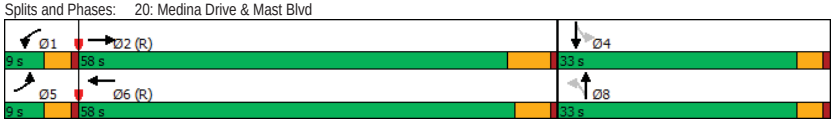




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 10 | 584 | 36 | 11 | 1243 | 10 | 31 | 4 | 10 | 21 | 12 | 27 |
| Future Volume (vph) | 10 | 584 | 36 | 11 | 1243 | 10 | 31 | 4 | 10 | 21 | 12 | 27 |
| Confl. Peds. (#/hr) | | | 2 | | | | | | 1 | | | 10 |
| Confl. Bikes (#/hr) | | | 1 | | | 1 | | | 2 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Perm | NA | | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | | 4 | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 22.0 | | 8.2 | 22.0 | | 32.2 | 32.2 | | 32.2 | 32.2 | |
| Total Split (s) | 9.0 | 58.0 | | 9.0 | 58.0 | | 33.0 | 33.0 | | 33.0 | 33.0 | |
| Total Split (%) | 9.0% | 58.0% | | 9.0% | 58.0% | | 33.0% | 33.0% | | 33.0% | 33.0% | |
| Yellow Time (s) | 3.2 | 5.1 | | 3.2 | 4.3 | | 3.2 | 3.2 | | 3.2 | 3.2 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | 0.0 | |
| Total Lost Time (s) | 4.2 | 6.1 | | 4.2 | 5.3 | | | 4.2 | | | 4.2 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 75 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 20: Medina Drive & Mast Blvd



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 10 | 584 | 36 | 11 | 1243 | 10 | 31 | 4 | 10 | 21 | 12 | 27 |
| Future Volume (veh/h) | 10 | 584 | 36 | 11 | 1243 | 10 | 31 | 4 | 10 | 21 | 12 | 27 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 0.98 | | 0.98 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 11 | 635 | 39 | 12 | 1351 | 11 | 34 | 4 | 11 | 23 | 13 | 29 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 19 | 2533 | 155 | 20 | 2697 | 22 | 155 | 23 | 34 | 85 | 50 | 69 |
| Arrive On Green | 0.00 | 0.25 | 0.25 | 0.02 | 1.00 | 1.00 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 |
| Sat Flow, veh/h | 1781 | 3396 | 208 | 1781 | 3612 | 29 | 962 | 238 | 347 | 371 | 510 | 709 |
| Grp Volume(v), veh/h | 11 | 332 | 342 | 12 | 664 | 698 | 49 | 0 | 0 | 65 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1827 | 1781 | 1777 | 1864 | 1548 | 0 | 0 | 1590 | 0 | 0 |
| Q Serve(g_s), s | 0.6 | 15.0 | 15.0 | 0.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.5 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 0.6 | 15.0 | 15.0 | 0.7 | 0.0 | 0.0 | 2.6 | 0.0 | 0.0 | 3.6 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | | 0.11 | 1.00 | | 0.02 | 0.69 | | 0.22 | 0.35 | | 0.45 |
| Lane Grp Cap(c), veh/h | 19 | 1325 | 1363 | 20 | 1327 | 1392 | 212 | 0 | 0 | 204 | 0 | 0 |
| V/C Ratio(X) | 0.59 | 0.25 | 0.25 | 0.59 | 0.50 | 0.50 | 0.23 | 0.00 | 0.00 | 0.32 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 86 | 1325 | 1363 | 86 | 1327 | 1392 | 481 | 0 | 0 | 496 | 0 | 0 |
| HCM Platoon Ratio | 0.33 | 0.33 | 0.33 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.97 | 0.97 | 0.97 | 0.82 | 0.82 | 0.82 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 49.6 | 15.2 | 15.2 | 48.6 | 0.0 | 0.0 | 41.8 | 0.0 | 0.0 | 42.3 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 25.1 | 0.4 | 0.4 | 8.2 | 1.1 | 1.1 | 0.2 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.4 | 7.2 | 7.4 | 0.3 | 0.4 | 0.4 | 1.1 | 0.0 | 0.0 | 1.5 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 74.7 | 15.7 | 15.7 | 56.9 | 1.1 | 1.1 | 42.1 | 0.0 | 0.0 | 42.6 | 0.0 | 0.0 |
| LnGrp LOS | E | B | B | E | A | A | D | A | A | D | A | A |
| Approach Vol, veh/h | | 685 | | | 1374 | | | 49 | | | 65 | |
| Approach Delay, s/veh | | 16.6 | | | 1.6 | | | 42.1 | | | 42.6 | |
| Approach LOS | | B | | | A | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.3 | 80.7 | | 14.0 | 5.3 | 80.8 | | 14.0 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 6.1 | | * 4.2 | * 4.2 | * 6.1 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | * 4.8 | 51.9 | | * 29 | * 4.8 | * 53 | | * 29 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.7 | 17.0 | | 5.6 | 2.6 | 2.0 | | 4.6 | | | | |
| Green Ext Time (p_c), s | 0.0 | 7.3 | | 0.2 | 0.0 | 22.3 | | 0.1 | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | | 8.5 |
| HCM 6th LOS | | | A |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

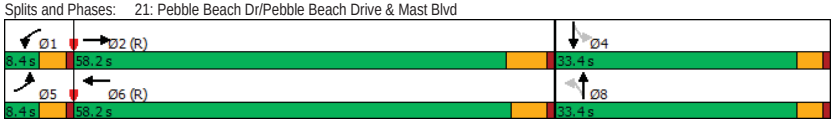




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 10 | 577 | 26 | 16 | 1287 | 22 | 18 | 7 | 37 | 67 | 22 | 22 |
| Future Volume (vph) | 10 | 577 | 26 | 16 | 1287 | 22 | 18 | 7 | 37 | 67 | 22 | 22 |
| Confl. Peds. (#/hr) | | | 8 | | | 1 | | | 2 | | | 11 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Perm | NA | | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | | 4 | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 23.9 | | 8.2 | 23.3 | | 33.2 | 33.2 | | 32.2 | 32.2 | |
| Total Split (s) | 8.4 | 58.2 | | 8.4 | 58.2 | | 33.4 | 33.4 | | 33.4 | 33.4 | |
| Total Split (%) | 8.4% | 58.2% | | 8.4% | 58.2% | | 33.4% | 33.4% | | 33.4% | 33.4% | |
| Yellow Time (s) | 3.2 | 4.9 | | 3.2 | 4.3 | | 3.2 | 3.2 | | 3.2 | 3.2 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | 0.0 | |
| Total Lost Time (s) | 4.2 | 5.9 | | 4.2 | 5.3 | | | 4.2 | | | 4.2 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 80 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 21: Pebble Beach Dr/Pebble Beach Drive & Mast Blvd



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 10 | 577 | 26 | 16 | 1287 | 22 | 18 | 7 | 37 | 67 | 22 | 22 |
| Future Volume (veh/h) | 10 | 577 | 26 | 16 | 1287 | 22 | 18 | 7 | 37 | 67 | 22 | 22 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 1.00 | 0.98 | | 1.00 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 11 | 627 | 28 | 17 | 1399 | 24 | 20 | 8 | 40 | 73 | 24 | 24 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 19 | 2485 | 111 | 27 | 2581 | 44 | 86 | 45 | 120 | 162 | 52 | 39 |
| Arrive On Green | 0.02 | 1.00 | 1.00 | 0.03 | 1.00 | 1.00 | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 |
| Sat Flow, veh/h | 1781 | 3464 | 155 | 1781 | 3575 | 61 | 315 | 363 | 968 | 837 | 420 | 311 |
| Grp Volume(v), veh/h | 11 | 321 | 334 | 17 | 695 | 728 | 68 | 0 | 0 | 121 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1842 | 1781 | 1777 | 1859 | 1646 | 0 | 0 | 1568 | 0 | 0 |
| Q Serve(g_s), s | 0.6 | 0.0 | 0.0 | 0.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 3.3 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 0.6 | 0.0 | 0.0 | 0.9 | 0.0 | 0.0 | 3.7 | 0.0 | 0.0 | 6.9 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | | 0.08 | 1.00 | | 0.03 | 0.29 | | 0.59 | 0.60 | | 0.20 |
| Lane Grp Cap(c), veh/h | 19 | 1275 | 1321 | 27 | 1283 | 1342 | 251 | 0 | 0 | 253 | 0 | 0 |
| V/C Ratio(X) | 0.59 | 0.25 | 0.25 | 0.63 | 0.54 | 0.54 | 0.27 | 0.00 | 0.00 | 0.48 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 75 | 1275 | 1321 | 75 | 1283 | 1342 | 507 | 0 | 0 | 499 | 0 | 0 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.98 | 0.98 | 0.98 | 0.74 | 0.74 | 0.74 | 0.99 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 48.7 | 0.0 | 0.0 | 48.2 | 0.0 | 0.0 | 39.9 | 0.0 | 0.0 | 41.2 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 10.1 | 0.5 | 0.5 | 6.6 | 1.2 | 1.2 | 0.2 | 0.0 | 0.0 | 0.5 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.3 | 0.2 | 0.2 | 0.5 | 0.4 | 0.4 | 1.5 | 0.0 | 0.0 | 2.9 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 58.9 | 0.5 | 0.5 | 54.9 | 1.2 | 1.2 | 40.2 | 0.0 | 0.0 | 41.7 | 0.0 | 0.0 |
| LnGrp LOS | E | A | A | D | A | A | D | A | A | D | A | A |
| Approach Vol, veh/h | | 666 | | | 1440 | | | 68 | | | 121 | |
| Approach Delay, s/veh | | 1.4 | | | 1.8 | | | 40.2 | | | 41.7 | |
| Approach LOS | | A | | | A | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.7 | 77.7 | | 16.6 | 5.3 | 78.1 | | 16.6 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 5.9 | | * 4.2 | * 4.2 | * 5.9 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | * 4.2 | 52.3 | | * 29 | * 4.2 | * 53 | | * 29 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.9 | 2.0 | | 8.9 | 2.6 | 2.0 | | 5.7 | | | | |
| Green Ext Time (p_c), s | 0.0 | 8.8 | | 0.4 | 0.0 | 31.5 | | 0.2 | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | | 4.9 |
| HCM 6th LOS | | | A |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

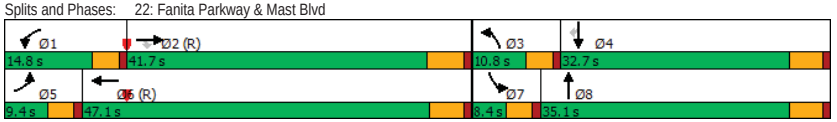




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 71 | 501 | 113 | 80 | 1167 | 41 | 42 | 31 | 33 | 33 | 61 | 107 |
| Future Volume (vph) | 71 | 501 | 113 | 80 | 1167 | 41 | 42 | 31 | 33 | 33 | 61 | 107 |
| Confl. Peds. (#/hr) | | | 8 | | | | | | 6 | | | 2 |
| Confl. Bikes (#/hr) | | | 2 | | | 2 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | | | | | | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 27.5 | 27.5 | 8.2 | 28.1 | | 8.2 | 35.1 | | 8.2 | 28.1 | 28.1 |
| Total Split (s) | 9.4 | 41.7 | 41.7 | 14.8 | 47.1 | | 10.8 | 35.1 | | 8.4 | 32.7 | 32.7 |
| Total Split (%) | 9.4% | 41.7% | 41.7% | 14.8% | 47.1% | | 10.8% | 35.1% | | 8.4% | 32.7% | 32.7% |
| Yellow Time (s) | 3.2 | 4.5 | 4.5 | 3.2 | 4.1 | | 3.2 | 4.1 | | 3.2 | 4.1 | 4.1 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.5 | 5.5 | 4.2 | 5.1 | | 4.2 | 5.1 | | 4.2 | 5.1 | 5.1 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | C-Max | C-Max | None | C-Max | | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 14.1 (14%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 90 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 22: Fanita Parkway & Mast Blvd



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 71 | 501 | 113 | 80 | 1167 | 41 | 42 | 31 | 33 | 33 | 61 | 107 |
| Future Volume (veh/h) | 71 | 501 | 113 | 80 | 1167 | 41 | 42 | 31 | 33 | 33 | 61 | 107 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.98 | 1.00 | | 0.99 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 77 | 545 | 123 | 87 | 1268 | 45 | 46 | 34 | 36 | 36 | 66 | 116 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 93 | 2119 | 919 | 110 | 2120 | 75 | 59 | 104 | 110 | 45 | 222 | 188 |
| Arrive On Green | 0.10 | 1.00 | 1.00 | 0.12 | 1.00 | 1.00 | 0.03 | 0.13 | 0.13 | 0.03 | 0.12 | 0.12 |
| Sat Flow, veh/h | 1781 | 3554 | 1541 | 1781 | 3498 | 124 | 1781 | 825 | 873 | 1781 | 1870 | 1577 |
| Grp Volume(v), veh/h | 77 | 545 | 123 | 87 | 644 | 669 | 46 | 0 | 70 | 36 | 66 | 116 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1541 | 1781 | 1777 | 1845 | 1781 | 0 | 1698 | 1781 | 1870 | 1577 |
| Q Serve(g_s), s | 4.2 | 0.0 | 0.0 | 4.7 | 0.0 | 0.0 | 2.6 | 0.0 | 3.8 | 2.0 | 3.2 | 7.0 |
| Cycle Q Clear(g_c), s | 4.2 | 0.0 | 0.0 | 4.7 | 0.0 | 0.0 | 2.6 | 0.0 | 3.8 | 2.0 | 3.2 | 7.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.07 | 1.00 | | 0.51 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 93 | 2119 | 919 | 110 | 1077 | 1118 | 59 | 0 | 215 | 45 | 222 | 188 |
| V/C Ratio(X) | 0.83 | 0.26 | 0.13 | 0.79 | 0.60 | 0.60 | 0.78 | 0.00 | 0.33 | 0.80 | 0.30 | 0.62 |
| Avail Cap(c_a), veh/h | 93 | 2119 | 919 | 189 | 1077 | 1118 | 118 | 0 | 509 | 75 | 516 | 435 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.98 | 0.98 | 0.98 | 0.74 | 0.74 | 0.74 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 44.4 | 0.0 | 0.0 | 43.2 | 0.0 | 0.0 | 48.0 | 0.0 | 39.8 | 48.5 | 40.2 | 41.9 |
| Incr Delay (d2), s/veh | 43.0 | 0.3 | 0.3 | 6.8 | 1.8 | 1.8 | 15.3 | 0.0 | 3.2 | 20.5 | 2.4 | 10.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.8 | 0.1 | 0.1 | 2.2 | 0.5 | 0.5 | 1.4 | 0.0 | 1.7 | 1.1 | 1.6 | 0.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 87.3 | 0.3 | 0.3 | 50.0 | 1.8 | 1.8 | 63.3 | 0.0 | 42.9 | 69.0 | 42.6 | 52.2 |
| LnGrp LOS | F | A | A | D | A | A | E | A | D | E | D | D |
| Approach Vol, veh/h | | 745 | | | 1400 | | | 116 | | | 218 | |
| Approach Delay, s/veh | | 9.3 | | | 4.8 | | | 51.0 | | | 52.1 | |
| Approach LOS | | A | | | A | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 10.4 | 65.1 | 7.5 | 17.0 | 9.4 | 66.1 | 6.7 | 17.8 |
| Change Period (Y+Rc), s | * 4.2 | 5.5 | * 4.2 | 5.1 | * 4.2 | * 5.5 | * 4.2 | 5.1 |
| Max Green Setting (Gmax), s | * 11 | 36.2 | * 6.6 | 27.6 | * 5.2 | * 42 | * 4.2 | 30.0 |
| Max Q Clear Time (g_c+I1), s | 6.7 | 2.0 | 4.6 | 9.0 | 6.2 | 2.0 | 4.0 | 5.8 |
| Green Ext Time (p_c), s | 0.0 | 10.7 | 0.0 | 1.6 | 0.0 | 29.3 | 0.0 | 0.7 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 12.5 |
| HCM 6th LOS | B |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

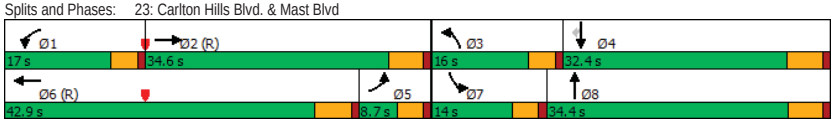




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 39 | 364 | 113 | 171 | 948 | 91 | 156 | 147 | 80 | 117 | 198 | 74 |
| Future Volume (vph) | 39 | 364 | 113 | 171 | 948 | 91 | 156 | 147 | 80 | 117 | 198 | 74 |
| Confl. Peds. (#/hr) | | | 5 | | | 6 | | | 22 | | | 8 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 33.1 | | 8.2 | 32.4 | | 8.2 | 34.2 | | 8.2 | 32.4 | 32.4 |
| Total Split (s) | 8.7 | 34.6 | | 17.0 | 42.9 | | 16.0 | 34.4 | | 14.0 | 32.4 | 32.4 |
| Total Split (%) | 8.7% | 34.6% | | 17.0% | 42.9% | | 16.0% | 34.4% | | 14.0% | 32.4% | 32.4% |
| Yellow Time (s) | 3.2 | 4.1 | | 3.2 | 4.4 | | 3.2 | 4.2 | | 3.2 | 4.4 | 4.4 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.1 | | 4.2 | 5.4 | | 4.2 | 5.2 | | 4.2 | 5.4 | 5.4 |
| Lead/Lag | Lag | Lag | | Lead | Lead | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | C-Min | | None | C-Min | | None | Min | | None | Min | Min |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 89 (89%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 85 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 23: Carlton Hills Blvd. & Mast Blvd



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 39 | 364 | 113 | 171 | 948 | 91 | 156 | 147 | 80 | 117 | 198 | 74 |
| Future Volume (veh/h) | 39 | 364 | 113 | 171 | 948 | 91 | 156 | 147 | 80 | 117 | 198 | 74 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.97 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 42 | 396 | 123 | 186 | 1030 | 99 | 170 | 160 | 87 | 127 | 215 | 80 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 279 | 1098 | 337 | 217 | 1192 | 115 | 201 | 429 | 219 | 156 | 589 | 256 |
| Arrive On Green | 0.05 | 0.14 | 0.14 | 0.12 | 0.36 | 0.36 | 0.11 | 0.19 | 0.19 | 0.09 | 0.17 | 0.17 |
| Sat Flow, veh/h | 1781 | 2675 | 821 | 1781 | 3274 | 315 | 1781 | 2245 | 1147 | 1781 | 3554 | 1541 |
| Grp Volume(v), veh/h | 42 | 261 | 258 | 186 | 559 | 570 | 170 | 125 | 122 | 127 | 215 | 80 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1719 | 1781 | 1777 | 1812 | 1781 | 1777 | 1615 | 1781 | 1777 | 1541 |
| Q Serve(g_s), s | 2.3 | 13.4 | 13.6 | 10.2 | 29.2 | 29.2 | 9.4 | 6.1 | 6.6 | 7.0 | 5.4 | 3.1 |
| Cycle Q Clear(g_c), s | 2.3 | 13.4 | 13.6 | 10.2 | 29.2 | 29.2 | 9.4 | 6.1 | 6.6 | 7.0 | 5.4 | 3.1 |
| Prop In Lane | 1.00 | | 0.48 | 1.00 | | 0.17 | 1.00 | | 0.71 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 279 | 730 | 706 | 217 | 647 | 660 | 201 | 339 | 309 | 156 | 589 | 256 |
| V/C Ratio(X) | 0.15 | 0.36 | 0.36 | 0.86 | 0.86 | 0.86 | 0.85 | 0.37 | 0.40 | 0.81 | 0.36 | 0.31 |
| Avail Cap(c_a), veh/h | 279 | 730 | 706 | 228 | 666 | 679 | 210 | 519 | 472 | 175 | 959 | 416 |
| HCM Platoon Ratio | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.97 | 0.97 | 0.97 | 0.88 | 0.88 | 0.88 | 0.96 | 0.96 | 0.96 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 41.1 | 31.3 | 31.4 | 43.1 | 29.5 | 29.5 | 43.5 | 35.2 | 35.4 | 44.8 | 37.0 | 17.3 |
| Incr Delay (d2), s/veh | 0.1 | 1.3 | 1.4 | 21.6 | 12.8 | 12.7 | 23.1 | 1.8 | 2.3 | 20.3 | 1.6 | 3.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.0 | 6.6 | 6.5 | 5.7 | 14.0 | 14.2 | 5.3 | 2.8 | 2.8 | 3.9 | 2.4 | 1.9 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 41.2 | 32.6 | 32.8 | 64.7 | 42.3 | 42.2 | 66.6 | 37.0 | 37.7 | 65.2 | 38.7 | 20.3 |
| LnGrp LOS | D | C | C | E | D | D | E | D | D | E | D | C |
| Approach Vol, veh/h | | 561 | | | 1315 | | | 417 | | | 422 | |
| Approach Delay, s/veh | | 33.3 | | | 45.4 | | | 49.3 | | | 43.2 | |
| Approach LOS | | C | | | D | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 16.4 | 46.2 | 15.5 | 22.0 | 20.7 | 41.8 | 13.0 | 24.5 |
| Change Period (Y+Rc), s | * 4.2 | 5.1 | * 4.2 | 5.4 | 5.1 | * 5.4 | * 4.2 | * 5.4 |
| Max Green Setting (Gmax), s | * 13 | 29.5 | * 12 | 27.0 | 4.5 | * 38 | * 9.8 | * 29 |
| Max Q Clear Time (g_c+I1), s | 12.2 | 15.6 | 11.4 | 7.4 | 4.3 | 31.2 | 9.0 | 8.6 |
| Green Ext Time (p_c), s | 0.0 | 4.9 | 0.0 | 3.7 | 0.0 | 5.2 | 0.0 | 2.8 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 43.2 |
| HCM 6th LOS | D |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

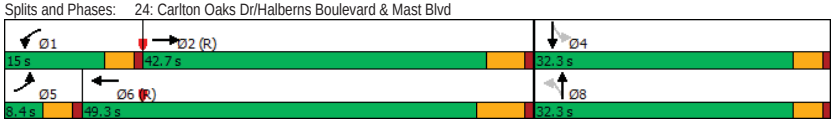




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 10 | 548 | 18 | 92 | 1171 | 22 | 42 | 23 | 73 | 44 | 40 | 45 |
| Future Volume (vph) | 10 | 548 | 18 | 92 | 1171 | 22 | 42 | 23 | 73 | 44 | 40 | 45 |
| Confl. Peds. (#/hr) | | | 6 | | | | | | 8 | | | 1 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Perm | NA | | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | | 4 | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 29.2 | | 8.2 | 28.3 | | 32.2 | 32.2 | | 32.2 | 32.2 | |
| Total Split (s) | 8.4 | 42.7 | | 15.0 | 49.3 | | 32.3 | 32.3 | | 32.3 | 32.3 | |
| Total Split (%) | 9.3% | 47.4% | | 16.7% | 54.8% | | 35.9% | 35.9% | | 35.9% | 35.9% | |
| Yellow Time (s) | 3.2 | 4.2 | | 3.2 | 5.3 | | 3.2 | 3.2 | | 3.2 | 3.2 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.2 | 5.2 | | 4.2 | 6.3 | | 4.2 | 4.2 | | 4.2 | 4.2 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 90 |
| Actuated Cycle Length: 90 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 80 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 24: Carlton Oaks Dr/Halberns Boulevard & Mast Blvd



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 10 | 548 | 18 | 92 | 1171 | 22 | 42 | 23 | 73 | 44 | 40 | 45 |
| Future Volume (veh/h) | 10 | 548 | 18 | 92 | 1171 | 22 | 42 | 23 | 73 | 44 | 40 | 45 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.98 | 0.99 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 11 | 596 | 20 | 100 | 1273 | 24 | 46 | 25 | 79 | 48 | 43 | 49 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 19 | 2190 | 73 | 127 | 2444 | 46 | 200 | 55 | 174 | 185 | 112 | 128 |
| Arrive On Green | 0.01 | 0.62 | 0.62 | 0.07 | 0.68 | 0.68 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 |
| Sat Flow, veh/h | 1781 | 3508 | 118 | 1781 | 3568 | 67 | 1302 | 390 | 1233 | 1275 | 797 | 908 |
| Grp Volume(v), veh/h | 11 | 302 | 314 | 100 | 634 | 663 | 46 | 0 | 104 | 48 | 0 | 92 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1849 | 1781 | 1777 | 1858 | 1302 | 0 | 1623 | 1275 | 0 | 1705 |
| Q Serve(g_s), s | 0.6 | 6.9 | 6.9 | 5.0 | 15.7 | 15.7 | 3.0 | 0.0 | 5.3 | 3.2 | 0.0 | 4.4 |
| Cycle Q Clear(g_c), s | 0.6 | 6.9 | 6.9 | 5.0 | 15.7 | 15.7 | 7.4 | 0.0 | 5.3 | 8.5 | 0.0 | 4.4 |
| Prop In Lane | 1.00 | | 0.06 | 1.00 | | 0.04 | 1.00 | | 0.76 | 1.00 | | 0.53 |
| Lane Grp Cap(c), veh/h | 19 | 1109 | 1154 | 127 | 1217 | 1273 | 200 | 0 | 229 | 185 | 0 | 240 |
| V/C Ratio(X) | 0.58 | 0.27 | 0.27 | 0.79 | 0.52 | 0.52 | 0.23 | 0.00 | 0.45 | 0.26 | 0.00 | 0.38 |
| Avail Cap(c_a), veh/h | 83 | 1109 | 1154 | 214 | 1217 | 1273 | 423 | 0 | 507 | 403 | 0 | 532 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.89 | 0.89 | 0.89 | 0.83 | 0.83 | 0.83 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 44.3 | 7.7 | 7.7 | 41.1 | 6.9 | 6.9 | 38.5 | 0.0 | 35.5 | 39.4 | 0.0 | 35.1 |
| Incr Delay (d2), s/veh | 8.8 | 0.5 | 0.5 | 3.3 | 1.3 | 1.3 | 0.2 | 0.0 | 0.5 | 0.3 | 0.0 | 0.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.3 | 2.4 | 2.5 | 2.2 | 4.9 | 5.1 | 0.9 | 0.0 | 2.1 | 1.0 | 0.0 | 1.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 53.2 | 8.2 | 8.2 | 44.4 | 8.3 | 8.2 | 38.7 | 0.0 | 36.0 | 39.7 | 0.0 | 35.5 |
| LnGrp LOS | D | A | A | D | A | A | D | A | D | D | A | D |
| Approach Vol, veh/h | | 627 | | | 1397 | | | 150 | | | 140 | |
| Approach Delay, s/veh | | 9.0 | | | 10.8 | | | 36.8 | | | 36.9 | |
| Approach LOS | | A | | | B | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 10.6 | 62.5 | | 16.9 | 5.2 | 67.9 | | 16.9 | | | | |
| Change Period (Y+Rc), s | * 4.2 | * 6.3 | | * 4.2 | * 4.2 | 6.3 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | * 11 | * 38 | | * 28 | * 4.2 | 43.0 | | * 28 | | | | |
| Max Q Clear Time (g_c+I1), s | 7.0 | 8.9 | | 10.5 | 2.6 | 17.7 | | 9.4 | | | | |
| Green Ext Time (p_c), s | 0.0 | 7.8 | | 0.3 | 0.0 | 17.0 | | 0.4 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 13.6 |
| HCM 6th LOS | | B |

**Notes**

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

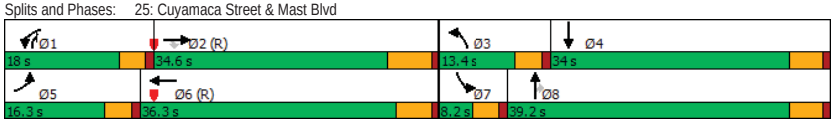




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 90 | 339 | 219 | 346 | 694 | 6 | 210 | 97 | 190 | 9 | 259 | 377 |
| Future Volume (vph) | 90 | 339 | 219 | 346 | 694 | 6 | 210 | 97 | 190 | 9 | 259 | 377 |
| Confl. Peds. (#/hr) | | | 8 | | | 5 | | | 3 | | | 3 |
| Confl. Bikes (#/hr) | | | 4 | | | 1 | | | 3 | | | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | | Prot | NA | pm+ov | Prot | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | 1 | 7 | 4 | |
| Permitted Phases | | | 2 | | | | | | 8 | | | |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | | 3 | 8 | 1 | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | | 4.0 | 7.0 | 4.0 | 4.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 34.3 | 34.3 | 8.2 | 32.3 | | 8.2 | 33.1 | 8.2 | 8.2 | 34.0 | |
| Total Split (s) | 16.3 | 34.6 | 34.6 | 18.0 | 36.3 | | 13.4 | 39.2 | 18.0 | 8.2 | 34.0 | |
| Total Split (%) | 16.3% | 34.6% | 34.6% | 18.0% | 36.3% | | 13.4% | 39.2% | 18.0% | 8.2% | 34.0% | |
| Yellow Time (s) | 3.2 | 5.3 | 5.3 | 3.2 | 4.3 | | 3.2 | 4.1 | 3.2 | 3.2 | 4.0 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.2 | 6.3 | 6.3 | 4.2 | 5.3 | | 4.2 | 5.1 | 4.2 | 4.2 | 5.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | |
| Recall Mode | None | C-Min | C-Min | None | C-Min | | None | None | None | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 31 (31%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 95 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 25: Cuyamaca Street & Mast Blvd



Existing + Cuml AM
25: Cuyamaca Street & Mast Blvd

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 90 | 339 | 219 | 346 | 694 | 6 | 210 | 97 | 190 | 9 | 259 | 377 |
| Future Volume (veh/h) | 90 | 339 | 219 | 346 | 694 | 6 | 210 | 97 | 190 | 9 | 259 | 377 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 98 | 368 | 238 | 376 | 754 | 7 | 228 | 105 | 207 | 10 | 282 | 410 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 124 | 1085 | 473 | 441 | 1310 | 12 | 293 | 1277 | 763 | 17 | 505 | 443 |
| Arrive On Green | 0.07 | 0.31 | 0.31 | 0.13 | 0.36 | 0.36 | 0.08 | 0.36 | 0.36 | 0.01 | 0.28 | 0.28 |
| Sat Flow, veh/h | 1781 | 3554 | 1549 | 3456 | 3607 | 33 | 3456 | 3554 | 1559 | 1781 | 1777 | 1557 |
| Grp Volume(v), veh/h | 98 | 368 | 238 | 376 | 371 | 390 | 228 | 105 | 207 | 10 | 282 | 410 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1549 | 1728 | 1777 | 1864 | 1728 | 1777 | 1559 | 1781 | 1777 | 1557 |
| Q Serve(g_s), s | 5.4 | 8.0 | 12.6 | 10.7 | 16.8 | 16.8 | 6.5 | 2.0 | 7.9 | 0.6 | 13.5 | 25.6 |
| Cycle Q Clear(g_c), s | 5.4 | 8.0 | 12.6 | 10.7 | 16.8 | 16.8 | 6.5 | 2.0 | 7.9 | 0.6 | 13.5 | 25.6 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.02 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 124 | 1085 | 473 | 441 | 645 | 677 | 293 | 1277 | 763 | 17 | 505 | 443 |
| V/C Ratio(X) | 0.79 | 0.34 | 0.50 | 0.85 | 0.58 | 0.58 | 0.78 | 0.08 | 0.27 | 0.58 | 0.56 | 0.93 |
| Avail Cap(c_a), veh/h | 216 | 1085 | 473 | 477 | 645 | 677 | 318 | 1277 | 763 | 71 | 515 | 452 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.97 | 0.97 | 0.97 | 0.94 | 0.94 | 0.94 | 0.89 | 0.89 | 0.89 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 45.8 | 26.9 | 28.5 | 42.7 | 25.6 | 25.6 | 44.8 | 21.1 | 15.2 | 49.3 | 30.4 | 34.8 |
| Incr Delay (d2), s/veh | 4.1 | 0.8 | 3.7 | 11.6 | 3.5 | 3.3 | 8.5 | 0.0 | 0.2 | 10.9 | 1.8 | 25.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.5 | 3.4 | 5.0 | 5.1 | 7.4 | 7.7 | 3.1 | 0.8 | 2.7 | 0.3 | 5.9 | 12.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 49.9 | 27.7 | 32.2 | 54.3 | 29.1 | 29.0 | 53.3 | 21.2 | 15.4 | 60.2 | 32.2 | 60.1 |
| LnGrp LOS | D | C | C | D | C | C | D | C | B | E | C | E |
| Approach Vol, veh/h | | 704 | | | 1137 | | | 540 | | | 702 | |
| Approach Delay, s/veh | | 32.3 | | | 37.4 | | | 32.5 | | | 48.9 | |
| Approach LOS | | C | | | D | | | C | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 17.0 | 36.8 | 12.7 | 33.5 | 11.2 | 42.6 | 5.2 | 41.0 |
| Change Period (Y+Rc), s | * 4.2 | 6.3 | * 4.2 | * 5.1 | * 4.2 | * 6.3 | * 4.2 | 5.1 |
| Max Green Setting (Gmax), s | * 14 | 28.3 | * 9.2 | * 29 | * 12 | * 31 | * 4 | 34.1 |
| Max Q Clear Time (g_c+I1), s | 12.7 | 14.6 | 8.5 | 27.6 | 7.4 | 18.8 | 2.6 | 9.9 |
| Green Ext Time (p_c), s | 0.1 | 3.7 | 0.0 | 0.8 | 0.0 | 4.4 | 0.0 | 2.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 38.0 |
| HCM 6th LOS | D |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Existing + Cuml AM
26: Park Center Drive & Mast Blvd

Fanita Ranch
06/06/2019

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 504 | 68 | 118 | 917 | 21 | 92 |
| Future Volume (vph) | 504 | 68 | 118 | 917 | 21 | 92 |
| Confl. Peds. (#/hr) | | 17 | | | | 29 |
| Confl. Bikes (#/hr) | | 3 | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | NA | | Prot | NA | Prot | Perm |
| Protected Phases | 2 | | 1 | 6 | 8 | |
| Permitted Phases | | | | | | 8 |
| Detector Phase | 2 | | 1 | 6 | 8 | 8 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 22.5 | | 8.5 | 20.5 | 22.5 | 22.5 |
| Total Split (s) | 23.2 | | 14.3 | 37.5 | 22.5 | 22.5 |
| Total Split (%) | 38.7% | | 23.8% | 62.5% | 37.5% | 37.5% |
| Yellow Time (s) | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lag | | Lead | | | |
| Lead-Lag Optimize? | Yes | | Yes | | | |
| Recall Mode | Min | | None | Min | None | None |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 41.3 |
| Natural Cycle: 55 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 26: Park Center Drive & Mast Blvd

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 504 | 68 | 118 | 917 | 21 | 92 |
| Future Volume (veh/h) | 504 | 68 | 118 | 917 | 21 | 92 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | 0.95 | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 548 | 74 | 128 | 997 | 23 | 100 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 1056 | 142 | 165 | 2099 | 157 | 139 |
| Arrive On Green | 0.34 | 0.34 | 0.09 | 0.59 | 0.09 | 0.09 |
| Sat Flow, veh/h | 3220 | 420 | 1781 | 3647 | 1781 | 1585 |
| Grp Volume(v), veh/h | 311 | 311 | 128 | 997 | 23 | 100 |
| Grp Sat Flow(s),veh/h/ln | 1777 | 1770 | 1781 | 1777 | 1781 | 1585 |
| Q Serve(g_s), s | 3.9 | 4.0 | 2.0 | 4.5 | 0.3 | 1.7 |
| Cycle Q Clear(g_c), s | 3.9 | 4.0 | 2.0 | 4.5 | 0.3 | 1.7 |
| Prop In Lane | | 0.24 | 1.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 600 | 598 | 165 | 2099 | 157 | 139 |
| V/C Ratio(X) | 0.52 | 0.52 | 0.78 | 0.47 | 0.15 | 0.72 |
| Avail Cap(c_a), veh/h | 1186 | 1181 | 623 | 4186 | 1145 | 1018 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 7.4 | 7.5 | 12.4 | 3.3 | 11.8 | 12.4 |
| Incr Delay (d2), s/veh | 0.7 | 0.7 | 7.7 | 0.2 | 0.4 | 6.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.8 | 0.8 | 0.9 | 0.0 | 0.1 | 0.7 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 8.1 | 8.2 | 20.1 | 3.4 | 12.2 | 19.2 |
| LnGrp LOS | A | A | C | A | B | B |
| Approach Vol, veh/h | 622 | | | 1125 | 123 | |
| Approach Delay, s/veh | 8.1 | | | 5.3 | 17.9 | |
| Approach LOS | A | | | A | B | |

| Timer - Assigned Phs | 1 | 2 | | | | 6 | 8 |
|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.1 | 14.0 | | | | 21.1 | 7.0 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 9.8 | 18.7 | | | | 33.0 | 18.0 |
| Max Q Clear Time (g_c+I1), s | 4.0 | 6.0 | | | | 6.5 | 3.7 |
| Green Ext Time (p_c), s | 0.1 | 2.9 | | | | 7.5 | 0.3 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 7.1 |
| HCM 6th LOS | | A |

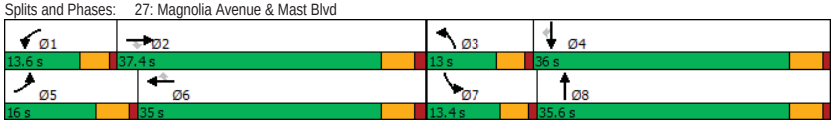




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 188 | 131 | 217 | 155 | 278 | 52 | 295 | 531 | 54 | 56 | 620 | 413 |
| Future Volume (vph) | 188 | 131 | 217 | 155 | 278 | 52 | 295 | 531 | 54 | 56 | 620 | 413 |
| Confl. Peds. (#/hr) | | | 14 | | | 31 | | | 11 | | | 8 |
| Confl. Bikes (#/hr) | | | 5 | | | 5 | | | 3 | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 11.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 9.0 | | 7.0 | 9.0 | 9.0 |
| Minimum Split (s) | 16.0 | 34.5 | 34.5 | 11.5 | 34.5 | 34.5 | 11.5 | 35.0 | | 11.5 | 36.0 | 36.0 |
| Total Split (s) | 16.0 | 37.4 | 37.4 | 13.6 | 35.0 | 35.0 | 13.0 | 35.6 | | 13.4 | 36.0 | 36.0 |
| Total Split (%) | 16.0% | 37.4% | 37.4% | 13.6% | 35.0% | 35.0% | 13.0% | 35.6% | | 13.4% | 36.0% | 36.0% |
| Yellow Time (s) | 4.0 | 4.0 | 4.0 | 3.5 | 4.0 | 4.0 | 3.5 | 4.0 | | 3.5 | 4.0 | 4.0 |
| All-Red Time (s) | 1.0 | 1.5 | 1.5 | 1.0 | 1.5 | 1.5 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 5.0 | 5.5 | 5.5 | 4.5 | 5.5 | 5.5 | 4.5 | 5.0 | | 4.5 | 5.0 | 5.0 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | Min | Min | None | Min | Min | None | Min | | None | Min | Min |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 74.9 |
| Natural Cycle: 100 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 27: Magnolia Avenue & Mast Blvd



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 188 | 131 | 217 | 155 | 278 | 52 | 295 | 531 | 54 | 56 | 620 | 413 |
| Future Volume (veh/h) | 188 | 131 | 217 | 155 | 278 | 52 | 295 | 531 | 54 | 56 | 620 | 413 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.94 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 204 | 142 | 236 | 168 | 302 | 57 | 321 | 577 | 59 | 61 | 674 | 449 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 431 | 872 | 376 | 185 | 778 | 327 | 335 | 1190 | 121 | 110 | 1178 | 515 |
| Arrive On Green | 0.12 | 0.25 | 0.25 | 0.10 | 0.22 | 0.22 | 0.10 | 0.37 | 0.37 | 0.06 | 0.33 | 0.33 |
| Sat Flow, veh/h | 3456 | 3554 | 1532 | 1781 | 3554 | 1493 | 3456 | 3247 | 331 | 1781 | 3554 | 1553 |
| Grp Volume(v), veh/h | 204 | 142 | 236 | 168 | 302 | 57 | 321 | 315 | 321 | 61 | 674 | 449 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1532 | 1781 | 1777 | 1493 | 1728 | 1777 | 1802 | 1781 | 1777 | 1553 |
| Q Serve(g_s), s | 4.8 | 2.8 | 12.0 | 8.2 | 6.4 | 2.7 | 8.1 | 12.0 | 12.0 | 2.9 | 13.7 | 23.8 |
| Cycle Q Clear(g_c), s | 4.8 | 2.8 | 12.0 | 8.2 | 6.4 | 2.7 | 8.1 | 12.0 | 12.0 | 2.9 | 13.7 | 23.8 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.18 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 431 | 872 | 376 | 185 | 778 | 327 | 335 | 651 | 660 | 110 | 1178 | 515 |
| V/C Ratio(X) | 0.47 | 0.16 | 0.63 | 0.91 | 0.39 | 0.17 | 0.96 | 0.48 | 0.49 | 0.55 | 0.57 | 0.87 |
| Avail Cap(c_a), veh/h | 434 | 1293 | 558 | 185 | 1196 | 502 | 335 | 651 | 660 | 181 | 1257 | 549 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 35.7 | 26.0 | 29.5 | 38.9 | 29.2 | 27.8 | 39.4 | 21.4 | 21.4 | 39.9 | 24.2 | 27.6 |
| Incr Delay (d2), s/veh | 1.0 | 0.1 | 2.1 | 40.5 | 0.4 | 0.3 | 37.7 | 0.6 | 0.6 | 1.6 | 0.6 | 13.8 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.0 | 1.1 | 4.4 | 5.6 | 2.7 | 1.0 | 5.0 | 4.7 | 4.8 | 1.3 | 5.5 | 10.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 36.7 | 26.1 | 31.6 | 79.4 | 29.6 | 28.1 | 77.1 | 21.9 | 21.9 | 41.6 | 24.7 | 41.4 |
| LnGrp LOS | D | C | C | E | C | C | E | C | C | D | C | D |
| Approach Vol, veh/h | | 582 | | | 527 | | | 957 | | | 1184 | |
| Approach Delay, s/veh | | 32.0 | | | 45.3 | | | 40.4 | | | 31.9 | |
| Approach LOS | | C | | | D | | | D | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 13.6 | 27.0 | 13.0 | 34.0 | 15.9 | 24.7 | 9.9 | 37.1 |
| Change Period (Y+Rc), s | 4.5 | 5.5 | 4.5 | 5.0 | 5.0 | 5.5 | 4.5 | 5.0 |
| Max Green Setting (Gmax), s | 9.1 | 31.9 | 8.5 | 31.0 | 11.0 | 29.5 | 8.9 | 30.6 |
| Max Q Clear Time (g_c+I1), s | 10.2 | 14.0 | 10.1 | 25.8 | 6.8 | 8.4 | 4.9 | 14.0 |
| Green Ext Time (p_c), s | 0.0 | 1.9 | 0.0 | 2.7 | 0.3 | 2.4 | 0.0 | 3.3 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 36.6 |
| HCM 6th LOS | D |

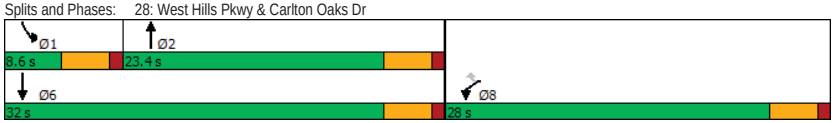




| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 401 | 655 | 761 | 112 | 42 | 148 |
| Future Volume (vph) | 401 | 655 | 761 | 112 | 42 | 148 |
| Confl. Peds. (#/hr) | | 9 | | 6 | | |
| Confl. Bikes (#/hr) | | | | 2 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | 0% | | | 0% |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | NA | | Prot | NA |
| Protected Phases | 8 | | 2 | | 1 | 6 |
| Permitted Phases | | 8 | | | | |
| Detector Phase | 8 | 8 | 2 | | 1 | 6 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | | 8.5 | 20.5 |
| Total Split (s) | 28.0 | 28.0 | 23.4 | | 8.6 | 32.0 |
| Total Split (%) | 46.7% | 46.7% | 39.0% | | 14.3% | 53.3% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Lead/Lag | | | Lag | | Lead | |
| Lead-Lag Optimize? | | | Yes | | Yes | |
| Recall Mode | None | None | Min | | None | Min |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 47.7 |
| Natural Cycle: 55 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 28: West Hills Pkwy & Carlton Oaks Dr



| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 401 | 655 | 761 | 112 | 42 | 148 |
| Future Volume (veh/h) | 401 | 655 | 761 | 112 | 42 | 148 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | | 0.97 | 1.00 | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | No | | | No |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 436 | 712 | 827 | 122 | 46 | 161 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 610 | 955 | 1044 | 154 | 68 | 1670 |
| Arrive On Green | 0.34 | 0.34 | 0.34 | 0.34 | 0.04 | 0.47 |
| Sat Flow, veh/h | 1781 | 2790 | 3185 | 456 | 1781 | 3647 |
| Grp Volume(v), veh/h | 436 | 712 | 475 | 474 | 46 | 161 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1395 | 1777 | 1771 | 1781 | 1777 |
| Q Serve(g_s), s | 10.2 | 10.8 | 11.6 | 11.6 | 1.2 | 1.2 |
| Cycle Q Clear(g_c), s | 10.2 | 10.8 | 11.6 | 11.6 | 1.2 | 1.2 |
| Prop In Lane | 1.00 | 1.00 | | 0.26 | 1.00 | |
| Lane Grp Cap(c), veh/h | 610 | 955 | 600 | 598 | 68 | 1670 |
| V/C Ratio(X) | 0.71 | 0.75 | 0.79 | 0.79 | 0.68 | 0.10 |
| Avail Cap(c_a), veh/h | 873 | 1367 | 700 | 698 | 152 | 2038 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 13.7 | 13.9 | 14.4 | 14.4 | 22.8 | 7.1 |
| Incr Delay (d2), s/veh | 1.6 | 1.4 | 5.4 | 5.4 | 11.1 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 3.7 | 3.0 | 4.3 | 4.3 | 0.6 | 0.3 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 15.3 | 15.3 | 19.7 | 19.7 | 33.8 | 7.1 |
| LnGrp LOS | B | B | B | B | C | A |
| Approach Vol, veh/h | 1148 | | 949 | | | 207 |
| Approach Delay, s/veh | 15.3 | | 19.7 | | | 13.0 |
| Approach LOS | B | | B | | | B |

| Timer - Assigned Phs | 1 | 2 | | | | 6 | 8 |
|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 6.3 | 20.7 | | | | 27.0 | 20.9 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 4.1 | 18.9 | | | | 27.5 | 23.5 |
| Max Q Clear Time (g_c+I1), s | 3.2 | 13.6 | | | | 3.2 | 12.8 |
| Green Ext Time (p_c), s | 0.0 | 2.5 | | | | 0.8 | 3.6 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 16.9 |
| HCM 6th LOS | B |

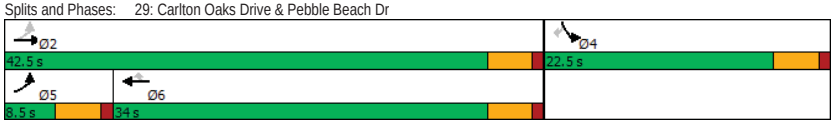




| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 5 | 361 | 690 | 153 | 160 | 51 |
| Future Volume (vph) | 5 | 361 | 690 | 153 | 160 | 51 |
| Confl. Peds. (#/hr) | | | | 13 | | |
| Confl. Bikes (#/hr) | | | | 8 | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | pm+pt | NA | NA | Perm | Prot | Perm |
| Protected Phases | 5 | 2 | 6 | | 4 | |
| Permitted Phases | 2 | | | 6 | | 4 |
| Detector Phase | 5 | 2 | 6 | 6 | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 |
| Total Split (s) | 8.5 | 42.5 | 34.0 | 34.0 | 22.5 | 22.5 |
| Total Split (%) | 13.1% | 65.4% | 52.3% | 52.3% | 34.6% | 34.6% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | | Lag | Lag | | |
| Lead-Lag Optimize? | Yes | | Yes | Yes | | |
| Recall Mode | None | Min | Min | Min | None | None |

| Intersection Summary |
|---|
| Cycle Length: 65 |
| Actuated Cycle Length: 48.5 |
| Natural Cycle: 65 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 29: Carlton Oaks Drive & Pebble Beach Dr



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 5 | 361 | 690 | 153 | 160 | 51 |
| Future Volume (veh/h) | 5 | 361 | 690 | 153 | 160 | 51 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 0.96 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 5 | 392 | 750 | 166 | 174 | 55 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 303 | 1177 | 955 | 778 | 256 | 228 |
| Arrive On Green | 0.01 | 0.63 | 0.51 | 0.51 | 0.14 | 0.14 |
| Sat Flow, veh/h | 1781 | 1870 | 1870 | 1524 | 1781 | 1585 |
| Grp Volume(v), veh/h | 5 | 392 | 750 | 166 | 174 | 55 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1870 | 1524 | 1781 | 1585 |
| Q Serve(g_s), s | 0.0 | 3.9 | 13.0 | 2.4 | 3.7 | 1.2 |
| Cycle Q Clear(g_c), s | 0.0 | 3.9 | 13.0 | 2.4 | 3.7 | 1.2 |
| Prop In Lane | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 303 | 1177 | 955 | 778 | 256 | 228 |
| V/C Ratio(X) | 0.02 | 0.33 | 0.79 | 0.21 | 0.68 | 0.24 |
| Avail Cap(c_a), veh/h | 473 | 1793 | 1392 | 1135 | 809 | 720 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 6.6 | 3.4 | 7.9 | 5.3 | 16.1 | 15.1 |
| Incr Delay (d2), s/veh | 0.0 | 0.2 | 1.9 | 0.1 | 3.2 | 0.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.5 | 3.6 | 0.5 | 1.5 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 6.6 | 3.6 | 9.8 | 5.5 | 19.3 | 15.6 |
| LnGrp LOS | A | A | A | A | B | B |
| Approach Vol, veh/h | | 397 | 916 | | 229 | |
| Approach Delay, s/veh | | 3.6 | 9.0 | | 18.4 | |
| Approach LOS | | A | A | | B | |

| Timer - Assigned Phs | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 29.4 | | 10.2 | 4.7 | 24.7 |
| Change Period (Y+Rc), s | 4.5 | | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 38.0 | | 18.0 | 4.0 | 29.5 |
| Max Q Clear Time (g_c+I1), s | 5.9 | | 5.7 | 2.0 | 15.0 |
| Green Ext Time (p_c), s | 2.5 | | 0.5 | 0.0 | 5.2 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 9.0 |
| HCM 6th LOS | A |

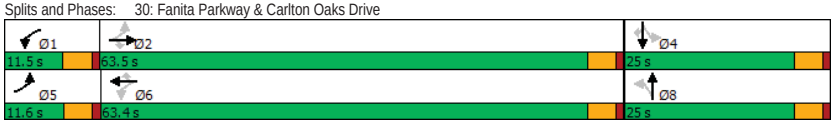




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 33 | 370 | 0 | 0 | 701 | 108 | 4 | 0 | 5 | 161 | 0 | 114 |
| Future Volume (vph) | 33 | 370 | 0 | 0 | 701 | 108 | 4 | 0 | 5 | 161 | 0 | 114 |
| Confl. Peds. (#/hr) | | | 4 | | | 4 | | | 14 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | 6 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | pm+pt | NA | Perm | pm+pt | NA | Perm | Perm | NA | | Perm | | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | 2 | | 2 | 6 | | 6 | 8 | | | 4 | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 8 | 8 | | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | | 7.0 | 7.0 | 7.0 |
| Minimum Split (s) | 11.5 | 26.5 | 26.5 | 11.5 | 20.5 | 20.5 | 22.5 | 22.5 | | 22.5 | 22.5 | 22.5 |
| Total Split (s) | 11.6 | 63.5 | 63.5 | 11.5 | 63.4 | 63.4 | 25.0 | 25.0 | | 25.0 | 25.0 | 25.0 |
| Total Split (%) | 11.6% | 63.5% | 63.5% | 11.5% | 63.4% | 63.4% | 25.0% | 25.0% | | 25.0% | 25.0% | 25.0% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | | | | | | |
| Recall Mode | None | Min | Min | None | Min | Min | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 67.7 |
| Natural Cycle: 70 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 30: Fanita Parkway & Carlton Oaks Drive



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 33 | 370 | 0 | 0 | 701 | 108 | 4 | 0 | 5 | 161 | 0 | 114 |
| Future Volume (veh/h) | 33 | 370 | 0 | 0 | 701 | 108 | 4 | 0 | 5 | 161 | 0 | 114 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.97 | 1.00 | | 0.96 | 0.96 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 36 | 402 | 0 | 0 | 762 | 117 | 4 | 0 | 5 | 175 | 0 | 124 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 336 | 1204 | 1020 | 635 | 945 | 778 | 186 | 33 | 152 | 391 | 350 | 295 |
| Arrive On Green | 0.05 | 0.64 | 0.00 | 0.00 | 0.51 | 0.51 | 0.19 | 0.00 | 0.19 | 0.19 | 0.00 | 0.19 |
| Sat Flow, veh/h | 1781 | 1870 | 1585 | 1781 | 1870 | 1540 | 473 | 175 | 810 | 1359 | 1870 | 1577 |
| Grp Volume(v), veh/h | 36 | 402 | 0 | 0 | 762 | 117 | 9 | 0 | 0 | 175 | 0 | 124 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1585 | 1781 | 1870 | 1540 | 1459 | 0 | 0 | 1359 | 1870 | 1577 |
| Q Serve(g_s), s | 0.4 | 5.2 | 0.0 | 0.0 | 18.1 | 2.2 | 0.0 | 0.0 | 0.0 | 6.1 | 0.0 | 3.7 |
| Cycle Q Clear(g_c), s | 0.4 | 5.2 | 0.0 | 0.0 | 18.1 | 2.2 | 0.2 | 0.0 | 0.0 | 6.3 | 0.0 | 3.7 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 0.44 | | 0.56 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 336 | 1204 | 1020 | 635 | 945 | 778 | 371 | 0 | 0 | 391 | 350 | 295 |
| V/C Ratio(X) | 0.11 | 0.33 | 0.00 | 0.00 | 0.81 | 0.15 | 0.02 | 0.00 | 0.00 | 0.45 | 0.00 | 0.42 |
| Avail Cap(c_a), veh/h | 476 | 2071 | 1755 | 866 | 2068 | 1703 | 646 | 0 | 0 | 660 | 720 | 607 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 8.5 | 4.3 | 0.0 | 0.0 | 11.0 | 7.1 | 17.7 | 0.0 | 0.0 | 20.1 | 0.0 | 19.1 |
| Incr Delay (d2), s/veh | 0.1 | 0.2 | 0.0 | 0.0 | 1.7 | 0.1 | 0.0 | 0.0 | 0.0 | 0.8 | 0.0 | 0.9 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.1 | 1.2 | 0.0 | 0.0 | 5.9 | 0.6 | 0.1 | 0.0 | 0.0 | 1.9 | 0.0 | 1.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 8.6 | 4.5 | 0.0 | 0.0 | 12.7 | 7.2 | 17.7 | 0.0 | 0.0 | 20.9 | 0.0 | 20.0 |
| LnGrp LOS | A | A | A | A | B | A | B | A | A | C | A | C |
| Approach Vol, veh/h | | 438 | | | 879 | | | 9 | | | 299 | |
| Approach Delay, s/veh | | 4.8 | | | 12.0 | | | 17.7 | | | 20.6 | |
| Approach LOS | | A | | | B | | | B | | | C | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 0.0 | 38.8 | | 14.5 | 7.4 | 31.4 | | 14.5 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 7.0 | 59.0 | | 20.5 | 7.1 | 58.9 | | 20.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 0.0 | 7.2 | | 8.3 | 2.4 | 20.1 | | 2.2 | | | | |
| Green Ext Time (p_c), s | 0.0 | 2.6 | | 0.7 | 0.0 | 6.8 | | 0.0 | | | | |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 11.6 |
| HCM 6th LOS | B |

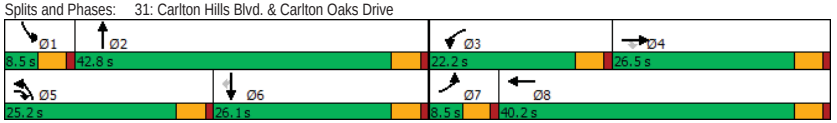




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 10 | 131 | 516 | 225 | 183 | 11 | 559 | 327 | 181 | 14 | 544 | 80 |
| Future Volume (vph) | 10 | 131 | 516 | 225 | 183 | 11 | 559 | 327 | 181 | 14 | 544 | 80 |
| Confl. Peds. (#/hr) | | | 16 | | | 2 | | | 3 | | | 4 |
| Confl. Bikes (#/hr) | | | 1 | | | 1 | | | 1 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 7 | 4 | 5 | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | | | | 6 |
| Detector Phase | 7 | 4 | 5 | 3 | 8 | | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 26.5 | 8.5 | 8.5 | 26.5 | | 8.5 | 22.5 | | 8.5 | 22.5 | 22.5 |
| Total Split (s) | 8.5 | 26.5 | 25.2 | 22.2 | 40.2 | | 25.2 | 42.8 | | 8.5 | 26.1 | 26.1 |
| Total Split (%) | 8.5% | 26.5% | 25.2% | 22.2% | 40.2% | | 25.2% | 42.8% | | 8.5% | 26.1% | 26.1% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | | None | Min | | None | Min | Min |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 85.6 |
| Natural Cycle: 90 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 31: Carlton Hills Blvd. & Carlton Oaks Drive



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 10 | 131 | 516 | 225 | 183 | 11 | 559 | 327 | 181 | 14 | 544 | 80 |
| Future Volume (veh/h) | 10 | 131 | 516 | 225 | 183 | 11 | 559 | 327 | 181 | 14 | 544 | 80 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 11 | 142 | 561 | 245 | 199 | 12 | 608 | 355 | 197 | 15 | 591 | 87 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 19 | 451 | 689 | 282 | 1324 | 79 | 695 | 859 | 467 | 25 | 716 | 313 |
| Arrive On Green | 0.01 | 0.24 | 0.24 | 0.16 | 0.39 | 0.39 | 0.20 | 0.39 | 0.39 | 0.01 | 0.20 | 0.20 |
| Sat Flow, veh/h | 1781 | 1870 | 1534 | 1781 | 3403 | 204 | 3456 | 2208 | 1202 | 1781 | 3554 | 1555 |
| Grp Volume(v), veh/h | 11 | 142 | 561 | 245 | 103 | 108 | 608 | 284 | 268 | 15 | 591 | 87 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1534 | 1781 | 1777 | 1830 | 1728 | 1777 | 1633 | 1781 | 1777 | 1555 |
| Q Serve(g_s), s | 0.6 | 5.7 | 22.0 | 12.2 | 3.4 | 3.5 | 15.5 | 10.6 | 10.9 | 0.8 | 14.5 | 4.3 |
| Cycle Q Clear(g_c), s | 0.6 | 5.7 | 22.0 | 12.2 | 3.4 | 3.5 | 15.5 | 10.6 | 10.9 | 0.8 | 14.5 | 4.3 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.11 | 1.00 | | 0.74 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 19 | 451 | 689 | 282 | 691 | 712 | 695 | 691 | 635 | 25 | 716 | 313 |
| V/C Ratio(X) | 0.58 | 0.31 | 0.81 | 0.87 | 0.15 | 0.15 | 0.87 | 0.41 | 0.42 | 0.61 | 0.83 | 0.28 |
| Avail Cap(c_a), veh/h | 78 | 451 | 689 | 346 | 696 | 717 | 785 | 747 | 686 | 78 | 842 | 369 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 44.9 | 28.4 | 22.3 | 37.4 | 18.1 | 18.1 | 35.3 | 20.3 | 20.4 | 44.7 | 34.9 | 30.8 |
| Incr Delay (d2), s/veh | 24.9 | 0.4 | 7.4 | 17.6 | 0.1 | 0.1 | 9.9 | 0.4 | 0.4 | 21.7 | 5.9 | 0.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.4 | 2.6 | 11.3 | 6.6 | 1.4 | 1.5 | 7.3 | 4.3 | 4.0 | 0.5 | 6.6 | 1.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 69.8 | 28.8 | 29.7 | 55.0 | 18.2 | 18.2 | 45.2 | 20.7 | 20.8 | 66.4 | 40.7 | 31.3 |
| LnGrp LOS | E | C | C | E | B | B | D | C | C | E | D | C |
| Approach Vol, veh/h | | 714 | | | 456 | | | 1160 | | | 693 | |
| Approach Delay, s/veh | | 30.2 | | | 38.0 | | | 33.6 | | | 40.1 | |
| Approach LOS | | C | | | D | | | C | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.8 | 39.9 | 18.9 | 26.5 | 22.8 | 22.9 | 5.5 | 40.0 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 4.0 | 38.3 | 17.7 | 22.0 | 20.7 | 21.6 | 4.0 | 35.7 |
| Max Q Clear Time (g_c+I1), s | 2.8 | 12.9 | 14.2 | 24.0 | 17.5 | 16.5 | 2.6 | 5.5 |
| Green Ext Time (p_c), s | 0.0 | 3.5 | 0.2 | 0.0 | 0.8 | 1.9 | 0.0 | 1.2 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 34.9 |
| HCM 6th LOS | C |

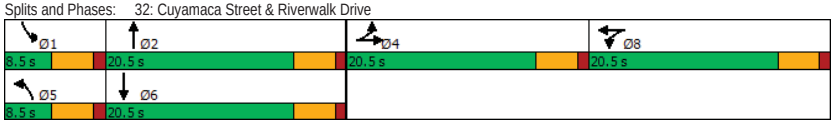




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 1 | 0 | 0 | 92 | 1 | 56 | 17 | 449 | 82 | 100 | 934 | 3 |
| Future Volume (vph) | 1 | 0 | 0 | 92 | 1 | 56 | 17 | 449 | 82 | 100 | 934 | 3 |
| Confl. Peds. (#/hr) | | | 17 | | | 2 | | | 1 | | | 7 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Split | | | Split | NA | | Prot | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | 20.5 | 20.5 | | 20.5 | 20.5 | | 8.5 | 20.5 | | 8.5 | 20.5 | |
| Total Split (s) | 20.5 | 20.5 | | 20.5 | 20.5 | | 8.5 | 20.5 | | 8.5 | 20.5 | |
| Total Split (%) | 29.3% | 29.3% | | 29.3% | 29.3% | | 12.1% | 29.3% | | 12.1% | 29.3% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 70 |
| Actuated Cycle Length: 43.3 |
| Natural Cycle: 80 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 32: Cuyamaca Street & Riverwalk Drive



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 1 | 0 | 0 | 92 | 1 | 56 | 17 | 449 | 82 | 100 | 934 | 3 |
| Future Volume (veh/h) | 1 | 0 | 0 | 92 | 1 | 56 | 17 | 449 | 82 | 100 | 934 | 3 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.99 | 1.00 | | 1.00 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 1 | 0 | 0 | 100 | 1 | 61 | 18 | 488 | 89 | 109 | 1015 | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 67 | 71 | 0 | 178 | 3 | 155 | 32 | 929 | 168 | 137 | 1338 | 4 |
| Arrive On Green | 0.04 | 0.00 | 0.00 | 0.10 | 0.10 | 0.10 | 0.02 | 0.31 | 0.31 | 0.08 | 0.37 | 0.37 |
| Sat Flow, veh/h | 1781 | 1870 | 0 | 1781 | 25 | 1555 | 1781 | 3003 | 545 | 1781 | 3634 | 11 |
| Grp Volume(v), veh/h | 1 | 0 | 0 | 100 | 0 | 62 | 18 | 288 | 289 | 109 | 496 | 522 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 0 | 1781 | 0 | 1580 | 1781 | 1777 | 1771 | 1781 | 1777 | 1868 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.0 | 2.0 | 0.0 | 1.4 | 0.4 | 5.0 | 5.1 | 2.3 | 9.3 | 9.3 |
| Cycle Q Clear(g_c), s | 0.0 | 0.0 | 0.0 | 2.0 | 0.0 | 1.4 | 0.4 | 5.0 | 5.1 | 2.3 | 9.3 | 9.3 |
| Prop In Lane | 1.00 | | 0.00 | 1.00 | | 0.98 | 1.00 | | 0.31 | 1.00 | | 0.01 |
| Lane Grp Cap(c), veh/h | 67 | 71 | 0 | 178 | 0 | 158 | 32 | 549 | 548 | 137 | 654 | 688 |
| V/C Ratio(X) | 0.01 | 0.00 | 0.00 | 0.56 | 0.00 | 0.39 | 0.55 | 0.52 | 0.53 | 0.79 | 0.76 | 0.76 |
| Avail Cap(c_a), veh/h | 754 | 791 | 0 | 754 | 0 | 669 | 188 | 752 | 749 | 188 | 752 | 790 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 17.5 | 0.0 | 0.0 | 16.2 | 0.0 | 15.9 | 18.4 | 10.8 | 10.8 | 17.2 | 10.5 | 10.5 |
| Incr Delay (d2), s/veh | 0.1 | 0.0 | 0.0 | 2.8 | 0.0 | 1.6 | 13.9 | 0.8 | 0.8 | 14.8 | 3.9 | 3.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.0 | 0.0 | 0.8 | 0.0 | 0.5 | 0.3 | 1.5 | 1.6 | 1.3 | 3.1 | 3.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 17.6 | 0.0 | 0.0 | 19.0 | 0.0 | 17.5 | 32.4 | 11.5 | 11.6 | 31.9 | 14.4 | 14.2 |
| LnGrp LOS | B | A | A | B | A | B | C | B | B | C | B | B |
| Approach Vol, veh/h | | 1 | | | 162 | | | 595 | | | 1127 | |
| Approach Delay, s/veh | | 17.6 | | | 18.4 | | | 12.2 | | | 16.0 | |
| Approach LOS | | B | | | B | | | B | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.4 | 16.2 | | 5.9 | 5.2 | 18.4 | | 8.3 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 4.0 | 16.0 | | 16.0 | 4.0 | 16.0 | | 16.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 4.3 | 7.1 | | 2.0 | 2.4 | 11.3 | | 4.0 | | | | |
| Green Ext Time (p_c), s | 0.0 | 2.3 | | 0.0 | 0.0 | 2.6 | | 0.4 | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | | 15.0 |
| HCM 6th LOS | | | B |

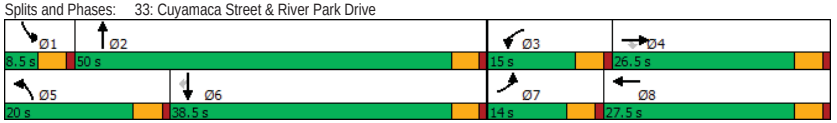




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 59 | 27 | 101 | 79 | 31 | 28 | 131 | 570 | 83 | 16 | 767 | 40 |
| Future Volume (vph) | 59 | 27 | 101 | 79 | 31 | 28 | 131 | 570 | 83 | 16 | 767 | 40 |
| Confl. Peds. (#/hr) | | | 10 | | | 6 | | | 10 | | | 6 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | | | | 6 |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 26.5 | 26.5 | 8.5 | 26.5 | | 8.5 | 22.5 | | 8.5 | 26.5 | 26.5 |
| Total Split (s) | 14.0 | 26.5 | 26.5 | 15.0 | 27.5 | | 20.0 | 50.0 | | 8.5 | 38.5 | 38.5 |
| Total Split (%) | 14.0% | 26.5% | 26.5% | 15.0% | 27.5% | | 20.0% | 50.0% | | 8.5% | 38.5% | 38.5% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | | None | Min | | None | Min | Min |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 67.4 |
| Natural Cycle: 75 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 33: Cuyamaca Street & River Park Drive



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 59 | 27 | 101 | 79 | 31 | 28 | 131 | 570 | 83 | 16 | 767 | 40 |
| Future Volume (veh/h) | 59 | 27 | 101 | 79 | 31 | 28 | 131 | 570 | 83 | 16 | 767 | 40 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 64 | 29 | 110 | 86 | 34 | 30 | 142 | 620 | 90 | 17 | 834 | 43 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 82 | 267 | 221 | 111 | 145 | 128 | 186 | 1375 | 199 | 30 | 1258 | 556 |
| Arrive On Green | 0.05 | 0.14 | 0.14 | 0.06 | 0.16 | 0.16 | 0.10 | 0.44 | 0.44 | 0.02 | 0.35 | 0.35 |
| Sat Flow, veh/h | 1781 | 1870 | 1552 | 1781 | 911 | 804 | 1781 | 3110 | 451 | 1781 | 3554 | 1572 |
| Grp Volume(v), veh/h | 64 | 29 | 110 | 86 | 0 | 64 | 142 | 354 | 356 | 17 | 834 | 43 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1552 | 1781 | 0 | 1715 | 1781 | 1777 | 1783 | 1781 | 1777 | 1572 |
| Q Serve(g_s), s | 1.9 | 0.7 | 3.5 | 2.5 | 0.0 | 1.7 | 4.2 | 7.4 | 7.5 | 0.5 | 10.6 | 1.0 |
| Cycle Q Clear(g_c), s | 1.9 | 0.7 | 3.5 | 2.5 | 0.0 | 1.7 | 4.2 | 7.4 | 7.5 | 0.5 | 10.6 | 1.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.47 | 1.00 | | 0.25 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 82 | 267 | 221 | 111 | 0 | 273 | 186 | 785 | 788 | 30 | 1258 | 556 |
| V/C Ratio(X) | 0.78 | 0.11 | 0.50 | 0.77 | 0.00 | 0.23 | 0.76 | 0.45 | 0.45 | 0.57 | 0.66 | 0.08 |
| Avail Cap(c_a), veh/h | 316 | 769 | 638 | 349 | 0 | 737 | 516 | 1510 | 1515 | 133 | 2257 | 998 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 25.3 | 20.0 | 21.2 | 24.7 | 0.0 | 19.7 | 23.3 | 10.4 | 10.4 | 26.1 | 14.6 | 11.5 |
| Incr Delay (d2), s/veh | 14.9 | 0.2 | 1.7 | 10.9 | 0.0 | 0.4 | 6.3 | 0.4 | 0.4 | 16.1 | 0.6 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.1 | 0.3 | 1.3 | 1.3 | 0.0 | 0.7 | 1.9 | 2.4 | 2.4 | 0.3 | 3.6 | 0.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 40.2 | 20.2 | 22.9 | 35.6 | 0.0 | 20.1 | 29.6 | 10.8 | 10.8 | 42.3 | 15.2 | 11.5 |
| LnGrp LOS | D | C | C | D | A | C | C | B | B | D | B | B |
| Approach Vol, veh/h | | 203 | | | 150 | | | 852 | | | 894 | |
| Approach Delay, s/veh | | 28.0 | | | 29.0 | | | 13.9 | | | 15.5 | |
| Approach LOS | | C | | | C | | | B | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.4 | 28.2 | 7.8 | 12.1 | 10.1 | 23.5 | 7.0 | 13.0 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 4.0 | 45.5 | 10.5 | 22.0 | 15.5 | 34.0 | 9.5 | 23.0 |
| Max Q Clear Time (g_c+I1), s | 2.5 | 9.5 | 4.5 | 5.5 | 6.2 | 12.6 | 3.9 | 3.7 |
| Green Ext Time (p_c), s | 0.0 | 4.8 | 0.1 | 0.4 | 0.2 | 6.0 | 0.0 | 0.2 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 17.1 |
| HCM 6th LOS | B |

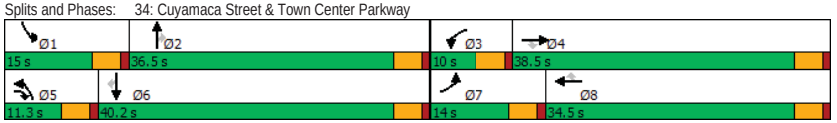




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 149 | 73 | 89 | 64 | 47 | 59 | 91 | 292 | 53 | 86 | 411 | 239 |
| Future Volume (vph) | 149 | 73 | 89 | 64 | 47 | 59 | 91 | 292 | 53 | 86 | 411 | 239 |
| Confl. Peds. (#/hr) | | | 7 | | | 1 | | | 5 | | | 3 |
| Confl. Bikes (#/hr) | | | 1 | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 7 | 4 | 5 | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | 2 | | | 6 |
| Detector Phase | 7 | 4 | 5 | 3 | 8 | 8 | 5 | 2 | 2 | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 34.5 | 8.5 | 8.5 | 34.5 | 34.5 | 8.5 | 34.5 | 34.5 | 8.5 | 34.5 | 34.5 |
| Total Split (s) | 14.0 | 38.5 | 11.3 | 10.0 | 34.5 | 34.5 | 11.3 | 36.5 | 36.5 | 15.0 | 40.2 | 40.2 |
| Total Split (%) | 14.0% | 38.5% | 11.3% | 10.0% | 34.5% | 34.5% | 11.3% | 36.5% | 36.5% | 15.0% | 40.2% | 40.2% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lead | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | None | None | Min | Min | None | Min | Min |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 54.4 |
| Natural Cycle: 90 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 34: Cuyamaca Street & Town Center Parkway



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 149 | 73 | 89 | 64 | 47 | 59 | 91 | 292 | 53 | 86 | 411 | 239 |
| Future Volume (veh/h) | 149 | 73 | 89 | 64 | 47 | 59 | 91 | 292 | 53 | 86 | 411 | 239 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 1.00 | 1.00 | | 0.99 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 162 | 79 | 97 | 70 | 51 | 64 | 99 | 317 | 58 | 93 | 447 | 260 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 287 | 286 | 339 | 184 | 436 | 194 | 225 | 1529 | 471 | 119 | 1538 | 476 |
| Arrive On Green | 0.08 | 0.15 | 0.15 | 0.05 | 0.12 | 0.12 | 0.07 | 0.30 | 0.30 | 0.07 | 0.30 | 0.30 |
| Sat Flow, veh/h | 3456 | 1870 | 1542 | 3456 | 3554 | 1581 | 3456 | 5106 | 1572 | 1781 | 5106 | 1580 |
| Grp Volume(v), veh/h | 162 | 79 | 97 | 70 | 51 | 64 | 99 | 317 | 58 | 93 | 447 | 260 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1870 | 1542 | 1728 | 1777 | 1581 | 1728 | 1702 | 1572 | 1781 | 1702 | 1580 |
| Q Serve(g_s), s | 1.9 | 1.6 | 2.2 | 0.8 | 0.5 | 1.6 | 1.2 | 2.0 | 1.1 | 2.2 | 2.8 | 5.8 |
| Cycle Q Clear(g_c), s | 1.9 | 1.6 | 2.2 | 0.8 | 0.5 | 1.6 | 1.2 | 2.0 | 1.1 | 2.2 | 2.8 | 5.8 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 287 | 286 | 339 | 184 | 436 | 194 | 225 | 1529 | 471 | 119 | 1538 | 476 |
| V/C Ratio(X) | 0.56 | 0.28 | 0.29 | 0.38 | 0.12 | 0.33 | 0.44 | 0.21 | 0.12 | 0.78 | 0.29 | 0.55 |
| Avail Cap(c_a), veh/h | 780 | 1510 | 1349 | 451 | 2532 | 1127 | 558 | 3881 | 1195 | 444 | 4330 | 1340 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 18.6 | 15.8 | 13.7 | 19.3 | 16.4 | 16.9 | 18.9 | 11.0 | 10.7 | 19.3 | 11.3 | 12.3 |
| Incr Delay (d2), s/veh | 1.7 | 0.5 | 0.5 | 1.3 | 0.1 | 1.0 | 1.3 | 0.1 | 0.1 | 10.4 | 0.1 | 1.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.7 | 0.6 | 0.7 | 0.3 | 0.2 | 0.5 | 0.4 | 0.6 | 0.3 | 1.1 | 0.8 | 1.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 20.3 | 16.3 | 14.2 | 20.6 | 16.6 | 17.9 | 20.3 | 11.1 | 10.8 | 29.8 | 11.4 | 13.3 |
| LnGrp LOS | C | B | B | C | B | B | C | B | B | C | B | B |
| Approach Vol, veh/h | | 338 | | | 185 | | | 474 | | | 800 | |
| Approach Delay, s/veh | | 17.6 | | | 18.5 | | | 13.0 | | | 14.1 | |
| Approach LOS | | B | | | B | | | B | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.3 | 17.1 | 6.7 | 10.9 | 7.2 | 17.2 | 8.0 | 9.7 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 10.5 | 32.0 | 5.5 | 34.0 | 6.8 | 35.7 | 9.5 | 30.0 |
| Max Q Clear Time (g_c+I1), s | 4.2 | 4.0 | 2.8 | 4.2 | 3.2 | 7.8 | 3.9 | 3.6 |
| Green Ext Time (p_c), s | 0.1 | 2.3 | 0.0 | 0.7 | 0.1 | 4.0 | 0.2 | 0.5 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 14.9 |
| HCM 6th LOS | B |

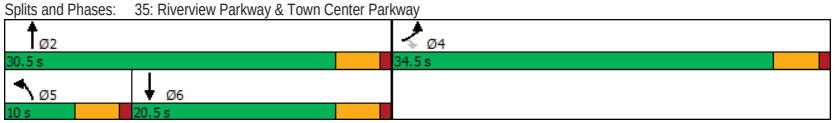




| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 1 | 97 | 101 | 105 | 38 | 8 |
| Future Volume (vph) | 1 | 97 | 101 | 105 | 38 | 8 |
| Confl. Peds. (#/hr) | | 4 | | | | 1 |
| Confl. Bikes (#/hr) | | 2 | | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | Prot | NA | NA | |
| Protected Phases | 4 | | 5 | 2 | 6 | |
| Permitted Phases | | 4 | | | | |
| Detector Phase | 4 | 4 | 5 | 2 | 6 | |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Minimum Split (s) | 34.5 | 34.5 | 8.5 | 25.5 | 20.5 | |
| Total Split (s) | 34.5 | 34.5 | 10.0 | 30.5 | 20.5 | |
| Total Split (%) | 53.1% | 53.1% | 15.4% | 46.9% | 31.5% | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lead/Lag | | | Lead | | Lag | |
| Lead-Lag Optimize? | | | Yes | | Yes | |
| Recall Mode | None | None | None | Min | Min | |

| Intersection Summary |
|---|
| Cycle Length: 65 |
| Actuated Cycle Length: 34.7 |
| Natural Cycle: 65 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 35: Riverview Parkway & Town Center Parkway



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 1 | 97 | 101 | 105 | 38 | 8 |
| Future Volume (veh/h) | 1 | 97 | 101 | 105 | 38 | 8 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 1 | 105 | 110 | 114 | 41 | 9 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 156 | 139 | 160 | 1742 | 550 | 116 |
| Arrive On Green | 0.09 | 0.09 | 0.09 | 0.49 | 0.19 | 0.19 |
| Sat Flow, veh/h | 1781 | 1585 | 1781 | 3647 | 2999 | 614 |
| Grp Volume(v), veh/h | 1 | 105 | 110 | 114 | 24 | 26 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 1781 | 1777 | 1777 | 1742 |
| Q Serve(g_s), s | 0.0 | 1.4 | 1.3 | 0.4 | 0.2 | 0.3 |
| Cycle Q Clear(g_c), s | 0.0 | 1.4 | 1.3 | 0.4 | 0.2 | 0.3 |
| Prop In Lane | 1.00 | 1.00 | 1.00 | | | 0.35 |
| Lane Grp Cap(c), veh/h | 156 | 139 | 160 | 1742 | 336 | 330 |
| V/C Ratio(X) | 0.01 | 0.76 | 0.69 | 0.07 | 0.07 | 0.08 |
| Avail Cap(c_a), veh/h | 2507 | 2231 | 460 | 4335 | 1334 | 1307 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 8.9 | 9.5 | 9.4 | 2.9 | 7.1 | 7.1 |
| Incr Delay (d2), s/veh | 0.0 | 8.1 | 5.2 | 0.0 | 0.1 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.3 | 0.5 | 0.0 | 0.1 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 8.9 | 17.6 | 14.6 | 2.9 | 7.2 | 7.2 |
| LnGrp LOS | A | B | B | A | A | A |
| Approach Vol, veh/h | 106 | | | 224 | 50 | |
| Approach Delay, s/veh | 17.6 | | | 8.6 | 7.2 | |
| Approach LOS | B | | | A | A | |

| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 15.0 | | 6.4 | 6.4 | 8.5 |
| Change Period (Y+Rc), s | | 4.5 | | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | | 26.0 | | 30.0 | 5.5 | 16.0 |
| Max Q Clear Time (g_c+I1), s | | 2.4 | | 3.4 | 3.3 | 2.3 |
| Green Ext Time (p_c), s | | 0.6 | | 0.3 | 0.0 | 0.1 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 10.9 |
| HCM 6th LOS | B |

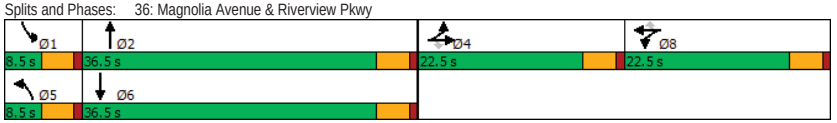




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 1 | 0 | 7 | 38 | 0 | 8 | 47 | 1002 | 20 | 8 | 1282 | 3 |
| Future Volume (vph) | 1 | 0 | 7 | 38 | 0 | 8 | 47 | 1002 | 20 | 8 | 1282 | 3 |
| Confl. Peds. (#/hr) | | | 8 | | | | | | | | | 8 |
| Confl. Bikes (#/hr) | | | 1 | | | | | | 5 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Split | NA | Perm | Split | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | | | | |
| Detector Phase | 4 | 4 | 4 | 8 | 8 | 8 | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 8.5 | 22.5 | | 8.5 | 22.5 | |
| Total Split (s) | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 8.5 | 36.5 | | 8.5 | 36.5 | |
| Total Split (%) | 25.0% | 25.0% | 25.0% | 25.0% | 25.0% | 25.0% | 9.4% | 40.6% | | 9.4% | 40.6% | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | None | None | None | None | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 90 |
| Actuated Cycle Length: 58.2 |
| Natural Cycle: 90 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 36: Magnolia Avenue & Riverview Pkwy



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 1 | 0 | 7 | 38 | 0 | 8 | 47 | 1002 | 20 | 8 | 1282 | 3 |
| Future Volume (veh/h) | 1 | 0 | 7 | 38 | 0 | 8 | 47 | 1002 | 20 | 8 | 1282 | 3 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.96 | 1.00 | | 1.00 | 1.00 | | 0.98 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 1 | 0 | 8 | 41 | 0 | 9 | 51 | 1089 | 22 | 9 | 1393 | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 51 | 0 | 44 | 72 | 0 | 64 | 73 | 1932 | 39 | 17 | 1858 | 4 |
| Arrive On Green | 0.03 | 0.00 | 0.03 | 0.04 | 0.00 | 0.04 | 0.04 | 0.54 | 0.54 | 0.01 | 0.51 | 0.51 |
| Sat Flow, veh/h | 1781 | 0 | 1518 | 1781 | 0 | 1585 | 1781 | 3560 | 72 | 1781 | 3638 | 8 |
| Grp Volume(v), veh/h | 1 | 0 | 8 | 41 | 0 | 9 | 51 | 543 | 568 | 9 | 680 | 716 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1518 | 1781 | 0 | 1585 | 1781 | 1777 | 1855 | 1781 | 1777 | 1869 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.2 | 1.1 | 0.0 | 0.3 | 1.3 | 9.6 | 9.6 | 0.2 | 14.4 | 14.4 |
| Cycle Q Clear(g_c), s | 0.0 | 0.0 | 0.2 | 1.1 | 0.0 | 0.3 | 1.3 | 9.6 | 9.6 | 0.2 | 14.4 | 14.4 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.04 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 51 | 0 | 44 | 72 | 0 | 64 | 73 | 964 | 1007 | 17 | 908 | 954 |
| V/C Ratio(X) | 0.02 | 0.00 | 0.18 | 0.57 | 0.00 | 0.14 | 0.69 | 0.56 | 0.56 | 0.54 | 0.75 | 0.75 |
| Avail Cap(c_a), veh/h | 674 | 0 | 575 | 674 | 0 | 600 | 150 | 1196 | 1249 | 150 | 1196 | 1258 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 22.4 | 0.0 | 22.5 | 22.4 | 0.0 | 22.0 | 22.5 | 7.2 | 7.2 | 23.4 | 9.2 | 9.2 |
| Incr Delay (d2), s/veh | 0.2 | 0.0 | 2.0 | 6.8 | 0.0 | 1.0 | 11.1 | 0.5 | 0.5 | 24.0 | 1.9 | 1.8 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.0 | 0.1 | 0.5 | 0.0 | 0.1 | 0.7 | 2.3 | 2.3 | 0.2 | 3.7 | 3.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 22.6 | 0.0 | 24.5 | 29.2 | 0.0 | 23.0 | 33.6 | 7.7 | 7.7 | 47.4 | 11.1 | 11.0 |
| LnGrp LOS | C | A | C | C | A | C | C | A | A | D | B | B |
| Approach Vol, veh/h | | 9 | | | 50 | | | 1162 | | | 1405 | |
| Approach Delay, s/veh | | 24.3 | | | 28.1 | | | 8.8 | | | 11.3 | |
| Approach LOS | | C | | | C | | | A | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 4.9 | 30.3 | | 5.9 | 6.5 | 28.8 | | 6.4 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 4.0 | 32.0 | | 18.0 | 4.0 | 32.0 | | 18.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.2 | 11.6 | | 2.2 | 3.3 | 16.4 | | 3.1 | | | | |
| Green Ext Time (p_c), s | 0.0 | 7.0 | | 0.0 | 0.0 | 7.8 | | 0.1 | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | | 10.6 |
| HCM 6th LOS | | | B |





| Intersection | |
|---|---|
| Int Delay, s/veh | 13 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 0 | 15 | 0 | 150 | 391 | 575 | 0 | 0 | 279 | 558 |
| Future Vol, veh/h | 0 | 0 | 0 | 15 | 0 | 150 | 391 | 575 | 0 | 0 | 279 | 558 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 9 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | 190 | - | - | - | - | - |
| Veh in Median Storage, # | - | 2 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 0 | 16 | 0 | 163 | 425 | 625 | 0 | 0 | 303 | 607 |

| Major/Minor | Minor1 | | | Major1 | | | Major2 | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 2082 | 2385 | 625 | 910 | 0 | - | - | - | 0 | |
| Stage 1 | 1475 | 1475 | - | - | - | - | - | - | - | |
| Stage 2 | 607 | 910 | - | - | - | - | - | - | - | |
| Critical Hdwy | 6.42 | 6.52 | 6.22 | 4.12 | - | - | - | - | - | |
| Critical Hdwy Stg 1 | 5.42 | 5.52 | - | - | - | - | - | - | - | |
| Critical Hdwy Stg 2 | 5.42 | 5.52 | - | - | - | - | - | - | - | |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 2.218 | - | - | - | - | - | |
| Pot Cap-1 Maneuver | 58 | 34 | 485 | 748 | - | 0 | 0 | - | - | |
| Stage 1 | 210 | 190 | - | - | - | 0 | 0 | - | - | |
| Stage 2 | 544 | 353 | - | - | - | 0 | 0 | - | - | |
| Platoon blocked, % | | | | | - | | | - | - | |
| Mov Cap-1 Maneuver | 25 | 0 | 485 | 748 | - | - | - | - | - | |
| Mov Cap-2 Maneuver | 25 | 0 | - | - | - | - | - | - | - | |
| Stage 1 | 91 | 0 | - | - | - | - | - | - | - | |
| Stage 2 | 544 | 0 | - | - | - | - | - | - | - | |

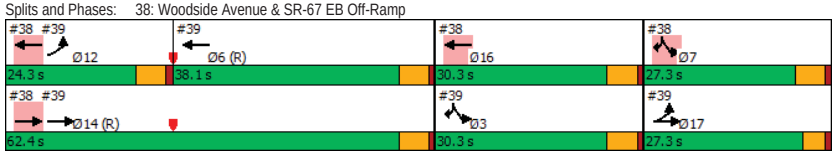
| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 117 | 6.5 | 0 |
| HCM LOS | F | | |

| Minor Lane/Major Mvmt | NBL | NBT | WBLn1 | SBT | SBR |
|---|---|---|---|---|---|
| Capacity (veh/h) | 748 | - | 181 | - | - |
| HCM Lane V/C Ratio | 0.568 | - | 0.991 | - | - |
| HCM Control Delay (s) | 16 | - | 117 | - | - |
| HCM Lane LOS | C | - | F | - | - |
| HCM 95th %tile Q(veh) | 3.6 | - | 8.1 | - | - |

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR | Ø3 | Ø6 | Ø12 | Ø16 | Ø17 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 292 | 166 | 0 | 515 | 129 | | | | | |
| Future Volume (vph) | 0 | 292 | 166 | 0 | 515 | 129 | | | | | |
| Confl. Peds. (#/hr) | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | | | |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | | | | | |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| Parking (#/hr) | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | | | | | | |
| Shared Lane Traffic (%) | | | | | | | | | | | |
| Turn Type | | NA | NA | | Prot | Prot | | | | | |
| Protected Phases | | 14 | 12 16 | | 7 | 7 | 3 | 6 | 12 | 16 | 17 |
| Permitted Phases | | | | | | | | | | | |
| Detector Phase | | 14 | 12 16 | | 7 | 7 | | | | | |
| Switch Phase | | | | | | | | | | | |
| Minimum Initial (s) | | 4.0 | | | 8.0 | 8.0 | 5.0 | 5.0 | 5.0 | 2.0 | 5.0 |
| Minimum Split (s) | | 20.0 | | | 27.3 | 27.3 | 30.3 | 29.3 | 24.3 | 20.0 | 9.2 |
| Total Split (s) | | 62.4 | | | 27.3 | 27.3 | 30.3 | 38.1 | 24.3 | 30.3 | 27.3 |
| Total Split (%) | | 52.0% | | | 22.8% | 22.8% | 25% | 32% | 20% | 25% | 23% |
| Yellow Time (s) | | 4.3 | | | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 3.2 |
| All-Red Time (s) | | 1.0 | | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | | 0.0 | | | 0.0 | 0.0 | | | | | |
| Total Lost Time (s) | | 5.3 | | | 5.3 | 5.3 | | | | | |
| Lead/Lag | | | | | | | | Lag | Lead | | |
| Lead-Lag Optimize? | | | | | | | | Yes | Yes | | |
| Recall Mode | | C-Max | | | Max | Max | None | C-Max | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 0 (0%), Referenced to phase 6:WBT and 14:EBT, Start of Green |
| Natural Cycle: 135 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 38: Woodside Avenue & SR-67 EB Off-Ramp






Existing + Cuml AM
38: Woodside Avenue & SR-67 EB Off-Ramp
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 292 | 166 | 0 | 515 | 129 |
| Future Volume (vph) | 0 | 292 | 166 | 0 | 515 | 129 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 5.3 | 5.3 | | 5.3 | 5.3 |
| Lane Util. Factor | | 0.95 | 1.00 | | 0.97 | 1.00 |
| Frt | | 1.00 | 1.00 | | 1.00 | 0.85 |
| Flt Protected | | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | | 3539 | 1863 | | 3433 | 1583 |
| Flt Permitted | | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (perm) | | 3539 | 1863 | | 3433 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 317 | 180 | 0 | 560 | 140 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 42 |
| Lane Group Flow (vph) | 0 | 317 | 180 | 0 | 560 | 98 |
| Turn Type | | NA | NA | | Prot | Prot |
| Protected Phases | | 14 | 12 16 | | 7 | 7 |
| Permitted Phases | | | | | | |
| Actuated Green, G (s) | | 57.1 | 36.8 | | 24.6 | 24.6 |
| Effective Green, g (s) | | 57.1 | 36.8 | | 24.6 | 24.6 |
| Actuated g/C Ratio | | 0.48 | 0.31 | | 0.21 | 0.21 |
| Clearance Time (s) | | 5.3 | | | 5.3 | 5.3 |
| Vehicle Extension (s) | | 1.0 | | | 3.0 | 3.0 |
| Lane Grp Cap (vph) | | 1683 | 571 | | 703 | 324 |
| v/s Ratio Prot | | c0.09 | c0.10 | | c0.16 | 0.06 |
| v/s Ratio Perm | | | | | | |
| v/c Ratio | | 0.19 | 0.32 | | 0.80 | 0.30 |
| Uniform Delay, d1 | | 18.1 | 31.9 | | 45.3 | 40.4 |
| Progression Factor | | 1.00 | 1.24 | | 1.00 | 1.00 |
| Incremental Delay, d2 | | 0.2 | 0.2 | | 9.1 | 2.4 |
| Delay (s) | | 18.4 | 39.7 | | 54.4 | 42.8 |
| Level of Service | | B | D | | D | D |
| Approach Delay (s) | | 18.4 | 39.7 | | 52.1 | |
| Approach LOS | | B | D | | D | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 41.3 | HCM 2000 Level of Service | D |
| HCM 2000 Volume to Capacity ratio | 0.39 | | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 21.2 |
| Intersection Capacity Utilization | 32.3% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

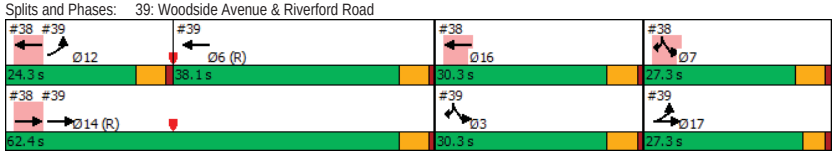
c Critical Lane Group

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\5 Existing + Cuml AM.syn

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR | Ø7 | Ø12 | Ø14 | Ø16 | Ø17 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | |
| Traffic Volume (vph) | 462 | 345 | 126 | 505 | 255 | 42 | | | | | |
| Future Volume (vph) | 462 | 345 | 126 | 505 | 255 | 42 | | | | | |
| Confl. Peds. (#/hr) | | | | | | 1 | | | | | |
| Confl. Bikes (#/hr) | | | | 1 | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | | | |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | | | | | |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| Parking (#/hr) | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | | | | | | |
| Shared Lane Traffic (%) | | | | | | | | | | | |
| Turn Type | Prot | NA | NA | | Prot | Prot | | | | | |
| Protected Phases | 12 17 | 14 17 | 6 | | 3 | 3 | 7 | 12 | 14 | 16 | 17 |
| Permitted Phases | | | | | | | | | | | |
| Detector Phase | 12 17 | 14 17 | 6 | | 3 | 3 | | | | | |
| Switch Phase | | | | | | | | | | | |
| Minimum Initial (s) | | | 5.0 | | 5.0 | 5.0 | 8.0 | 5.0 | 4.0 | 2.0 | 5.0 |
| Minimum Split (s) | | | 29.3 | | 30.3 | 30.3 | 27.3 | 24.3 | 20.0 | 20.0 | 9.2 |
| Total Split (s) | | | 38.1 | | 30.3 | 30.3 | 27.3 | 24.3 | 62.4 | 30.3 | 27.3 |
| Total Split (%) | | | 31.8% | | 25.3% | 25.3% | 23% | 20% | 52% | 25% | 23% |
| Yellow Time (s) | | | 4.3 | | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 3.2 |
| All-Red Time (s) | | | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | | | 0.0 | | 0.0 | 0.0 | | | | | |
| Total Lost Time (s) | | | 5.3 | | 5.3 | 5.3 | | | | | |
| Lead/Lag | | | Lag | | | | | Lead | | | |
| Lead-Lag Optimize? | | | Yes | | | | | Yes | | | |
| Recall Mode | | | C-Max | | None | None | Max | None | C-Max | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 0 (0%), Referenced to phase 6:WBT and 14:EBT, Start of Green |
| Natural Cycle: 135 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 39: Woodside Avenue & Riverford Road






Existing + Cuml AM
39: Woodside Avenue & Riverford Road
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 462 | 345 | 126 | 505 | 255 | 42 |
| Future Volume (vph) | 462 | 345 | 126 | 505 | 255 | 42 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.3 | 5.3 | 5.3 | | 5.3 | 5.3 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.98 | | 1.00 | 1.00 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.89 | | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | 1770 | 1863 | 1633 | | 1770 | 1583 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (perm) | 1770 | 1863 | 1633 | | 1770 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 502 | 375 | 137 | 549 | 277 | 46 |
| RTOR Reduction (vph) | 0 | 0 | 114 | 0 | 0 | 32 |
| Lane Group Flow (vph) | 502 | 375 | 572 | 0 | 277 | 14 |
| Confl. Peds. (#/hr) | | | | | | 1 |
| Confl. Bikes (#/hr) | | | | 1 | | |
| Turn Type | Prot | NA | NA | | Prot | Prot |
| Protected Phases | 12 17 | 14 17 | 6 | | 3 | 3 |
| Permitted Phases | | | | | | |
| Actuated Green, G (s) | 44.3 | 87.0 | 37.4 | | 22.4 | 22.4 |
| Effective Green, g (s) | 40.1 | 82.8 | 37.4 | | 22.4 | 22.4 |
| Actuated g/C Ratio | 0.33 | 0.69 | 0.31 | | 0.19 | 0.19 |
| Clearance Time (s) | | | 5.3 | | 5.3 | 5.3 |
| Vehicle Extension (s) | | | 3.0 | | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 591 | 1285 | 508 | | 330 | 295 |
| v/s Ratio Prot | c0.28 | 0.20 | c0.35 | | c0.16 | 0.01 |
| v/s Ratio Perm | | | | | | |
| v/c Ratio | 0.85 | 0.29 | 1.13 | | 0.84 | 0.05 |
| Uniform Delay, d1 | 37.1 | 7.2 | 41.3 | | 47.1 | 40.1 |
| Progression Factor | 0.34 | 0.08 | 1.00 | | 1.00 | 1.00 |
| Incremental Delay, d2 | 9.3 | 0.1 | 79.6 | | 16.8 | 0.1 |
| Delay (s) | 21.9 | 0.7 | 120.9 | | 63.9 | 40.1 |
| Level of Service | C | A | F | | E | D |
| Approach Delay (s) | | 12.8 | 120.9 | | 60.5 | |
| Approach LOS | | B | F | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 60.3 | HCM 2000 Level of Service | E |
| HCM 2000 Volume to Capacity ratio | 0.96 | | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 21.2 |
| Intersection Capacity Utilization | 90.9% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

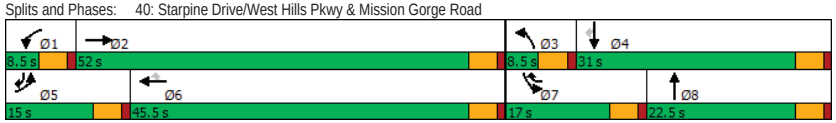
Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\5 Existing + Cuml AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 256 | 403 | 35 | 78 | 1082 | 565 | 33 | 57 | 73 | 120 | 59 | 320 |
| Future Volume (vph) | 256 | 403 | 35 | 78 | 1082 | 565 | 33 | 57 | 73 | 120 | 59 | 320 |
| Confl. Peds. (#/hr) | | | 3 | | | 1 | | | 1 | | | |
| Confl. Bikes (#/hr) | | | 2 | | | 6 | | | | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Prot | NA | | Prot | NA | pm+ov |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 5 |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 5 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 29.5 | | 8.5 | 29.5 | 8.5 | 8.5 | 22.5 | | 8.5 | 29.5 | 8.5 |
| Total Split (s) | 15.0 | 52.0 | | 8.5 | 45.5 | 17.0 | 8.5 | 22.5 | | 17.0 | 31.0 | 15.0 |
| Total Split (%) | 15.0% | 52.0% | | 8.5% | 45.5% | 17.0% | 8.5% | 22.5% | | 17.0% | 31.0% | 15.0% |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | Lead |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | Min | | None | Min | None | None | None | | None | None | None |

**Intersection Summary**

Cycle Length: 100
Actuated Cycle Length: 81.3
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 40: Starpine Drive/West Hills Pkwy & Mission Gorge Road






Existing + Cuml AM
40: Starpine Drive/West Hills Pkwy & Mission Gorge Road
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 256 | 403 | 35 | 78 | 1082 | 565 | 33 | 57 | 73 | 120 | 59 | 320 |
| Future Volume (veh/h) | 256 | 403 | 35 | 78 | 1082 | 565 | 33 | 57 | 73 | 120 | 59 | 320 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 1.00 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 278 | 438 | 38 | 85 | 1176 | 614 | 36 | 62 | 79 | 130 | 64 | 348 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 374 | 1701 | 147 | 97 | 1639 | 818 | 50 | 93 | 118 | 214 | 295 | 731 |
| Arrive On Green | 0.11 | 0.51 | 0.51 | 0.05 | 0.46 | 0.46 | 0.03 | 0.12 | 0.12 | 0.06 | 0.16 | 0.16 |
| Sat Flow, veh/h | 3456 | 3302 | 285 | 1781 | 3554 | 1560 | 1781 | 746 | 951 | 3456 | 1870 | 2721 |
| Grp Volume(v), veh/h | 278 | 235 | 241 | 85 | 1176 | 614 | 36 | 0 | 141 | 130 | 64 | 348 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1811 | 1781 | 1777 | 1560 | 1781 | 0 | 1697 | 1728 | 1870 | 1360 |
| Q Serve(g_s), s | 5.7 | 5.4 | 5.5 | 3.5 | 19.6 | 22.8 | 1.5 | 0.0 | 5.8 | 2.7 | 2.2 | 7.9 |
| Cycle Q Clear(g_c), s | 5.7 | 5.4 | 5.5 | 3.5 | 19.6 | 22.8 | 1.5 | 0.0 | 5.8 | 2.7 | 2.2 | 7.9 |
| Prop In Lane | 1.00 | | 0.16 | 1.00 | | 1.00 | 1.00 | | 0.56 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 374 | 915 | 932 | 97 | 1639 | 818 | 50 | 0 | 210 | 214 | 295 | 731 |
| V/C Ratio(X) | 0.74 | 0.26 | 0.26 | 0.88 | 0.72 | 0.75 | 0.71 | 0.00 | 0.67 | 0.61 | 0.22 | 0.48 |
| Avail Cap(c_a), veh/h | 493 | 1148 | 1169 | 97 | 1981 | 968 | 97 | 0 | 415 | 587 | 674 | 1282 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 31.8 | 10.0 | 10.0 | 34.5 | 16.0 | 13.8 | 35.4 | 0.0 | 30.8 | 33.6 | 27.0 | 22.7 |
| Incr Delay (d2), s/veh | 4.2 | 0.1 | 0.1 | 54.2 | 1.0 | 2.8 | 17.0 | 0.0 | 3.7 | 2.8 | 0.4 | 0.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.4 | 1.6 | 1.7 | 2.8 | 6.6 | 7.6 | 0.9 | 0.0 | 2.5 | 1.1 | 0.9 | 2.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 36.1 | 10.1 | 10.1 | 88.7 | 17.0 | 16.6 | 52.4 | 0.0 | 34.4 | 36.4 | 27.4 | 23.2 |
| LnGrp LOS | D | B | B | F | B | B | D | A | C | D | C | C |
| Approach Vol, veh/h | | 754 | | | 1875 | | | 177 | | | 542 | |
| Approach Delay, s/veh | | 19.7 | | | 20.1 | | | 38.1 | | | 26.9 | |
| Approach LOS | | B | | | C | | | D | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 8.5 | 42.4 | 6.6 | 16.1 | 12.5 | 38.4 | 9.1 | 13.6 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 4.0 | 47.5 | 4.0 | 26.5 | 10.5 | 41.0 | 12.5 | 18.0 |
| Max Q Clear Time (g_c+I1), s | 5.5 | 7.5 | 3.5 | 9.9 | 7.7 | 24.8 | 4.7 | 7.8 |
| Green Ext Time (p_c), s | 0.0 | 2.5 | 0.0 | 1.5 | 0.2 | 9.2 | 0.2 | 0.5 |

**Intersection Summary**

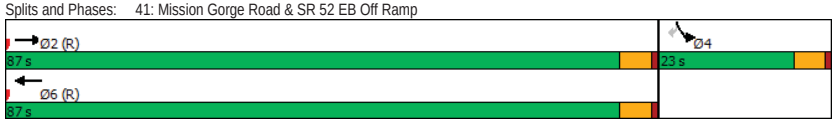
| | | |
|---|---|---|
| HCM 6th Ctrl Delay | 22.0 | |
| HCM 6th LOS | C | |

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\5 Existing + Cuml AM.syn

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 929 | 1350 | 0 | 122 | 13 |
| Future Volume (vph) | 0 | 929 | 1350 | 0 | 122 | 13 |
| Confl. Peds. (#/hr) | | | | | | |
| Confl. Bikes (#/hr) | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | | NA | NA | | Prot | Perm |
| Protected Phases | | 2 | 6 | | 4 | |
| Permitted Phases | | | | | | 4 |
| Detector Phase | | 2 | 6 | | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | | 6.0 | 11.0 | | 10.0 | 10.0 |
| Minimum Split (s) | | 20.0 | 20.0 | | 20.0 | 20.0 |
| Total Split (s) | | 87.0 | 87.0 | | 23.0 | 23.0 |
| Total Split (%) | | 79.1% | 79.1% | | 20.9% | 20.9% |
| Yellow Time (s) | | 4.4 | 4.4 | | 4.1 | 4.1 |
| All-Red Time (s) | | 1.0 | 1.0 | | 1.0 | 1.0 |
| Lost Time Adjust (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | | 5.4 | 5.4 | | 5.1 | 5.1 |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | | C-Min | C-Min | | None | None |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 110 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green, Master Intersection |
| Natural Cycle: 50 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 41: Mission Gorge Road & SR 52 EB Off Ramp






Existing + Cuml AM
41: Mission Gorge Road & SR 52 EB Off Ramp
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 929 | 1350 | 0 | 122 | 13 |
| Future Volume (veh/h) | 0 | 929 | 1350 | 0 | 122 | 13 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 0 | 1870 | 1870 | 0 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 1010 | 1467 | 0 | 133 | 14 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 0 | 2 | 2 | 0 | 2 | 2 |
| Cap, veh/h | 0 | 2895 | 2895 | 0 | 311 | 142 |
| Arrive On Green | 0.00 | 0.81 | 1.00 | 0.00 | 0.09 | 0.09 |
| Sat Flow, veh/h | 0 | 3741 | 3741 | 0 | 3456 | 1585 |
| Grp Volume(v), veh/h | 0 | 1010 | 1467 | 0 | 133 | 14 |
| Grp Sat Flow(s),veh/h/ln | 0 | 1777 | 1777 | 0 | 1728 | 1585 |
| Q Serve(g_s), s | 0.0 | 8.1 | 0.0 | 0.0 | 4.0 | 0.9 |
| Cycle Q Clear(g_c), s | 0.0 | 8.1 | 0.0 | 0.0 | 4.0 | 0.9 |
| Prop In Lane | 0.00 | | | 0.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 0 | 2895 | 2895 | 0 | 311 | 142 |
| V/C Ratio(X) | 0.00 | 0.35 | 0.51 | 0.00 | 0.43 | 0.10 |
| Avail Cap(c_a), veh/h | 0 | 2895 | 2895 | 0 | 562 | 258 |
| HCM Platoon Ratio | 1.00 | 1.00 | 2.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.00 | 1.00 | 0.79 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 0.0 | 2.6 | 0.0 | 0.0 | 47.4 | 46.0 |
| Incr Delay (d2), s/veh | 0.0 | 0.3 | 0.5 | 0.0 | 0.9 | 0.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 2.1 | 0.2 | 0.0 | 1.8 | 0.4 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 3.0 | 0.5 | 0.0 | 48.3 | 46.3 |
| LnGrp LOS | A | A | A | A | D | D |
| Approach Vol, veh/h | | 1010 | 1467 | | 147 | |
| Approach Delay, s/veh | | 3.0 | 0.5 | | 48.1 | |
| Approach LOS | | A | A | | D | |

| Timer - Assigned Phs | | 2 | | 4 | | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 95.0 | | 15.0 | | 95.0 |
| Change Period (Y+Rc), s | | 5.4 | | 5.1 | | 5.4 |
| Max Green Setting (Gmax), s | | 81.6 | | 17.9 | | 81.6 |
| Max Q Clear Time (g_c+I1), s | | 10.1 | | 6.0 | | 2.0 |
| Green Ext Time (p_c), s | | 9.8 | | 0.3 | | 16.8 |

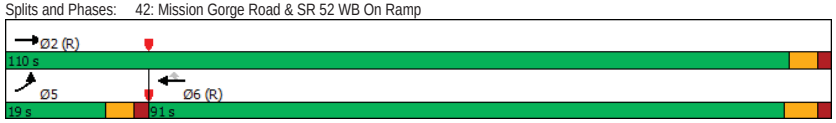
| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 4.1 |
| HCM 6th LOS | A |

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\5 Existing + Cuml AM.syn

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 60 | 938 | 1303 | 812 | 0 | 0 |
| Future Volume (vph) | 60 | 938 | 1303 | 812 | 0 | 0 |
| Confl. Peds. (#/hr) | | | | | | |
| Confl. Bikes (#/hr) | | | | 2 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | |
| Shared Lane Traffic (%) | | | | 21% | | |
| Turn Type | Prot | NA | NA | Perm | | |
| Protected Phases | 5 | 2 | 6 | | | |
| Permitted Phases | | | | 6 | | |
| Detector Phase | 5 | 2 | 6 | 6 | | |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 10.0 | 10.0 | | |
| Minimum Split (s) | 10.7 | 21.0 | 22.4 | 22.4 | | |
| Total Split (s) | 19.0 | 110.0 | 91.0 | 91.0 | | |
| Total Split (%) | 17.3% | 100.0% | 82.7% | 82.7% | | |
| Yellow Time (s) | 3.7 | 3.7 | 4.4 | 4.4 | | |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | | |
| Total Lost Time (s) | 5.7 | 5.7 | 6.4 | 6.4 | | |
| Lead/Lag | Lead | | Lag | Lag | | |
| Lead-Lag Optimize? | Yes | | Yes | Yes | | |
| Recall Mode | None | C-Min | C-Min | C-Min | | |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 110 |
| Offset: 32 (29%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 50 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 42: Mission Gorge Road & SR 52 WB On Ramp






Existing + Cuml AM
42: Mission Gorge Road & SR 52 WB On Ramp
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 60 | 938 | 1303 | 812 | 0 | 0 |
| Future Volume (veh/h) | 60 | 938 | 1303 | 812 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 0.98 | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Work Zone On Approach | | No | No | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | | |
| Adj Flow Rate, veh/h | 65 | 1020 | 1591 | 766 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | | |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | | |
| Cap, veh/h | 84 | 3347 | 3154 | 1308 | | |
| Arrive On Green | 0.09 | 1.00 | 1.00 | 1.00 | | |
| Sat Flow, veh/h | 1781 | 3647 | 3741 | 1552 | | |
| Grp Volume(v), veh/h | 65 | 1020 | 1591 | 766 | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1870 | 1552 | | |
| Q Serve(g_s), s | 3.9 | 0.0 | 0.0 | 0.0 | | |
| Cycle Q Clear(g_c), s | 3.9 | 0.0 | 0.0 | 0.0 | | |
| Prop In Lane | 1.00 | | | 1.00 | | |
| Lane Grp Cap(c), veh/h | 84 | 3347 | 3154 | 1308 | | |
| V/C Ratio(X) | 0.78 | 0.30 | 0.50 | 0.59 | | |
| Avail Cap(c_a), veh/h | 215 | 3370 | 3154 | 1308 | | |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 2.00 | | |
| Upstream Filter(I) | 0.94 | 0.94 | 0.78 | 0.78 | | |
| Uniform Delay (d), s/veh | 49.3 | 0.0 | 0.0 | 0.0 | | |
| Incr Delay (d2), s/veh | 13.5 | 0.2 | 0.5 | 1.5 | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | | |
| %ile BackOfQ(50%),veh/ln | 2.0 | 0.1 | 0.2 | 0.5 | | |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 62.8 | 0.2 | 0.5 | 1.5 | | |
| LnGrp LOS | E | A | A | A | | |
| Approach Vol, veh/h | | 1085 | 2357 | | | |
| Approach Delay, s/veh | | 4.0 | 0.8 | | | |
| Approach LOS | | A | A | | | |

| Timer - Assigned Phs | 2 | | 5 | 6 |
|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 110.0 | | 10.9 | 99.1 |
| Change Period (Y+Rc), s | * 6.4 | | * 5.7 | 6.4 |
| Max Green Setting (Gmax), s | * 1E2 | | * 13 | 84.6 |
| Max Q Clear Time (g_c+I1), s | 2.0 | | 5.9 | 2.0 |
| Green Ext Time (p_c), s | 2.4 | | 0.1 | 31.9 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 1.8 | |
| HCM 6th LOS | A | |

| Notes |
|---|
| User approved volume balancing among the lanes for turning movement. |
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. |

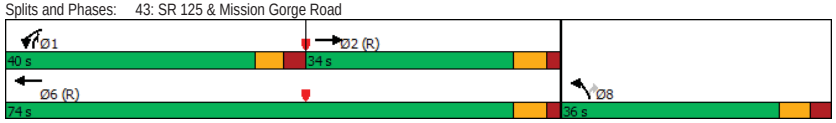
Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\5 Existing + Cuml AM.syn

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 687 | 264 | 805 | 1239 | 689 | 844 |
| Future Volume (vph) | 687 | 264 | 805 | 1239 | 689 | 844 |
| Confl. Peds. (#/hr) | | 11 | | | | |
| Confl. Bikes (#/hr) | | 3 | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | NA | | Prot | NA | Prot | pm+ov |
| Protected Phases | 2 | | 1 | 6 | 8 | 1 |
| Permitted Phases | | | | | | 8 |
| Detector Phase | 2 | | 1 | 6 | 8 | 1 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 11.0 | | 5.0 | 10.0 | 5.0 | 5.0 |
| Minimum Split (s) | 17.4 | | 11.7 | 20.0 | 20.0 | 11.7 |
| Total Split (s) | 34.0 | | 40.0 | 74.0 | 36.0 | 40.0 |
| Total Split (%) | 30.9% | | 36.4% | 67.3% | 32.7% | 36.4% |
| Yellow Time (s) | 4.4 | | 3.7 | 4.4 | 4.1 | 3.7 |
| All-Red Time (s) | 2.0 | | 3.0 | 2.0 | 3.0 | 3.0 |
| Lost Time Adjust (s) | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.4 | | 6.7 | 6.4 | 7.1 | 6.7 |
| Lead/Lag | Lag | | Lead | | | Lead |
| Lead-Lag Optimize? | Yes | | Yes | | | Yes |
| Recall Mode | C-Max | | None | C-Max | None | None |

**Intersection Summary**

Cycle Length: 110
Actuated Cycle Length: 110
Offset: 29 (26%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 43: SR 125 & Mission Gorge Road






Existing + Cuml AM
43: SR 125 & Mission Gorge Road
Fanita Ranch
06/06/2019

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 687 | 264 | 805 | 1239 | 689 | 844 |
| Future Volume (veh/h) | 687 | 264 | 805 | 1239 | 689 | 844 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | 0.96 | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 747 | 287 | 875 | 1347 | 749 | 917 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 999 | 379 | 971 | 3166 | 889 | 1502 |
| Arrive On Green | 0.56 | 0.56 | 0.09 | 0.20 | 0.26 | 0.26 |
| Sat Flow, veh/h | 3763 | 1362 | 3456 | 5274 | 3456 | 2790 |
| Grp Volume(v), veh/h | 707 | 327 | 875 | 1347 | 749 | 917 |
| Grp Sat Flow(s),veh/h/ln | 1702 | 1552 | 1728 | 1702 | 1728 | 1395 |
| Q Serve(g_s), s | 17.3 | 17.8 | 27.6 | 25.3 | 22.6 | 24.9 |
| Cycle Q Clear(g_c), s | 17.3 | 17.8 | 27.6 | 25.3 | 22.6 | 24.9 |
| Prop In Lane | | 0.88 | 1.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 946 | 432 | 971 | 3166 | 889 | 1502 |
| V/C Ratio(X) | 0.75 | 0.76 | 0.90 | 0.43 | 0.84 | 0.61 |
| Avail Cap(c_a), veh/h | 946 | 432 | 1046 | 3166 | 908 | 1517 |
| HCM Platoon Ratio | 2.00 | 2.00 | 0.33 | 0.33 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.97 | 0.97 | 0.77 | 0.77 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 21.5 | 21.6 | 48.4 | 26.7 | 38.7 | 17.5 |
| Incr Delay (d2), s/veh | 5.2 | 11.5 | 8.1 | 0.3 | 7.1 | 0.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 5.3 | 5.7 | 13.8 | 11.5 | 10.3 | 7.8 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 26.7 | 33.0 | 56.5 | 27.0 | 45.9 | 18.2 |
| LnGrp LOS | C | C | E | C | D | B |
| Approach Vol, veh/h | 1034 | | | 2222 | 1666 | |
| Approach Delay, s/veh | 28.7 | | | 38.6 | 30.6 | |
| Approach LOS | C | | | D | C | |

| Timer - Assigned Phs | 1 | 2 | | | 6 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 37.6 | 37.0 | | | 74.6 | 35.4 |
| Change Period (Y+Rc), s | * 6.7 | 6.4 | | | 6.4 | 7.1 |
| Max Green Setting (Gmax), s | * 33 | 27.6 | | | 67.6 | 28.9 |
| Max Q Clear Time (g_c+I1), s | 29.6 | 19.8 | | | 27.3 | 26.9 |
| Green Ext Time (p_c), s | 1.3 | 3.9 | | | 12.2 | 1.4 |

**Intersection Summary**

| | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 33.8 | |
| HCM 6th LOS | | C | |

**Notes**

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Fanita Ranch
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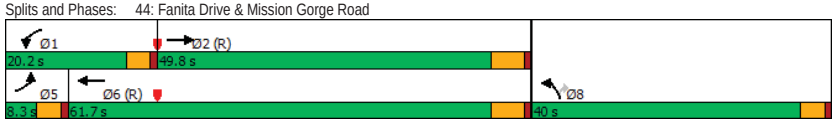
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 7 | 1041 | 412 | 293 | 1347 | 0 | 750 | 0 | 319 | 0 | 0 | 0 |
| Future Volume (vph) | 7 | 1041 | 412 | 293 | 1347 | 0 | 750 | 0 | 319 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | | | 4 | | | | | | | | | |
| Confl. Bikes (#/hr) | | | 2 | | | | | | 2 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | | Perm | | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | | | | | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | | 8 | | | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 7.0 | | 7.0 | | | |
| Minimum Split (s) | 8.2 | 33.3 | | 8.2 | 20.0 | | 34.2 | | 34.2 | | | |
| Total Split (s) | 8.3 | 49.8 | | 20.2 | 61.7 | | 40.0 | | 40.0 | | | |
| Total Split (%) | 7.5% | 45.3% | | 18.4% | 56.1% | | 36.4% | | 36.4% | | | |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | | 3.2 | | 3.2 | | | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | | 1.0 | | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | | 0.0 | | | |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | | 4.2 | | 4.2 | | | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | | None | | | |

**Intersection Summary**

Cycle Length: 110
Actuated Cycle Length: 110
Offset: 52 (47%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 44: Fanita Drive & Mission Gorge Road






Existing + Cuml AM
44: Fanita Drive & Mission Gorge Road
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 7 | 1041 | 412 | 293 | 1347 | 0 | 750 | 0 | 319 | 0 | 0 | 0 |
| Future Volume (veh/h) | 7 | 1041 | 412 | 293 | 1347 | 0 | 750 | 0 | 319 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 1.00 | 1.00 | | 1.00 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 0 | 1870 | 0 | 1870 | | | |
| Adj Flow Rate, veh/h | 8 | 1132 | 448 | 318 | 1464 | 0 | 815 | 0 | 347 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 0 | 2 | 0 | 2 | | | |
| Cap, veh/h | 14 | 1737 | 687 | 386 | 3017 | 0 | 956 | 0 | 439 | | | |
| Arrive On Green | 0.00 | 0.16 | 0.16 | 0.04 | 0.19 | 0.00 | 0.28 | 0.00 | 0.28 | | | |
| Sat Flow, veh/h | 1781 | 3567 | 1410 | 3456 | 5274 | 0 | 3456 | 0 | 1585 | | | |
| Grp Volume(v), veh/h | 8 | 1080 | 500 | 318 | 1464 | 0 | 815 | 0 | 347 | | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1702 | 1573 | 1728 | 1702 | 0 | 1728 | 0 | 1585 | | | |
| Q Serve(g_s), s | 0.5 | 32.7 | 32.8 | 10.1 | 28.0 | 0.0 | 24.6 | 0.0 | 22.3 | | | |
| Cycle Q Clear(g_c), s | 0.5 | 32.7 | 32.8 | 10.1 | 28.0 | 0.0 | 24.6 | 0.0 | 22.3 | | | |
| Prop In Lane | 1.00 | | 0.90 | 1.00 | | 0.00 | 1.00 | | 1.00 | | | |
| Lane Grp Cap(c), veh/h | 14 | 1658 | 766 | 386 | 3017 | 0 | 956 | 0 | 439 | | | |
| V/C Ratio(X) | 0.57 | 0.65 | 0.65 | 0.82 | 0.49 | 0.00 | 0.85 | 0.00 | 0.79 | | | |
| Avail Cap(c_a), veh/h | 66 | 1658 | 766 | 503 | 3017 | 0 | 1125 | 0 | 516 | | | |
| HCM Platoon Ratio | 0.33 | 0.33 | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 0.71 | 0.71 | 0.71 | 0.73 | 0.73 | 0.00 | 1.00 | 0.00 | 1.00 | | | |
| Uniform Delay (d), s/veh | 54.7 | 37.4 | 37.4 | 51.9 | 29.4 | 0.0 | 37.7 | 0.0 | 36.8 | | | |
| Incr Delay (d2), s/veh | 23.2 | 1.4 | 3.1 | 4.8 | 0.4 | 0.0 | 5.9 | 0.0 | 7.4 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ln | 0.3 | 15.2 | 14.4 | 4.8 | 12.8 | 0.0 | 10.8 | 0.0 | 9.2 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 77.9 | 38.8 | 40.5 | 56.7 | 29.8 | 0.0 | 43.6 | 0.0 | 44.3 | | | |
| LnGrp LOS | E | D | D | E | C | A | D | A | D | | | |
| Approach Vol, veh/h | | 1588 | | | 1782 | | | 1162 | | | | |
| Approach Delay, s/veh | | 39.6 | | | 34.6 | | | 43.8 | | | | |
| Approach LOS | | D | | | C | | | D | | | | |

| Timer - Assigned Phs | 1 | 2 | | 5 | 6 | | 8 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 16.5 | 58.9 | | 5.1 | 70.3 | | 34.6 | | | | | |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | | * 4.2 | 5.3 | | 4.2 | | | | | |
| Max Green Setting (Gmax), s | * 16 | 44.5 | | * 4.1 | 56.4 | | 35.8 | | | | | |
| Max Q Clear Time (g_c+I1), s | 12.1 | 34.8 | | 2.5 | 30.0 | | 26.6 | | | | | |
| Green Ext Time (p_c), s | 0.2 | 7.1 | | 0.0 | 13.4 | | 3.9 | | | | | |

**Intersection Summary**

| | | |
|---|---|---|
| HCM 6th Ctrl Delay | 38.7 | |
| HCM 6th LOS | D | |

**Notes**

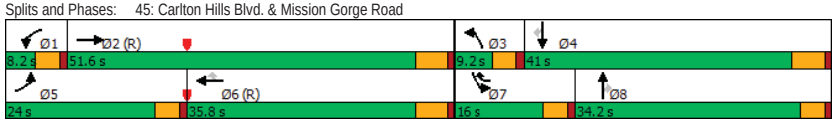
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\5 Existing + Cuml AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 675 | 693 | 22 | 13 | 708 | 413 | 39 | 40 | 8 | 382 | 19 | 882 |
| Future Volume (vph) | 675 | 693 | 22 | 13 | 708 | 413 | 39 | 40 | 8 | 382 | 19 | 882 |
| Confl. Peds. (#/hr) | | | 13 | | | 3 | | | 5 | | | 5 |
| Confl. Bikes (#/hr) | | | 2 | | | 2 | | | 3 | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | 49% |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | 6 | | | 8 | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | 8 | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 23.3 | | 8.2 | 34.3 | 8.2 | 8.2 | 34.2 | 34.2 | 8.2 | 32.4 | 32.4 |
| Total Split (s) | 24.0 | 51.6 | | 8.2 | 35.8 | 16.0 | 9.2 | 34.2 | 34.2 | 16.0 | 41.0 | 41.0 |
| Total Split (%) | 21.8% | 46.9% | | 7.5% | 32.5% | 14.5% | 8.4% | 31.1% | 31.1% | 14.5% | 37.3% | 37.3% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | 3.2 | 3.2 | 3.2 | 3.2 | 3.2 | 4.4 | 4.4 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | 4.2 | 4.2 | 4.2 | 4.2 | 4.2 | 5.4 | 5.4 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | C-Min | | None | C-Min | None | None | None | None | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 110 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 115 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 45: Carlton Hills Blvd. & Mission Gorge Road








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 675 | 693 | 22 | 13 | 708 | 413 | 39 | 40 | 8 | 382 | 19 | 882 |
| Future Volume (veh/h) | 675 | 693 | 22 | 13 | 708 | 413 | 39 | 40 | 8 | 382 | 19 | 882 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 734 | 753 | 24 | 14 | 770 | 449 | 42 | 43 | 9 | 415 | 0 | 876 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 622 | 2433 | 77 | 23 | 1593 | 656 | 54 | 425 | 352 | 382 | 0 | 946 |
| Arrive On Green | 0.06 | 0.16 | 0.16 | 0.00 | 0.10 | 0.10 | 0.03 | 0.23 | 0.23 | 0.11 | 0.00 | 0.30 |
| Sat Flow, veh/h | 3456 | 5077 | 161 | 1781 | 5106 | 1559 | 1781 | 1870 | 1551 | 3563 | 0 | 3108 |
| Grp Volume(v), veh/h | 734 | 504 | 273 | 14 | 770 | 449 | 42 | 43 | 9 | 415 | 0 | 876 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1702 | 1834 | 1781 | 1702 | 1559 | 1781 | 1870 | 1551 | 1781 | 0 | 1554 |
| Q Serve(g_s), s | 19.8 | 14.4 | 14.5 | 0.9 | 15.7 | 26.5 | 2.6 | 2.0 | 0.5 | 11.8 | 0.0 | 30.0 |
| Cycle Q Clear(g_c), s | 19.8 | 14.4 | 14.5 | 0.9 | 15.7 | 26.5 | 2.6 | 2.0 | 0.5 | 11.8 | 0.0 | 30.0 |
| Prop In Lane | 1.00 | | 0.09 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 622 | 1631 | 879 | 23 | 1593 | 656 | 54 | 425 | 352 | 382 | 0 | 946 |
| V/C Ratio(X) | 1.18 | 0.31 | 0.31 | 0.62 | 0.48 | 0.68 | 0.78 | 0.10 | 0.03 | 1.09 | 0.00 | 0.93 |
| Avail Cap(c_a), veh/h | 622 | 1631 | 879 | 65 | 1593 | 656 | 81 | 510 | 423 | 382 | 0 | 1006 |
| HCM Platoon Ratio | 0.33 | 0.33 | 0.33 | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.68 | 0.68 | 0.68 | 0.91 | 0.91 | 0.91 | 1.00 | 1.00 | 1.00 | 0.52 | 0.00 | 0.52 |
| Uniform Delay (d), s/veh | 51.7 | 30.2 | 30.2 | 54.5 | 41.0 | 34.2 | 53.0 | 33.6 | 33.0 | 49.1 | 0.0 | 37.1 |
| Incr Delay (d2), s/veh | 92.3 | 0.3 | 0.6 | 9.1 | 1.0 | 5.2 | 24.0 | 0.0 | 0.0 | 59.0 | 0.0 | 8.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 17.1 | 6.6 | 7.2 | 0.4 | 7.2 | 12.0 | 1.5 | 0.9 | 0.2 | 8.3 | 0.0 | 12.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 144.1 | 30.5 | 30.8 | 63.6 | 41.9 | 39.4 | 77.0 | 33.7 | 33.0 | 108.1 | 0.0 | 45.0 |
| LnGrp LOS | F | C | C | E | D | D | E | C | C | F | A | D |
| Approach Vol, veh/h | | 1511 | | | 1233 | | | 94 | | | 1291 | |
| Approach Delay, s/veh | | 85.7 | | | 41.3 | | | 52.9 | | | 65.3 | |
| Approach LOS | | F | | | D | | | D | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.6 | 58.0 | 7.5 | 38.9 | 24.0 | 39.6 | 16.0 | 30.4 |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | * 4.2 | 5.4 | * 4.2 | 5.3 | * 4.2 | * 5.4 |
| Max Green Setting (Gmax), s | * 4 | 46.3 | * 5 | 35.6 | * 20 | 30.5 | * 12 | * 30 |
| Max Q Clear Time (g_c+I1), s | 2.9 | 16.5 | 4.6 | 32.0 | 21.8 | 28.5 | 13.8 | 4.0 |
| Green Ext Time (p_c), s | 0.0 | 5.8 | 0.0 | 1.4 | 0.0 | 1.7 | 0.0 | 0.1 |

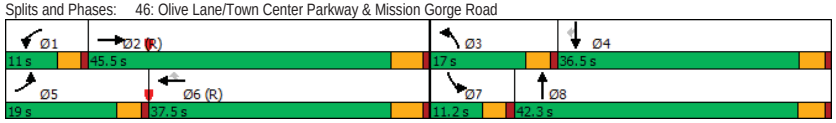
| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 65.3 |
| HCM 6th LOS | E |

| Notes |
|---|
| User approved volume balancing among the lanes for turning movement. |
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 275 | 552 | 128 | 39 | 735 | 108 | 207 | 120 | 34 | 108 | 86 | 308 |
| Future Volume (vph) | 275 | 552 | 128 | 39 | 735 | 108 | 207 | 120 | 34 | 108 | 86 | 308 |
| Confl. Peds. (#/hr) | | | 5 | | | 8 | | | 11 | | | 3 |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | Perm | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | 10.0 | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 26.3 | | 8.2 | 36.3 | 36.3 | 8.2 | 34.6 | | 8.2 | 36.5 | 36.5 |
| Total Split (s) | 19.0 | 45.5 | | 11.0 | 37.5 | 37.5 | 17.0 | 42.3 | | 11.2 | 36.5 | 36.5 |
| Total Split (%) | 17.3% | 41.4% | | 10.0% | 34.1% | 34.1% | 15.5% | 38.5% | | 10.2% | 33.2% | 33.2% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | 4.3 | 3.2 | 3.6 | | 3.2 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | 5.3 | 4.2 | 4.6 | | 4.2 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | C-Min | | None | C-Min | C-Min | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 110 |
| Offset: 40 (36%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 90 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 46: Olive Lane/Town Center Parkway & Mission Gorge Road








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 275 | 552 | 128 | 39 | 735 | 108 | 207 | 120 | 34 | 108 | 86 | 308 |
| Future Volume (veh/h) | 275 | 552 | 128 | 39 | 735 | 108 | 207 | 120 | 34 | 108 | 86 | 308 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.99 | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 299 | 600 | 139 | 42 | 799 | 117 | 225 | 130 | 37 | 117 | 93 | 335 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 356 | 2223 | 505 | 54 | 2360 | 729 | 288 | 303 | 86 | 174 | 346 | 514 |
| Arrive On Green | 0.21 | 1.00 | 1.00 | 0.03 | 0.46 | 0.46 | 0.08 | 0.22 | 0.22 | 0.05 | 0.19 | 0.19 |
| Sat Flow, veh/h | 3456 | 4155 | 944 | 1781 | 5106 | 1577 | 3456 | 1390 | 396 | 3456 | 1870 | 2776 |
| Grp Volume(v), veh/h | 299 | 490 | 249 | 42 | 799 | 117 | 225 | 0 | 167 | 117 | 93 | 335 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1702 | 1695 | 1781 | 1702 | 1577 | 1728 | 0 | 1786 | 1728 | 1870 | 1388 |
| Q Serve(g_s), s | 9.1 | 0.0 | 0.0 | 2.6 | 11.0 | 4.7 | 7.0 | 0.0 | 8.9 | 3.7 | 4.7 | 12.3 |
| Cycle Q Clear(g_c), s | 9.1 | 0.0 | 0.0 | 2.6 | 11.0 | 4.7 | 7.0 | 0.0 | 8.9 | 3.7 | 4.7 | 12.3 |
| Prop In Lane | 1.00 | | 0.56 | 1.00 | | 1.00 | 1.00 | | 0.22 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 356 | 1822 | 907 | 54 | 2360 | 729 | 288 | 0 | 390 | 174 | 346 | 514 |
| V/C Ratio(X) | 0.84 | 0.27 | 0.28 | 0.78 | 0.34 | 0.16 | 0.78 | 0.00 | 0.43 | 0.67 | 0.27 | 0.65 |
| Avail Cap(c_a), veh/h | 465 | 1822 | 907 | 110 | 2360 | 729 | 402 | 0 | 612 | 220 | 544 | 808 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.92 | 0.92 | 0.92 | 0.73 | 0.73 | 0.73 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 42.8 | 0.0 | 0.0 | 53.0 | 18.9 | 17.2 | 49.4 | 0.0 | 37.1 | 51.4 | 38.4 | 41.5 |
| Incr Delay (d2), s/veh | 7.5 | 0.3 | 0.7 | 6.6 | 0.3 | 0.3 | 4.1 | 0.0 | 1.1 | 2.9 | 0.8 | 2.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 3.8 | 0.1 | 0.2 | 1.2 | 4.2 | 1.8 | 3.2 | 0.0 | 4.0 | 1.7 | 2.2 | 4.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 50.3 | 0.3 | 0.7 | 59.6 | 19.1 | 17.5 | 53.5 | 0.0 | 38.2 | 54.3 | 39.2 | 44.1 |
| LnGrp LOS | D | A | A | E | B | B | D | A | D | D | D | D |
| Approach Vol, veh/h | | 1038 | | | 958 | | | 392 | | | 545 | |
| Approach Delay, s/veh | | 14.8 | | | 20.7 | | | 47.0 | | | 45.5 | |
| Approach LOS | | B | | | C | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.5 | 64.2 | 13.4 | 25.0 | 15.5 | 56.1 | 9.7 | 28.6 |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | * 4.2 | * 4.6 | * 4.2 | 5.3 | * 4.2 | 4.6 |
| Max Green Setting (Gmax), s | * 6.8 | 40.2 | * 13 | * 32 | * 15 | 32.2 | * 7 | 37.7 |
| Max Q Clear Time (g_c+I1), s | 4.6 | 2.0 | 9.0 | 14.3 | 11.1 | 13.0 | 5.7 | 10.9 |
| Green Ext Time (p_c), s | 0.0 | 6.1 | 0.2 | 3.2 | 0.2 | 7.9 | 0.0 | 1.3 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 26.7 |
| HCM 6th LOS | C |

Notes

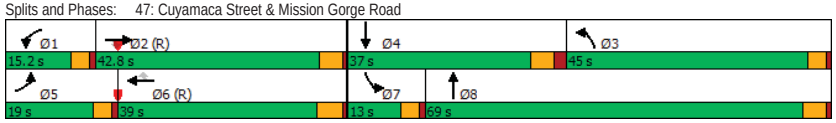
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 136 | 418 | 315 | 175 | 524 | 160 | 699 | 526 | 134 | 128 | 480 | 76 |
| Future Volume (vph) | 136 | 418 | 315 | 175 | 524 | 160 | 699 | 526 | 134 | 128 | 480 | 76 |
| Confl. Peds. (#/hr) | | | 11 | | | 14 | | | 19 | | | 16 |
| Confl. Bikes (#/hr) | | | 4 | | | | | | | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | 10.0 | 4.0 | 7.0 | | 4.0 | 15.0 | |
| Minimum Split (s) | 19.0 | 34.8 | 34.8 | 8.2 | 34.3 | 34.3 | 8.2 | 38.0 | | 8.2 | 37.0 | |
| Total Split (s) | 19.0 | 42.8 | 42.8 | 15.2 | 39.0 | 39.0 | 45.0 | 69.0 | | 13.0 | 37.0 | |
| Total Split (%) | 13.6% | 30.6% | 30.6% | 10.9% | 27.9% | 27.9% | 32.1% | 49.3% | | 9.3% | 26.4% | |
| Yellow Time (s) | 3.2 | 3.8 | 3.8 | 3.2 | 4.3 | 4.3 | 3.2 | 4.0 | | 3.2 | 4.0 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 2.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.2 | 4.8 | 4.8 | 4.2 | 5.3 | 5.3 | 4.2 | 5.0 | | 4.2 | 6.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lag | Lag | | Lead | Lead | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | C-Min | C-Min | None | C-Min | C-Min | None | None | | None | None | |

**Intersection Summary**

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green, Master Intersection
Natural Cycle: 120
Control Type: Actuated-Coordinated

Splits and Phases: 47: Cuyamaca Street & Mission Gorge Road






Existing + Cuml AM
47: Cuyamaca Street & Mission Gorge Road
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 136 | 418 | 315 | 175 | 524 | 160 | 699 | 526 | 134 | 128 | 480 | 76 |
| Future Volume (veh/h) | 136 | 418 | 315 | 175 | 524 | 160 | 699 | 526 | 134 | 128 | 480 | 76 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 0.96 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1683 | 1683 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 148 | 454 | 342 | 190 | 570 | 174 | 760 | 572 | 146 | 139 | 522 | 83 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 198 | 1802 | 546 | 238 | 1861 | 571 | 822 | 983 | 250 | 186 | 859 | 134 |
| Arrive On Green | 0.06 | 0.35 | 0.35 | 0.07 | 0.36 | 0.36 | 0.24 | 0.39 | 0.39 | 0.05 | 0.19 | 0.19 |
| Sat Flow, veh/h | 3456 | 5106 | 1548 | 3456 | 5106 | 1567 | 3456 | 2516 | 640 | 3456 | 4428 | 688 |
| Grp Volume(v), veh/h | 148 | 454 | 342 | 190 | 570 | 174 | 760 | 363 | 355 | 139 | 399 | 206 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1702 | 1548 | 1728 | 1702 | 1567 | 1728 | 1599 | 1557 | 1728 | 1702 | 1712 |
| Q Serve(g_s), s | 5.9 | 8.8 | 13.3 | 7.6 | 11.2 | 11.1 | 30.1 | 25.0 | 25.2 | 5.6 | 15.0 | 15.5 |
| Cycle Q Clear(g_c), s | 5.9 | 8.8 | 13.3 | 7.6 | 11.2 | 11.1 | 30.1 | 25.0 | 25.2 | 5.6 | 15.0 | 15.5 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.41 | 1.00 | | 0.40 |
| Lane Grp Cap(c), veh/h | 198 | 1802 | 546 | 238 | 1861 | 571 | 822 | 625 | 608 | 186 | 661 | 332 |
| V/C Ratio(X) | 0.75 | 0.25 | 0.63 | 0.80 | 0.31 | 0.30 | 0.92 | 0.58 | 0.58 | 0.75 | 0.60 | 0.62 |
| Avail Cap(c_a), veh/h | 365 | 1802 | 546 | 272 | 1861 | 571 | 1007 | 731 | 712 | 217 | 754 | 379 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.97 | 0.97 | 0.97 | 0.96 | 0.96 | 0.96 | 0.60 | 0.60 | 0.60 | 0.99 | 0.99 | 0.99 |
| Uniform Delay (d), s/veh | 65.0 | 32.2 | 10.1 | 64.2 | 31.8 | 31.8 | 52.1 | 33.6 | 33.7 | 65.3 | 51.5 | 51.7 |
| Incr Delay (d2), s/veh | 2.1 | 0.3 | 5.2 | 11.5 | 0.4 | 1.3 | 7.3 | 0.8 | 0.8 | 8.8 | 2.6 | 5.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.6 | 3.7 | 5.1 | 3.7 | 4.6 | 4.4 | 13.8 | 9.8 | 9.6 | 2.7 | 6.6 | 7.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 67.1 | 32.5 | 15.3 | 75.8 | 32.2 | 33.1 | 59.4 | 34.4 | 34.5 | 74.1 | 54.1 | 57.4 |
| LnGrp LOS | E | C | B | E | C | C | E | C | C | E | D | E |
| Approach Vol, veh/h | | 944 | | | 934 | | | 1478 | | | 744 | |
| Approach Delay, s/veh | | 31.7 | | | 41.2 | | | 47.3 | | | 58.8 | |
| Approach LOS | | C | | | D | | | D | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 13.8 | 54.7 | 38.3 | 33.2 | 12.2 | 56.3 | 11.7 | 59.7 |
| Change Period (Y+Rc), s | * 4.2 | * 5.3 | 5.0 | * 6 | * 4.2 | 5.3 | * 4.2 | 5.0 |
| Max Green Setting (Gmax), s | * 11 | * 38 | 40.8 | * 31 | * 15 | 33.7 | * 8.8 | 64.0 |
| Max Q Clear Time (g_c+I1), s | 9.6 | 15.3 | 32.1 | 17.5 | 7.9 | 13.2 | 7.6 | 27.2 |
| Green Ext Time (p_c), s | 0.0 | 10.0 | 1.2 | 5.9 | 0.1 | 6.8 | 0.0 | 7.9 |

**Intersection Summary**

| | |
|---|---|
| HCM 6th Ctrl Delay | 44.4 |
| HCM 6th LOS | D |

**Notes**

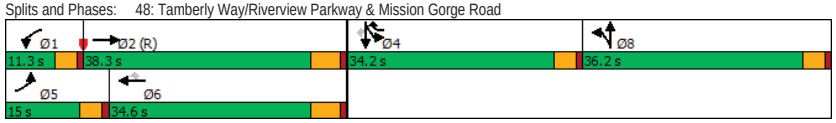
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\5 Existing + Cuml AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 192 | 440 | 10 | 40 | 711 | 230 | 36 | 8 | 17 | 92 | 19 | 67 |
| Future Volume (vph) | 192 | 440 | 10 | 40 | 711 | 230 | 36 | 8 | 17 | 92 | 19 | 67 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | 1 | | | 3 | | | | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | 40% | | |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Split | NA | | Split | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 4 | 8 | 8 | | 4 | 4 | |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 4 | 8 | 8 | | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | 7.0 | 4.0 | 4.0 | | 7.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 23.3 | | 8.2 | 34.3 | 34.2 | 36.2 | 36.2 | | 34.2 | 34.2 | 34.2 |
| Total Split (s) | 15.0 | 38.3 | | 11.3 | 34.6 | 34.2 | 36.2 | 36.2 | | 34.2 | 34.2 | 34.2 |
| Total Split (%) | 12.5% | 31.9% | | 9.4% | 28.8% | 28.5% | 30.2% | 30.2% | | 28.5% | 28.5% | 28.5% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | 3.2 | 3.2 | 3.2 | | 3.2 | 3.2 | 3.2 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | 4.2 | 4.2 | 4.2 | | 4.2 | 4.2 | 4.2 |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | Min | None | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 0 (0%), Referenced to phase 2:EBT, Start of Green |
| Natural Cycle: 115 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 48: Tamberly Way/Riverview Parkway & Mission Gorge Road






Existing + Cuml AM
48: Tamberly Way/Riverview Parkway & Mission Gorge Road
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 192 | 440 | 10 | 40 | 711 | 230 | 36 | 8 | 17 | 92 | 19 | 67 |
| Future Volume (veh/h) | 192 | 440 | 10 | 40 | 711 | 230 | 36 | 8 | 17 | 92 | 19 | 67 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.99 | 1.00 | | 1.00 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 209 | 478 | 11 | 43 | 773 | 250 | 39 | 9 | 18 | 115 | 0 | 73 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 160 | 3695 | 85 | 55 | 3375 | 1137 | 62 | 19 | 39 | 232 | 0 | 101 |
| Arrive On Green | 0.09 | 0.72 | 0.72 | 0.03 | 0.66 | 0.66 | 0.03 | 0.03 | 0.03 | 0.07 | 0.00 | 0.07 |
| Sat Flow, veh/h | 1781 | 5133 | 118 | 1781 | 5106 | 1564 | 1781 | 557 | 1113 | 3563 | 0 | 1561 |
| Grp Volume(v), veh/h | 209 | 316 | 173 | 43 | 773 | 250 | 39 | 0 | 27 | 115 | 0 | 73 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1702 | 1846 | 1781 | 1702 | 1564 | 1781 | 0 | 1670 | 1781 | 0 | 1561 |
| Q Serve(g_s), s | 10.8 | 3.4 | 3.5 | 2.9 | 7.3 | 6.3 | 2.6 | 0.0 | 1.9 | 3.7 | 0.0 | 5.5 |
| Cycle Q Clear(g_c), s | 10.8 | 3.4 | 3.5 | 2.9 | 7.3 | 6.3 | 2.6 | 0.0 | 1.9 | 3.7 | 0.0 | 5.5 |
| Prop In Lane | 1.00 | | 0.06 | 1.00 | | 1.00 | 1.00 | | 0.67 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 160 | 2451 | 1329 | 55 | 3375 | 1137 | 62 | 0 | 58 | 232 | 0 | 101 |
| V/C Ratio(X) | 1.30 | 0.13 | 0.13 | 0.78 | 0.23 | 0.22 | 0.63 | 0.00 | 0.46 | 0.50 | 0.00 | 0.72 |
| Avail Cap(c_a), veh/h | 160 | 2451 | 1329 | 105 | 3375 | 1137 | 475 | 0 | 445 | 891 | 0 | 390 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.95 | 0.95 | 0.95 | 0.98 | 0.98 | 0.98 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 54.6 | 5.2 | 5.2 | 57.7 | 8.1 | 5.4 | 57.1 | 0.0 | 56.8 | 54.2 | 0.0 | 55.0 |
| Incr Delay (d2), s/veh | 172.9 | 0.1 | 0.2 | 8.4 | 0.1 | 0.2 | 3.8 | 0.0 | 2.1 | 0.6 | 0.0 | 3.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 12.4 | 1.1 | 1.2 | 1.4 | 2.4 | 2.4 | 1.2 | 0.0 | 0.8 | 1.7 | 0.0 | 2.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 227.5 | 5.3 | 5.4 | 66.1 | 8.2 | 5.5 | 61.0 | 0.0 | 58.9 | 54.8 | 0.0 | 58.6 |
| LnGrp LOS | F | A | A | E | A | A | E | A | E | D | A | E |
| Approach Vol, veh/h | | 698 | | | 1066 | | | 66 | | | 188 | |
| Approach Delay, s/veh | | 71.8 | | | 9.9 | | | 60.1 | | | 56.3 | |
| Approach LOS | | E | | | A | | | E | | | E | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.9 | 91.7 | | 12.0 | 15.0 | 84.6 | | 8.4 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | | * 4.2 | * 4.2 | 5.3 | | 4.2 | | | | |
| Max Green Setting (Gmax), s | * 7.1 | 33.0 | | * 30 | * 11 | 29.3 | | 32.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 4.9 | 5.5 | | 7.5 | 12.8 | 9.3 | | 4.6 | | | | |
| Green Ext Time (p_c), s | 0.0 | 5.4 | | 0.3 | 0.0 | 9.3 | | 0.1 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 37.3 | |
| HCM 6th LOS | D | |

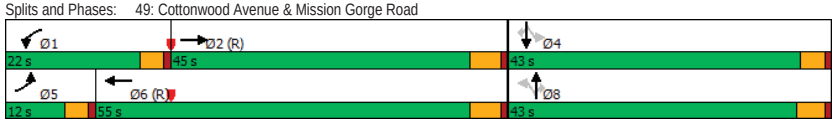
| Notes |
|---|
| User approved volume balancing among the lanes for turning movement. |
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. |

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\5 Existing + Cuml AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 7 | 418 | 53 | 57 | 881 | 2 | 85 | 4 | 51 | 7 | 8 | 22 |
| Future Volume (vph) | 7 | 418 | 53 | 57 | 881 | 2 | 85 | 4 | 51 | 7 | 8 | 22 |
| Confl. Peds. (#/hr) | | | 6 | | | 19 | | | 1 | | | 4 |
| Confl. Bikes (#/hr) | | | 2 | | | 1 | | | | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Perm | NA | Perm | Perm | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | 8 | 4 | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | 8 | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 4.0 | 4.0 | 4.0 | 7.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 23.3 | | 8.2 | 24.3 | | 33.8 | 33.8 | 33.8 | 32.2 | 32.2 | 32.2 |
| Total Split (s) | 12.0 | 45.0 | | 22.0 | 55.0 | | 43.0 | 43.0 | 43.0 | 43.0 | 43.0 | 43.0 |
| Total Split (%) | 10.9% | 40.9% | | 20.0% | 50.0% | | 39.1% | 39.1% | 39.1% | 39.1% | 39.1% | 39.1% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | | 3.8 | 3.8 | 3.8 | 3.2 | 3.2 | 3.2 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | | | 4.8 | 4.8 | | 4.2 | 4.2 |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | None | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 110 |
| Offset: 21 (19%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 70 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 49: Cottonwood Avenue & Mission Gorge Road






Existing + Cuml AM
Fanita Ranch
49: Cottonwood Avenue & Mission Gorge Road
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 7 | 418 | 53 | 57 | 881 | 2 | 85 | 4 | 51 | 7 | 8 | 22 |
| Future Volume (veh/h) | 7 | 418 | 53 | 57 | 881 | 2 | 85 | 4 | 51 | 7 | 8 | 22 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.96 | 1.00 | | 1.00 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 8 | 454 | 58 | 62 | 958 | 2 | 92 | 4 | 55 | 8 | 9 | 24 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 14 | 2165 | 271 | 80 | 2681 | 6 | 65 | 2 | 558 | 49 | 39 | 549 |
| Arrive On Green | 0.01 | 0.47 | 0.47 | 0.09 | 1.00 | 1.00 | 0.35 | 0.35 | 0.35 | 0.35 | 0.35 | 0.35 |
| Sat Flow, veh/h | 1781 | 4579 | 573 | 1781 | 5261 | 11 | 3 | 4 | 1584 | 1 | 110 | 1557 |
| Grp Volume(v), veh/h | 8 | 335 | 177 | 62 | 620 | 340 | 96 | 0 | 55 | 17 | 0 | 24 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1702 | 1748 | 1781 | 1702 | 1868 | 7 | 0 | 1584 | 111 | 0 | 1557 |
| Q Serve(g_s), s | 0.5 | 6.3 | 6.5 | 3.7 | 0.0 | 0.0 | 0.1 | 0.0 | 2.6 | 0.1 | 0.0 | 1.1 |
| Cycle Q Clear(g_c), s | 0.5 | 6.3 | 6.5 | 3.7 | 0.0 | 0.0 | 38.8 | 0.0 | 2.6 | 38.8 | 0.0 | 1.1 |
| Prop In Lane | 1.00 | | 0.33 | 1.00 | | 0.01 | 0.96 | | 1.00 | 0.47 | | 1.00 |
| Lane Grp Cap(c), veh/h | 14 | 1609 | 826 | 80 | 1734 | 952 | 67 | 0 | 558 | 87 | 0 | 549 |
| V/C Ratio(X) | 0.57 | 0.21 | 0.21 | 0.78 | 0.36 | 0.36 | 1.44 | 0.00 | 0.10 | 0.19 | 0.00 | 0.04 |
| Avail Cap(c_a), veh/h | 126 | 1609 | 826 | 288 | 1734 | 952 | 67 | 0 | 558 | 87 | 0 | 549 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.99 | 0.99 | 0.99 | 0.64 | 0.64 | 0.64 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 54.4 | 17.0 | 17.0 | 49.6 | 0.0 | 0.0 | 54.1 | 0.0 | 23.9 | 29.3 | 0.0 | 23.4 |
| Incr Delay (d2), s/veh | 12.6 | 0.3 | 0.6 | 3.9 | 0.4 | 0.7 | 264.0 | 0.0 | 0.0 | 0.4 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.3 | 2.4 | 2.7 | 1.7 | 0.1 | 0.2 | 6.7 | 0.0 | 1.0 | 0.3 | 0.0 | 0.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 67.0 | 17.3 | 17.6 | 53.5 | 0.4 | 0.7 | 318.2 | 0.0 | 23.9 | 29.7 | 0.0 | 23.4 |
| LnGrp LOS | E | B | B | D | A | A | F | A | C | C | A | C |
| Approach Vol, veh/h | | 520 | | | 1022 | | | 151 | | | 41 | |
| Approach Delay, s/veh | | 18.1 | | | 3.7 | | | 211.0 | | | 26.0 | |
| Approach LOS | | B | | | A | | | F | | | C | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 9.1 | 57.3 | | 43.6 | 5.1 | 61.3 | | 43.6 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | | * 4.8 | * 4.2 | 5.3 | | * 4.8 | | | | |
| Max Green Setting (Gmax), s | * 18 | 39.7 | | * 39 | * 7.8 | 49.7 | | * 38 | | | | |
| Max Q Clear Time (g_c+I1), s | 5.7 | 8.5 | | 40.8 | 2.5 | 2.0 | | 40.8 | | | | |
| Green Ext Time (p_c), s | 0.0 | 2.7 | | 0.0 | 0.0 | 11.2 | | 0.0 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 26.6 | |
| HCM 6th LOS | C | |

Notes

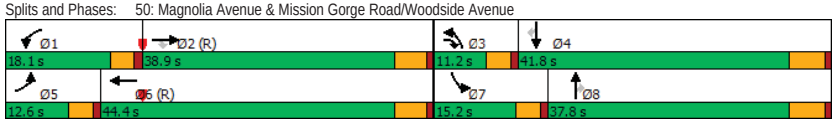
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\5 Existing + Cuml AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 129 | 220 | 167 | 383 | 553 | 245 | 196 | 770 | 364 | 254 | 1109 | 231 |
| Future Volume (vph) | 129 | 220 | 167 | 383 | 553 | 245 | 196 | 770 | 364 | 254 | 1109 | 231 |
| Confl. Peds. (#/hr) | | | 6 | | | 11 | | | 19 | | | 6 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | | | | 8 | | | 4 |
| Detector Phase | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | 8 | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 4.0 | 4.0 | 10.0 | | 4.0 | 7.0 | 7.0 | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 38.3 | 8.2 | 8.2 | 35.3 | | 8.2 | 34.7 | 34.7 | 8.2 | 35.7 | 35.7 |
| Total Split (s) | 12.6 | 38.9 | 11.2 | 18.1 | 44.4 | | 11.2 | 37.8 | 37.8 | 15.2 | 41.8 | 41.8 |
| Total Split (%) | 11.5% | 35.4% | 10.2% | 16.5% | 40.4% | | 10.2% | 34.4% | 34.4% | 13.8% | 38.0% | 38.0% |
| Yellow Time (s) | 3.2 | 4.3 | 3.2 | 3.2 | 4.3 | | 3.2 | 4.7 | 4.7 | 3.2 | 4.7 | 4.7 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | 4.2 | 4.2 | 5.3 | | 4.2 | 5.7 | 5.7 | 4.2 | 5.7 | 5.7 |
| Lead/Lag | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | C-Min | None | None | C-Min | | None | None | None | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 110 |
| Offset: 24 (22%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 115 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 50: Magnolia Avenue & Mission Gorge Road/Woodside Avenue








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 129 | 220 | 167 | 383 | 553 | 245 | 196 | 770 | 364 | 254 | 1109 | 231 |
| Future Volume (veh/h) | 129 | 220 | 167 | 383 | 553 | 245 | 196 | 770 | 364 | 254 | 1109 | 231 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 140 | 239 | 182 | 416 | 601 | 240 | 213 | 837 | 357 | 276 | 1205 | 225 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 197 | 1085 | 582 | 437 | 927 | 370 | 220 | 1048 | 459 | 334 | 1166 | 517 |
| Arrive On Green | 0.10 | 0.51 | 0.51 | 0.13 | 0.37 | 0.37 | 0.13 | 0.59 | 0.59 | 0.10 | 0.33 | 0.33 |
| Sat Flow, veh/h | 3456 | 3554 | 1576 | 3456 | 2473 | 986 | 3456 | 3554 | 1554 | 3456 | 3554 | 1576 |
| Grp Volume(v), veh/h | 140 | 239 | 182 | 416 | 432 | 409 | 213 | 837 | 357 | 276 | 1205 | 225 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1576 | 1728 | 1777 | 1682 | 1728 | 1777 | 1554 | 1728 | 1777 | 1576 |
| Q Serve(g_s), s | 4.3 | 4.1 | 7.0 | 13.2 | 22.1 | 22.1 | 6.7 | 20.1 | 19.2 | 8.6 | 36.1 | 12.3 |
| Cycle Q Clear(g_c), s | 4.3 | 4.1 | 7.0 | 13.2 | 22.1 | 22.1 | 6.7 | 20.1 | 19.2 | 8.6 | 36.1 | 12.3 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.59 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 197 | 1085 | 582 | 437 | 666 | 630 | 220 | 1048 | 459 | 334 | 1166 | 517 |
| V/C Ratio(X) | 0.71 | 0.22 | 0.31 | 0.95 | 0.65 | 0.65 | 0.97 | 0.80 | 0.78 | 0.83 | 1.03 | 0.43 |
| Avail Cap(c_a), veh/h | 264 | 1085 | 582 | 437 | 666 | 630 | 220 | 1048 | 459 | 346 | 1166 | 517 |
| HCM Platoon Ratio | 1.67 | 1.67 | 1.67 | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.99 | 0.99 | 0.99 | 1.00 | 1.00 | 1.00 | 0.90 | 0.90 | 0.90 | 0.83 | 0.83 | 0.83 |
| Uniform Delay (d), s/veh | 48.9 | 19.7 | 17.0 | 47.7 | 28.4 | 28.4 | 47.9 | 20.0 | 19.8 | 48.8 | 37.0 | 29.0 |
| Incr Delay (d2), s/veh | 2.9 | 0.5 | 1.4 | 30.9 | 4.8 | 5.1 | 48.4 | 4.2 | 8.0 | 11.6 | 33.0 | 0.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.9 | 1.7 | 2.4 | 7.4 | 9.9 | 9.4 | 4.1 | 5.7 | 5.3 | 4.1 | 20.1 | 4.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 51.8 | 20.2 | 18.4 | 78.6 | 33.2 | 33.5 | 96.3 | 24.2 | 27.8 | 60.3 | 69.9 | 29.6 |
| LnGrp LOS | D | C | B | E | C | C | F | C | C | E | F | C |
| Approach Vol, veh/h | | 561 | | | 1257 | | | 1407 | | | 1706 | |
| Approach Delay, s/veh | | 27.5 | | | 48.4 | | | 36.0 | | | 63.1 | |
| Approach LOS | | C | | | D | | | D | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 18.1 | 38.9 | 11.2 | 41.8 | 10.5 | 46.5 | 14.8 | 38.2 |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | * 4.2 | 5.7 | * 4.2 | 5.3 | * 4.2 | 5.7 |
| Max Green Setting (Gmax), s | * 14 | 33.6 | * 7 | 36.1 | * 8.4 | 39.1 | * 11 | 32.1 |
| Max Q Clear Time (g_c+I1), s | 15.2 | 9.0 | 8.7 | 38.1 | 6.3 | 24.1 | 10.6 | 22.1 |
| Green Ext Time (p_c), s | 0.0 | 2.5 | 0.0 | 0.0 | 0.0 | 7.0 | 0.0 | 5.9 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 47.6 | |
| HCM 6th LOS | D | |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 29.3 |
| Intersection LOS | D |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 6 | 138 | 339 | 9 | 0 | 303 | 0 | 0 | 9 | 546 | 37 |
| Future Vol, veh/h | 0 | 6 | 138 | 339 | 9 | 0 | 303 | 0 | 0 | 9 | 546 | 37 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 7 | 150 | 368 | 10 | 0 | 329 | 0 | 0 | 10 | 593 | 40 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 2 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay | 15.1 | 36.1 | 35.5 | 25.5 |
| HCM LOS | C | E | E | D |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 97% | 3% | 0% |
| Vol Thru, % | 0% | 100% | 4% | 3% | 97% | 88% |
| Vol Right, % | 0% | 0% | 96% | 0% | 0% | 12% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 303 | 0 | 144 | 348 | 282 | 310 |
| LT Vol | 303 | 0 | 0 | 339 | 9 | 0 |
| Through Vol | 0 | 0 | 6 | 9 | 273 | 273 |
| RT Vol | 0 | 0 | 138 | 0 | 0 | 37 |
| Lane Flow Rate | 329 | 0 | 157 | 378 | 307 | 337 |
| Geometry Grp | 7 | 7 | 2 | 2 | 7 | 7 |
| Degree of Util (X) | 0.779 | 0 | 0.343 | 0.81 | 0.654 | 0.71 |
| Departure Headway (Hd) | 8.512 | 7.994 | 7.886 | 7.707 | 7.686 | 7.583 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 425 | 0 | 454 | 473 | 469 | 475 |
| Service Time | 6.269 | 5.751 | 5.959 | 5.707 | 5.448 | 5.345 |
| HCM Lane V/C Ratio | 0.774 | 0 | 0.346 | 0.799 | 0.655 | 0.709 |
| HCM Control Delay | 35.5 | 10.8 | 15.1 | 36.1 | 23.9 | 26.9 |
| HCM Lane LOS | E | N | C | E | C | D |
| HCM 95th-tile Q | 6.7 | 0 | 1.5 | 7.6 | 4.6 | 5.5 |

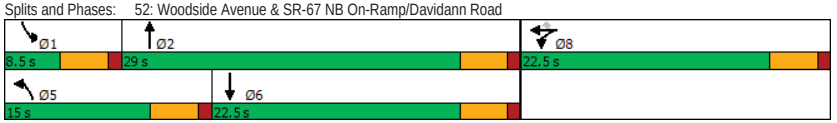




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 0 | 46 | 4 | 3 | 193 | 200 | 20 | 2 | 286 | 2 |
| Future Volume (vph) | 0 | 0 | 0 | 46 | 4 | 3 | 193 | 200 | 20 | 2 | 286 | 2 |
| Confl. Peds. (#/hr) | | | | | | | | | 1 | | | |
| Confl. Bikes (#/hr) | | | | | | 2 | | | 2 | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | | | | Split | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | | | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | 8 | | | | | | |
| Detector Phase | | | | 8 | 8 | 8 | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | | | | 22.5 | 22.5 | 22.5 | 8.5 | 22.5 | | 8.5 | 22.5 | |
| Total Split (s) | | | | 22.5 | 22.5 | 22.5 | 15.0 | 29.0 | | 8.5 | 22.5 | |
| Total Split (%) | | | | 37.5% | 37.5% | 37.5% | 25.0% | 48.3% | | 14.2% | 37.5% | |
| Yellow Time (s) | | | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | | | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | | | | | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | | | | | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | | | | None | None | None | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 39.3 |
| Natural Cycle: 60 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 52: Woodside Avenue & SR-67 NB On-Ramp/Davidann Road



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 46 | 4 | 3 | 193 | 200 | 20 | 2 | 286 | 2 |
| Future Volume (veh/h) | 0 | 0 | 0 | 46 | 4 | 3 | 193 | 200 | 20 | 2 | 286 | 2 |
| Initial Q (Qb), veh | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | | | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.97 |
| Parking Bus, Adj | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | | | | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | | | | 50 | 4 | 3 | 210 | 217 | 22 | 2 | 311 | 2 |
| Peak Hour Factor | | | | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | | | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | | | | 86 | 7 | 80 | 278 | 717 | 73 | 7 | 513 | 3 |
| Arrive On Green | | | | 0.05 | 0.05 | 0.05 | 0.16 | 0.43 | 0.43 | 0.00 | 0.28 | 0.28 |
| Sat Flow, veh/h | | | | 1655 | 132 | 1546 | 1781 | 1666 | 169 | 1781 | 1856 | 12 |
| Grp Volume(v), veh/h | | | | 54 | 0 | 3 | 210 | 0 | 239 | 2 | 0 | 313 |
| Grp Sat Flow(s),veh/h/ln | | | | 1788 | 0 | 1546 | 1781 | 0 | 1835 | 1781 | 0 | 1868 |
| Q Serve(g_s), s | | | | 0.8 | 0.0 | 0.0 | 3.0 | 0.0 | 2.2 | 0.0 | 0.0 | 3.8 |
| Cycle Q Clear(g_c), s | | | | 0.8 | 0.0 | 0.0 | 3.0 | 0.0 | 2.2 | 0.0 | 0.0 | 3.8 |
| Prop In Lane | | | | 0.93 | | 1.00 | 1.00 | | 0.09 | 1.00 | | 0.01 |
| Lane Grp Cap(c), veh/h | | | | 93 | 0 | 80 | 278 | 0 | 790 | 7 | 0 | 516 |
| V/C Ratio(X) | | | | 0.58 | 0.00 | 0.04 | 0.75 | 0.00 | 0.30 | 0.29 | 0.00 | 0.61 |
| Avail Cap(c_a), veh/h | | | | 1229 | 0 | 1063 | 714 | 0 | 1717 | 272 | 0 | 1284 |
| HCM Platoon Ratio | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | | | | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | | | | 12.1 | 0.0 | 11.8 | 10.6 | 0.0 | 4.9 | 13.0 | 0.0 | 8.2 |
| Incr Delay (d2), s/veh | | | | 5.7 | 0.0 | 0.2 | 4.1 | 0.0 | 0.2 | 22.2 | 0.0 | 1.2 |
| Initial Q Delay(d3),s/veh | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | | 0.4 | 0.0 | 0.0 | 1.1 | 0.0 | 0.4 | 0.1 | 0.0 | 1.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | 17.8 | 0.0 | 12.0 | 14.7 | 0.0 | 5.1 | 35.3 | 0.0 | 9.4 |
| LnGrp LOS | | | | B | A | B | B | A | A | D | A | A |
| Approach Vol, veh/h | | | | | 57 | | | 449 | | | 315 | |
| Approach Delay, s/veh | | | | | 17.5 | | | 9.6 | | | 9.6 | |
| Approach LOS | | | | | B | | | A | | | A | |

| Timer - Assigned Phs | 1 | 2 | | | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 4.6 | 15.8 | | | 8.6 | 11.7 | | 5.9 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 4.0 | 24.5 | | | 10.5 | 18.0 | | 18.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.0 | 4.2 | | | 5.0 | 5.8 | | 2.8 | | | | |
| Green Ext Time (p_c), s | 0.0 | 1.3 | | | 0.3 | 1.4 | | 0.2 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 10.1 |
| HCM 6th LOS | | B |





| Intersection | |
|---|---|
| Int Delay, s/veh | 9.1 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 99 | 520 | 587 | 0 | 0 | 721 |
| Future Vol, veh/h | 99 | 520 | 587 | 0 | 0 | 721 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | 300 | - | - | - | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 108 | 565 | 638 | 0 | 0 | 784 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 1030 | 319 | 0 | - | - | - |
| Stage 1 | 638 | - | - | - | - | - |
| Stage 2 | 392 | - | - | - | - | - |
| Critical Hdwy | 6.84 | 6.8 | - | - | - | - |
| Critical Hdwy Stg 1 | 5.84 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.84 | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 3.32 | - | - | - | - |
| Pot Cap-1 Maneuver | 229 | 685 | - | 0 | 0 | - |
| Stage 1 | 488 | - | - | 0 | 0 | - |
| Stage 2 | 652 | - | - | 0 | 0 | - |
| Platoon blocked, % | | | - | | | - |
| Mov Cap-1 Maneuver | 229 | 685 | - | - | - | - |
| Mov Cap-2 Maneuver | 356 | - | - | - | - | - |
| Stage 1 | 488 | - | - | - | - | - |
| Stage 2 | 652 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 28.4 | 0 | 0 |
| HCM LOS | D | | |

| Minor Lane/Major Mvmt | NBT | WBLn1 | WBLn2 | SBT |
|---|---|---|---|---|
| Capacity (veh/h) | - | 356 | 685 | - |
| HCM Lane V/C Ratio | - | 0.302 | 0.825 | - |
| HCM Control Delay (s) | - | 19.4 | 30.1 | - |
| HCM Lane LOS | - | C | D | - |
| HCM 95th %tile Q(veh) | - | 1.2 | 8.9 | - |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 587 | 204 | 430 | 389 |
| Future Volume (Veh/h) | 0 | 0 | 587 | 204 | 430 | 389 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 0 | 638 | 222 | 467 | 423 |
| Pedestrians | 2 | | | | | |
| Lane Width (ft) | 0.0 | | | | | |
| Walking Speed (ft/s) | 4.0 | | | | | |
| Percent Blockage | 0 | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | 769 | | | 1029 |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 1896 | 432 | | | 862 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 1896 | 432 | | | 862 | |
| tC, single (s) | 6.8 | 6.9 | | | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 100 | 100 | | | 40 | |
| cM capacity (veh/h) | 24 | 572 | | | 776 | |

| Direction, Lane # | NB 1 | NB 2 | SB 1 | SB 2 | SB 3 |
|---|---|---|---|---|---|
| Volume Total | 425 | 435 | 467 | 212 | 212 |
| Volume Left | 0 | 0 | 467 | 0 | 0 |
| Volume Right | 0 | 222 | 0 | 0 | 0 |
| cSH | 1700 | 1700 | 776 | 1700 | 1700 |
| Volume to Capacity | 0.25 | 0.26 | 0.60 | 0.12 | 0.12 |
| Queue Length 95th (ft) | 0 | 0 | 103 | 0 | 0 |
| Control Delay (s) | 0.0 | 0.0 | 16.4 | 0.0 | 0.0 |
| Lane LOS | | | C | | |
| Approach Delay (s) | 0.0 | | 8.6 | | |
| Approach LOS | | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 4.4 | | |
| Intersection Capacity Utilization | 55.1% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

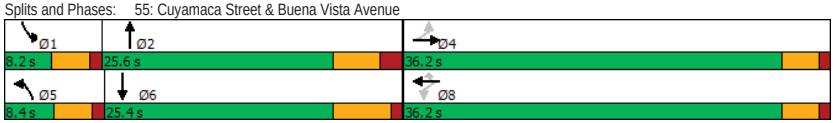




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 10 | 5 | 12 | 201 | 1 | 67 | 52 | 1317 | 163 | 65 | 1044 | 28 |
| Future Volume (vph) | 10 | 5 | 12 | 201 | 1 | 67 | 52 | 1317 | 163 | 65 | 1044 | 28 |
| Confl. Peds. (#/hr) | | | 3 | | | 7 | | | 5 | | | 2 |
| Confl. Bikes (#/hr) | | | 1 | | | 4 | | | 3 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Perm | NA | | Perm | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | 8 | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | 8 | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 10.0 | | 4.0 | 10.0 | |
| Minimum Split (s) | 36.2 | 36.2 | | 34.2 | 34.2 | 34.2 | 8.2 | 24.0 | | 8.2 | 24.0 | |
| Total Split (s) | 36.2 | 36.2 | | 36.2 | 36.2 | 36.2 | 8.4 | 25.6 | | 8.2 | 25.4 | |
| Total Split (%) | 51.7% | 51.7% | | 51.7% | 51.7% | 51.7% | 12.0% | 36.6% | | 11.7% | 36.3% | |
| Yellow Time (s) | 3.2 | 3.2 | | 3.2 | 3.2 | 3.2 | 3.2 | 4.0 | | 3.2 | 4.9 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 2.0 | | 1.0 | 1.1 | |
| Lost Time Adjust (s) | | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | | 4.2 | | | 4.2 | 4.2 | 4.2 | 6.0 | | 4.2 | 6.0 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | None | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 70 |
| Actuated Cycle Length: 54.5 |
| Natural Cycle: 80 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 55: Cuyamaca Street & Buena Vista Avenue



Existing + Cuml AM
55: Cuyamaca Street & Buena Vista Avenue

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 10 | 5 | 12 | 201 | 1 | 67 | 52 | 1317 | 163 | 65 | 1044 | 28 |
| Future Volume (veh/h) | 10 | 5 | 12 | 201 | 1 | 67 | 52 | 1317 | 163 | 65 | 1044 | 28 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 11 | 5 | 13 | 218 | 1 | 73 | 57 | 1432 | 177 | 71 | 1135 | 30 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 138 | 77 | 97 | 441 | 2 | 462 | 77 | 1711 | 211 | 89 | 1942 | 51 |
| Arrive On Green | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | 0.04 | 0.37 | 0.37 | 0.05 | 0.38 | 0.38 |
| Sat Flow, veh/h | 139 | 260 | 324 | 1012 | 6 | 1550 | 1781 | 4586 | 567 | 1781 | 5115 | 135 |
| Grp Volume(v), veh/h | 29 | 0 | 0 | 219 | 0 | 73 | 57 | 1063 | 546 | 71 | 755 | 410 |
| Grp Sat Flow(s),veh/h/ln | 724 | 0 | 0 | 1018 | 0 | 1550 | 1781 | 1702 | 1748 | 1781 | 1702 | 1846 |
| Q Serve(g_s), s | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 1.8 | 1.6 | 14.7 | 14.7 | 2.0 | 9.1 | 9.1 |
| Cycle Q Clear(g_c), s | 11.8 | 0.0 | 0.0 | 11.6 | 0.0 | 1.8 | 1.6 | 14.7 | 14.7 | 2.0 | 9.1 | 9.1 |
| Prop In Lane | 0.38 | | 0.45 | 1.00 | | 1.00 | 1.00 | | 0.32 | 1.00 | | 0.07 |
| Lane Grp Cap(c), veh/h | 312 | 0 | 0 | 443 | 0 | 462 | 77 | 1270 | 652 | 89 | 1293 | 701 |
| V/C Ratio(X) | 0.09 | 0.00 | 0.00 | 0.49 | 0.00 | 0.16 | 0.74 | 0.84 | 0.84 | 0.80 | 0.58 | 0.58 |
| Avail Cap(c_a), veh/h | 795 | 0 | 0 | 892 | 0 | 962 | 145 | 1293 | 664 | 138 | 1293 | 701 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 13.6 | 0.0 | 0.0 | 16.8 | 0.0 | 13.3 | 24.4 | 14.7 | 14.7 | 24.3 | 12.8 | 12.8 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 0.0 | 0.3 | 0.0 | 0.1 | 5.1 | 5.1 | 9.5 | 7.9 | 0.8 | 1.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.2 | 0.0 | 0.0 | 2.1 | 0.0 | 0.6 | 0.7 | 5.5 | 6.4 | 1.0 | 3.0 | 3.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 13.7 | 0.0 | 0.0 | 17.1 | 0.0 | 13.4 | 29.5 | 19.9 | 24.3 | 32.2 | 13.6 | 14.3 |
| LnGrp LOS | B | A | A | B | A | B | C | B | C | C | B | B |
| Approach Vol, veh/h | | 29 | | | 292 | | | 1666 | | | 1236 | |
| Approach Delay, s/veh | | 13.7 | | | 16.2 | | | 21.6 | | | 14.9 | |
| Approach LOS | | B | | | B | | | C | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 6.8 | 25.3 | | 19.6 | 6.4 | 25.6 | | 19.6 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 6.0 | | * 4.2 | * 4.2 | * 6 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | * 4 | 19.6 | | * 32 | * 4.2 | * 19 | | * 32 | | | | |
| Max Q Clear Time (g_c+I1), s | 4.0 | 16.7 | | 13.8 | 3.6 | 11.1 | | 13.6 | | | | |
| Green Ext Time (p_c), s | 0.0 | 2.6 | | 0.0 | 0.0 | 5.5 | | 0.9 | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 18.5 | |
| HCM 6th LOS | | B | |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



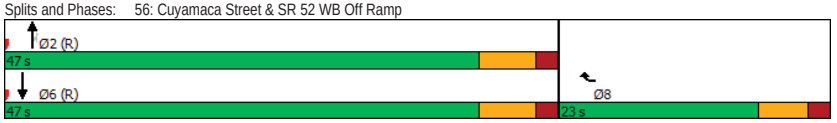
Existing + Cuml AM
56: Cuyamaca Street & SR 52 WB Off Ramp

Fanita Ranch
06/06/2019

| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 845 | 887 | 197 | 0 | 1384 |
| Future Volume (vph) | 0 | 845 | 887 | 197 | 0 | 1384 |
| Confl. Peds. (#/hr) | | | | 9 | | |
| Confl. Bikes (#/hr) | | | | 3 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | 0% | | | 0% |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | | Prot | NA | Perm | | NA |
| Protected Phases | | 8 | 2 | | | 6 |
| Permitted Phases | | | | 2 | | |
| Detector Phase | | 8 | 2 | 2 | | 6 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | | 5.0 | 14.0 | 14.0 | | 14.0 |
| Minimum Split (s) | | 20.0 | 45.8 | 45.8 | | 45.8 |
| Total Split (s) | | 23.0 | 47.0 | 47.0 | | 47.0 |
| Total Split (%) | | 32.9% | 67.1% | 67.1% | | 67.1% |
| Yellow Time (s) | | 4.1 | 4.8 | 4.8 | | 4.8 |
| All-Red Time (s) | | 2.0 | 2.0 | 2.0 | | 2.0 |
| Lost Time Adjust (s) | | 0.0 | 0.0 | 0.0 | | 0.0 |
| Total Lost Time (s) | | 6.1 | 6.8 | 6.8 | | 6.8 |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | | None | C-Max | C-Max | | C-Max |

| Intersection Summary |
|---|
| Cycle Length: 70 |
| Actuated Cycle Length: 70 |
| Offset: 22 (31%), Referenced to phase 2:NBT and 6:SBT, Start of Green |
| Natural Cycle: 75 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 56: Cuyamaca Street & SR 52 WB Off Ramp



Existing + Cuml AM
56: Cuyamaca Street & SR 52 WB Off Ramp

Fanita Ranch
06/06/2019

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 845 | 887 | 197 | 0 | 1384 |
| Future Volume (veh/h) | 0 | 845 | 887 | 197 | 0 | 1384 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | | 0.97 | 1.00 | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | No | | | No |
| Adj Sat Flow, veh/h/ln | 0 | 1870 | 1870 | 1870 | 0 | 1870 |
| Adj Flow Rate, veh/h | 0 | 918 | 964 | 214 | 0 | 1504 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 0 | 2 | 2 | 2 | 0 | 2 |
| Cap, veh/h | 0 | 0 | 4610 | 1394 | 0 | 4610 |
| Arrive On Green | 0.00 | 0.00 | 0.30 | 0.30 | 0.00 | 0.90 |
| Sat Flow, veh/h | 0 | | 5274 | 1544 | 0 | 5443 |
| Grp Volume(v), veh/h | 0.0 | | 964 | 214 | 0 | 1504 |
| Grp Sat Flow(s),veh/h/ln | | | 1702 | 1544 | 0 | 1702 |
| Q Serve(g_s), s | | | 9.9 | 7.1 | 0.0 | 2.8 |
| Cycle Q Clear(g_c), s | | | 9.9 | 7.1 | 0.0 | 2.8 |
| Prop In Lane | | | | 1.00 | 0.00 | |
| Lane Grp Cap(c), veh/h | | | 4610 | 1394 | 0 | 4610 |
| V/C Ratio(X) | | | 0.21 | 0.15 | 0.00 | 0.33 |
| Avail Cap(c_a), veh/h | | | 4610 | 1394 | 0 | 4610 |
| HCM Platoon Ratio | | | 0.33 | 0.33 | 1.00 | 1.00 |
| Upstream Filter(I) | | | 1.00 | 1.00 | 0.00 | 0.85 |
| Uniform Delay (d), s/veh | | | 5.9 | 4.9 | 0.0 | 0.5 |
| Incr Delay (d2), s/veh | | | 0.1 | 0.2 | 0.0 | 0.2 |
| Initial Q Delay(d3),s/veh | | | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | 0.0 | 0.1 | 0.0 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | | | 6.0 | 5.1 | 0.0 | 0.6 |
| LnGrp LOS | | | A | A | A | A |
| Approach Vol, veh/h | | | 1178 | | | 1504 |
| Approach Delay, s/veh | | | 5.8 | | | 0.6 |
| Approach LOS | | | A | | | A |

| Timer - Assigned Phs | | 2 | | | | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 70.0 | | | | 70.0 |
| Change Period (Y+Rc), s | | 6.8 | | | | 6.8 |
| Max Green Setting (Gmax), s | | 40.2 | | | | 40.2 |
| Max Q Clear Time (g_c+I1), s | | 11.9 | | | | 4.8 |
| Green Ext Time (p_c), s | | 8.5 | | | | 14.4 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 2.9 |
| HCM 6th LOS | A |



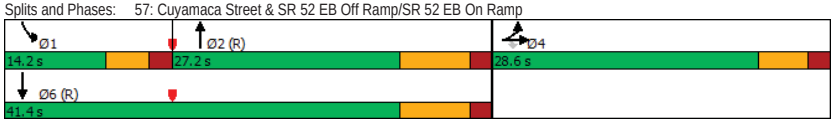
Existing + Cuml AM
57: Cuyamaca Street & SR 52 EB Off Ramp/SR 52 EB On Ramp

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 324 | 2 | 488 | 0 | 0 | 0 | 0 | 760 | 94 | 300 | 726 | 0 |
| Future Volume (vph) | 324 | 2 | 488 | 0 | 0 | 0 | 0 | 760 | 94 | 300 | 726 | 0 |
| Confl. Peds. (#/hr) | | | | | | | | | 5 | | | 24 |
| Confl. Bikes (#/hr) | | | | | | | | | 2 | | | 9 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | 50% | | | | | | | | | | | |
| Turn Type | Split | NA | Perm | | | | | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | | | | | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | | | | |
| Detector Phase | 4 | 4 | 4 | | | | | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | | | | | 11.0 | | 5.0 | 12.0 | |
| Minimum Split (s) | 22.1 | 22.1 | 22.1 | | | | | 27.0 | | 10.7 | 32.0 | |
| Total Split (s) | 28.6 | 28.6 | 28.6 | | | | | 27.2 | | 14.2 | 41.4 | |
| Total Split (%) | 40.9% | 40.9% | 40.9% | | | | | 38.9% | | 20.3% | 59.1% | |
| Yellow Time (s) | 4.1 | 4.1 | 4.1 | | | | | 6.0 | | 3.7 | 6.0 | |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | | | | | 2.0 | | 2.0 | 2.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | | | | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 6.1 | 6.1 | 6.1 | | | | | 8.0 | | 5.7 | 8.0 | |
| Lead/Lag | | | | | | | | Lag | | Lead | | |
| Lead-Lag Optimize? | | | | | | | | Yes | | Yes | | |
| Recall Mode | None | None | None | | | | | C-Min | | None | C-Min | |

| Intersection Summary |
|---|
| Cycle Length: 70 |
| Actuated Cycle Length: 70 |
| Offset: 10 (14%), Referenced to phase 2:NBT and 6:SBT, Start of Green |
| Natural Cycle: 70 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 57: Cuyamaca Street & SR 52 EB Off Ramp/SR 52 EB On Ramp



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 324 | 2 | 488 | 0 | 0 | 0 | 0 | 760 | 94 | 300 | 726 | 0 |
| Future Volume (veh/h) | 324 | 2 | 488 | 0 | 0 | 0 | 0 | 760 | 94 | 300 | 726 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | | | | 1.00 | | 0.98 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | | | | 0 | 1870 | 1870 | 1870 | 1870 | 0 |
| Adj Flow Rate, veh/h | 353 | 0 | 530 | | | | 0 | 826 | 102 | 326 | 789 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | | | | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | | | | 0 | 2 | 2 | 2 | 2 | 0 |
| Cap, veh/h | 1145 | 0 | 509 | | | | 0 | 1261 | 155 | 420 | 1696 | 0 |
| Arrive On Green | 0.32 | 0.00 | 0.32 | | | | 0.00 | 0.36 | 0.36 | 0.04 | 0.16 | 0.00 |
| Sat Flow, veh/h | 3563 | 0 | 1585 | | | | 0 | 4764 | 564 | 3456 | 3647 | 0 |
| Grp Volume(v), veh/h | 353 | 0 | 530 | | | | 0 | 611 | 317 | 326 | 789 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1585 | | | | 0 | 1702 | 1756 | 1728 | 1777 | 0 |
| Q Serve(g_s), s | 5.2 | 0.0 | 22.5 | | | | 0.0 | 10.5 | 10.6 | 6.5 | 14.1 | 0.0 |
| Cycle Q Clear(g_c), s | 5.2 | 0.0 | 22.5 | | | | 0.0 | 10.5 | 10.6 | 6.5 | 14.1 | 0.0 |
| Prop In Lane | 1.00 | | 1.00 | | | | 0.00 | | 0.32 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 1145 | 0 | 509 | | | | 0 | 934 | 482 | 420 | 1696 | 0 |
| V/C Ratio(X) | 0.31 | 0.00 | 1.04 | | | | 0.00 | 0.65 | 0.66 | 0.78 | 0.47 | 0.00 |
| Avail Cap(c_a), veh/h | 1145 | 0 | 509 | | | | 0 | 934 | 482 | 420 | 1696 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.33 | 1.33 | 0.33 | 0.33 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | | | | 0.00 | 0.93 | 0.93 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | 17.9 | 0.0 | 23.8 | | | | 0.0 | 19.5 | 19.5 | 32.7 | 21.4 | 0.0 |
| Incr Delay (d2), s/veh | 0.2 | 0.0 | 50.7 | | | | 0.0 | 3.3 | 6.5 | 8.1 | 0.9 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.0 | 0.0 | 14.9 | | | | 0.0 | 3.9 | 4.5 | 3.2 | 6.8 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 18.0 | 0.0 | 74.5 | | | | 0.0 | 22.8 | 25.9 | 40.8 | 22.3 | 0.0 |
| LnGrp LOS | B | A | F | | | | A | C | C | D | C | A |
| Approach Vol, veh/h | | 883 | | | | | | 928 | | | 1115 | |
| Approach Delay, s/veh | | 51.9 | | | | | | 23.9 | | | 27.7 | |
| Approach LOS | | D | | | | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | 4 | 6 |
|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 14.2 | 27.2 | 28.6 | 41.4 |
| Change Period (Y+Rc), s | * 5.7 | 8.0 | 6.1 | 8.0 |
| Max Green Setting (Gmax), s | * 8.5 | 19.2 | 22.5 | 33.4 |
| Max Q Clear Time (g_c+I1), s | 8.5 | 12.6 | 24.5 | 16.1 |
| Green Ext Time (p_c), s | 0.0 | 3.1 | 0.0 | 5.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 33.8 |
| HCM 6th LOS | C |

**Notes**

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

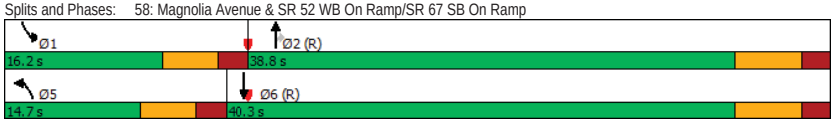




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 294 | 1217 | 142 | 572 | 619 | 296 |
| Future Volume (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 294 | 1217 | 142 | 572 | 619 | 296 |
| Confl. Peds. (#/hr) | | | | | | | | | 5 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | | | | | | | Prot | NA | Perm | Prot | NA | |
| Protected Phases | | | | | | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | | | 2 | | | |
| Detector Phase | | | | | | | 5 | 2 | 2 | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | | | | | | 5.0 | 6.0 | 6.0 | 5.0 | 7.0 | |
| Minimum Split (s) | | | | | | | 10.7 | 38.4 | 38.4 | 10.7 | 39.4 | |
| Total Split (s) | | | | | | | 14.7 | 38.8 | 38.8 | 16.2 | 40.3 | |
| Total Split (%) | | | | | | | 26.7% | 70.5% | 70.5% | 29.5% | 73.3% | |
| Yellow Time (s) | | | | | | | 3.7 | 4.4 | 4.4 | 3.7 | 4.4 | |
| All-Red Time (s) | | | | | | | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | |
| Lost Time Adjust (s) | | | | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | | | | | | | 5.7 | 6.4 | 6.4 | 5.7 | 6.4 | |
| Lead/Lag | | | | | | | Lead | Lag | Lag | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | Yes | Yes | Yes | |
| Recall Mode | | | | | | | None | C-Max | C-Max | None | C-Max | |

| Intersection Summary |
|---|
| Cycle Length: 55 |
| Actuated Cycle Length: 55 |
| Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green |
| Natural Cycle: 60 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 58: Magnolia Avenue & SR 52 WB On Ramp/SR 67 SB On Ramp



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 0 | 0 | 0 | 294 | 1217 | 142 | 572 | 619 | 296 |
| Future Volume (veh/h) | 0 | 0 | 0 | 0 | 0 | 0 | 294 | 1217 | 142 | 572 | 619 | 296 |
| Initial Q (Qb), veh | | | | | | | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | | | | | | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | | | | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | | | | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | | | | | | | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | | | | | | | 320 | 1323 | 154 | 622 | 673 | 322 |
| Peak Hour Factor | | | | | | | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | | | | | | | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | | | | | | | 428 | 3008 | 911 | 660 | 1517 | 726 |
| Arrive On Green | | | | | | | 0.25 | 1.00 | 1.00 | 0.32 | 1.00 | 1.00 |
| Sat Flow, veh/h | | | | | | | 3456 | 5106 | 1546 | 3456 | 2312 | 1106 |
| Grp Volume(v), veh/h | | | | | | | 320 | 1323 | 154 | 622 | 517 | 478 |
| Grp Sat Flow(s),veh/h/ln | | | | | | | 1728 | 1702 | 1546 | 1728 | 1777 | 1641 |
| Q Serve(g_s), s | | | | | | | 4.7 | 0.0 | 0.0 | 9.6 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | | | | | | | 4.7 | 0.0 | 0.0 | 9.6 | 0.0 | 0.0 |
| Prop In Lane | | | | | | | 1.00 | | 1.00 | 1.00 | | 0.67 |
| Lane Grp Cap(c), veh/h | | | | | | | 428 | 3008 | 911 | 660 | 1166 | 1077 |
| V/C Ratio(X) | | | | | | | 0.75 | 0.44 | 0.17 | 0.94 | 0.44 | 0.44 |
| Avail Cap(c_a), veh/h | | | | | | | 565 | 3008 | 911 | 660 | 1166 | 1077 |
| HCM Platoon Ratio | | | | | | | 2.00 | 2.00 | 2.00 | 1.67 | 1.67 | 1.67 |
| Upstream Filter(I) | | | | | | | 0.58 | 0.58 | 0.58 | 0.32 | 0.32 | 0.32 |
| Uniform Delay (d), s/veh | | | | | | | 19.9 | 0.0 | 0.0 | 18.4 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | | | | | | | 1.4 | 0.3 | 0.2 | 9.4 | 0.4 | 0.4 |
| Initial Q Delay(d3),s/veh | | | | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | | | | | 1.6 | 0.1 | 0.1 | 3.6 | 0.1 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | | | | 21.3 | 0.3 | 0.2 | 27.9 | 0.4 | 0.4 |
| LnGrp LOS | | | | | | | C | A | A | C | A | A |
| Approach Vol, veh/h | | | | | | | | 1797 | | | 1617 | |
| Approach Delay, s/veh | | | | | | | | 4.0 | | | 11.0 | |
| Approach LOS | | | | | | | | A | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 5 | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 16.2 | 38.8 | | 12.5 | 42.5 |
| Change Period (Y+Rc), s | * 5.7 | 6.4 | | * 5.7 | 6.4 |
| Max Green Setting (Gmax), s | * 11 | 32.4 | | * 9 | 33.9 |
| Max Q Clear Time (g_c+I1), s | 11.6 | 2.0 | | 6.7 | 2.0 |
| Green Ext Time (p_c), s | 0.0 | 12.8 | | 0.2 | 7.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 7.3 |
| HCM 6th LOS | A |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

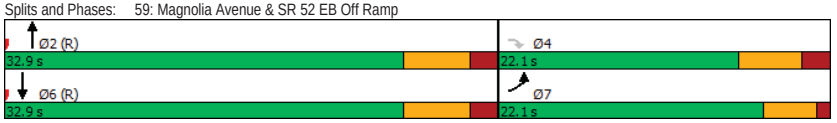




| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 225 | 216 | 0 | 1436 | 612 | 0 |
| Future Volume (vph) | 225 | 216 | 0 | 1436 | 612 | 0 |
| Confl. Peds. (#/hr) | | | | | | |
| Confl. Bikes (#/hr) | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | | NA | NA | |
| Protected Phases | 7 | | | 2 | 6 | |
| Permitted Phases | | 4 | | | | |
| Detector Phase | 7 | 4 | | 2 | 6 | |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 5.0 | | 5.0 | 5.0 | |
| Minimum Split (s) | 8.5 | 22.1 | | 22.4 | 27.4 | |
| Total Split (s) | 22.1 | 22.1 | | 32.9 | 32.9 | |
| Total Split (%) | 40.2% | 40.2% | | 59.8% | 59.8% | |
| Yellow Time (s) | 3.5 | 4.1 | | 4.4 | 4.4 | |
| All-Red Time (s) | 1.0 | 2.0 | | 2.0 | 2.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 6.1 | | 6.4 | 6.4 | |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | None | None | | C-Max | C-Max | |

| Intersection Summary |
|---|
| Cycle Length: 55 |
| Actuated Cycle Length: 55 |
| Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green |
| Natural Cycle: 60 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 59: Magnolia Avenue & SR 52 EB Off Ramp



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 225 | 216 | 0 | 1436 | 612 | 0 |
| Future Volume (veh/h) | 225 | 216 | 0 | 1436 | 612 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 0 | 1870 | 1870 | 0 |
| Adj Flow Rate, veh/h | 245 | 235 | 0 | 1561 | 665 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 0 | 2 | 2 | 0 |
| Cap, veh/h | 348 | 310 | 0 | 2155 | 2155 | 0 |
| Arrive On Green | 0.20 | 0.20 | 0.00 | 0.61 | 1.00 | 0.00 |
| Sat Flow, veh/h | 1781 | 1585 | 0 | 3741 | 3741 | 0 |
| Grp Volume(v), veh/h | 245 | 235 | 0 | 1561 | 665 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 0 | 1777 | 1777 | 0 |
| Q Serve(g_s), s | 7.1 | 7.7 | 0.0 | 17.0 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 7.1 | 7.7 | 0.0 | 17.0 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | 1.00 | 0.00 | | | 0.00 |
| Lane Grp Cap(c), veh/h | 348 | 310 | 0 | 2155 | 2155 | 0 |
| V/C Ratio(X) | 0.70 | 0.76 | 0.00 | 0.72 | 0.31 | 0.00 |
| Avail Cap(c_a), veh/h | 570 | 507 | 0 | 2155 | 2155 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 2.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.66 | 0.88 | 0.00 |
| Uniform Delay (d), s/veh | 20.6 | 20.9 | 0.0 | 7.6 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 2.6 | 3.8 | 0.0 | 1.4 | 0.3 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.9 | 2.9 | 0.0 | 3.9 | 0.1 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 23.3 | 24.7 | 0.0 | 9.0 | 0.3 | 0.0 |
| LnGrp LOS | C | C | A | A | A | A |
| Approach Vol, veh/h | 480 | | | 1561 | 665 | |
| Approach Delay, s/veh | 24.0 | | | 9.0 | 0.3 | |
| Approach LOS | C | | | A | A | |

| Timer - Assigned Phs | 2 | 4 | 6 |
|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 39.8 | 15.2 | 39.8 |
| Change Period (Y+Rc), s | 6.4 | 4.5 | 6.4 |
| Max Green Setting (Gmax), s | 26.5 | 17.6 | 26.5 |
| Max Q Clear Time (g_c+I1), s | 19.0 | 9.7 | 2.0 |
| Green Ext Time (p_c), s | 5.4 | 1.0 | 4.3 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 9.5 |
| HCM 6th LOS | A |

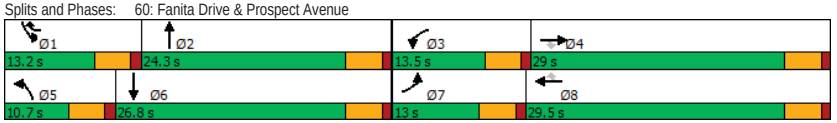




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 149 | 58 | 53 | 74 | 170 | 270 | 71 | 322 | 63 | 158 | 146 | 95 |
| Future Volume (vph) | 149 | 58 | 53 | 74 | 170 | 270 | 71 | 322 | 63 | 158 | 146 | 95 |
| Confl. Peds. (#/hr) | | | 5 | | | 3 | | | 4 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | 1 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | pm+ov | Prot | NA | | Prot | NA | |
| Protected Phases | 7 | 4 | | 3 | 8 | 1 | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | | | | |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | 1 | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | 8.5 | 24.5 | 24.5 | 8.5 | 29.5 | 8.5 | 8.5 | 22.5 | | 8.5 | 24.5 | |
| Total Split (s) | 13.0 | 29.0 | 29.0 | 13.5 | 29.5 | 13.2 | 10.7 | 24.3 | | 13.2 | 26.8 | |
| Total Split (%) | 16.3% | 36.3% | 36.3% | 16.9% | 36.9% | 16.5% | 13.4% | 30.4% | | 16.5% | 33.5% | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | None | None | None | None | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 80 |
| Actuated Cycle Length: 67.8 |
| Natural Cycle: 90 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 60: Fanita Drive & Prospect Avenue



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 149 | 58 | 53 | 74 | 170 | 270 | 71 | 322 | 63 | 158 | 146 | 95 |
| Future Volume (veh/h) | 149 | 58 | 53 | 74 | 170 | 270 | 71 | 322 | 63 | 158 | 146 | 95 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 162 | 63 | 58 | 80 | 185 | 293 | 77 | 350 | 68 | 172 | 159 | 103 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 202 | 520 | 438 | 103 | 416 | 536 | 99 | 401 | 78 | 213 | 698 | 426 |
| Arrive On Green | 0.11 | 0.28 | 0.28 | 0.06 | 0.22 | 0.22 | 0.06 | 0.27 | 0.27 | 0.12 | 0.33 | 0.33 |
| Sat Flow, veh/h | 1781 | 1870 | 1577 | 1781 | 1870 | 1558 | 1781 | 1513 | 294 | 1781 | 2117 | 1293 |
| Grp Volume(v), veh/h | 162 | 63 | 58 | 80 | 185 | 293 | 77 | 0 | 418 | 172 | 132 | 130 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1577 | 1781 | 1870 | 1558 | 1781 | 0 | 1807 | 1781 | 1777 | 1633 |
| Q Serve(g_s), s | 5.7 | 1.6 | 1.8 | 2.9 | 5.5 | 9.8 | 2.8 | 0.0 | 14.3 | 6.1 | 3.5 | 3.7 |
| Cycle Q Clear(g_c), s | 5.7 | 1.6 | 1.8 | 2.9 | 5.5 | 9.8 | 2.8 | 0.0 | 14.3 | 6.1 | 3.5 | 3.7 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.16 | 1.00 | | 0.79 |
| Lane Grp Cap(c), veh/h | 202 | 520 | 438 | 103 | 416 | 536 | 99 | 0 | 479 | 213 | 586 | 538 |
| V/C Ratio(X) | 0.80 | 0.12 | 0.13 | 0.78 | 0.44 | 0.55 | 0.78 | 0.00 | 0.87 | 0.81 | 0.23 | 0.24 |
| Avail Cap(c_a), veh/h | 235 | 710 | 598 | 248 | 724 | 793 | 171 | 0 | 554 | 240 | 614 | 564 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 27.9 | 17.4 | 17.5 | 30.0 | 21.7 | 17.2 | 30.1 | 0.0 | 22.7 | 27.7 | 15.7 | 15.8 |
| Incr Delay (d2), s/veh | 15.7 | 0.1 | 0.1 | 11.7 | 0.7 | 0.9 | 12.5 | 0.0 | 12.8 | 16.4 | 0.2 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 3.2 | 0.7 | 0.6 | 1.5 | 2.3 | 3.3 | 1.4 | 0.0 | 7.0 | 3.3 | 1.3 | 1.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 43.6 | 17.5 | 17.6 | 41.6 | 22.4 | 18.1 | 42.6 | 0.0 | 35.5 | 44.1 | 15.9 | 16.0 |
| LnGrp LOS | D | B | B | D | C | B | D | A | D | D | B | B |
| Approach Vol, veh/h | | 283 | | | 558 | | | 495 | | | 434 | |
| Approach Delay, s/veh | | 32.4 | | | 22.9 | | | 36.6 | | | 27.1 | |
| Approach LOS | | C | | | C | | | D | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 12.2 | 21.6 | 8.2 | 22.4 | 8.1 | 25.8 | 11.8 | 18.9 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 8.7 | 19.8 | 9.0 | 24.5 | 6.2 | 22.3 | 8.5 | 25.0 |
| Max Q Clear Time (g_c+I1), s | 8.1 | 16.3 | 4.9 | 3.8 | 4.8 | 5.7 | 7.7 | 11.8 |
| Green Ext Time (p_c), s | 0.0 | 0.8 | 0.0 | 0.4 | 0.0 | 1.2 | 0.0 | 1.7 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 29.3 |
| HCM 6th LOS | C |

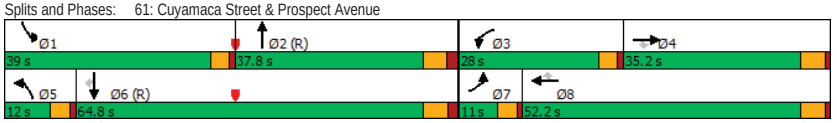




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 28 | 54 | 51 | 171 | 55 | 301 | 32 | 558 | 67 | 240 | 895 | 95 |
| Future Volume (vph) | 28 | 54 | 51 | 171 | 55 | 301 | 32 | 558 | 67 | 240 | 895 | 95 |
| Confl. Peds. (#/hr) | | | 20 | | | 8 | | | 8 | | | 4 |
| Confl. Bikes (#/hr) | | | 1 | | | 4 | | | 4 | | | 7 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | | | | 6 |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | 8 | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 7.0 | 7.0 | 4.0 | 7.0 | 7.0 | 4.0 | 10.0 | | 4.0 | 10.0 | 10.0 |
| Minimum Split (s) | 8.2 | 35.2 | 35.2 | 8.2 | 36.2 | 36.2 | 8.2 | 33.0 | | 8.2 | 31.0 | 31.0 |
| Total Split (s) | 11.0 | 35.2 | 35.2 | 28.0 | 52.2 | 52.2 | 12.0 | 37.8 | | 39.0 | 64.8 | 64.8 |
| Total Split (%) | 7.9% | 25.1% | 25.1% | 20.0% | 37.3% | 37.3% | 8.6% | 27.0% | | 27.9% | 46.3% | 46.3% |
| Yellow Time (s) | 3.2 | 4.2 | 4.2 | 3.2 | 4.2 | 4.2 | 3.2 | 4.0 | | 3.2 | 4.1 | 4.1 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 2.0 | | 1.0 | 1.9 | 1.9 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.2 | 5.2 | 4.2 | 5.2 | 5.2 | 4.2 | 6.0 | | 4.2 | 6.0 | 6.0 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | None | None | C-Min | | None | C-Min | C-Min |

| Intersection Summary |
|---|
| Cycle Length: 140 |
| Actuated Cycle Length: 140 |
| Offset: 26 (19%), Referenced to phase 2:NBT and 6:SBT, Start of Green |
| Natural Cycle: 100 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 61: Cuyamaca Street & Prospect Avenue



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 28 | 54 | 51 | 171 | 55 | 301 | 32 | 558 | 67 | 240 | 895 | 95 |
| Future Volume (veh/h) | 28 | 54 | 51 | 171 | 55 | 301 | 32 | 558 | 67 | 240 | 895 | 95 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.94 | 1.00 | | 0.97 | 1.00 | | 0.97 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 30 | 59 | 55 | 186 | 60 | 327 | 35 | 607 | 73 | 261 | 973 | 103 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 38 | 246 | 196 | 210 | 811 | 352 | 45 | 2084 | 247 | 282 | 2079 | 912 |
| Arrive On Green | 0.02 | 0.13 | 0.13 | 0.12 | 0.23 | 0.23 | 0.03 | 0.45 | 0.45 | 0.32 | 1.00 | 1.00 |
| Sat Flow, veh/h | 1781 | 1870 | 1493 | 1781 | 3554 | 1544 | 1781 | 4608 | 547 | 1781 | 3554 | 1559 |
| Grp Volume(v), veh/h | 30 | 59 | 55 | 186 | 60 | 327 | 35 | 446 | 234 | 261 | 973 | 103 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1493 | 1781 | 1777 | 1544 | 1781 | 1702 | 1751 | 1781 | 1777 | 1559 |
| Q Serve(g_s), s | 2.3 | 4.0 | 4.7 | 14.4 | 1.9 | 29.0 | 2.7 | 11.6 | 11.8 | 19.8 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 2.3 | 4.0 | 4.7 | 14.4 | 1.9 | 29.0 | 2.7 | 11.6 | 11.8 | 19.8 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.31 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 38 | 246 | 196 | 210 | 811 | 352 | 45 | 1539 | 792 | 282 | 2079 | 912 |
| V/C Ratio(X) | 0.79 | 0.24 | 0.28 | 0.88 | 0.07 | 0.93 | 0.78 | 0.29 | 0.30 | 0.93 | 0.47 | 0.11 |
| Avail Cap(c_a), veh/h | 87 | 401 | 320 | 303 | 1193 | 518 | 99 | 1539 | 792 | 443 | 2079 | 912 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 2.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 0.92 | 0.92 | 0.92 | 1.00 | 1.00 | 1.00 | 0.74 | 0.74 | 0.74 |
| Uniform Delay (d), s/veh | 68.2 | 54.5 | 54.8 | 60.8 | 42.4 | 52.9 | 67.9 | 24.2 | 24.2 | 47.1 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 12.4 | 0.5 | 0.8 | 13.8 | 0.0 | 14.9 | 10.4 | 0.5 | 0.9 | 11.0 | 0.6 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.2 | 1.9 | 1.8 | 7.3 | 0.8 | 12.6 | 1.4 | 4.8 | 5.1 | 8.4 | 0.2 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 80.6 | 55.0 | 55.6 | 74.6 | 42.4 | 67.8 | 78.2 | 24.7 | 25.2 | 58.0 | 0.6 | 0.2 |
| LnGrp LOS | F | E | E | E | D | E | E | C | C | E | A | A |
| Approach Vol, veh/h | | 144 | | | 573 | | | 715 | | | 1337 | |
| Approach Delay, s/veh | | 60.6 | | | 67.4 | | | 27.5 | | | 11.8 | |
| Approach LOS | | E | | | E | | | C | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 26.3 | 69.3 | 20.7 | 23.6 | 7.7 | 87.9 | 7.2 | 37.2 |
| Change Period (Y+Rc), s | * 4.2 | 6.0 | * 4.2 | 5.2 | * 4.2 | * 6 | * 4.2 | 5.2 |
| Max Green Setting (Gmax), s | * 35 | 31.8 | * 24 | 30.0 | * 7.8 | * 59 | * 6.8 | 47.0 |
| Max Q Clear Time (g_c+I1), s | 21.8 | 13.8 | 16.4 | 6.7 | 4.7 | 2.0 | 4.3 | 31.0 |
| Green Ext Time (p_c), s | 0.3 | 5.7 | 0.1 | 0.5 | 0.0 | 14.1 | 0.0 | 0.9 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 29.9 |
| HCM 6th LOS | C |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

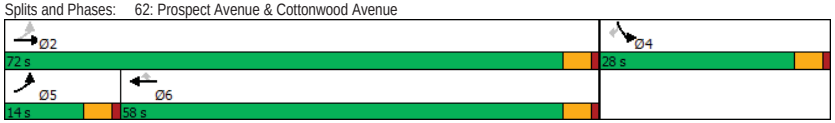




| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 60 | 175 | 410 | 104 | 63 | 116 |
| Future Volume (vph) | 60 | 175 | 410 | 104 | 63 | 116 |
| Confl. Peds. (#/hr) | | | | 3 | | 6 |
| Confl. Bikes (#/hr) | | | | 1 | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | pm+pt | NA | NA | Perm | Prot | Perm |
| Protected Phases | 5 | 2 | 6 | | 4 | |
| Permitted Phases | 2 | | | 6 | | 4 |
| Detector Phase | 5 | 2 | 6 | 6 | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 |
| Total Split (s) | 14.0 | 72.0 | 58.0 | 58.0 | 28.0 | 28.0 |
| Total Split (%) | 14.0% | 72.0% | 58.0% | 58.0% | 28.0% | 28.0% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | | Lag | Lag | | |
| Lead-Lag Optimize? | Yes | | Yes | Yes | | |
| Recall Mode | None | Min | Min | Min | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 44.9 |
| Natural Cycle: 55 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 62: Prospect Avenue & Cottonwood Avenue



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 60 | 175 | 410 | 104 | 63 | 116 |
| Future Volume (veh/h) | 60 | 175 | 410 | 104 | 63 | 116 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 0.98 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 65 | 190 | 446 | 113 | 68 | 126 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 487 | 1081 | 702 | 580 | 227 | 202 |
| Arrive On Green | 0.06 | 0.58 | 0.38 | 0.38 | 0.13 | 0.13 |
| Sat Flow, veh/h | 1781 | 1870 | 1870 | 1546 | 1781 | 1585 |
| Grp Volume(v), veh/h | 65 | 190 | 446 | 113 | 68 | 126 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1870 | 1546 | 1781 | 1585 |
| Q Serve(g_s), s | 0.6 | 1.5 | 6.0 | 1.5 | 1.1 | 2.3 |
| Cycle Q Clear(g_c), s | 0.6 | 1.5 | 6.0 | 1.5 | 1.1 | 2.3 |
| Prop In Lane | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 487 | 1081 | 702 | 580 | 227 | 202 |
| V/C Ratio(X) | 0.13 | 0.18 | 0.64 | 0.19 | 0.30 | 0.62 |
| Avail Cap(c_a), veh/h | 942 | 4131 | 3274 | 2706 | 1370 | 1219 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 5.2 | 3.0 | 7.8 | 6.4 | 12.1 | 12.6 |
| Incr Delay (d2), s/veh | 0.1 | 0.1 | 1.0 | 0.2 | 0.7 | 3.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.1 | 0.1 | 1.5 | 0.3 | 0.4 | 2.2 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 5.3 | 3.1 | 8.8 | 6.6 | 12.8 | 15.7 |
| LnGrp LOS | A | A | A | A | B | B |
| Approach Vol, veh/h | | 255 | 559 | | 194 | |
| Approach Delay, s/veh | | 3.7 | 8.4 | | 14.7 | |
| Approach LOS | | A | A | | B | |
| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 |
| Phs Duration (G+Y+Rc), s | | 22.2 | | 8.4 | 6.2 | 16.0 |
| Change Period (Y+Rc), s | | 4.5 | | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | | 67.5 | | 23.5 | 9.5 | 53.5 |
| Max Q Clear Time (g_c+I1), s | | 3.5 | | 4.3 | 2.6 | 8.0 |
| Green Ext Time (p_c), s | | 1.1 | | 0.5 | 0.1 | 3.4 |
| Intersection Summary | | | | | | |
| HCM 6th Ctrl Delay | | | 8.4 | | | |
| HCM 6th LOS | | | A | | | |

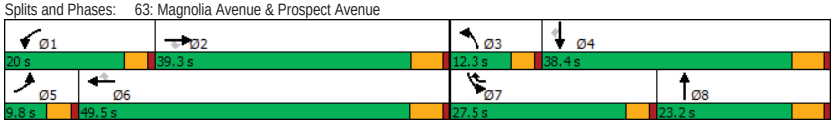




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 66 | 96 | 70 | 150 | 417 | 1201 | 29 | 169 | 42 | 360 | 354 | 113 |
| Future Volume (vph) | 66 | 96 | 70 | 150 | 417 | 1201 | 29 | 169 | 42 | 360 | 354 | 113 |
| Confl. Peds. (#/hr) | | | 1 | | | 1 | | | 2 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | pm+ov | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | 4.0 | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 39.3 | 39.3 | 8.2 | 37.4 | 8.2 | 8.2 | 23.2 | | 8.2 | 36.2 | 36.2 |
| Total Split (s) | 9.8 | 39.3 | 39.3 | 20.0 | 49.5 | 27.5 | 12.3 | 23.2 | | 27.5 | 38.4 | 38.4 |
| Total Split (%) | 8.9% | 35.7% | 35.7% | 18.2% | 45.0% | 25.0% | 11.2% | 21.1% | | 25.0% | 34.9% | 34.9% |
| Yellow Time (s) | 3.2 | 4.3 | 4.3 | 3.2 | 4.4 | 3.2 | 3.2 | 4.2 | | 3.2 | 4.2 | 4.2 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | 5.3 | 4.2 | 5.4 | 4.2 | 4.2 | 5.2 | | 4.2 | 5.2 | 5.2 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | Min | Min | None | Min | None | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 74.9 |
| Natural Cycle: 95 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 63: Magnolia Avenue & Prospect Avenue



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 66 | 96 | 70 | 150 | 417 | 1201 | 29 | 169 | 42 | 360 | 354 | 113 |
| Future Volume (veh/h) | 66 | 96 | 70 | 150 | 417 | 1201 | 29 | 169 | 42 | 360 | 354 | 113 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.98 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 72 | 104 | 76 | 163 | 453 | 1305 | 32 | 184 | 46 | 391 | 385 | 123 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 139 | 740 | 626 | 203 | 1668 | 1723 | 46 | 286 | 69 | 513 | 797 | 351 |
| Arrive On Green | 0.04 | 0.40 | 0.40 | 0.11 | 0.47 | 0.47 | 0.03 | 0.10 | 0.10 | 0.15 | 0.22 | 0.22 |
| Sat Flow, veh/h | 3456 | 1870 | 1584 | 1781 | 3554 | 2787 | 1781 | 2821 | 686 | 3456 | 3554 | 1563 |
| Grp Volume(v), veh/h | 72 | 104 | 76 | 163 | 453 | 1305 | 32 | 114 | 116 | 391 | 385 | 123 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1870 | 1584 | 1781 | 1777 | 1393 | 1781 | 1777 | 1730 | 1728 | 1777 | 1563 |
| Q Serve(g_s), s | 1.6 | 2.8 | 2.4 | 7.0 | 6.1 | 26.6 | 1.4 | 4.9 | 5.1 | 8.6 | 7.4 | 5.2 |
| Cycle Q Clear(g_c), s | 1.6 | 2.8 | 2.4 | 7.0 | 6.1 | 26.6 | 1.4 | 4.9 | 5.1 | 8.6 | 7.4 | 5.2 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.40 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 139 | 740 | 626 | 203 | 1668 | 1723 | 46 | 180 | 175 | 513 | 797 | 351 |
| V/C Ratio(X) | 0.52 | 0.14 | 0.12 | 0.80 | 0.27 | 0.76 | 0.70 | 0.63 | 0.66 | 0.76 | 0.48 | 0.35 |
| Avail Cap(c_a), veh/h | 245 | 805 | 682 | 356 | 1984 | 1970 | 183 | 405 | 394 | 1019 | 1494 | 657 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 37.2 | 15.3 | 15.2 | 34.1 | 12.7 | 10.8 | 38.2 | 34.1 | 34.2 | 32.3 | 26.7 | 25.8 |
| Incr Delay (d2), s/veh | 3.0 | 0.1 | 0.1 | 7.2 | 0.1 | 1.5 | 17.9 | 3.7 | 4.2 | 2.4 | 0.5 | 0.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.7 | 1.2 | 0.8 | 3.4 | 2.3 | 7.1 | 0.8 | 2.2 | 2.3 | 3.6 | 3.1 | 1.9 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 40.1 | 15.4 | 15.2 | 41.3 | 12.8 | 12.4 | 56.0 | 37.7 | 38.4 | 34.6 | 27.1 | 26.4 |
| LnGrp LOS | D | B | B | D | B | B | E | D | D | C | C | C |
| Approach Vol, veh/h | | 252 | | | 1921 | | | 262 | | | 899 | |
| Approach Delay, s/veh | | 22.4 | | | 14.9 | | | 40.3 | | | 30.3 | |
| Approach LOS | | C | | | B | | | D | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 13.2 | 36.6 | 6.2 | 22.9 | 7.4 | 42.5 | 15.9 | 13.2 |
| Change Period (Y+Rc), s | * 4.2 | * 5.4 | * 4.2 | 5.2 | * 4.2 | 5.4 | * 4.2 | 5.2 |
| Max Green Setting (Gmax), s | * 16 | * 34 | * 8.1 | 33.2 | * 5.6 | 44.1 | * 23 | 18.0 |
| Max Q Clear Time (g_c+I1), s | 9.0 | 4.8 | 3.4 | 9.4 | 3.6 | 28.6 | 10.6 | 7.1 |
| Green Ext Time (p_c), s | 0.2 | 0.8 | 0.0 | 3.0 | 0.0 | 8.5 | 1.2 | 0.9 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 21.6 |
| HCM 6th LOS | C |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

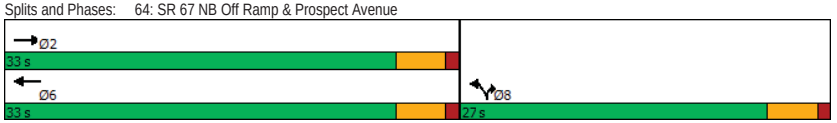




| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 498 | 0 | 0 | 1001 | 766 | 47 |
| Future Volume (vph) | 498 | 0 | 0 | 1001 | 766 | 47 |
| Confl. Peds. (#/hr) | | | | | | |
| Confl. Bikes (#/hr) | | 1 | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | NA | | | NA | Prot | Prot |
| Protected Phases | 2 | | | 6 | 8 | 8 |
| Permitted Phases | | | | | | |
| Detector Phase | 2 | | | 6 | 8 | 8 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 5.0 | | | 10.0 | 5.0 | 5.0 |
| Minimum Split (s) | 20.6 | | | 20.6 | 20.6 | 20.6 |
| Total Split (s) | 33.0 | | | 33.0 | 27.0 | 27.0 |
| Total Split (%) | 55.0% | | | 55.0% | 45.0% | 45.0% |
| Yellow Time (s) | 3.6 | | | 3.6 | 3.6 | 3.6 |
| All-Red Time (s) | 1.0 | | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.6 | | | 4.6 | 4.6 | 4.6 |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | Min | | | Min | None | None |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 48.2 |
| Natural Cycle: 45 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 64: SR 67 NB Off Ramp & Prospect Avenue



Existing + Cuml AM
64: SR 67 NB Off Ramp & Prospect Avenue

Fanita Ranch
06/06/2019

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 498 | 0 | 0 | 1001 | 766 | 47 |
| Future Volume (veh/h) | 498 | 0 | 0 | 1001 | 766 | 47 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | 1.00 | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 0 | 0 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 541 | 0 | 0 | 1088 | 833 | 51 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 0 | 0 | 2 | 2 | 2 |
| Cap, veh/h | 1645 | 0 | 0 | 1645 | 1068 | 490 |
| Arrive On Green | 0.46 | 0.00 | 0.00 | 0.46 | 0.31 | 0.31 |
| Sat Flow, veh/h | 3741 | 0 | 0 | 3741 | 3456 | 1585 |
| Grp Volume(v), veh/h | 541 | 0 | 0 | 1088 | 833 | 51 |
| Grp Sat Flow(s),veh/h/ln | 1777 | 0 | 0 | 1777 | 1728 | 1585 |
| Q Serve(g_s), s | 3.9 | 0.0 | 0.0 | 9.6 | 8.9 | 0.9 |
| Cycle Q Clear(g_c), s | 3.9 | 0.0 | 0.0 | 9.6 | 8.9 | 0.9 |
| Prop In Lane | | 0.00 | 0.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 1645 | 0 | 0 | 1645 | 1068 | 490 |
| V/C Ratio(X) | 0.33 | 0.00 | 0.00 | 0.66 | 0.78 | 0.10 |
| Avail Cap(c_a), veh/h | 2501 | 0 | 0 | 2501 | 1918 | 880 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 6.9 | 0.0 | 0.0 | 8.4 | 12.7 | 10.0 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 0.0 | 0.5 | 0.5 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.9 | 0.0 | 0.0 | 2.4 | 2.7 | 0.3 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 6.9 | 0.0 | 0.0 | 8.8 | 13.2 | 10.0 |
| LnGrp LOS | A | A | A | A | B | A |
| Approach Vol, veh/h | 541 | | | 1088 | 884 | |
| Approach Delay, s/veh | 6.9 | | | 8.8 | 13.0 | |
| Approach LOS | A | | | A | B | |

| Timer - Assigned Phs | 2 | | | | 6 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 23.3 | | | | 23.3 | 17.1 |
| Change Period (Y+Rc), s | 4.6 | | | | 4.6 | 4.6 |
| Max Green Setting (Gmax), s | 28.4 | | | | 28.4 | 22.4 |
| Max Q Clear Time (g_c+I1), s | 5.9 | | | | 11.6 | 10.9 |
| Green Ext Time (p_c), s | 2.3 | | | | 7.1 | 1.6 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 9.9 |
| HCM 6th LOS | A |



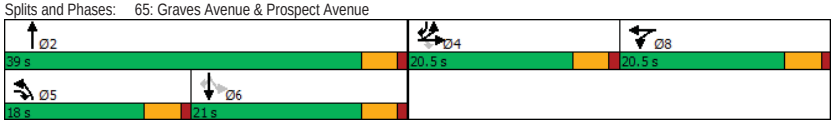
Existing + Cuml AM
65: Graves Avenue & Prospect Avenue

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 149 | 16 | 379 | 3 | 10 | 1 | 633 | 21 | 6 | 1 | 67 | 357 |
| Future Volume (vph) | 149 | 16 | 379 | 3 | 10 | 1 | 633 | 21 | 6 | 1 | 67 | 357 |
| Confl. Peds. (#/hr) | | | 1 | | | 1 | | | 12 | | | |
| Confl. Bikes (#/hr) | | | 3 | | | | | | 1 | | | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | 45% | | | | | | | | | | | |
| Turn Type | Split | NA | pm+ov | Split | NA | | Prot | NA | | Perm | NA | pm+ov |
| Protected Phases | 4 | 4 | 5 | 8 | 8 | | 5 | 2 | | | 6 | 4 |
| Permitted Phases | | | 4 | | | | | | | 6 | | 6 |
| Detector Phase | 4 | 4 | 5 | 8 | 8 | | 5 | 2 | | 6 | 6 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 20.5 | 20.5 | 8.5 | 20.5 | 20.5 | | 8.5 | 20.5 | | 20.5 | 20.5 | 20.5 |
| Total Split (s) | 20.5 | 20.5 | 18.0 | 20.5 | 20.5 | | 18.0 | 39.0 | | 21.0 | 21.0 | 20.5 |
| Total Split (%) | 25.6% | 25.6% | 22.5% | 25.6% | 25.6% | | 22.5% | 48.8% | | 26.3% | 26.3% | 25.6% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | | | 4.5 | 4.5 |
| Lead/Lag | | | Lead | | | | Lead | | | Lag | Lag | |
| Lead-Lag Optimize? | | | Yes | | | | Yes | | | Yes | Yes | |
| Recall Mode | None | None | None | None | None | | None | Min | | Min | Min | None |

| Intersection Summary |
|---|
| Cycle Length: 80 |
| Actuated Cycle Length: 46.1 |
| Natural Cycle: 80 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 65: Graves Avenue & Prospect Avenue



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 149 | 16 | 379 | 3 | 10 | 1 | 633 | 21 | 6 | 1 | 67 | 357 |
| Future Volume (veh/h) | 149 | 16 | 379 | 3 | 10 | 1 | 633 | 21 | 6 | 1 | 67 | 357 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 1.00 | 1.00 | | 0.97 | 0.97 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 174 | 0 | 412 | 3 | 11 | 1 | 688 | 23 | 7 | 1 | 73 | 388 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 850 | 0 | 720 | 30 | 28 | 3 | 768 | 713 | 217 | 61 | 421 | 731 |
| Arrive On Green | 0.24 | 0.00 | 0.24 | 0.02 | 0.02 | 0.02 | 0.22 | 0.52 | 0.52 | 0.23 | 0.23 | 0.23 |
| Sat Flow, veh/h | 3563 | 0 | 1543 | 1781 | 1688 | 153 | 3456 | 1364 | 415 | 5 | 1864 | 1561 |
| Grp Volume(v), veh/h | 174 | 0 | 412 | 3 | 0 | 12 | 688 | 0 | 30 | 74 | 0 | 388 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1543 | 1781 | 0 | 1842 | 1728 | 0 | 1779 | 1868 | 0 | 1561 |
| Q Serve(g_s), s | 2.4 | 0.0 | 11.9 | 0.1 | 0.0 | 0.4 | 11.7 | 0.0 | 0.5 | 0.0 | 0.0 | 10.8 |
| Cycle Q Clear(g_c), s | 2.4 | 0.0 | 11.9 | 0.1 | 0.0 | 0.4 | 11.7 | 0.0 | 0.5 | 1.9 | 0.0 | 10.8 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.08 | 1.00 | | 0.23 | 0.01 | | 1.00 |
| Lane Grp Cap(c), veh/h | 850 | 0 | 720 | 30 | 0 | 31 | 768 | 0 | 929 | 482 | 0 | 731 |
| V/C Ratio(X) | 0.20 | 0.00 | 0.57 | 0.10 | 0.00 | 0.39 | 0.90 | 0.00 | 0.03 | 0.15 | 0.00 | 0.53 |
| Avail Cap(c_a), veh/h | 939 | 0 | 759 | 469 | 0 | 485 | 768 | 0 | 1011 | 567 | 0 | 802 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 18.5 | 0.0 | 12.0 | 29.4 | 0.0 | 29.5 | 22.9 | 0.0 | 7.0 | 18.9 | 0.0 | 11.6 |
| Incr Delay (d2), s/veh | 0.1 | 0.0 | 0.9 | 1.4 | 0.0 | 7.7 | 13.1 | 0.0 | 0.0 | 0.1 | 0.0 | 0.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.9 | 0.0 | 3.7 | 0.1 | 0.0 | 0.2 | 5.8 | 0.0 | 0.2 | 0.8 | 0.0 | 5.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 18.6 | 0.0 | 13.0 | 30.8 | 0.0 | 37.2 | 36.0 | 0.0 | 7.1 | 19.1 | 0.0 | 12.2 |
| LnGrp LOS | B | A | B | C | A | D | D | A | A | B | A | B |
| Approach Vol, veh/h | | 586 | | | 15 | | | 718 | | | 462 | |
| Approach Delay, s/veh | | 14.7 | | | 35.9 | | | 34.8 | | | 13.3 | |
| Approach LOS | | B | | | D | | | C | | | B | |

| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 36.2 | | 19.0 | 18.0 | 18.2 | | 5.5 | | | | |
| Change Period (Y+Rc), s | | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | | 34.5 | | 16.0 | 13.5 | 16.5 | | 16.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 2.5 | | 13.9 | 13.7 | 12.8 | | 2.4 | | | | |
| Green Ext Time (p_c), s | | 0.1 | | 0.5 | 0.0 | 0.7 | | 0.0 | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 22.6 | |
| HCM 6th LOS | | C | |

**Notes**

User approved volume balancing among the lanes for turning movement.

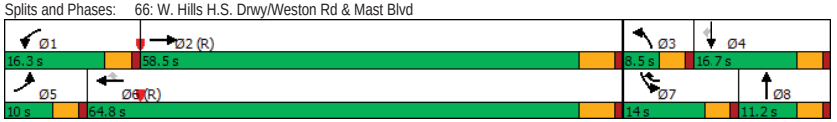




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 44 | 384 | 45 | 90 | 1603 | 23 | 16 | 2 | 80 | 94 | 8 | 173 |
| Future Volume (vph) | 44 | 384 | 45 | 90 | 1603 | 23 | 16 | 2 | 80 | 94 | 8 | 173 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | 4.0 | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.5 | 22.5 | | 8.5 | 27.3 | 8.5 | 8.5 | 11.2 | | 8.5 | 11.2 | 11.2 |
| Total Split (s) | 10.0 | 58.5 | | 16.3 | 64.8 | 14.0 | 8.5 | 11.2 | | 14.0 | 16.7 | 16.7 |
| Total Split (%) | 10.0% | 58.5% | | 16.3% | 64.8% | 14.0% | 8.5% | 11.2% | | 14.0% | 16.7% | 16.7% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | 3.2 | 3.2 | 3.2 | | 3.2 | 3.2 | 3.2 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | 4.2 | 4.2 | 4.2 | | 4.2 | 4.2 | 4.2 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | C-Min | | None | C-Min | None | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 84 (84%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 80 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 66: W. Hills H.S. Drwy/Weston Rd & Mast Blvd



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 44 | 384 | 45 | 90 | 1603 | 23 | 16 | 2 | 80 | 94 | 8 | 173 |
| Future Volume (veh/h) | 44 | 384 | 45 | 90 | 1603 | 23 | 16 | 2 | 80 | 94 | 8 | 173 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 48 | 417 | 49 | 98 | 1742 | 25 | 17 | 2 | 87 | 102 | 9 | 170 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 61 | 1951 | 228 | 125 | 2290 | 1136 | 27 | 3 | 109 | 129 | 238 | 202 |
| Arrive On Green | 0.07 | 1.00 | 1.00 | 0.07 | 0.64 | 0.64 | 0.02 | 0.07 | 0.07 | 0.07 | 0.13 | 0.13 |
| Sat Flow, veh/h | 1781 | 3205 | 375 | 1781 | 3554 | 1585 | 1781 | 36 | 1555 | 1781 | 1870 | 1585 |
| Grp Volume(v), veh/h | 48 | 230 | 236 | 98 | 1742 | 25 | 17 | 0 | 89 | 102 | 9 | 170 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1803 | 1781 | 1777 | 1585 | 1781 | 0 | 1591 | 1781 | 1870 | 1585 |
| Q Serve(g_s), s | 2.7 | 0.0 | 0.0 | 5.4 | 34.2 | 0.5 | 0.9 | 0.0 | 5.5 | 5.6 | 0.4 | 10.5 |
| Cycle Q Clear(g_c), s | 2.7 | 0.0 | 0.0 | 5.4 | 34.2 | 0.5 | 0.9 | 0.0 | 5.5 | 5.6 | 0.4 | 10.5 |
| Prop In Lane | 1.00 | | 0.21 | 1.00 | | 1.00 | 1.00 | | 0.98 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 61 | 1082 | 1098 | 125 | 2290 | 1136 | 27 | 0 | 111 | 129 | 238 | 202 |
| V/C Ratio(X) | 0.79 | 0.21 | 0.21 | 0.79 | 0.76 | 0.02 | 0.63 | 0.00 | 0.80 | 0.79 | 0.04 | 0.84 |
| Avail Cap(c_a), veh/h | 103 | 1082 | 1098 | 216 | 2290 | 1136 | 77 | 0 | 111 | 175 | 238 | 202 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.99 | 0.99 | 0.99 | 0.87 | 0.87 | 0.87 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 46.2 | 0.0 | 0.0 | 45.8 | 12.4 | 4.1 | 49.0 | 0.0 | 45.8 | 45.6 | 38.3 | 42.7 |
| Incr Delay (d2), s/veh | 19.2 | 0.4 | 0.4 | 9.1 | 2.1 | 0.0 | 22.1 | 0.0 | 32.5 | 15.9 | 0.1 | 26.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.4 | 0.1 | 0.1 | 2.7 | 11.9 | 0.1 | 0.6 | 0.0 | 3.2 | 3.0 | 0.2 | 5.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 65.4 | 0.4 | 0.4 | 54.9 | 14.5 | 4.1 | 71.1 | 0.0 | 78.3 | 61.5 | 38.3 | 69.0 |
| LnGrp LOS | E | A | A | D | B | A | E | A | E | E | D | E |
| Approach Vol, veh/h | | 514 | | | 1865 | | | 106 | | | 281 | |
| Approach Delay, s/veh | | 6.5 | | | 16.5 | | | 77.1 | | | 65.3 | |
| Approach LOS | | A | | | B | | | E | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 11.2 | 66.2 | 5.7 | 16.9 | 7.6 | 69.7 | 11.4 | 11.2 |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | * 4.2 | * 4.2 | * 4.2 | 5.3 | * 4.2 | * 4.2 |
| Max Green Setting (Gmax), s | * 12 | 53.2 | * 4.3 | * 13 | * 5.8 | 59.5 | * 9.8 | * 7 |
| Max Q Clear Time (g_c+I1), s | 7.4 | 2.0 | 2.9 | 12.5 | 4.7 | 36.2 | 7.6 | 7.5 |
| Green Ext Time (p_c), s | 0.1 | 2.8 | 0.0 | 0.0 | 0.0 | 14.4 | 0.0 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 21.9 |
| HCM 6th LOS | C |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 7.9 |
| Intersection LOS | A |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 1 | 3 | 35 | 20 | 8 | 3 | 83 | 3 | 35 | 0 | 11 | 2 |
| Future Vol, veh/h | 1 | 3 | 35 | 20 | 8 | 3 | 83 | 3 | 35 | 0 | 11 | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 1 | 3 | 38 | 22 | 9 | 3 | 90 | 3 | 38 | 0 | 12 | 2 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 3 | 3 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 3 | 3 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 3 | 3 | 1 | 1 |
| HCM Control Delay | 7.2 | 8.1 | 8.1 | 7.5 |
| HCM LOS | A | A | A | A |

| Lane | NBLn1 | NBLn2 | NBLn3 | EBLn1 | WBLn1 | SBLn1 | SBLn2 | SBLn3 |
|---|---|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 3% | 65% | 0% | 0% | 0% |
| Vol Thru, % | 0% | 100% | 0% | 8% | 26% | 100% | 100% | 0% |
| Vol Right, % | 0% | 0% | 100% | 90% | 10% | 0% | 0% | 100% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 83 | 3 | 35 | 39 | 31 | 0 | 11 | 2 |
| LT Vol | 83 | 0 | 0 | 1 | 20 | 0 | 0 | 0 |
| Through Vol | 0 | 3 | 0 | 3 | 8 | 0 | 11 | 0 |
| RT Vol | 0 | 0 | 35 | 35 | 3 | 0 | 0 | 2 |
| Lane Flow Rate | 90 | 3 | 38 | 42 | 34 | 0 | 12 | 2 |
| Geometry Grp | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| Degree of Util (X) | 0.13 | 0.004 | 0.042 | 0.051 | 0.048 | 0 | 0.016 | 0.002 |
| Departure Headway (Hd) | 5.176 | 4.676 | 3.975 | 4.302 | 5.174 | 4.736 | 4.736 | 4.035 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 688 | 760 | 892 | 838 | 696 | 0 | 745 | 871 |
| Service Time | 2.941 | 2.44 | 1.738 | 2.002 | 2.875 | 2.535 | 2.535 | 1.833 |
| HCM Lane V/C Ratio | 0.131 | 0.004 | 0.043 | 0.05 | 0.049 | 0 | 0.016 | 0.002 |
| HCM Control Delay | 8.7 | 7.5 | 6.9 | 7.2 | 8.1 | 7.5 | 7.6 | 6.8 |
| HCM Lane LOS | A | A | A | A | A | N | A | A |
| HCM 95th-tile Q | 0.4 | 0 | 0.1 | 0.2 | 0.2 | 0 | 0 | 0 |





| Intersection | |
|---|---|
| Int Delay, s/veh | 3.3 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 63 | 1 | 5 | 103 | 1 | 5 |
| Future Vol, veh/h | 63 | 1 | 5 | 103 | 1 | 5 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 1 | 1 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 68 | 1 | 5 | 112 | 1 | 5 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 69 | 62 | 0 | 0 | 118 | 0 |
| Stage 1 | 62 | - | - | - | - | - |
| Stage 2 | 7 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | - | - | 4.12 | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | - | - | 2.218 | - |
| Pot Cap-1 Maneuver | 936 | 1003 | - | - | 1470 | - |
| Stage 1 | 961 | - | - | - | - | - |
| Stage 2 | 1016 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 934 | 1002 | - | - | 1469 | - |
| Mov Cap-2 Maneuver | 934 | - | - | - | - | - |
| Stage 1 | 959 | - | - | - | - | - |
| Stage 2 | 1016 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 9.2 | 0 | 1.2 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | SBL | SBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 935 | 1469 | - |
| HCM Lane V/C Ratio | - | - | 0.074 | 0.001 | - |
| HCM Control Delay (s) | - | - | 9.2 | 7.5 | 0 |
| HCM Lane LOS | - | - | A | A | A |
| HCM 95th %tile Q(veh) | - | - | 0.2 | 0 | - |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 9.1 |
| Intersection LOS | A |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 1 | 7 | 111 | 2 | 11 | 7 | 34 | 238 | 3 | 14 | 2 |
| Future Vol, veh/h | 0 | 1 | 7 | 111 | 2 | 11 | 7 | 34 | 238 | 3 | 14 | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 1 | 8 | 121 | 2 | 12 | 8 | 37 | 259 | 3 | 15 | 2 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay | 7.4 | 8.9 | 9.3 | 8 |
| HCM LOS | A | A | A | A |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 90% | 100% | 0% |
| Vol Thru, % | 0% | 12% | 12% | 2% | 0% | 88% |
| Vol Right, % | 0% | 88% | 88% | 9% | 0% | 12% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 7 | 272 | 8 | 124 | 3 | 16 |
| LT Vol | 7 | 0 | 0 | 111 | 3 | 0 |
| Through Vol | 0 | 34 | 1 | 2 | 0 | 14 |
| RT Vol | 0 | 238 | 7 | 11 | 0 | 2 |
| Lane Flow Rate | 8 | 296 | 9 | 135 | 3 | 17 |
| Geometry Grp | 7 | 7 | 2 | 2 | 7 | 7 |
| Degree of Util (X) | 0.011 | 0.353 | 0.01 | 0.179 | 0.005 | 0.024 |
| Departure Headway (Hd) | 5.417 | 4.301 | 4.303 | 4.79 | 5.636 | 5.044 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 663 | 840 | 832 | 751 | 637 | 711 |
| Service Time | 3.13 | 2.013 | 2.326 | 2.807 | 3.355 | 2.764 |
| HCM Lane V/C Ratio | 0.012 | 0.352 | 0.011 | 0.18 | 0.005 | 0.024 |
| HCM Control Delay | 8.2 | 9.3 | 7.4 | 8.9 | 8.4 | 7.9 |
| HCM Lane LOS | A | A | A | A | A | A |
| HCM 95th-tile Q | 0 | 1.6 | 0 | 0.6 | 0 | 0.1 |

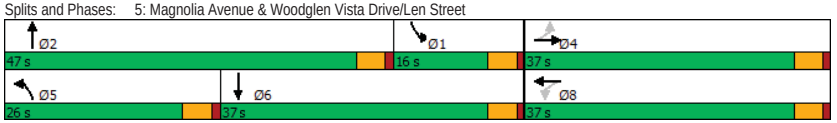




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 13 | 33 | 81 | 32 | 7 | 7 | 81 | 362 | 45 | 3 | 240 | 8 |
| Future Volume (vph) | 13 | 33 | 81 | 32 | 7 | 7 | 81 | 362 | 45 | 3 | 240 | 8 |
| Confl. Peds. (#/hr) | 4 | | 6 | 6 | | 4 | 8 | | | | | 8 |
| Confl. Bikes (#/hr) | | | 5 | | | 4 | | | 4 | | | 5 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Perm | NA | | Perm | NA | | Prot | NA | | Prot | NA | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 26.5 | 26.5 | | 26.5 | 26.5 | | 11.5 | 22.5 | | 11.5 | 22.5 | |
| Total Split (s) | 37.0 | 37.0 | | 37.0 | 37.0 | | 26.0 | 47.0 | | 16.0 | 37.0 | |
| Total Split (%) | 37.0% | 37.0% | | 37.0% | 37.0% | | 26.0% | 47.0% | | 16.0% | 37.0% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | | | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lead | | Lag | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 38.1 |
| Natural Cycle: 65 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 5: Magnolia Avenue & Woodglen Vista Drive/Len Street



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 13 | 33 | 81 | 32 | 7 | 7 | 81 | 362 | 45 | 3 | 240 | 8 |
| Future Volume (veh/h) | 13 | 33 | 81 | 32 | 7 | 7 | 81 | 362 | 45 | 3 | 240 | 8 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 0.99 | | 0.98 | 0.99 | | 0.98 | 1.00 | | 0.96 | 1.00 | | 0.96 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 14 | 36 | 88 | 35 | 8 | 8 | 88 | 393 | 49 | 3 | 261 | 9 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 540 | 98 | 239 | 325 | 74 | 38 | 212 | 862 | 107 | 165 | 861 | 30 |
| Arrive On Green | 0.21 | 0.21 | 0.21 | 0.21 | 0.21 | 0.21 | 0.12 | 0.27 | 0.27 | 0.09 | 0.25 | 0.25 |
| Sat Flow, veh/h | 1387 | 473 | 1155 | 642 | 356 | 186 | 1781 | 3166 | 392 | 1781 | 3499 | 120 |
| Grp Volume(v), veh/h | 14 | 0 | 124 | 51 | 0 | 0 | 88 | 219 | 223 | 3 | 132 | 138 |
| Grp Sat Flow(s),veh/h/ln | 1387 | 0 | 1628 | 1184 | 0 | 0 | 1781 | 1777 | 1781 | 1781 | 1777 | 1842 |
| Q Serve(g_s), s | 0.0 | 0.0 | 2.1 | 0.0 | 0.0 | 0.0 | 1.4 | 3.2 | 3.3 | 0.0 | 1.9 | 1.9 |
| Cycle Q Clear(g_c), s | 0.2 | 0.0 | 2.1 | 2.1 | 0.0 | 0.0 | 1.4 | 3.2 | 3.3 | 0.0 | 1.9 | 1.9 |
| Prop In Lane | 1.00 | | 0.71 | 0.69 | | 0.16 | 1.00 | | 0.22 | 1.00 | | 0.07 |
| Lane Grp Cap(c), veh/h | 540 | 0 | 336 | 437 | 0 | 0 | 212 | 484 | 485 | 165 | 437 | 453 |
| V/C Ratio(X) | 0.03 | 0.00 | 0.37 | 0.12 | 0.00 | 0.00 | 0.41 | 0.45 | 0.46 | 0.02 | 0.30 | 0.30 |
| Avail Cap(c_a), veh/h | 1683 | 0 | 1677 | 1565 | 0 | 0 | 1214 | 2395 | 2400 | 650 | 1831 | 1899 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 10.0 | 0.0 | 10.7 | 10.2 | 0.0 | 0.0 | 12.9 | 9.5 | 9.5 | 13.0 | 9.7 | 9.7 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 0.7 | 0.1 | 0.0 | 0.0 | 1.3 | 0.7 | 0.7 | 0.0 | 0.4 | 0.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.1 | 0.0 | 0.6 | 0.2 | 0.0 | 0.0 | 0.5 | 0.8 | 0.9 | 0.0 | 0.5 | 0.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 10.0 | 0.0 | 11.4 | 10.4 | 0.0 | 0.0 | 14.2 | 10.2 | 10.2 | 13.0 | 10.1 | 10.1 |
| LnGrp LOS | B | A | B | B | A | A | B | B | B | B | B | B |
| Approach Vol, veh/h | | 138 | | | 51 | | | 530 | | | 273 | |
| Approach Delay, s/veh | | 11.3 | | | 10.4 | | | 10.9 | | | 10.1 | |
| Approach LOS | | B | | | B | | | B | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.4 | 13.1 | | 11.0 | 8.3 | 12.3 | | 11.0 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 11.5 | 42.5 | | 32.5 | 21.5 | 32.5 | | 32.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.0 | 5.3 | | 4.1 | 3.4 | 3.9 | | 4.1 | | | | |
| Green Ext Time (p_c), s | 0.0 | 2.6 | | 0.8 | 0.2 | 1.4 | | 0.2 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 10.7 |
| HCM 6th LOS | | B |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 12.1 |
| Intersection LOS | B |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 1 | 1 | 5 | 102 | 8 | 3 | 13 | 283 | 109 | 3 | 138 | 0 |
| Future Vol, veh/h | 1 | 1 | 5 | 102 | 8 | 3 | 13 | 283 | 109 | 3 | 138 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 1 | 1 | 5 | 111 | 9 | 3 | 14 | 308 | 118 | 3 | 150 | 0 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |

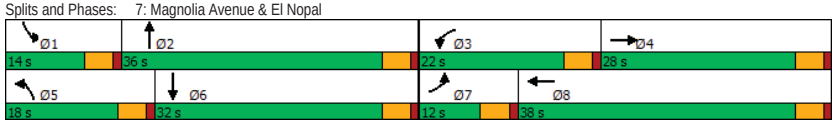
| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay | 8.3 | 9.9 | 13.7 | 9.5 |
| HCM LOS | A | A | B | A |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 14% | 90% | 100% | 0% |
| Vol Thru, % | 0% | 72% | 14% | 7% | 0% | 100% |
| Vol Right, % | 0% | 28% | 71% | 3% | 0% | 0% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 13 | 392 | 7 | 113 | 3 | 138 |
| LT Vol | 13 | 0 | 1 | 102 | 3 | 0 |
| Through Vol | 0 | 283 | 1 | 8 | 0 | 138 |
| RT Vol | 0 | 109 | 5 | 3 | 0 | 0 |
| Lane Flow Rate | 14 | 426 | 8 | 123 | 3 | 150 |
| Geometry Grp | 7 | 7 | 2 | 2 | 7 | 7 |
| Degree of Util (X) | 0.022 | 0.573 | 0.011 | 0.188 | 0.005 | 0.22 |
| Departure Headway (Hd) | 5.541 | 4.843 | 5.161 | 5.518 | 5.783 | 5.279 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 645 | 741 | 687 | 647 | 617 | 678 |
| Service Time | 3.283 | 2.584 | 3.241 | 3.576 | 3.537 | 3.033 |
| HCM Lane V/C Ratio | 0.022 | 0.575 | 0.012 | 0.19 | 0.005 | 0.221 |
| HCM Control Delay | 8.4 | 13.9 | 8.3 | 9.9 | 8.6 | 9.5 |
| HCM Lane LOS | A | B | A | A | A | A |
| HCM 95th-tile Q | 0.1 | 3.7 | 0 | 0.7 | 0 | 0.8 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 6 | 72 | 63 | 146 | 109 | 69 | 95 | 419 | 204 | 58 | 300 | 9 |
| Future Volume (vph) | 6 | 72 | 63 | 146 | 109 | 69 | 95 | 419 | 204 | 58 | 300 | 9 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | 1 | | | 1 | | | 3 | | | 5 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | | Prot | NA | |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 11.5 | 26.5 | | 11.5 | 25.5 | | 11.5 | 22.5 | | 11.5 | 22.5 | |
| Total Split (s) | 12.0 | 28.0 | | 22.0 | 38.0 | | 18.0 | 36.0 | | 14.0 | 32.0 | |
| Total Split (%) | 12.0% | 28.0% | | 22.0% | 38.0% | | 18.0% | 36.0% | | 14.0% | 32.0% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 61.6 |
| Natural Cycle: 75 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 7: Magnolia Avenue & El Nopal








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 6 | 72 | 63 | 146 | 109 | 69 | 95 | 419 | 204 | 58 | 300 | 9 |
| Future Volume (veh/h) | 6 | 72 | 63 | 146 | 109 | 69 | 95 | 419 | 204 | 58 | 300 | 9 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 7 | 78 | 68 | 159 | 118 | 75 | 103 | 455 | 222 | 63 | 326 | 10 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 23 | 127 | 111 | 222 | 266 | 169 | 190 | 680 | 329 | 145 | 952 | 29 |
| Arrive On Green | 0.01 | 0.14 | 0.14 | 0.12 | 0.25 | 0.25 | 0.11 | 0.30 | 0.30 | 0.08 | 0.27 | 0.27 |
| Sat Flow, veh/h | 1781 | 916 | 798 | 1781 | 1063 | 676 | 1781 | 2302 | 1113 | 1781 | 3517 | 108 |
| Grp Volume(v), veh/h | 7 | 0 | 146 | 159 | 0 | 193 | 103 | 350 | 327 | 63 | 164 | 172 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1714 | 1781 | 0 | 1738 | 1781 | 1777 | 1638 | 1781 | 1777 | 1847 |
| Q Serve(g_s), s | 0.2 | 0.0 | 4.0 | 4.3 | 0.0 | 4.7 | 2.7 | 8.7 | 8.8 | 1.7 | 3.7 | 3.7 |
| Cycle Q Clear(g_c), s | 0.2 | 0.0 | 4.0 | 4.3 | 0.0 | 4.7 | 2.7 | 8.7 | 8.8 | 1.7 | 3.7 | 3.7 |
| Prop In Lane | 1.00 | | 0.47 | 1.00 | | 0.39 | 1.00 | | 0.68 | 1.00 | | 0.06 |
| Lane Grp Cap(c), veh/h | 23 | 0 | 238 | 222 | 0 | 435 | 190 | 525 | 484 | 145 | 481 | 500 |
| V/C Ratio(X) | 0.30 | 0.00 | 0.61 | 0.72 | 0.00 | 0.44 | 0.54 | 0.67 | 0.67 | 0.43 | 0.34 | 0.34 |
| Avail Cap(c_a), veh/h | 267 | 0 | 805 | 623 | 0 | 1164 | 480 | 1118 | 1031 | 338 | 976 | 1015 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 24.5 | 0.0 | 20.3 | 21.1 | 0.0 | 15.8 | 21.2 | 15.5 | 15.5 | 21.9 | 14.7 | 14.7 |
| Incr Delay (d2), s/veh | 7.2 | 0.0 | 2.6 | 4.3 | 0.0 | 0.7 | 2.4 | 1.5 | 1.7 | 2.0 | 0.4 | 0.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.1 | 0.0 | 1.7 | 1.9 | 0.0 | 1.8 | 1.1 | 3.0 | 2.9 | 0.7 | 1.3 | 1.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 31.6 | 0.0 | 22.9 | 25.4 | 0.0 | 16.5 | 23.6 | 16.9 | 17.2 | 23.9 | 15.1 | 15.1 |
| LnGrp LOS | C | A | C | C | A | B | C | B | B | C | B | B |
| Approach Vol, veh/h | | 153 | | | 352 | | | 780 | | | 399 | |
| Approach Delay, s/veh | | 23.3 | | | 20.5 | | | 17.9 | | | 16.5 | |
| Approach LOS | | C | | | C | | | B | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 8.6 | 19.3 | 10.7 | 11.4 | 9.8 | 18.0 | 5.1 | 17.0 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 9.5 | 31.5 | 17.5 | 23.5 | 13.5 | 27.5 | 7.5 | 33.5 |
| Max Q Clear Time (g_c+I1), s | 3.7 | 10.8 | 6.3 | 6.0 | 4.7 | 5.7 | 2.2 | 6.7 |
| Green Ext Time (p_c), s | 0.0 | 4.0 | 0.3 | 0.7 | 0.1 | 1.7 | 0.0 | 1.2 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 18.6 |
| HCM 6th LOS | B |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 15.5 |
| Intersection LOS | C |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 248 | 15 | 154 | 293 | 11 | 198 |
| Future Vol, veh/h | 248 | 15 | 154 | 293 | 11 | 198 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 270 | 16 | 167 | 318 | 12 | 215 |
| Number of Lanes | 1 | 1 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB |
|---|---|---|---|
| Opposing Approach | WB | EB | |
| Opposing Lanes | 1 | 2 | 0 |
| Conflicting Approach Left | | NB | EB |
| Conflicting Lanes Left | 0 | 1 | 2 |
| Conflicting Approach Right | NB | | WB |
| Conflicting Lanes Right | 1 | 0 | 1 |
| HCM Control Delay | 12.4 | 19.4 | 11.1 |
| HCM LOS | B | C | B |

| Lane | NBLn1 | EBLn1 | EBLn2 | WBLn1 |
|---|---|---|---|---|
| Vol Left, % | 5% | 0% | 0% | 34% |
| Vol Thru, % | 0% | 100% | 0% | 66% |
| Vol Right, % | 95% | 0% | 100% | 0% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 209 | 248 | 15 | 447 |
| LT Vol | 11 | 0 | 0 | 154 |
| Through Vol | 0 | 248 | 0 | 293 |
| RT Vol | 198 | 0 | 15 | 0 |
| Lane Flow Rate | 227 | 270 | 16 | 486 |
| Geometry Grp | 2 | 7 | 7 | 5 |
| Degree of Util (X) | 0.337 | 0.428 | 0.023 | 0.699 |
| Departure Headway (Hd) | 5.333 | 5.719 | 5.01 | 5.176 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 672 | 631 | 714 | 700 |
| Service Time | 3.372 | 3.451 | 2.741 | 3.202 |
| HCM Lane V/C Ratio | 0.338 | 0.428 | 0.022 | 0.694 |
| HCM Control Delay | 11.1 | 12.7 | 7.9 | 19.4 |
| HCM Lane LOS | B | B | A | C |
| HCM 95th-tile Q | 1.5 | 2.1 | 0.1 | 5.7 |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 8.5 |
| Intersection LOS | A |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 53 | 20 | 150 | 93 | 7 | 97 |
| Future Vol, veh/h | 53 | 20 | 150 | 93 | 7 | 97 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 58 | 22 | 163 | 101 | 8 | 105 |
| Number of Lanes | 1 | 0 | 1 | 0 | 0 | 1 |

| Approach | WB | NB | SB |
|---|---|---|---|
| Opposing Approach | | SB | NB |
| Opposing Lanes | 0 | 1 | 1 |
| Conflicting Approach Left | NB | | WB |
| Conflicting Lanes Left | 1 | 0 | 1 |
| Conflicting Approach Right | SB | WB | |
| Conflicting Lanes Right | 1 | 1 | 0 |
| HCM Control Delay | 8.3 | 8.7 | 8.1 |
| HCM LOS | A | A | A |

| Lane | NBLn1 | WBLn1 | SBLn1 |
|---|---|---|---|
| Vol Left, % | 0% | 73% | 7% |
| Vol Thru, % | 62% | 0% | 93% |
| Vol Right, % | 38% | 27% | 0% |
| Sign Control | Stop | Stop | Stop |
| Traffic Vol by Lane | 243 | 73 | 104 |
| LT Vol | 0 | 53 | 7 |
| Through Vol | 150 | 0 | 97 |
| RT Vol | 93 | 20 | 0 |
| Lane Flow Rate | 264 | 79 | 113 |
| Geometry Grp | 1 | 1 | 1 |
| Degree of Util (X) | 0.296 | 0.104 | 0.138 |
| Departure Headway (Hd) | 4.03 | 4.715 | 4.397 |
| Convergence, Y/N | Yes | Yes | Yes |
| Cap | 898 | 762 | 817 |
| Service Time | 2.03 | 2.735 | 2.412 |
| HCM Lane V/C Ratio | 0.294 | 0.104 | 0.138 |
| HCM Control Delay | 8.7 | 8.3 | 8.1 |
| HCM Lane LOS | A | A | A |
| HCM 95th-tile Q | 1.2 | 0.3 | 0.5 |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 9.3 |
| Intersection LOS | A |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 3 | 15 | 163 | 11 | 6 | 5 | 154 | 46 | 24 | 3 | 32 | 3 |
| Future Vol, veh/h | 3 | 15 | 163 | 11 | 6 | 5 | 154 | 46 | 24 | 3 | 32 | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 3 | 16 | 177 | 12 | 7 | 5 | 167 | 50 | 26 | 3 | 35 | 3 |
| Number of Lanes | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 2 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 2 | 2 | 3 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 3 | 2 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 3 | 2 | 1 | 2 |
| HCM Control Delay | 8.9 | 8.8 | 9.7 | 8.7 |
| HCM LOS | A | A | A | A |

| Lane | NBLn1 | NBLn2 | NBLn3 | EBLn1 | EBLn2 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 17% | 0% | 50% | 100% | 0% |
| Vol Thru, % | 0% | 100% | 39% | 83% | 0% | 27% | 0% | 91% |
| Vol Right, % | 0% | 0% | 61% | 0% | 100% | 23% | 0% | 9% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 154 | 31 | 39 | 18 | 163 | 22 | 3 | 35 |
| LT Vol | 154 | 0 | 0 | 3 | 0 | 11 | 3 | 0 |
| Through Vol | 0 | 31 | 15 | 15 | 0 | 6 | 0 | 32 |
| RT Vol | 0 | 0 | 24 | 0 | 163 | 5 | 0 | 3 |
| Lane Flow Rate | 167 | 33 | 43 | 20 | 177 | 24 | 3 | 38 |
| Geometry Grp | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| Degree of Util (X) | 0.266 | 0.048 | 0.057 | 0.03 | 0.231 | 0.039 | 0.006 | 0.059 |
| Departure Headway (Hd) | 5.718 | 5.215 | 4.786 | 5.481 | 4.697 | 5.81 | 6.153 | 5.589 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 626 | 684 | 745 | 652 | 762 | 613 | 579 | 637 |
| Service Time | 3.469 | 2.966 | 2.537 | 3.222 | 2.438 | 3.574 | 3.919 | 3.354 |
| HCM Lane V/C Ratio | 0.267 | 0.048 | 0.058 | 0.031 | 0.232 | 0.039 | 0.005 | 0.06 |
| HCM Control Delay | 10.5 | 8.2 | 7.8 | 8.4 | 8.9 | 8.8 | 9 | 8.7 |
| HCM Lane LOS | B | A | A | A | A | A | A | A |
| HCM 95th-tile Q | 1.1 | 0.2 | 0.2 | 0.1 | 0.9 | 0.1 | 0 | 0.2 |





| Intersection | |
|---|---|
| Int Delay, s/veh | 5.1 |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 9 | 34 | 36 | 32 | 0 | 15 |
| Future Vol, veh/h | 9 | 34 | 36 | 32 | 0 | 15 |
| Conflicting Peds, #/hr | 4 | 1 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | 150 | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 10 | 37 | 39 | 35 | 0 | 16 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 125 | 9 | 16 | 0 | - | 0 |
| Stage 1 | 8 | - | - | - | - | - |
| Stage 2 | 117 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | 4.12 | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | 2.218 | - | - | - |
| Pot Cap-1 Maneuver | 870 | 1073 | 1602 | - | - | - |
| Stage 1 | 1015 | - | - | - | - | - |
| Stage 2 | 908 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 849 | 1072 | 1602 | - | - | - |
| Mov Cap-2 Maneuver | 849 | - | - | - | - | - |
| Stage 1 | 991 | - | - | - | - | - |
| Stage 2 | 908 | - | - | - | - | - |

| Approach | EB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 8.7 | 3.9 | 0 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1602 | - | 1016 | - | - |
| HCM Lane V/C Ratio | 0.024 | - | 0.046 | - | - |
| HCM Control Delay (s) | 7.3 | - | 8.7 | - | - |
| HCM Lane LOS | A | - | A | - | - |
| HCM 95th %tile Q(veh) | 0.1 | - | 0.1 | - | - |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 13.7 |
| Intersection LOS | B |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 6 | 57 | 2 | 2 | 9 | 417 | 65 | 2 | 224 | 3 |
| Future Vol, veh/h | 0 | 0 | 6 | 57 | 2 | 2 | 9 | 417 | 65 | 2 | 224 | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 7 | 62 | 2 | 2 | 10 | 453 | 71 | 2 | 243 | 3 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 3 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 3 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 3 | 2 | 1 | 1 |
| HCM Control Delay | 8.6 | 10.6 | 14.7 | 12.4 |
| HCM LOS | A | B | B | B |

| Lane | NBLn1 | NBLn2 | NBLn3 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 0% | 93% | 100% | 0% |
| Vol Thru, % | 0% | 100% | 0% | 0% | 3% | 0% | 99% |
| Vol Right, % | 0% | 0% | 100% | 100% | 3% | 0% | 1% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 9 | 417 | 65 | 6 | 61 | 2 | 227 |
| LT Vol | 9 | 0 | 0 | 0 | 57 | 2 | 0 |
| Through Vol | 0 | 417 | 0 | 0 | 2 | 0 | 224 |
| RT Vol | 0 | 0 | 65 | 6 | 2 | 0 | 3 |
| Lane Flow Rate | 10 | 453 | 71 | 7 | 66 | 2 | 247 |
| Geometry Grp | 7 | 7 | 7 | 7 | 7 | 8 | 8 |
| Degree of Util (X) | 0.015 | 0.63 | 0.084 | 0.011 | 0.125 | 0.004 | 0.397 |
| Departure Headway (Hd) | 5.509 | 5.007 | 4.303 | 5.876 | 6.776 | 6.31 | 5.799 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 648 | 721 | 829 | 613 | 525 | 564 | 617 |
| Service Time | 3.258 | 2.755 | 2.051 | 3.576 | 4.571 | 4.084 | 3.572 |
| HCM Lane V/C Ratio | 0.015 | 0.628 | 0.086 | 0.011 | 0.126 | 0.004 | 0.4 |
| HCM Control Delay | 8.3 | 16 | 7.4 | 8.6 | 10.6 | 9.1 | 12.4 |
| HCM Lane LOS | A | C | A | A | B | A | B |
| HCM 95th-tile Q | 0 | 4.5 | 0.3 | 0 | 0.4 | 0 | 1.9 |





| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 87 | 20 | 785 | 161 | 29 | 548 |
| Future Volume (vph) | 87 | 20 | 785 | 161 | 29 | 548 |
| Confl. Peds. (#/hr) | | 8 | | 6 | | |
| Confl. Bikes (#/hr) | | | | 5 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | 0% | | | 0% |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | NA | | Prot | NA |
| Protected Phases | 8 | | 2 | | 1 | 6 |
| Permitted Phases | | 8 | | | | |
| Detector Phase | 8 | 8 | 2 | | 1 | 6 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | | 8.5 | 20.5 |
| Total Split (s) | 22.6 | 22.6 | 28.4 | | 9.0 | 37.4 |
| Total Split (%) | 37.7% | 37.7% | 47.3% | | 15.0% | 62.3% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Lead/Lag | | | Lag | | Lead | |
| Lead-Lag Optimize? | | | Yes | | Yes | |
| Recall Mode | None | None | Min | | None | Min |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 42.5 |
| Natural Cycle: 60 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 13: Magnolia Avenue & 2nd Street

| Movement | WBL | WBR | NBT | NBR | SBL | SBT | |
|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | |
| Traffic Volume (veh/h) | 87 | 20 | 785 | 161 | 29 | 548 | |
| Future Volume (veh/h) | 87 | 20 | 785 | 161 | 29 | 548 | |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | | 0.97 | 1.00 | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Work Zone On Approach | No | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | |
| Adj Flow Rate, veh/h | 95 | 22 | 853 | 175 | 32 | 596 | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | |
| Cap, veh/h | 144 | 128 | 1354 | 278 | 55 | 2261 | |
| Arrive On Green | 0.08 | 0.08 | 0.46 | 0.46 | 0.03 | 0.64 | |
| Sat Flow, veh/h | 1781 | 1585 | 3012 | 599 | 1781 | 3647 | |
| Grp Volume(v), veh/h | 95 | 22 | 519 | 509 | 32 | 596 | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 1777 | 1741 | 1781 | 1777 | |
| Q Serve(g_s), s | 1.6 | 0.4 | 7.0 | 7.0 | 0.6 | 2.3 | |
| Cycle Q Clear(g_c), s | 1.6 | 0.4 | 7.0 | 7.0 | 0.6 | 2.3 | |
| Prop In Lane | 1.00 | 1.00 | | 0.34 | 1.00 | | |
| Lane Grp Cap(c), veh/h | 144 | 128 | 824 | 807 | 55 | 2261 | |
| V/C Ratio(X) | 0.66 | 0.17 | 0.63 | 0.63 | 0.58 | 0.26 | |
| Avail Cap(c_a), veh/h | 1013 | 901 | 1334 | 1307 | 252 | 3673 | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Uniform Delay (d), s/veh | 14.2 | 13.6 | 6.5 | 6.5 | 15.2 | 2.5 | |
| Incr Delay (d2), s/veh | 5.0 | 0.6 | 0.8 | 0.8 | 9.3 | 0.1 | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| %ile BackOfQ(50%),veh/ln | 0.7 | 0.1 | 1.2 | 1.2 | 0.3 | 0.0 | |
| Unsig. Movement Delay, s/veh | | | | | | | |
| LnGrp Delay(d),s/veh | 19.2 | 14.3 | 7.3 | 7.3 | 24.5 | 2.6 | |
| LnGrp LOS | B | B | A | A | C | A | |
| Approach Vol, veh/h | 117 | | 1028 | | | 628 | |
| Approach Delay, s/veh | 18.3 | | 7.3 | | | 3.7 | |
| Approach LOS | B | | A | | | A | |

| Timer - Assigned Phs | 1 | 2 | | | | 6 | 8 |
|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.5 | 19.3 | | | | 24.8 | 7.1 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 4.5 | 23.9 | | | | 32.9 | 18.1 |
| Max Q Clear Time (g_c+I1), s | 2.6 | 9.0 | | | | 4.3 | 3.6 |
| Green Ext Time (p_c), s | 0.0 | 5.6 | | | | 4.0 | 0.2 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 6.7 |
| HCM 6th LOS | A |

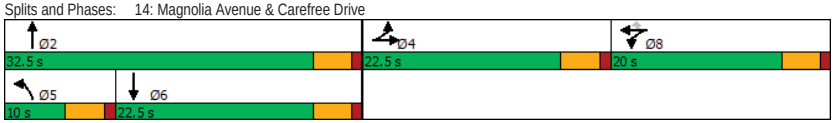




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 6 | 0 | 52 | 4 | 0 | 0 | 78 | 935 | 0 | 0 | 606 | 8 |
| Future Volume (vph) | 6 | 0 | 52 | 4 | 0 | 0 | 78 | 935 | 0 | 0 | 606 | 8 |
| Confl. Peds. (#/hr) | | | 22 | | | | | | 8 | | | 12 |
| Confl. Bikes (#/hr) | | | 4 | | | | | | | | | 6 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | 50% | | | | | | | | |
| Turn Type | Split | NA | | Split | NA | Perm | Prot | NA | | | NA | |
| Protected Phases | 4 | 4 | | 8 | 8 | | 5 | 2 | | | 6 | |
| Permitted Phases | | | | | | 8 | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | 8 | 5 | 2 | | | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | | 4.0 | |
| Minimum Split (s) | 22.5 | 22.5 | | 20.0 | 20.0 | 20.0 | 8.5 | 22.5 | | | 22.5 | |
| Total Split (s) | 22.5 | 22.5 | | 20.0 | 20.0 | 20.0 | 10.0 | 32.5 | | | 22.5 | |
| Total Split (%) | 30.0% | 30.0% | | 26.7% | 26.7% | 26.7% | 13.3% | 43.3% | | | 30.0% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | 0.0 | |
| Total Lost Time (s) | | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | | 4.5 | |
| Lead/Lag | | | | | | | Lead | | | | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | | | | Yes | |
| Recall Mode | None | None | | None | None | None | None | Min | | | Min | |

| Intersection Summary |
|---|
| Cycle Length: 75 |
| Actuated Cycle Length: 42.7 |
| Natural Cycle: 75 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 14: Magnolia Avenue & Carefree Drive



Existing + Cuml PM
14: Magnolia Avenue & Carefree Drive

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 6 | 0 | 52 | 4 | 0 | 0 | 78 | 935 | 0 | 0 | 606 | 8 |
| Future Volume (veh/h) | 6 | 0 | 52 | 4 | 0 | 0 | 78 | 935 | 0 | 0 | 606 | 8 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.93 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.95 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 0 | 0 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 7 | 0 | 57 | 4 | 0 | 0 | 85 | 1016 | 0 | 0 | 659 | 9 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 0 | 0 | 2 | 2 |
| Cap, veh/h | 17 | 0 | 134 | 16 | 0 | 7 | 115 | 1789 | 0 | 0 | 1106 | 15 |
| Arrive On Green | 0.10 | 0.00 | 0.10 | 0.00 | 0.00 | 0.00 | 0.06 | 0.50 | 0.00 | 0.00 | 0.31 | 0.31 |
| Sat Flow, veh/h | 164 | 0 | 1332 | 3563 | 0 | 1585 | 1781 | 3647 | 0 | 0 | 3680 | 49 |
| Grp Volume(v), veh/h | 64 | 0 | 0 | 4 | 0 | 0 | 85 | 1016 | 0 | 0 | 326 | 342 |
| Grp Sat Flow(s),veh/h/ln | 1496 | 0 | 0 | 1781 | 0 | 1585 | 1781 | 1777 | 0 | 0 | 1777 | 1859 |
| Q Serve(g_s), s | 1.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.6 | 6.9 | 0.0 | 0.0 | 5.4 | 5.4 |
| Cycle Q Clear(g_c), s | 1.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.6 | 6.9 | 0.0 | 0.0 | 5.4 | 5.4 |
| Prop In Lane | 0.11 | | 0.89 | 1.00 | | 1.00 | 1.00 | | 0.00 | 0.00 | | 0.03 |
| Lane Grp Cap(c), veh/h | 151 | 0 | 0 | 16 | 0 | 7 | 115 | 1789 | 0 | 0 | 548 | 573 |
| V/C Ratio(X) | 0.42 | 0.00 | 0.00 | 0.26 | 0.00 | 0.00 | 0.74 | 0.57 | 0.00 | 0.00 | 0.60 | 0.60 |
| Avail Cap(c_a), veh/h | 780 | 0 | 0 | 1601 | 0 | 712 | 284 | 2884 | 0 | 0 | 927 | 970 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 14.6 | 0.0 | 0.0 | 17.1 | 0.0 | 0.0 | 15.8 | 6.0 | 0.0 | 0.0 | 10.1 | 10.1 |
| Incr Delay (d2), s/veh | 1.9 | 0.0 | 0.0 | 8.5 | 0.0 | 0.0 | 8.9 | 0.3 | 0.0 | 0.0 | 1.0 | 1.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.8 | 1.1 | 0.0 | 0.0 | 1.5 | 1.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 16.4 | 0.0 | 0.0 | 25.6 | 0.0 | 0.0 | 24.7 | 6.2 | 0.0 | 0.0 | 11.1 | 11.1 |
| LnGrp LOS | B | A | A | C | A | A | C | A | A | A | B | B |
| Approach Vol, veh/h | | 64 | | | 4 | | | 1101 | | | 668 | |
| Approach Delay, s/veh | | 16.4 | | | 25.6 | | | 7.7 | | | 11.1 | |
| Approach LOS | | B | | | C | | | A | | | B | |
| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 21.9 | | 8.0 | 6.7 | 15.1 | | 4.7 | | | | |
| Change Period (Y+Rc), s | | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | | 28.0 | | 18.0 | 5.5 | 18.0 | | 15.5 | | | | |
| Max Q Clear Time (g_c+I1), s | | 8.9 | | 3.4 | 3.6 | 7.4 | | 2.0 | | | | |
| Green Ext Time (p_c), s | | 6.8 | | 0.2 | 0.0 | 2.8 | | 0.0 | | | | |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 9.3 |
| HCM 6th LOS | A |

**Notes**

User approved volume balancing among the lanes for turning movement.



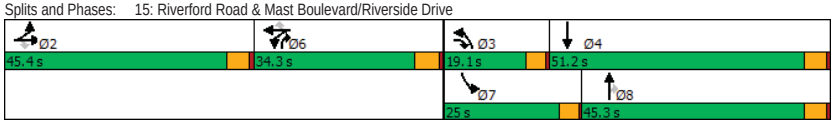
Existing + Cuml PM
15: Riverford Road & Mast Boulevard/Riverside Drive

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 15 | 8 | 35 | 519 | 41 | 290 | 72 | 244 | 462 | 196 | 184 | 22 |
| Future Volume (vph) | 15 | 8 | 35 | 519 | 41 | 290 | 72 | 244 | 462 | 196 | 184 | 22 |
| Confl. Peds. (#/hr) | | | | | | | | | 4 | | | |
| Confl. Bikes (#/hr) | | | 3 | | | 1 | | | 3 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Split | NA | pm+ov | Split | NA | Perm | Prot | NA | pm+ov | Prot | NA | |
| Protected Phases | 2 | 2 | 3 | 6 | 6 | | 3 | 8 | 6 | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | 8 | | | |
| Detector Phase | 2 | 2 | 3 | 6 | 6 | 6 | 3 | 8 | 6 | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 6.0 | 6.0 | 5.0 | 4.0 | 4.0 | 4.0 | 5.0 | 6.0 | 4.0 | 4.0 | 6.0 | |
| Minimum Split (s) | 45.3 | 45.3 | 9.1 | 34.3 | 34.3 | 34.3 | 9.1 | 45.3 | 34.3 | 8.6 | 49.9 | |
| Total Split (s) | 45.4 | 45.4 | 19.1 | 34.3 | 34.3 | 34.3 | 19.1 | 45.3 | 34.3 | 25.0 | 51.2 | |
| Total Split (%) | 30.3% | 30.3% | 12.7% | 22.9% | 22.9% | 22.9% | 12.7% | 30.2% | 22.9% | 16.7% | 34.1% | |
| Yellow Time (s) | 4.3 | 4.3 | 3.6 | 4.3 | 4.3 | 4.3 | 3.6 | 3.9 | 4.3 | 3.6 | 3.9 | |
| All-Red Time (s) | 1.0 | 1.0 | 0.5 | 1.0 | 1.0 | 1.0 | 0.5 | 1.0 | 1.0 | 0.5 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 5.3 | 5.3 | 4.1 | 5.3 | 5.3 | 5.3 | 4.1 | 4.9 | 5.3 | 4.1 | 4.9 | |
| Lead/Lag | | | Lead | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | Yes | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | None | None | None | None | None | Min | None | None | Min | |

| Intersection Summary | |
|---|---|
| Cycle Length: 150 | |
| Actuated Cycle Length: 91.3 | |
| Natural Cycle: 140 | |
| Control Type: Actuated-Uncoordinated | |

Splits and Phases: 15: Riverford Road & Mast Boulevard/Riverside Drive



Existing + Cuml PM
15: Riverford Road & Mast Boulevard/Riverside Drive

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 15 | 8 | 35 | 519 | 41 | 290 | 72 | 244 | 462 | 196 | 184 | 22 |
| Future Volume (veh/h) | 15 | 8 | 35 | 519 | 41 | 290 | 72 | 244 | 462 | 196 | 184 | 22 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 16 | 9 | 38 | 564 | 45 | 315 | 78 | 265 | 502 | 213 | 200 | 24 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 102 | 203 | 313 | 874 | 899 | 392 | 102 | 552 | 860 | 259 | 627 | 75 |
| Arrive On Green | 0.06 | 0.06 | 0.06 | 0.25 | 0.25 | 0.25 | 0.06 | 0.30 | 0.30 | 0.15 | 0.38 | 0.38 |
| Sat Flow, veh/h | 1781 | 3554 | 2693 | 3456 | 3554 | 1551 | 1781 | 1870 | 1556 | 1781 | 1636 | 196 |
| Grp Volume(v), veh/h | 16 | 9 | 38 | 564 | 45 | 315 | 78 | 265 | 502 | 213 | 0 | 224 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1347 | 1728 | 1777 | 1551 | 1781 | 1870 | 1556 | 1781 | 0 | 1832 |
| Q Serve(g_s), s | 0.7 | 0.2 | 1.0 | 11.5 | 0.8 | 15.0 | 3.4 | 9.1 | 16.9 | 9.1 | 0.0 | 6.7 |
| Cycle Q Clear(g_c), s | 0.7 | 0.2 | 1.0 | 11.5 | 0.8 | 15.0 | 3.4 | 9.1 | 16.9 | 9.1 | 0.0 | 6.7 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.11 |
| Lane Grp Cap(c), veh/h | 102 | 203 | 313 | 874 | 899 | 392 | 102 | 552 | 860 | 259 | 0 | 703 |
| V/C Ratio(X) | 0.16 | 0.04 | 0.12 | 0.65 | 0.05 | 0.80 | 0.77 | 0.48 | 0.58 | 0.82 | 0.00 | 0.32 |
| Avail Cap(c_a), veh/h | 909 | 1813 | 1534 | 1275 | 1311 | 572 | 340 | 962 | 1201 | 474 | 0 | 1079 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 35.3 | 35.0 | 31.3 | 26.2 | 22.2 | 27.5 | 36.5 | 22.7 | 11.8 | 32.6 | 0.0 | 17.0 |
| Incr Delay (d2), s/veh | 0.7 | 0.1 | 0.2 | 0.8 | 0.0 | 5.2 | 11.3 | 0.6 | 0.6 | 6.5 | 0.0 | 0.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.3 | 0.1 | 0.3 | 4.5 | 0.3 | 5.9 | 1.8 | 4.0 | 9.4 | 4.3 | 0.0 | 2.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 36.0 | 35.1 | 31.4 | 27.0 | 22.2 | 32.7 | 47.8 | 23.4 | 12.5 | 39.1 | 0.0 | 17.3 |
| LnGrp LOS | D | D | C | C | C | C | D | C | B | D | A | B |
| Approach Vol, veh/h | | 63 | | | 924 | | | 845 | | | 437 | |
| Approach Delay, s/veh | | 33.1 | | | 28.7 | | | 19.2 | | | 27.9 | |
| Approach LOS | | C | | | C | | | B | | | C | |

| Timer - Assigned Phs | 2 | 3 | 4 | | 6 | 7 | 8 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 9.8 | 8.6 | 35.0 | | 25.2 | 15.5 | 28.1 | | | | | |
| Change Period (Y+Rc), s | 5.3 | 4.1 | 4.9 | | 5.3 | 4.1 | 4.9 | | | | | |
| Max Green Setting (Gmax), s | 40.1 | 15.0 | 46.3 | | 29.0 | 20.9 | 40.4 | | | | | |
| Max Q Clear Time (g_c+I1), s | 3.0 | 5.4 | 8.7 | | 17.0 | 11.1 | 18.9 | | | | | |
| Green Ext Time (p_c), s | 0.2 | 0.1 | 1.4 | | 2.9 | 0.4 | 3.6 | | | | | |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 25.1 |
| HCM 6th LOS | C |

HCM 6th Signalized Intersection Summary
N:\2462\Analysis\Intersections\Synchro\6 Existing + Cuml PM.syn

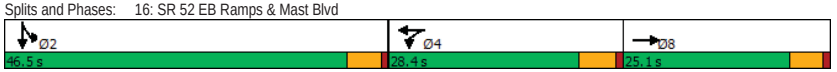
Existing + Cuml PM
16: SR 52 EB Ramps & Mast Blvd

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 5 | 8 | 260 | 0 | 0 | 0 | 0 | 0 | 1264 | 1 | 6 |
| Future Volume (vph) | 0 | 5 | 8 | 260 | 0 | 0 | 0 | 0 | 0 | 1264 | 1 | 6 |
| Confl. Peds. (#/hr) | | | 5 | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | 50% | | |
| Turn Type | | NA | | Split | | | | | | Split | NA | |
| Protected Phases | | 8 | | 4 | 4 | | | | | 2 | 2 | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | | 8 | | 4 | 4 | | | | | 2 | 2 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | 7.0 | | 8.0 | 8.0 | | | | | 5.0 | 5.0 | |
| Minimum Split (s) | | 25.1 | | 28.4 | 28.4 | | | | | 32.3 | 32.3 | |
| Total Split (s) | | 25.1 | | 28.4 | 28.4 | | | | | 46.5 | 46.5 | |
| Total Split (%) | | 25.1% | | 28.4% | 28.4% | | | | | 46.5% | 46.5% | |
| Yellow Time (s) | | 4.1 | | 4.4 | 4.4 | | | | | 4.1 | 4.1 | |
| All-Red Time (s) | | 1.0 | | 1.0 | 1.0 | | | | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | | 0.0 | 0.0 | | | | | 0.0 | 0.0 | |
| Total Lost Time (s) | | 5.1 | | 5.4 | 5.4 | | | | | 5.1 | 5.1 | |
| Lead/Lag | | | | | | | | | | | | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Recall Mode | | None | | None | None | | | | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 75.3 |
| Natural Cycle: 100 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 16: SR 52 EB Ramps & Mast Blvd




Timings
N:\2462\Analysis\Intersections\Synchro\6 Existing + Cuml PM.syn

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 5 | 8 | 260 | 0 | 0 | 0 | 0 | 0 | 1264 | 1 | 6 |
| Future Volume (veh/h) | 0 | 5 | 8 | 260 | 0 | 0 | 0 | 0 | 0 | 1264 | 1 | 6 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | | | | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 1.00 | | | | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | | | | No | |
| Adj Sat Flow, veh/h/ln | 0 | 1870 | 1870 | 1870 | 1870 | 0 | | | | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 5 | 9 | 283 | 0 | 0 | | | | 1381 | 0 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 0 | 2 | 2 | 2 | 2 | 0 | | | | 2 | 2 | 2 |
| Cap, veh/h | 0 | 22 | 40 | 352 | 369 | 0 | | | | 1712 | 899 | 0 |
| Arrive On Green | 0.00 | 0.04 | 0.04 | 0.20 | 0.00 | 0.00 | | | | 0.48 | 0.00 | 0.00 |
| Sat Flow, veh/h | 0 | 594 | 1069 | 1781 | 1870 | 0 | | | | 3563 | 1870 | 0 |
| Grp Volume(v), veh/h | 0 | 0 | 14 | 283 | 0 | 0 | | | | 1381 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 0 | 0 | 1663 | 1781 | 1870 | 0 | | | | 1781 | 1870 | 0 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.4 | 8.3 | 0.0 | 0.0 | | | | 18.0 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 0.0 | 0.0 | 0.4 | 8.3 | 0.0 | 0.0 | | | | 18.0 | 0.0 | 0.0 |
| Prop In Lane | 0.00 | | 0.64 | 1.00 | | 0.00 | | | | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 0 | 0 | 62 | 352 | 369 | 0 | | | | 1712 | 899 | 0 |
| V/C Ratio(X) | 0.00 | 0.00 | 0.22 | 0.80 | 0.00 | 0.00 | | | | 0.81 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 0 | 0 | 606 | 747 | 784 | 0 | | | | 2689 | 1412 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | | | | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 0.0 | 0.0 | 25.6 | 21.0 | 0.0 | 0.0 | | | | 12.1 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 0.7 | 4.3 | 0.0 | 0.0 | | | | 1.0 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.0 | 0.2 | 3.5 | 0.0 | 0.0 | | | | 5.9 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 0.0 | 26.3 | 25.3 | 0.0 | 0.0 | | | | 13.1 | 0.0 | 0.0 |
| LnGrp LOS | A | A | C | C | A | A | | | | B | A | A |
| Approach Vol, veh/h | | 14 | | | 283 | | | | | | 1381 | |
| Approach Delay, s/veh | | 26.3 | | | 25.3 | | | | | | 13.1 | |
| Approach LOS | | C | | | C | | | | | | B | |

| Timer - Assigned Phs | 2 | 4 | 8 |
|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 31.5 | 16.2 | 7.2 |
| Change Period (Y+Rc), s | 5.1 | 5.4 | 5.1 |
| Max Green Setting (Gmax), s | 41.4 | 23.0 | 20.0 |
| Max Q Clear Time (g_c+I1), s | 20.0 | 10.3 | 2.4 |
| Green Ext Time (p_c), s | 6.3 | 0.7 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 15.3 |
| HCM 6th LOS | B |

Notes

User approved volume balancing among the lanes for turning movement.





| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 5 | 1264 | 0 | 0 | 260 | 395 | 0 | 3 | 598 | 0 | 0 | 0 |
| Future Volume (vph) | 5 | 1264 | 0 | 0 | 260 | 395 | 0 | 3 | 598 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | | | 6 | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | 4 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | 22% | | | 50% | | | |
| Turn Type | Prot | NA | | | NA | Perm | | NA | Perm | | | |
| Protected Phases | 5 | 2 | | | 6 | | | 8 | | | | |
| Permitted Phases | | | | | | 6 | 8 | | 8 | | | |
| Detector Phase | 5 | 2 | | | 6 | 6 | 8 | 8 | 8 | | | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 10.0 | | | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | | | |
| Minimum Split (s) | 11.7 | 38.6 | | | 28.4 | 28.4 | 43.1 | 43.1 | 43.1 | | | |
| Total Split (s) | 11.7 | 56.9 | | | 45.2 | 45.2 | 43.1 | 43.1 | 43.1 | | | |
| Total Split (%) | 11.7% | 56.9% | | | 45.2% | 45.2% | 43.1% | 43.1% | 43.1% | | | |
| Yellow Time (s) | 3.7 | 4.1 | | | 4.4 | 4.4 | 4.1 | 4.1 | 4.1 | | | |
| All-Red Time (s) | 1.0 | 1.0 | | | 1.0 | 1.0 | 2.0 | 2.0 | 2.0 | | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | 0.0 | | | |
| Total Lost Time (s) | 4.7 | 5.1 | | | 5.4 | 5.4 | | 6.1 | 6.1 | | | |
| Lead/Lag | Lead | | | | Lag | Lag | | | | | | |
| Lead-Lag Optimize? | Yes | | | | Yes | Yes | | | | | | |
| Recall Mode | None | Min | | | Min | Min | None | None | None | | | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 69.6 |
| Natural Cycle: 85 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 17: SR-52 WB Ramps & Mast Blvd

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 5 | 1264 | 0 | 0 | 260 | 395 | 0 | 3 | 598 | 0 | 0 | 0 |
| Future Volume (veh/h) | 5 | 1264 | 0 | 0 | 260 | 395 | 0 | 3 | 598 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.99 | 1.00 | | 1.00 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.99 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 0 | 0 | 1870 | 1945 | 1870 | 1870 | 1870 | | | |
| Adj Flow Rate, veh/h | 5 | 1374 | 0 | 0 | 392 | 356 | 0 | 0 | 652 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | |
| Percent Heavy Veh, % | 2 | 2 | 0 | 0 | 2 | 2 | 2 | 2 | 2 | | | |
| Cap, veh/h | 17 | 1941 | 0 | 0 | 852 | 741 | 0 | 471 | 807 | | | |
| Arrive On Green | 0.01 | 0.55 | 0.00 | 0.00 | 0.46 | 0.46 | 0.00 | 0.00 | 0.25 | | | |
| Sat Flow, veh/h | 1781 | 3647 | 0 | 0 | 1870 | 1625 | 0 | 1848 | 3170 | | | |
| Grp Volume(v), veh/h | 5 | 1374 | 0 | 0 | 392 | 356 | 0 | 0 | 652 | | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 0 | 0 | 1870 | 1625 | 0 | 1848 | 1585 | | | |
| Q Serve(g_s), s | 0.2 | 16.5 | 0.0 | 0.0 | 8.3 | 8.8 | 0.0 | 0.0 | 11.2 | | | |
| Cycle Q Clear(g_c), s | 0.2 | 16.5 | 0.0 | 0.0 | 8.3 | 8.8 | 0.0 | 0.0 | 11.2 | | | |
| Prop In Lane | 1.00 | | 0.00 | 0.00 | | 1.00 | 0.00 | | 1.00 | | | |
| Lane Grp Cap(c), veh/h | 17 | 1941 | 0 | 0 | 852 | 741 | 0 | 471 | 807 | | | |
| V/C Ratio(X) | 0.30 | 0.71 | 0.00 | 0.00 | 0.46 | 0.48 | 0.00 | 0.00 | 0.81 | | | |
| Avail Cap(c_a), veh/h | 216 | 3186 | 0 | 0 | 1288 | 1120 | 0 | 1183 | 2030 | | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | | | |
| Uniform Delay (d), s/veh | 28.4 | 9.7 | 0.0 | 0.0 | 10.8 | 11.0 | 0.0 | 0.0 | 20.2 | | | |
| Incr Delay (d2), s/veh | 3.7 | 0.5 | 0.0 | 0.0 | 0.4 | 0.5 | 0.0 | 0.0 | 0.7 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ln | 0.1 | 4.8 | 0.0 | 0.0 | 2.9 | 2.7 | 0.0 | 0.0 | 3.8 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 32.1 | 10.2 | 0.0 | 0.0 | 11.2 | 11.4 | 0.0 | 0.0 | 21.0 | | | |
| LnGrp LOS | C | B | A | A | B | B | A | A | C | | | |
| Approach Vol, veh/h | | 1379 | | | 748 | | | 652 | | | | |
| Approach Delay, s/veh | | 10.3 | | | 11.3 | | | 21.0 | | | | |
| Approach LOS | | B | | | B | | | C | | | | |
| Timer - Assigned Phs | | 2 | | | 5 | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 37.0 | | | 5.2 | 31.7 | | 20.8 | | | | |
| Change Period (Y+Rc), s | | * 5.4 | | | * 4.7 | 5.4 | | 6.1 | | | | |
| Max Green Setting (Gmax), s | | * 52 | | | * 7 | 39.8 | | 37.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 18.5 | | | 2.2 | 10.8 | | 13.2 | | | | |
| Green Ext Time (p_c), s | | 13.0 | | | 0.0 | 3.9 | | 1.6 | | | | |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 13.1 |
| HCM 6th LOS | B |

**Notes**

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

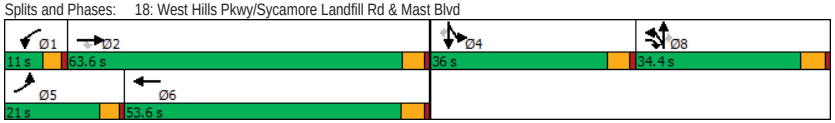




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 36 | 1295 | 524 | 142 | 378 | 4 | 222 | 2 | 374 | 11 | 3 | 66 |
| Future Volume (vph) | 36 | 1295 | 524 | 142 | 378 | 4 | 222 | 2 | 374 | 11 | 3 | 66 |
| Confl. Peds. (#/hr) | | | 12 | | | | | | | | | 4 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | 50% | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | | Split | NA | Perm | Split | NA | Perm |
| Protected Phases | 5 | 2 | 8 | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Permitted Phases | | | 2 | | | | | | 8 | | | 4 |
| Detector Phase | 5 | 2 | 8 | 1 | 6 | | 8 | 8 | 8 | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 10.0 | 10.0 | 4.0 | 10.0 | | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| Minimum Split (s) | 20.0 | 34.9 | 33.4 | 8.4 | 35.2 | | 33.4 | 33.4 | 33.4 | 34.9 | 34.9 | 34.9 |
| Total Split (s) | 21.0 | 63.6 | 34.4 | 11.0 | 53.6 | | 34.4 | 34.4 | 34.4 | 36.0 | 36.0 | 36.0 |
| Total Split (%) | 14.5% | 43.9% | 23.7% | 7.6% | 37.0% | | 23.7% | 23.7% | 23.7% | 24.8% | 24.8% | 24.8% |
| Yellow Time (s) | 3.4 | 3.9 | 4.4 | 3.4 | 4.2 | | 4.4 | 4.4 | 4.4 | 3.9 | 3.9 | 3.9 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.4 | 4.9 | 5.4 | 4.4 | 5.2 | | 5.4 | 5.4 | 5.4 | | 4.9 | 4.9 |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | Min | None | None | Min | | None | None | None | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 145 |
| Actuated Cycle Length: 101 |
| Natural Cycle: 135 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 18: West Hills Pkwy/Sycamore Landfill Rd & Mast Blvd



Existing + Cuml PM — Fanita Ranch
18: West Hills Pkwy/Sycamore Landfill Rd & Mast Blvd — 06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 36 | 1295 | 524 | 142 | 378 | 4 | 222 | 2 | 374 | 11 | 3 | 66 |
| Future Volume (veh/h) | 36 | 1295 | 524 | 142 | 378 | 4 | 222 | 2 | 374 | 11 | 3 | 66 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 39 | 1408 | 570 | 154 | 411 | 4 | 242 | 0 | 366 | 12 | 3 | 72 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 102 | 1627 | 1096 | 187 | 1639 | 16 | 845 | 0 | 376 | 127 | 32 | 138 |
| Arrive On Green | 0.06 | 0.46 | 0.46 | 0.05 | 0.45 | 0.45 | 0.24 | 0.00 | 0.24 | 0.09 | 0.09 | 0.09 |
| Sat Flow, veh/h | 1781 | 3554 | 1573 | 3456 | 3606 | 35 | 3563 | 0 | 1585 | 1439 | 360 | 1563 |
| Grp Volume(v), veh/h | 39 | 1408 | 570 | 154 | 202 | 213 | 242 | 0 | 366 | 15 | 0 | 72 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1573 | 1728 | 1777 | 1864 | 1781 | 0 | 1585 | 1798 | 0 | 1563 |
| Q Serve(g_s), s | 2.6 | 43.5 | 21.2 | 5.4 | 8.6 | 8.6 | 6.8 | 0.0 | 28.0 | 0.9 | 0.0 | 5.4 |
| Cycle Q Clear(g_c), s | 2.6 | 43.5 | 21.2 | 5.4 | 8.6 | 8.6 | 6.8 | 0.0 | 28.0 | 0.9 | 0.0 | 5.4 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.02 | 1.00 | | 1.00 | 0.80 | | 1.00 |
| Lane Grp Cap(c), veh/h | 102 | 1627 | 1096 | 187 | 808 | 847 | 845 | 0 | 376 | 159 | 0 | 138 |
| V/C Ratio(X) | 0.38 | 0.87 | 0.52 | 0.83 | 0.25 | 0.25 | 0.29 | 0.00 | 0.97 | 0.09 | 0.00 | 0.52 |
| Avail Cap(c_a), veh/h | 242 | 1706 | 1131 | 187 | 808 | 847 | 845 | 0 | 376 | 457 | 0 | 398 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 55.6 | 29.8 | 8.9 | 57.3 | 20.5 | 20.5 | 38.2 | 0.0 | 46.3 | 51.3 | 0.0 | 53.3 |
| Incr Delay (d2), s/veh | 0.9 | 4.9 | 0.5 | 23.8 | 0.3 | 0.3 | 0.3 | 0.0 | 39.4 | 0.3 | 0.0 | 3.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.2 | 18.7 | 13.6 | 2.9 | 3.5 | 3.7 | 2.9 | 0.0 | 14.7 | 0.4 | 0.0 | 2.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 56.4 | 34.7 | 9.4 | 81.1 | 20.9 | 20.9 | 38.4 | 0.0 | 85.7 | 51.5 | 0.0 | 56.3 |
| LnGrp LOS | E | C | A | F | C | C | D | A | F | D | A | E |
| Approach Vol, veh/h | | 2017 | | | 569 | | | 608 | | | 87 | |
| Approach Delay, s/veh | | 28.0 | | | 37.2 | | | 66.9 | | | 55.5 | |
| Approach LOS | | C | | | D | | | E | | | E | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 11.0 | 61.2 | | 15.7 | 11.4 | 60.8 | | 34.4 | | | | |
| Change Period (Y+Rc), s | 4.4 | * 5.2 | | 4.9 | 4.4 | 5.2 | | 5.4 | | | | |
| Max Green Setting (Gmax), s | 6.6 | * 59 | | 31.1 | 16.6 | 48.4 | | 29.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 7.4 | 45.5 | | 7.4 | 4.6 | 10.6 | | 30.0 | | | | |
| Green Ext Time (p_c), s | 0.0 | 10.5 | | 0.2 | 0.0 | 5.0 | | 0.0 | | | | |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 37.5 |
| HCM 6th LOS | D |

Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
N:\2462\Analysis\Intersections\Synchro\6 Existing + Cuml PM.syn

Existing + Cuml PM — Fanita Ranch
19: West Hills H.S. Drwy & Mast Blvd — 06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 6 | 1351 | 21 | 17 | 481 | 0 | 49 | 0 | 64 | 0 | 0 | 0 |
| Future Volume (vph) | 6 | 1351 | 21 | 17 | 481 | 0 | 49 | 0 | 64 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | 4 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Split | NA | | | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | | | | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | | | | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | | | | |
| Minimum Split (s) | 8.5 | 22.5 | | 8.5 | 20.5 | | 31.5 | 31.5 | | | | |
| Total Split (s) | 9.0 | 58.0 | | 9.0 | 58.0 | | 33.0 | 33.0 | | | | |
| Total Split (%) | 9.0% | 58.0% | | 9.0% | 58.0% | | 33.0% | 33.0% | | | | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | | | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | | |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | | 4.5 | | | | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | | | | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 80 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 19: West Hills H.S. Drwy & Mast Blvd

Timings
N:\2462\Analysis\Intersections\Synchro\6 Existing + Cuml PM.syn

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 6 | 1351 | 21 | 17 | 481 | 0 | 49 | 0 | 64 | 0 | 0 | 0 |
| Future Volume (veh/h) | 6 | 1351 | 21 | 17 | 481 | 0 | 49 | 0 | 64 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 0 | 1900 | 1870 | 1900 | | | |
| Adj Flow Rate, veh/h | 7 | 1468 | 23 | 18 | 523 | 0 | 53 | 0 | 70 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 0 | 0 | 2 | 0 | | | |
| Cap, veh/h | 13 | 2701 | 42 | 28 | 2711 | 0 | 68 | 0 | 90 | | | |
| Arrive On Green | 0.01 | 0.75 | 0.75 | 0.01 | 0.25 | 0.00 | 0.09 | 0.00 | 0.09 | | | |
| Sat Flow, veh/h | 1781 | 3581 | 56 | 1781 | 3647 | 0 | 717 | 0 | 947 | | | |
| Grp Volume(v), veh/h | 7 | 728 | 763 | 18 | 523 | 0 | 123 | 0 | 0 | | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1860 | 1781 | 1777 | 0 | 1664 | 0 | 0 | | | |
| Q Serve(g_s), s | 0.4 | 17.0 | 17.1 | 1.0 | 11.6 | 0.0 | 7.2 | 0.0 | 0.0 | | | |
| Cycle Q Clear(g_c), s | 0.4 | 17.0 | 17.1 | 1.0 | 11.6 | 0.0 | 7.2 | 0.0 | 0.0 | | | |
| Prop In Lane | 1.00 | | 0.03 | 1.00 | | 0.00 | 0.43 | | 0.57 | | | |
| Lane Grp Cap(c), veh/h | 13 | 1340 | 1403 | 28 | 2711 | 0 | 158 | 0 | 0 | | | |
| V/C Ratio(X) | 0.56 | 0.54 | 0.54 | 0.64 | 0.19 | 0.00 | 0.78 | 0.00 | 0.00 | | | |
| Avail Cap(c_a), veh/h | 80 | 1340 | 1403 | 80 | 2711 | 0 | 474 | 0 | 0 | | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 0.51 | 0.51 | 0.51 | 0.97 | 0.97 | 0.00 | 1.00 | 0.00 | 0.00 | | | |
| Uniform Delay (d), s/veh | 49.5 | 5.1 | 5.1 | 49.5 | 13.2 | 0.0 | 44.2 | 0.0 | 0.0 | | | |
| Incr Delay (d2), s/veh | 18.1 | 0.8 | 0.8 | 21.3 | 0.2 | 0.0 | 8.0 | 0.0 | 0.0 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ln | 0.2 | 4.6 | 4.8 | 0.6 | 5.1 | 0.0 | 3.3 | 0.0 | 0.0 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 67.6 | 5.9 | 5.9 | 70.8 | 13.4 | 0.0 | 52.2 | 0.0 | 0.0 | | | |
| LnGrp LOS | E | A | A | E | B | A | D | A | A | | | |
| Approach Vol, veh/h | | 1498 | | | 541 | | | 123 | | | | |
| Approach Delay, s/veh | | 6.2 | | | 15.3 | | | 52.2 | | | | |
| Approach LOS | | A | | | B | | | D | | | | |
| Timer - Assigned Phs | 1 | 2 | | | 5 | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 6.1 | 79.9 | | | 5.2 | 80.8 | | 14.0 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 4.5 | 53.5 | | | 4.5 | 53.5 | | 28.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 3.0 | 19.1 | | | 2.4 | 13.6 | | 9.2 | | | | |
| Green Ext Time (p_c), s | 0.0 | 13.1 | | | 0.0 | 3.6 | | 0.6 | | | | |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 11.1 |
| HCM 6th LOS | B |





| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 36 | 1137 | 33 | 5 | 468 | 26 | 12 | 3 | 14 | 18 | 4 | 28 |
| Future Volume (vph) | 36 | 1137 | 33 | 5 | 468 | 26 | 12 | 3 | 14 | 18 | 4 | 28 |
| Confl. Peds. (#/hr) | | | 2 | | | | | | 2 | | | |
| Confl. Bikes (#/hr) | | | 2 | | | 5 | | | 2 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Perm | NA | | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | | 4 | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 22.0 | | 8.2 | 22.0 | | 32.2 | 32.2 | | 32.2 | 32.2 | |
| Total Split (s) | 12.0 | 58.0 | | 9.0 | 55.0 | | 33.0 | 33.0 | | 33.0 | 33.0 | |
| Total Split (%) | 12.0% | 58.0% | | 9.0% | 55.0% | | 33.0% | 33.0% | | 33.0% | 33.0% | |
| Yellow Time (s) | 3.2 | 5.1 | | 3.2 | 4.3 | | 3.2 | 3.2 | | 3.2 | 3.2 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | 0.0 | |
| Total Lost Time (s) | 4.2 | 6.1 | | 4.2 | 5.3 | | | 4.2 | | | 4.2 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 75 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 20: Medina Drive & Mast Blvd

Existing + Cuml PM
20: Medina Drive & Mast Blvd

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 36 | 1137 | 33 | 5 | 468 | 26 | 12 | 3 | 14 | 18 | 4 | 28 |
| Future Volume (veh/h) | 36 | 1137 | 33 | 5 | 468 | 26 | 12 | 3 | 14 | 18 | 4 | 28 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.97 | 0.99 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 39 | 1236 | 36 | 5 | 509 | 28 | 13 | 3 | 15 | 20 | 4 | 30 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 49 | 2750 | 80 | 9 | 2593 | 142 | 81 | 27 | 54 | 78 | 20 | 60 |
| Arrive On Green | 0.06 | 1.00 | 1.00 | 0.01 | 1.00 | 1.00 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 |
| Sat Flow, veh/h | 1781 | 3523 | 103 | 1781 | 3421 | 188 | 431 | 396 | 775 | 414 | 282 | 871 |
| Grp Volume(v), veh/h | 39 | 623 | 649 | 5 | 264 | 273 | 31 | 0 | 0 | 54 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1849 | 1781 | 1777 | 1831 | 1603 | 0 | 0 | 1568 | 0 | 0 |
| Q Serve(g_s), s | 2.2 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.4 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 2.2 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 | 1.7 | 0.0 | 0.0 | 3.2 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | | 0.06 | 1.00 | | 0.10 | 0.42 | | 0.48 | 0.37 | | 0.56 |
| Lane Grp Cap(c), veh/h | 49 | 1387 | 1443 | 9 | 1347 | 1388 | 162 | 0 | 0 | 158 | 0 | 0 |
| V/C Ratio(X) | 0.79 | 0.45 | 0.45 | 0.54 | 0.20 | 0.20 | 0.19 | 0.00 | 0.00 | 0.34 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 139 | 1387 | 1443 | 86 | 1347 | 1388 | 488 | 0 | 0 | 491 | 0 | 0 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.73 | 0.73 | 0.73 | 0.99 | 0.99 | 0.99 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 47.0 | 0.0 | 0.0 | 49.4 | 0.0 | 0.0 | 44.1 | 0.0 | 0.0 | 44.7 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 18.4 | 0.8 | 0.7 | 16.9 | 0.3 | 0.3 | 0.2 | 0.0 | 0.0 | 0.5 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.2 | 0.3 | 0.3 | 0.2 | 0.1 | 0.1 | 0.7 | 0.0 | 0.0 | 1.3 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 65.4 | 0.8 | 0.7 | 66.2 | 0.3 | 0.3 | 44.3 | 0.0 | 0.0 | 45.2 | 0.0 | 0.0 |
| LnGrp LOS | E | A | A | E | A | A | D | A | A | D | A | A |
| Approach Vol, veh/h | | 1311 | | | 542 | | | 31 | | | 54 | |
| Approach Delay, s/veh | | 2.7 | | | 0.9 | | | 44.3 | | | 45.2 | |
| Approach LOS | | A | | | A | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 4.7 | 84.1 | | 11.1 | 7.0 | 81.9 | | 11.1 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 6.1 | | * 4.2 | * 4.2 | * 6.1 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | * 4.8 | 51.9 | | * 29 | * 7.8 | * 50 | | * 29 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.3 | 2.0 | | 5.2 | 4.2 | 2.0 | | 3.7 | | | | |
| Green Ext Time (p_c), s | 0.0 | 19.9 | | 0.2 | 0.0 | 5.8 | | 0.1 | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | | 4.0 |
| HCM 6th LOS | | | A |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
N:\2462\Analysis\Intersections\Synchro\6 Existing + Cuml PM.syn

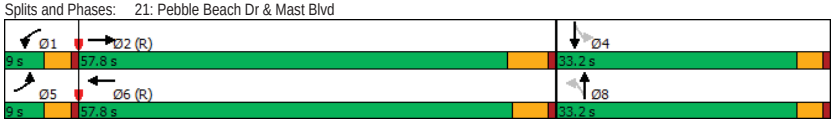
Existing + Cuml PM
21: Pebble Beach Dr & Mast Blvd

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 10 | 1105 | 17 | 6 | 449 | 48 | 16 | 3 | 13 | 50 | 0 | 21 |
| Future Volume (vph) | 10 | 1105 | 17 | 6 | 449 | 48 | 16 | 3 | 13 | 50 | 0 | 21 |
| Confl. Peds. (#/hr) | | | 9 | | | | | | 1 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Perm | NA | | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | | 4 | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 23.9 | | 8.2 | 23.3 | | 33.2 | 33.2 | | 32.2 | 32.2 | |
| Total Split (s) | 9.0 | 57.8 | | 9.0 | 57.8 | | 33.2 | 33.2 | | 33.2 | 33.2 | |
| Total Split (%) | 9.0% | 57.8% | | 9.0% | 57.8% | | 33.2% | 33.2% | | 33.2% | 33.2% | |
| Yellow Time (s) | 3.2 | 4.9 | | 3.2 | 4.3 | | 3.2 | 3.2 | | 3.2 | 3.2 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | 0.0 | |
| Total Lost Time (s) | 4.2 | 5.9 | | 4.2 | 5.3 | | | 4.2 | | | 4.2 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Max | | None | C-Max | | None | None | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 75 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 21: Pebble Beach Dr & Mast Blvd




Timings
N:\2462\Analysis\Intersections\Synchro\6 Existing + Cuml PM.syn

Existing + Cuml PM
21: Pebble Beach Dr & Mast Blvd

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 10 | 1105 | 17 | 6 | 449 | 48 | 16 | 3 | 13 | 50 | 0 | 21 |
| Future Volume (veh/h) | 10 | 1105 | 17 | 6 | 449 | 48 | 16 | 3 | 13 | 50 | 0 | 21 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 11 | 1201 | 18 | 7 | 488 | 52 | 17 | 3 | 14 | 54 | 0 | 23 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 19 | 2795 | 42 | 13 | 2517 | 267 | 98 | 26 | 49 | 133 | 4 | 32 |
| Arrive On Green | 0.02 | 1.00 | 1.00 | 0.01 | 1.00 | 1.00 | 0.07 | 0.07 | 0.07 | 0.07 | 0.00 | 0.07 |
| Sat Flow, veh/h | 1781 | 3583 | 54 | 1781 | 3241 | 344 | 622 | 376 | 699 | 1024 | 54 | 459 |
| Grp Volume(v), veh/h | 11 | 595 | 624 | 7 | 267 | 273 | 34 | 0 | 0 | 77 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1860 | 1781 | 1777 | 1808 | 1697 | 0 | 0 | 1538 | 0 | 0 |
| Q Serve(g_s), s | 0.6 | 0.0 | 0.0 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.9 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 0.6 | 0.0 | 0.0 | 0.4 | 0.0 | 0.0 | 1.9 | 0.0 | 0.0 | 4.8 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | | 0.03 | 1.00 | | 0.19 | 0.50 | | 0.41 | 0.70 | | 0.30 |
| Lane Grp Cap(c), veh/h | 19 | 1386 | 1451 | 13 | 1380 | 1404 | 173 | 0 | 0 | 169 | 0 | 0 |
| V/C Ratio(X) | 0.59 | 0.43 | 0.43 | 0.56 | 0.19 | 0.19 | 0.20 | 0.00 | 0.00 | 0.46 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 86 | 1386 | 1451 | 86 | 1380 | 1404 | 502 | 0 | 0 | 486 | 0 | 0 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.89 | 0.89 | 0.89 | 0.96 | 0.96 | 0.96 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 48.7 | 0.0 | 0.0 | 49.1 | 0.0 | 0.0 | 44.1 | 0.0 | 0.0 | 45.3 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 9.3 | 0.9 | 0.8 | 12.9 | 0.3 | 0.3 | 0.2 | 0.0 | 0.0 | 0.7 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.3 | 0.3 | 0.3 | 0.2 | 0.1 | 0.1 | 0.8 | 0.0 | 0.0 | 1.9 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 58.0 | 0.9 | 0.8 | 62.1 | 0.3 | 0.3 | 44.3 | 0.0 | 0.0 | 46.1 | 0.0 | 0.0 |
| LnGrp LOS | E | A | A | E | A | A | D | A | A | D | A | A |
| Approach Vol, veh/h | | 1230 | | | 547 | | | 34 | | | 77 | |
| Approach Delay, s/veh | | 1.4 | | | 1.1 | | | 44.3 | | | 46.1 | |
| Approach LOS | | A | | | A | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 4.9 | 83.9 | | 11.2 | 5.3 | 83.6 | | 11.2 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 5.9 | | * 4.2 | * 4.2 | * 5.9 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | * 4.8 | 51.9 | | * 29 | * 4.8 | * 53 | | * 29 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.4 | 2.0 | | 6.8 | 2.6 | 2.0 | | 3.9 | | | | |
| Green Ext Time (p_c), s | 0.0 | 21.7 | | 0.2 | 0.0 | 8.1 | | 0.1 | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | | 3.9 |
| HCM 6th LOS | | | A |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
N:\2462\Analysis\Intersections\Synchro\6 Existing + Cuml PM.syn

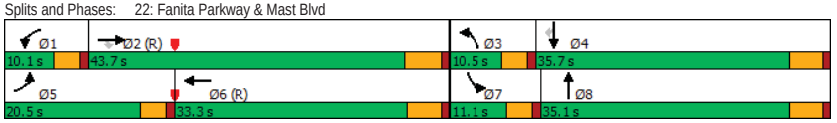
Existing + Cuml PM
22: Fanita Parkway & Mast Blvd

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 160 | 983 | 58 | 29 | 437 | 60 | 57 | 51 | 30 | 54 | 37 | 75 |
| Future Volume (vph) | 160 | 983 | 58 | 29 | 437 | 60 | 57 | 51 | 30 | 54 | 37 | 75 |
| Confl. Peds. (#/hr) | | | 12 | | | 1 | | | 3 | | | 5 |
| Confl. Bikes (#/hr) | | | | | | 5 | | | 1 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | | | | | | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 27.5 | 27.5 | 8.2 | 28.1 | | 8.2 | 35.1 | | 8.2 | 28.1 | 28.1 |
| Total Split (s) | 20.5 | 43.7 | 43.7 | 10.1 | 33.3 | | 10.5 | 35.1 | | 11.1 | 35.7 | 35.7 |
| Total Split (%) | 20.5% | 43.7% | 43.7% | 10.1% | 33.3% | | 10.5% | 35.1% | | 11.1% | 35.7% | 35.7% |
| Yellow Time (s) | 3.2 | 4.5 | 4.5 | 3.2 | 4.1 | | 3.2 | 4.1 | | 3.2 | 4.1 | 4.1 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.5 | 5.5 | 4.2 | 5.1 | | 4.2 | 5.1 | | 4.2 | 5.1 | 5.1 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | C-Max | C-Max | None | C-Max | | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 14.1 (14%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 80 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 22: Fanita Parkway & Mast Blvd




Timings
N:\2462\Analysis\Intersections\Synchro\6 Existing + Cuml PM.syn

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 160 | 983 | 58 | 29 | 437 | 60 | 57 | 51 | 30 | 54 | 37 | 75 |
| Future Volume (veh/h) | 160 | 983 | 58 | 29 | 437 | 60 | 57 | 51 | 30 | 54 | 37 | 75 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 174 | 1068 | 63 | 32 | 475 | 65 | 62 | 55 | 33 | 59 | 40 | 82 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 203 | 2285 | 1009 | 42 | 1730 | 235 | 80 | 109 | 66 | 76 | 185 | 152 |
| Arrive On Green | 0.23 | 1.00 | 1.00 | 0.05 | 1.00 | 1.00 | 0.04 | 0.10 | 0.10 | 0.04 | 0.10 | 0.10 |
| Sat Flow, veh/h | 1781 | 3554 | 1570 | 1781 | 3132 | 426 | 1781 | 1085 | 651 | 1781 | 1870 | 1539 |
| Grp Volume(v), veh/h | 174 | 1068 | 63 | 32 | 268 | 272 | 62 | 0 | 88 | 59 | 40 | 82 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1570 | 1781 | 1777 | 1781 | 1781 | 0 | 1735 | 1781 | 1870 | 1539 |
| Q Serve(g_s), s | 9.4 | 0.0 | 0.0 | 1.8 | 0.0 | 0.0 | 3.4 | 0.0 | 4.8 | 3.3 | 2.0 | 5.1 |
| Cycle Q Clear(g_c), s | 9.4 | 0.0 | 0.0 | 1.8 | 0.0 | 0.0 | 3.4 | 0.0 | 4.8 | 3.3 | 2.0 | 5.1 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.24 | 1.00 | | 0.38 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 203 | 2285 | 1009 | 42 | 981 | 984 | 80 | 0 | 175 | 76 | 185 | 152 |
| V/C Ratio(X) | 0.86 | 0.47 | 0.06 | 0.76 | 0.27 | 0.28 | 0.78 | 0.00 | 0.50 | 0.78 | 0.22 | 0.54 |
| Avail Cap(c_a), veh/h | 290 | 2285 | 1009 | 105 | 981 | 984 | 112 | 0 | 521 | 123 | 572 | 471 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.90 | 0.90 | 0.90 | 0.92 | 0.92 | 0.92 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 37.8 | 0.0 | 0.0 | 47.4 | 0.0 | 0.0 | 47.3 | 0.0 | 42.6 | 47.4 | 41.5 | 42.9 |
| Incr Delay (d2), s/veh | 12.9 | 0.6 | 0.1 | 17.5 | 0.6 | 0.6 | 16.8 | 0.0 | 7.9 | 11.9 | 1.9 | 9.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 4.2 | 0.2 | 0.0 | 1.0 | 0.2 | 0.2 | 1.9 | 0.0 | 2.4 | 1.7 | 1.0 | 2.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 50.7 | 0.6 | 0.1 | 64.8 | 0.6 | 0.6 | 64.1 | 0.0 | 50.4 | 59.3 | 43.4 | 52.2 |
| LnGrp LOS | D | A | A | E | A | A | E | A | D | E | D | D |
| Approach Vol, veh/h | | 1305 | | | 572 | | | 150 | | | 181 | |
| Approach Delay, s/veh | | 7.3 | | | 4.2 | | | 56.1 | | | 52.6 | |
| Approach LOS | | A | | | A | | | E | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 6.6 | 69.8 | 8.7 | 15.0 | 15.6 | 60.7 | 8.5 | 15.2 |
| Change Period (Y+Rc), s | * 4.2 | 5.5 | * 4.2 | 5.1 | * 4.2 | * 5.5 | * 4.2 | 5.1 |
| Max Green Setting (Gmax), s | * 5.9 | 38.2 | * 6.3 | 30.6 | * 16 | * 28 | * 6.9 | 30.0 |
| Max Q Clear Time (g_c+I1), s | 3.8 | 2.0 | 5.4 | 7.1 | 11.4 | 2.0 | 5.3 | 6.8 |
| Green Ext Time (p_c), s | 0.0 | 21.2 | 0.0 | 1.1 | 0.1 | 8.7 | 0.0 | 0.9 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 13.5 |
| HCM 6th LOS | B |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

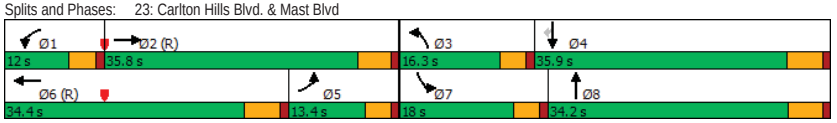




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 65 | 860 | 74 | 100 | 345 | 100 | 97 | 231 | 181 | 191 | 181 | 44 |
| Future Volume (vph) | 65 | 860 | 74 | 100 | 345 | 100 | 97 | 231 | 181 | 191 | 181 | 44 |
| Confl. Peds. (#/hr) | | | 3 | | | 7 | | | 11 | | | 8 |
| Confl. Bikes (#/hr) | | | 4 | | | 2 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 33.1 | | 8.2 | 32.4 | | 8.2 | 34.2 | | 8.2 | 32.4 | 32.4 |
| Total Split (s) | 13.4 | 35.8 | | 12.0 | 34.4 | | 16.3 | 34.2 | | 18.0 | 35.9 | 35.9 |
| Total Split (%) | 13.4% | 35.8% | | 12.0% | 34.4% | | 16.3% | 34.2% | | 18.0% | 35.9% | 35.9% |
| Yellow Time (s) | 3.2 | 4.1 | | 3.2 | 4.4 | | 3.2 | 4.2 | | 3.2 | 4.4 | 4.4 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.1 | | 4.2 | 5.4 | | 4.2 | 5.2 | | 4.2 | 5.4 | 5.4 |
| Lead/Lag | Lag | Lag | | Lead | Lead | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | C-Min | | None | C-Min | | None | Min | | None | Min | Min |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 95 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 23: Carlton Hills Blvd. & Mast Blvd



Existing + Cuml PM
23: Carlton Hills Blvd. & Mast Blvd

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 65 | 860 | 74 | 100 | 345 | 100 | 97 | 231 | 181 | 191 | 181 | 44 |
| Future Volume (veh/h) | 65 | 860 | 74 | 100 | 345 | 100 | 97 | 231 | 181 | 191 | 181 | 44 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 71 | 935 | 80 | 109 | 375 | 109 | 105 | 251 | 197 | 208 | 197 | 48 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 424 | 1279 | 109 | 137 | 579 | 166 | 132 | 409 | 308 | 239 | 971 | 429 |
| Arrive On Green | 0.08 | 0.13 | 0.13 | 0.03 | 0.07 | 0.07 | 0.07 | 0.21 | 0.21 | 0.13 | 0.27 | 0.27 |
| Sat Flow, veh/h | 1781 | 3308 | 283 | 1781 | 2709 | 776 | 1781 | 1918 | 1443 | 1781 | 3554 | 1571 |
| Grp Volume(v), veh/h | 71 | 502 | 513 | 109 | 244 | 240 | 105 | 232 | 216 | 208 | 197 | 48 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1814 | 1781 | 1777 | 1708 | 1781 | 1777 | 1584 | 1781 | 1777 | 1571 |
| Q Serve(g_s), s | 3.7 | 27.2 | 27.2 | 6.1 | 13.4 | 13.7 | 5.8 | 11.8 | 12.4 | 11.4 | 4.3 | 1.2 |
| Cycle Q Clear(g_c), s | 3.7 | 27.2 | 27.2 | 6.1 | 13.4 | 13.7 | 5.8 | 11.8 | 12.4 | 11.4 | 4.3 | 1.2 |
| Prop In Lane | 1.00 | | 0.16 | 1.00 | | 0.45 | 1.00 | | 0.91 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 424 | 687 | 701 | 137 | 380 | 365 | 132 | 379 | 338 | 239 | 971 | 429 |
| V/C Ratio(X) | 0.17 | 0.73 | 0.73 | 0.80 | 0.64 | 0.66 | 0.79 | 0.61 | 0.64 | 0.87 | 0.20 | 0.11 |
| Avail Cap(c_a), veh/h | 424 | 687 | 701 | 139 | 515 | 495 | 216 | 515 | 459 | 246 | 1084 | 479 |
| HCM Platoon Ratio | 0.33 | 0.33 | 0.33 | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.87 | 0.87 | 0.87 | 0.98 | 0.98 | 0.98 | 0.74 | 0.74 | 0.74 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 36.8 | 38.6 | 38.6 | 47.9 | 42.8 | 42.9 | 45.5 | 35.6 | 35.8 | 42.4 | 28.0 | 7.6 |
| Incr Delay (d2), s/veh | 0.1 | 5.9 | 5.8 | 23.9 | 8.0 | 8.8 | 3.0 | 3.4 | 4.3 | 25.3 | 0.4 | 0.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.6 | 13.9 | 14.2 | 3.7 | 7.2 | 7.1 | 2.6 | 5.4 | 5.1 | 6.6 | 1.8 | 0.9 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 36.9 | 44.5 | 44.4 | 71.9 | 50.7 | 51.7 | 48.6 | 39.0 | 40.1 | 67.7 | 28.4 | 8.1 |
| LnGrp LOS | D | D | D | E | D | D | D | D | D | E | C | A |
| Approach Vol, veh/h | | 1086 | | | 593 | | | 553 | | | 453 | |
| Approach Delay, s/veh | | 44.0 | | | 55.0 | | | 41.3 | | | 44.3 | |
| Approach LOS | | D | | | E | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 11.9 | 43.8 | 11.6 | 32.7 | 28.9 | 26.8 | 17.6 | 26.7 |
| Change Period (Y+Rc), s | * 4.2 | 5.1 | * 4.2 | 5.4 | 5.1 | * 5.4 | * 4.2 | * 5.4 |
| Max Green Setting (Gmax), s | * 7.8 | 30.7 | * 12 | 30.5 | 9.2 | * 29 | * 14 | * 29 |
| Max Q Clear Time (g_c+I1), s | 8.1 | 29.2 | 7.8 | 6.3 | 5.7 | 15.7 | 13.4 | 14.4 |
| Green Ext Time (p_c), s | 0.0 | 1.2 | 0.0 | 3.4 | 0.0 | 4.8 | 0.0 | 4.5 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 45.9 |
| HCM 6th LOS | D |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



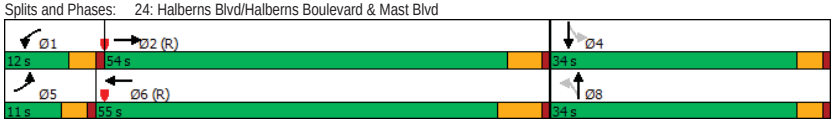
Existing + Cuml PM
24: Halberns Blvd/Halberns Boulevard & Mast Blvd

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 24 | 1036 | 46 | 41 | 529 | 45 | 30 | 57 | 128 | 46 | 38 | 18 |
| Future Volume (vph) | 24 | 1036 | 46 | 41 | 529 | 45 | 30 | 57 | 128 | 46 | 38 | 18 |
| Confl. Peds. (#/hr) | | | 1 | | | 5 | | | 1 | | | 2 |
| Confl. Bikes (#/hr) | | | 1 | | | 1 | | | 1 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Perm | NA | | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | | 4 | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 29.2 | | 8.2 | 28.3 | | 32.2 | 32.2 | | 32.2 | 32.2 | |
| Total Split (s) | 11.0 | 54.0 | | 12.0 | 55.0 | | 34.0 | 34.0 | | 34.0 | 34.0 | |
| Total Split (%) | 11.0% | 54.0% | | 12.0% | 55.0% | | 34.0% | 34.0% | | 34.0% | 34.0% | |
| Yellow Time (s) | 3.2 | 4.2 | | 3.2 | 5.3 | | 3.2 | 3.2 | | 3.2 | 3.2 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.2 | 5.2 | | 4.2 | 6.3 | | 4.2 | 4.2 | | 4.2 | 4.2 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Max | | None | C-Max | | None | None | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 70 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 24: Halberns Blvd/Halberns Boulevard & Mast Blvd



Existing + Cuml PM — Fanita Ranch
24: Halberns Blvd/Halberns Boulevard & Mast Blvd — 06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 24 | 1036 | 46 | 41 | 529 | 45 | 30 | 57 | 128 | 46 | 38 | 18 |
| Future Volume (veh/h) | 24 | 1036 | 46 | 41 | 529 | 45 | 30 | 57 | 128 | 46 | 38 | 18 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.99 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 26 | 1126 | 50 | 45 | 575 | 49 | 33 | 62 | 139 | 50 | 41 | 20 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 37 | 2214 | 98 | 58 | 2153 | 183 | 275 | 92 | 206 | 152 | 215 | 105 |
| Arrive On Green | 0.04 | 1.00 | 1.00 | 0.01 | 0.21 | 0.21 | 0.18 | 0.18 | 0.18 | 0.18 | 0.18 | 0.18 |
| Sat Flow, veh/h | 1781 | 3463 | 154 | 1781 | 3307 | 281 | 1338 | 508 | 1138 | 1180 | 1186 | 578 |
| Grp Volume(v), veh/h | 26 | 577 | 599 | 45 | 308 | 316 | 33 | 0 | 201 | 50 | 0 | 61 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1840 | 1781 | 1777 | 1811 | 1338 | 0 | 1645 | 1180 | 0 | 1764 |
| Q Serve(g_s), s | 1.4 | 0.0 | 0.0 | 2.5 | 14.5 | 14.5 | 2.1 | 0.0 | 11.4 | 4.1 | 0.0 | 2.9 |
| Cycle Q Clear(g_c), s | 1.4 | 0.0 | 0.0 | 2.5 | 14.5 | 14.5 | 5.1 | 0.0 | 11.4 | 15.5 | 0.0 | 2.9 |
| Prop In Lane | 1.00 | | 0.08 | 1.00 | | 0.16 | 1.00 | | 0.69 | 1.00 | | 0.33 |
| Lane Grp Cap(c), veh/h | 37 | 1136 | 1177 | 58 | 1157 | 1179 | 275 | 0 | 298 | 152 | 0 | 320 |
| V/C Ratio(X) | 0.71 | 0.51 | 0.51 | 0.78 | 0.27 | 0.27 | 0.12 | 0.00 | 0.67 | 0.33 | 0.00 | 0.19 |
| Avail Cap(c_a), veh/h | 121 | 1136 | 1177 | 139 | 1157 | 1179 | 431 | 0 | 490 | 289 | 0 | 526 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.57 | 0.57 | 0.57 | 0.89 | 0.89 | 0.89 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 47.6 | 0.0 | 0.0 | 49.1 | 19.4 | 19.4 | 36.9 | 0.0 | 38.2 | 45.4 | 0.0 | 34.7 |
| Incr Delay (d2), s/veh | 5.3 | 0.9 | 0.9 | 7.4 | 0.5 | 0.5 | 0.1 | 0.0 | 1.0 | 0.5 | 0.0 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.7 | 0.3 | 0.3 | 1.2 | 6.9 | 7.1 | 0.7 | 0.0 | 4.6 | 1.2 | 0.0 | 1.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 52.9 | 0.9 | 0.9 | 56.6 | 19.9 | 19.9 | 36.9 | 0.0 | 39.2 | 45.9 | 0.0 | 34.8 |
| LnGrp LOS | D | A | A | E | B | B | D | A | D | D | A | C |
| Approach Vol, veh/h | | 1202 | | | 669 | | | 234 | | | 111 | |
| Approach Delay, s/veh | | 2.0 | | | 22.3 | | | 38.9 | | | 39.8 | |
| Approach LOS | | A | | | C | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.4 | 70.2 | | 22.3 | 6.3 | 71.4 | | 22.3 | | | | |
| Change Period (Y+Rc), s | * 4.2 | * 6.3 | | * 4.2 | * 4.2 | 6.3 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | * 7.8 | * 49 | | * 30 | * 6.8 | 48.7 | | * 30 | | | | |
| Max Q Clear Time (g_c+I1), s | 4.5 | 2.0 | | 17.5 | 3.4 | 16.5 | | 13.4 | | | | |
| Green Ext Time (p_c), s | 0.0 | 21.9 | | 0.2 | 0.0 | 8.2 | | 0.7 | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | | 13.9 |
| HCM 6th LOS | | | B |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

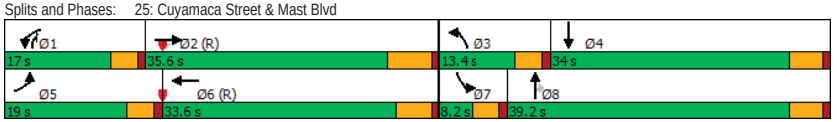
HCM 6th Signalized Intersection Summary
N:\2462\Analysis\Intersections\Synchro\6 Existing + Cuml PM.syn

Existing + Cuml PM — Fanita Ranch
25: Cuyamaca Street & Mast Blvd — 06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 200 | 685 | 273 | 318 | 317 | 18 | 258 | 289 | 438 | 14 | 197 | 123 |
| Future Volume (vph) | 200 | 685 | 273 | 318 | 317 | 18 | 258 | 289 | 438 | 14 | 197 | 123 |
| Confl. Peds. (#/hr) | | | 11 | | | 3 | | | | | | 3 |
| Confl. Bikes (#/hr) | | | 2 | | | 2 | | | | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | | Prot | NA | pm+ov | Prot | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | 1 | 7 | 4 | |
| Permitted Phases | | | 2 | | | | | | 8 | | | |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | | 3 | 8 | 1 | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | | 4.0 | 7.0 | 4.0 | 4.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 34.3 | 34.3 | 8.2 | 32.3 | | 8.2 | 33.1 | 8.2 | 8.2 | 34.0 | |
| Total Split (s) | 19.0 | 35.6 | 35.6 | 17.0 | 33.6 | | 13.4 | 39.2 | 17.0 | 8.2 | 34.0 | |
| Total Split (%) | 19.0% | 35.6% | 35.6% | 17.0% | 33.6% | | 13.4% | 39.2% | 17.0% | 8.2% | 34.0% | |
| Yellow Time (s) | 3.2 | 5.3 | 5.3 | 3.2 | 4.3 | | 3.2 | 4.1 | 3.2 | 3.2 | 4.0 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.2 | 6.3 | 6.3 | 4.2 | 5.3 | | 4.2 | 5.1 | 4.2 | 4.2 | 5.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | |
| Recall Mode | None | C-Min | C-Min | None | C-Min | | None | None | None | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 21 (21%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 95 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 25: Cuyamaca Street & Mast Blvd




Timings
N:\2462\Analysis\Intersections\Synchro\6 Existing + Cuml PM.syn

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 200 | 685 | 273 | 318 | 317 | 18 | 258 | 289 | 438 | 14 | 197 | 123 |
| Future Volume (veh/h) | 200 | 685 | 273 | 318 | 317 | 18 | 258 | 289 | 438 | 14 | 197 | 123 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 1.00 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 217 | 745 | 297 | 346 | 345 | 20 | 280 | 314 | 476 | 15 | 214 | 134 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 247 | 1313 | 573 | 411 | 1194 | 69 | 318 | 1066 | 664 | 24 | 471 | 281 |
| Arrive On Green | 0.18 | 0.49 | 0.49 | 0.12 | 0.35 | 0.35 | 0.09 | 0.30 | 0.30 | 0.01 | 0.22 | 0.22 |
| Sat Flow, veh/h | 1781 | 3554 | 1550 | 3456 | 3411 | 197 | 3456 | 3554 | 1585 | 1781 | 2125 | 1268 |
| Grp Volume(v), veh/h | 217 | 745 | 297 | 346 | 179 | 186 | 280 | 314 | 476 | 15 | 177 | 171 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1550 | 1728 | 1777 | 1831 | 1728 | 1777 | 1585 | 1781 | 1777 | 1616 |
| Q Serve(g_s), s | 11.9 | 14.8 | 13.1 | 9.8 | 7.3 | 7.3 | 8.0 | 6.8 | 24.9 | 0.8 | 8.6 | 9.2 |
| Cycle Q Clear(g_c), s | 11.9 | 14.8 | 13.1 | 9.8 | 7.3 | 7.3 | 8.0 | 6.8 | 24.9 | 0.8 | 8.6 | 9.2 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.11 | 1.00 | | 1.00 | 1.00 | | 0.78 |
| Lane Grp Cap(c), veh/h | 247 | 1313 | 573 | 411 | 622 | 641 | 318 | 1066 | 664 | 24 | 394 | 358 |
| V/C Ratio(X) | 0.88 | 0.57 | 0.52 | 0.84 | 0.29 | 0.29 | 0.88 | 0.29 | 0.72 | 0.62 | 0.45 | 0.48 |
| Avail Cap(c_a), veh/h | 264 | 1313 | 573 | 442 | 622 | 641 | 318 | 1212 | 729 | 71 | 515 | 469 |
| HCM Platoon Ratio | 1.33 | 1.33 | 1.33 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.87 | 0.87 | 0.87 | 0.97 | 0.97 | 0.97 | 0.58 | 0.58 | 0.58 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 40.0 | 19.8 | 19.3 | 43.1 | 23.5 | 23.5 | 44.9 | 26.9 | 24.1 | 49.1 | 33.7 | 33.9 |
| Incr Delay (d2), s/veh | 22.1 | 1.6 | 2.9 | 11.7 | 1.1 | 1.1 | 14.8 | 0.1 | 2.0 | 9.1 | 1.3 | 1.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 6.3 | 5.4 | 4.5 | 4.7 | 3.1 | 3.2 | 4.0 | 2.8 | 9.2 | 0.4 | 3.8 | 3.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 62.1 | 21.3 | 22.3 | 54.8 | 24.6 | 24.6 | 59.7 | 27.0 | 26.2 | 58.2 | 34.9 | 35.4 |
| LnGrp LOS | E | C | C | D | C | C | E | C | C | E | C | D |
| Approach Vol, veh/h | | 1259 | | | 711 | | | 1070 | | | 363 | |
| Approach Delay, s/veh | | 28.6 | | | 39.3 | | | 35.2 | | | 36.1 | |
| Approach LOS | | C | | | D | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 16.1 | 43.3 | 13.4 | 27.3 | 18.1 | 41.3 | 5.6 | 35.1 |
| Change Period (Y+Rc), s | * 4.2 | 6.3 | * 4.2 | * 5.1 | * 4.2 | * 6.3 | * 4.2 | 5.1 |
| Max Green Setting (Gmax), s | * 13 | 29.3 | * 9.2 | * 29 | * 15 | * 28 | * 4 | 34.1 |
| Max Q Clear Time (g_c+I1), s | 11.8 | 16.8 | 10.0 | 11.2 | 13.9 | 9.3 | 2.8 | 26.9 |
| Green Ext Time (p_c), s | 0.1 | 6.4 | 0.0 | 2.8 | 0.0 | 2.4 | 0.0 | 3.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 33.7 |
| HCM 6th LOS | C |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.





| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 1018 | 29 | 105 | 645 | 16 | 119 |
| Future Volume (vph) | 1018 | 29 | 105 | 645 | 16 | 119 |
| Confl. Peds. (#/hr) | | 12 | | | | 20 |
| Confl. Bikes (#/hr) | | 4 | | | | 8 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | NA | | Prot | NA | Prot | Perm |
| Protected Phases | 2 | | 1 | 6 | 8 | |
| Permitted Phases | | | | | | 8 |
| Detector Phase | 2 | | 1 | 6 | 8 | 8 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 22.5 | | 8.5 | 20.5 | 22.5 | 22.5 |
| Total Split (s) | 55.0 | | 20.0 | 75.0 | 25.0 | 25.0 |
| Total Split (%) | 55.0% | | 20.0% | 75.0% | 25.0% | 25.0% |
| Yellow Time (s) | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lag | | Lead | | | |
| Lead-Lag Optimize? | Yes | | Yes | | | |
| Recall Mode | Min | | None | Min | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 61.4 |
| Natural Cycle: 60 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 26: Park Center Drive & Mast Blvd

Existing + Cuml PM
26: Park Center Drive & Mast Blvd

Fanita Ranch
06/06/2019

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 1018 | 29 | 105 | 645 | 16 | 119 |
| Future Volume (veh/h) | 1018 | 29 | 105 | 645 | 16 | 119 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | 0.96 | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 1107 | 32 | 114 | 701 | 17 | 129 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 1718 | 50 | 150 | 2409 | 196 | 175 |
| Arrive On Green | 0.49 | 0.49 | 0.08 | 0.68 | 0.11 | 0.11 |
| Sat Flow, veh/h | 3616 | 102 | 1781 | 3647 | 1781 | 1585 |
| Grp Volume(v), veh/h | 558 | 581 | 114 | 701 | 17 | 129 |
| Grp Sat Flow(s),veh/h/ln | 1777 | 1848 | 1781 | 1777 | 1781 | 1585 |
| Q Serve(g_s), s | 10.0 | 10.0 | 2.7 | 3.4 | 0.4 | 3.3 |
| Cycle Q Clear(g_c), s | 10.0 | 10.0 | 2.7 | 3.4 | 0.4 | 3.3 |
| Prop In Lane | | 0.06 | 1.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 866 | 901 | 150 | 2409 | 196 | 175 |
| V/C Ratio(X) | 0.64 | 0.64 | 0.76 | 0.29 | 0.09 | 0.74 |
| Avail Cap(c_a), veh/h | 2113 | 2198 | 650 | 5901 | 860 | 765 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 8.1 | 8.1 | 19.0 | 2.7 | 17.0 | 18.3 |
| Incr Delay (d2), s/veh | 0.8 | 0.8 | 7.7 | 0.1 | 0.2 | 6.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.4 | 2.5 | 1.2 | 0.2 | 0.1 | 1.4 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 8.9 | 8.9 | 26.7 | 2.8 | 17.2 | 24.3 |
| LnGrp LOS | A | A | C | A | B | C |
| Approach Vol, veh/h | 1139 | | | 815 | 146 | |
| Approach Delay, s/veh | 8.9 | | | 6.2 | 23.4 | |
| Approach LOS | A | | | A | C | |

| Timer - Assigned Phs | 1 | 2 | | | | 6 | 8 |
|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 8.1 | 25.2 | | | | 33.3 | 9.2 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 15.5 | 50.5 | | | | 70.5 | 20.5 |
| Max Q Clear Time (g_c+I1), s | 4.7 | 12.0 | | | | 5.4 | 5.3 |
| Green Ext Time (p_c), s | 0.2 | 8.7 | | | | 5.3 | 0.4 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 8.9 |
| HCM 6th LOS | A |



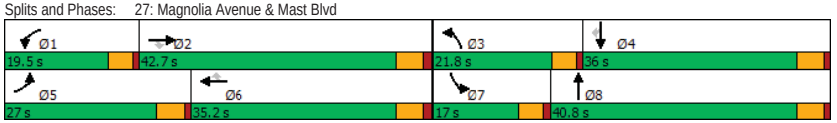
Existing + Cuml PM
27: Magnolia Avenue & Mast Blvd

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 414 | 292 | 258 | 116 | 158 | 31 | 296 | 526 | 126 | 88 | 416 | 225 |
| Future Volume (vph) | 414 | 292 | 258 | 116 | 158 | 31 | 296 | 526 | 126 | 88 | 416 | 225 |
| Confl. Peds. (#/hr) | | | 14 | | | 20 | | | 3 | | | 24 |
| Confl. Bikes (#/hr) | | | 1 | | | 4 | | | 2 | | | 6 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 11.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 9.0 | | 7.0 | 9.0 | 9.0 |
| Minimum Split (s) | 16.0 | 34.5 | 34.5 | 11.5 | 34.5 | 34.5 | 11.5 | 35.0 | | 11.5 | 36.0 | 36.0 |
| Total Split (s) | 27.0 | 42.7 | 42.7 | 19.5 | 35.2 | 35.2 | 21.8 | 40.8 | | 17.0 | 36.0 | 36.0 |
| Total Split (%) | 22.5% | 35.6% | 35.6% | 16.3% | 29.3% | 29.3% | 18.2% | 34.0% | | 14.2% | 30.0% | 30.0% |
| Yellow Time (s) | 4.0 | 4.0 | 4.0 | 3.5 | 4.0 | 4.0 | 3.5 | 4.0 | | 3.5 | 4.0 | 4.0 |
| All-Red Time (s) | 1.0 | 1.5 | 1.5 | 1.0 | 1.5 | 1.5 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 5.0 | 5.5 | 5.5 | 4.5 | 5.5 | 5.5 | 4.5 | 5.0 | | 4.5 | 5.0 | 5.0 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | Min | Min | None | Min | Min | None | Min | | None | Min | Min |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 82.3 |
| Natural Cycle: 100 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 27: Magnolia Avenue & Mast Blvd



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 414 | 292 | 258 | 116 | 158 | 31 | 296 | 526 | 126 | 88 | 416 | 225 |
| Future Volume (veh/h) | 414 | 292 | 258 | 116 | 158 | 31 | 296 | 526 | 126 | 88 | 416 | 225 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.95 | 1.00 | | 0.98 | 1.00 | | 0.96 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 450 | 317 | 280 | 126 | 172 | 34 | 322 | 572 | 137 | 96 | 452 | 245 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 585 | 983 | 426 | 160 | 677 | 288 | 419 | 860 | 205 | 140 | 927 | 395 |
| Arrive On Green | 0.17 | 0.28 | 0.28 | 0.09 | 0.19 | 0.19 | 0.12 | 0.30 | 0.30 | 0.08 | 0.26 | 0.26 |
| Sat Flow, veh/h | 3456 | 3554 | 1541 | 1781 | 3554 | 1510 | 3456 | 2835 | 677 | 1781 | 3554 | 1515 |
| Grp Volume(v), veh/h | 450 | 317 | 280 | 126 | 172 | 34 | 322 | 358 | 351 | 96 | 452 | 245 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1541 | 1781 | 1777 | 1510 | 1728 | 1777 | 1735 | 1781 | 1777 | 1515 |
| Q Serve(g_s), s | 9.6 | 5.5 | 12.5 | 5.4 | 3.2 | 1.4 | 7.0 | 13.6 | 13.7 | 4.1 | 8.4 | 11.1 |
| Cycle Q Clear(g_c), s | 9.6 | 5.5 | 12.5 | 5.4 | 3.2 | 1.4 | 7.0 | 13.6 | 13.7 | 4.1 | 8.4 | 11.1 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.39 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 585 | 983 | 426 | 160 | 677 | 288 | 419 | 539 | 526 | 140 | 927 | 395 |
| V/C Ratio(X) | 0.77 | 0.32 | 0.66 | 0.79 | 0.25 | 0.12 | 0.77 | 0.66 | 0.67 | 0.68 | 0.49 | 0.62 |
| Avail Cap(c_a), veh/h | 980 | 1705 | 739 | 345 | 1361 | 578 | 771 | 820 | 801 | 287 | 1421 | 606 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 30.8 | 22.3 | 24.8 | 34.6 | 26.7 | 26.0 | 33.0 | 23.6 | 23.6 | 34.8 | 24.3 | 25.3 |
| Incr Delay (d2), s/veh | 2.6 | 0.2 | 2.1 | 3.2 | 0.2 | 0.2 | 1.1 | 1.4 | 1.5 | 2.2 | 0.4 | 1.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 4.0 | 2.2 | 4.4 | 2.4 | 1.3 | 0.5 | 2.8 | 5.4 | 5.3 | 1.8 | 3.3 | 3.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 33.4 | 22.5 | 26.9 | 37.8 | 26.9 | 26.2 | 34.2 | 25.0 | 25.1 | 37.0 | 24.7 | 26.8 |
| LnGrp LOS | C | C | C | D | C | C | C | C | C | D | C | C |
| Approach Vol, veh/h | | 1047 | | | 332 | | | 1031 | | | 793 | |
| Approach Delay, s/veh | | 28.3 | | | 31.0 | | | 27.9 | | | 26.8 | |
| Approach LOS | | C | | | C | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 11.5 | 27.0 | 13.9 | 25.2 | 18.1 | 20.3 | 10.6 | 28.5 |
| Change Period (Y+Rc), s | 4.5 | 5.5 | 4.5 | 5.0 | 5.0 | 5.5 | 4.5 | 5.0 |
| Max Green Setting (Gmax), s | 15.0 | 37.2 | 17.3 | 31.0 | 22.0 | 29.7 | 12.5 | 35.8 |
| Max Q Clear Time (g_c+I1), s | 7.4 | 14.5 | 9.0 | 13.1 | 11.6 | 5.2 | 6.1 | 15.7 |
| Green Ext Time (p_c), s | 0.1 | 3.6 | 0.4 | 3.5 | 1.5 | 1.3 | 0.0 | 4.1 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 28.1 |
| HCM 6th LOS | C |

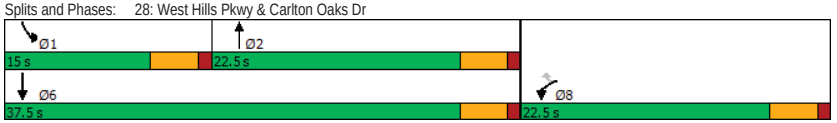




| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 83 | 129 | 464 | 181 | 286 | 529 |
| Future Volume (vph) | 83 | 129 | 464 | 181 | 286 | 529 |
| Confl. Peds. (#/hr) | | | | 1 | | |
| Confl. Bikes (#/hr) | | 1 | | 5 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | 0% | | | 0% |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | NA | | Prot | NA |
| Protected Phases | 8 | | 2 | | 1 | 6 |
| Permitted Phases | | 8 | | | | |
| Detector Phase | 8 | 8 | 2 | | 1 | 6 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | | 8.5 | 20.5 |
| Total Split (s) | 22.5 | 22.5 | 22.5 | | 15.0 | 37.5 |
| Total Split (%) | 37.5% | 37.5% | 37.5% | | 25.0% | 62.5% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Lead/Lag | | | Lag | | Lead | |
| Lead-Lag Optimize? | | | Yes | | Yes | |
| Recall Mode | None | None | Min | | None | Min |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 46.4 |
| Natural Cycle: 60 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 28: West Hills Pkwy & Carlton Oaks Dr



| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 83 | 129 | 464 | 181 | 286 | 529 |
| Future Volume (veh/h) | 83 | 129 | 464 | 181 | 286 | 529 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | | 0.97 | 1.00 | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | No | | | No |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 90 | 140 | 504 | 197 | 311 | 575 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 192 | 301 | 765 | 297 | 386 | 2302 |
| Arrive On Green | 0.11 | 0.11 | 0.31 | 0.31 | 0.22 | 0.65 |
| Sat Flow, veh/h | 1781 | 2790 | 2572 | 963 | 1781 | 3647 |
| Grp Volume(v), veh/h | 90 | 140 | 360 | 341 | 311 | 575 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1395 | 1777 | 1665 | 1781 | 1777 |
| Q Serve(g_s), s | 1.7 | 1.7 | 6.5 | 6.5 | 6.1 | 2.5 |
| Cycle Q Clear(g_c), s | 1.7 | 1.7 | 6.5 | 6.5 | 6.1 | 2.5 |
| Prop In Lane | 1.00 | 1.00 | | 0.58 | 1.00 | |
| Lane Grp Cap(c), veh/h | 192 | 301 | 549 | 514 | 386 | 2302 |
| V/C Ratio(X) | 0.47 | 0.47 | 0.66 | 0.66 | 0.81 | 0.25 |
| Avail Cap(c_a), veh/h | 871 | 1364 | 869 | 814 | 508 | 3185 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 15.4 | 15.4 | 11.0 | 11.1 | 13.7 | 2.7 |
| Incr Delay (d2), s/veh | 1.8 | 1.1 | 1.3 | 1.5 | 7.0 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.7 | 0.5 | 1.8 | 1.7 | 2.4 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 17.2 | 16.6 | 12.4 | 12.5 | 20.7 | 2.8 |
| LnGrp LOS | B | B | B | B | C | A |
| Approach Vol, veh/h | 230 | | 701 | | | 886 |
| Approach Delay, s/veh | 16.8 | | 12.5 | | | 9.1 |
| Approach LOS | B | | B | | | A |

| Timer - Assigned Phs | 1 | 2 | | | | 6 | 8 |
|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 12.5 | 15.9 | | | | 28.4 | 8.5 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 10.5 | 18.0 | | | | 33.0 | 18.0 |
| Max Q Clear Time (g_c+I1), s | 8.1 | 8.5 | | | | 4.5 | 3.7 |
| Green Ext Time (p_c), s | 0.2 | 2.8 | | | | 3.7 | 0.6 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 11.4 |
| HCM 6th LOS | B |

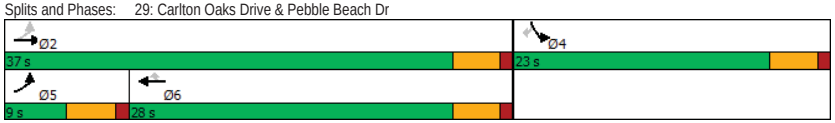




| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 10 | 369 | 336 | 36 | 24 | 7 |
| Future Volume (vph) | 10 | 369 | 336 | 36 | 24 | 7 |
| Confl. Peds. (#/hr) | | | | 8 | | |
| Confl. Bikes (#/hr) | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | pm+pt | NA | NA | Perm | Prot | Perm |
| Protected Phases | 5 | 2 | 6 | | 4 | |
| Permitted Phases | 2 | | | 6 | | 4 |
| Detector Phase | 5 | 2 | 6 | 6 | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 |
| Total Split (s) | 9.0 | 37.0 | 28.0 | 28.0 | 23.0 | 23.0 |
| Total Split (%) | 15.0% | 61.7% | 46.7% | 46.7% | 38.3% | 38.3% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | | Lag | Lag | | |
| Lead-Lag Optimize? | Yes | | Yes | Yes | | |
| Recall Mode | None | Min | Min | Min | None | None |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 36.4 |
| Natural Cycle: 55 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 29: Carlton Oaks Drive & Pebble Beach Dr



Existing + Cuml PM
29: Carlton Oaks Drive & Pebble Beach Dr

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 10 | 369 | 336 | 36 | 24 | 7 |
| Future Volume (veh/h) | 10 | 369 | 336 | 36 | 24 | 7 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 0.99 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 11 | 401 | 365 | 39 | 26 | 8 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 534 | 1059 | 662 | 555 | 61 | 54 |
| Arrive On Green | 0.01 | 0.57 | 0.35 | 0.35 | 0.03 | 0.03 |
| Sat Flow, veh/h | 1781 | 1870 | 1870 | 1567 | 1781 | 1585 |
| Grp Volume(v), veh/h | 11 | 401 | 365 | 39 | 26 | 8 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1870 | 1567 | 1781 | 1585 |
| Q Serve(g_s), s | 0.1 | 2.7 | 3.5 | 0.4 | 0.3 | 0.1 |
| Cycle Q Clear(g_c), s | 0.1 | 2.7 | 3.5 | 0.4 | 0.3 | 0.1 |
| Prop In Lane | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 534 | 1059 | 662 | 555 | 61 | 54 |
| V/C Ratio(X) | 0.02 | 0.38 | 0.55 | 0.07 | 0.43 | 0.15 |
| Avail Cap(c_a), veh/h | 869 | 2701 | 1953 | 1637 | 1465 | 1303 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 4.0 | 2.7 | 5.8 | 4.8 | 10.7 | 10.6 |
| Incr Delay (d2), s/veh | 0.0 | 0.2 | 0.7 | 0.1 | 4.7 | 1.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.1 | 0.7 | 0.1 | 0.2 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 4.1 | 2.9 | 6.5 | 4.9 | 15.4 | 11.8 |
| LnGrp LOS | A | A | A | A | B | B |
| Approach Vol, veh/h | | 412 | 404 | | 34 | |
| Approach Delay, s/veh | | 3.0 | 6.4 | | 14.5 | |
| Approach LOS | | A | A | | B | |

| Timer - Assigned Phs | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 17.2 | | 5.3 | 4.8 | 12.5 |
| Change Period (Y+Rc), s | 4.5 | | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 32.5 | | 18.5 | 4.5 | 23.5 |
| Max Q Clear Time (g_c+I1), s | 4.7 | | 2.3 | 2.1 | 5.5 |
| Green Ext Time (p_c), s | 2.5 | | 0.0 | 0.0 | 2.2 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 5.0 |
| HCM 6th LOS | A |

HCM 6th Signalized Intersection Summary
N:\2462\Analysis\Intersections\Synchro\6 Existing + Cuml PM.syn

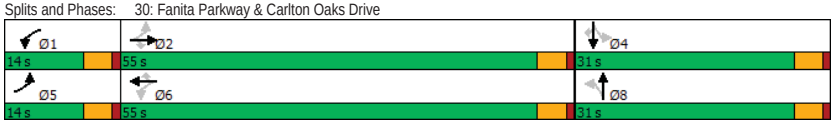
Existing + Cuml PM
30: Fanita Parkway & Carlton Oaks Drive

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 40 | 343 | 2 | 9 | 321 | 84 | 2 | 0 | 8 | 99 | 1 | 30 |
| Future Volume (vph) | 40 | 343 | 2 | 9 | 321 | 84 | 2 | 0 | 8 | 99 | 1 | 30 |
| Confl. Peds. (#/hr) | | | 7 | | | 9 | | | 9 | | | 7 |
| Confl. Bikes (#/hr) | | | 3 | | | 1 | | | 1 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | pm+pt | NA | Perm | pm+pt | NA | Perm | Perm | NA | | Perm | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | 2 | | 2 | 6 | | 6 | 8 | | | 4 | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 8 | 8 | | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | | 7.0 | 7.0 | 7.0 |
| Minimum Split (s) | 11.5 | 26.5 | 26.5 | 11.5 | 20.5 | 20.5 | 22.5 | 22.5 | | 22.5 | 22.5 | 22.5 |
| Total Split (s) | 14.0 | 55.0 | 55.0 | 14.0 | 55.0 | 55.0 | 31.0 | 31.0 | | 31.0 | 31.0 | 31.0 |
| Total Split (%) | 14.0% | 55.0% | 55.0% | 14.0% | 55.0% | 55.0% | 31.0% | 31.0% | | 31.0% | 31.0% | 31.0% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | | | | | | |
| Recall Mode | None | Min | Min | None | Min | Min | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 41 |
| Natural Cycle: 65 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 30: Fanita Parkway & Carlton Oaks Drive




Timings
N:\2462\Analysis\Intersections\Synchro\6 Existing + Cuml PM.syn

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 40 | 343 | 2 | 9 | 321 | 84 | 2 | 0 | 8 | 99 | 1 | 30 |
| Future Volume (veh/h) | 40 | 343 | 2 | 9 | 321 | 84 | 2 | 0 | 8 | 99 | 1 | 30 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 0.99 | | 0.97 | 0.99 | | 0.96 | 0.98 | | 0.96 | 0.98 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 43 | 373 | 2 | 10 | 349 | 91 | 2 | 0 | 9 | 108 | 1 | 33 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 492 | 666 | 546 | 460 | 570 | 466 | 157 | 33 | 243 | 498 | 361 | 301 |
| Arrive On Green | 0.07 | 0.36 | 0.36 | 0.02 | 0.30 | 0.30 | 0.19 | 0.00 | 0.19 | 0.19 | 0.19 | 0.19 |
| Sat Flow, veh/h | 1781 | 1870 | 1533 | 1781 | 1870 | 1529 | 107 | 172 | 1259 | 1374 | 1870 | 1560 |
| Grp Volume(v), veh/h | 43 | 373 | 2 | 10 | 349 | 91 | 11 | 0 | 0 | 108 | 1 | 33 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1533 | 1781 | 1870 | 1529 | 1539 | 0 | 0 | 1374 | 1870 | 1560 |
| Q Serve(g_s), s | 0.5 | 5.0 | 0.0 | 0.1 | 5.0 | 1.4 | 0.0 | 0.0 | 0.0 | 1.9 | 0.0 | 0.5 |
| Cycle Q Clear(g_c), s | 0.5 | 5.0 | 0.0 | 0.1 | 5.0 | 1.4 | 0.2 | 0.0 | 0.0 | 2.1 | 0.0 | 0.5 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 0.18 | | 0.82 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 492 | 666 | 546 | 460 | 570 | 466 | 433 | 0 | 0 | 498 | 361 | 301 |
| V/C Ratio(X) | 0.09 | 0.56 | 0.00 | 0.02 | 0.61 | 0.20 | 0.03 | 0.00 | 0.00 | 0.22 | 0.00 | 0.11 |
| Avail Cap(c_a), veh/h | 910 | 3026 | 2481 | 969 | 3026 | 2473 | 1408 | 0 | 0 | 1399 | 1588 | 1325 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 6.7 | 8.1 | 6.5 | 7.4 | 9.3 | 8.0 | 10.2 | 0.0 | 0.0 | 11.0 | 10.2 | 10.4 |
| Incr Delay (d2), s/veh | 0.1 | 0.7 | 0.0 | 0.0 | 1.1 | 0.2 | 0.0 | 0.0 | 0.0 | 0.2 | 0.0 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.1 | 1.3 | 0.0 | 0.0 | 1.4 | 0.3 | 0.0 | 0.0 | 0.0 | 0.5 | 0.0 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 6.7 | 8.8 | 6.5 | 7.4 | 10.3 | 8.2 | 10.3 | 0.0 | 0.0 | 11.2 | 10.2 | 10.5 |
| LnGrp LOS | A | A | A | A | B | A | B | A | A | B | B | B |
| Approach Vol, veh/h | | 418 | | | 450 | | | 11 | | | 142 | |
| Approach Delay, s/veh | | 8.6 | | | 9.8 | | | 10.3 | | | 11.0 | |
| Approach LOS | | A | | | A | | | B | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.1 | 15.6 | | 10.5 | 6.7 | 14.0 | | 10.5 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 9.5 | 50.5 | | 26.5 | 9.5 | 50.5 | | 26.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.1 | 7.0 | | 4.1 | 2.5 | 7.0 | | 2.2 | | | | |
| Green Ext Time (p_c), s | 0.0 | 2.4 | | 0.4 | 0.0 | 2.5 | | 0.0 | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | | 9.5 |
| HCM 6th LOS | | | A |

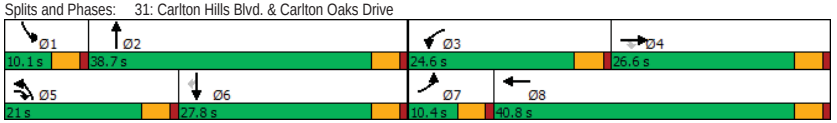




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 29 | 192 | 294 | 188 | 96 | 14 | 393 | 588 | 243 | 23 | 346 | 15 |
| Future Volume (vph) | 29 | 192 | 294 | 188 | 96 | 14 | 393 | 588 | 243 | 23 | 346 | 15 |
| Confl. Peds. (#/hr) | | | 9 | | | 1 | | | 6 | | | 4 |
| Confl. Bikes (#/hr) | | | 5 | | | 3 | | | 1 | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 7 | 4 | 5 | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | | | | 6 |
| Detector Phase | 7 | 4 | 5 | 3 | 8 | | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 26.5 | 8.5 | 8.5 | 26.5 | | 8.5 | 22.5 | | 8.5 | 22.5 | 22.5 |
| Total Split (s) | 10.4 | 26.6 | 21.0 | 24.6 | 40.8 | | 21.0 | 38.7 | | 10.1 | 27.8 | 27.8 |
| Total Split (%) | 10.4% | 26.6% | 21.0% | 24.6% | 40.8% | | 21.0% | 38.7% | | 10.1% | 27.8% | 27.8% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | | None | Min | | None | Min | Min |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 77.9 |
| Natural Cycle: 80 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 31: Carlton Hills Blvd. & Carlton Oaks Drive



Existing + Cuml PM
31: Carlton Hills Blvd. & Carlton Oaks Drive

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 29 | 192 | 294 | 188 | 96 | 14 | 393 | 588 | 243 | 23 | 346 | 15 |
| Future Volume (veh/h) | 29 | 192 | 294 | 188 | 96 | 14 | 393 | 588 | 243 | 23 | 346 | 15 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 32 | 209 | 320 | 204 | 104 | 15 | 427 | 639 | 264 | 25 | 376 | 16 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 48 | 422 | 602 | 255 | 1067 | 151 | 556 | 835 | 345 | 39 | 724 | 317 |
| Arrive On Green | 0.03 | 0.23 | 0.23 | 0.14 | 0.34 | 0.34 | 0.16 | 0.34 | 0.34 | 0.02 | 0.20 | 0.20 |
| Sat Flow, veh/h | 1781 | 1870 | 1540 | 1781 | 3119 | 441 | 3456 | 2438 | 1007 | 1781 | 3554 | 1553 |
| Grp Volume(v), veh/h | 32 | 209 | 320 | 204 | 58 | 61 | 427 | 466 | 437 | 25 | 376 | 16 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1540 | 1781 | 1777 | 1783 | 1728 | 1777 | 1668 | 1781 | 1777 | 1553 |
| Q Serve(g_s), s | 1.2 | 6.6 | 10.9 | 7.5 | 1.5 | 1.6 | 8.0 | 15.8 | 15.8 | 0.9 | 6.4 | 0.6 |
| Cycle Q Clear(g_c), s | 1.2 | 6.6 | 10.9 | 7.5 | 1.5 | 1.6 | 8.0 | 15.8 | 15.8 | 0.9 | 6.4 | 0.6 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.25 | 1.00 | | 0.60 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 48 | 422 | 602 | 255 | 608 | 610 | 556 | 609 | 571 | 39 | 724 | 317 |
| V/C Ratio(X) | 0.67 | 0.50 | 0.53 | 0.80 | 0.10 | 0.10 | 0.77 | 0.77 | 0.77 | 0.63 | 0.52 | 0.05 |
| Avail Cap(c_a), veh/h | 156 | 612 | 759 | 530 | 955 | 958 | 844 | 900 | 844 | 148 | 1226 | 536 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 32.6 | 22.8 | 16.0 | 28.0 | 15.1 | 15.1 | 27.1 | 19.8 | 19.8 | 32.8 | 23.9 | 21.6 |
| Incr Delay (d2), s/veh | 15.2 | 0.9 | 0.7 | 5.7 | 0.1 | 0.1 | 2.4 | 2.3 | 2.5 | 15.5 | 0.6 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.7 | 2.8 | 3.6 | 3.4 | 0.6 | 0.6 | 3.3 | 6.2 | 5.9 | 0.6 | 2.5 | 0.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 47.8 | 23.7 | 16.8 | 33.7 | 15.2 | 15.2 | 29.5 | 22.1 | 22.3 | 48.3 | 24.5 | 21.7 |
| LnGrp LOS | D | C | B | C | B | B | C | C | C | D | C | C |
| Approach Vol, veh/h | | 561 | | | 323 | | | 1330 | | | 417 | |
| Approach Delay, s/veh | | 21.1 | | | 26.9 | | | 24.5 | | | 25.8 | |
| Approach LOS | | C | | | C | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 6.0 | 27.6 | 14.2 | 19.7 | 15.4 | 18.3 | 6.3 | 27.6 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 5.6 | 34.2 | 20.1 | 22.1 | 16.5 | 23.3 | 5.9 | 36.3 |
| Max Q Clear Time (g_c+I1), s | 2.9 | 17.8 | 9.5 | 12.9 | 10.0 | 8.4 | 3.2 | 3.6 |
| Green Ext Time (p_c), s | 0.0 | 5.3 | 0.4 | 1.7 | 0.9 | 2.1 | 0.0 | 0.6 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 24.3 |
| HCM 6th LOS | C |



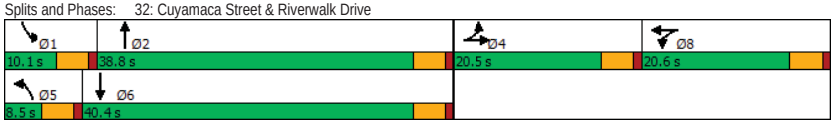
Existing + Cuml PM
32: Cuyamaca Street & Riverwalk Drive

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 17 | 6 | 15 | 120 | 0 | 33 | 13 | 976 | 177 | 80 | 906 | 1 |
| Future Volume (vph) | 17 | 6 | 15 | 120 | 0 | 33 | 13 | 976 | 177 | 80 | 906 | 1 |
| Confl. Peds. (#/hr) | | | 7 | | | 5 | | | 15 | | | 5 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | 3 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Split | NA | | Split | NA | | Prot | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | 20.5 | 20.5 | | 20.5 | 20.5 | | 8.5 | 20.5 | | 8.5 | 20.5 | |
| Total Split (s) | 20.5 | 20.5 | | 20.6 | 20.6 | | 8.5 | 38.8 | | 10.1 | 40.4 | |
| Total Split (%) | 22.8% | 22.8% | | 22.9% | 22.9% | | 9.4% | 43.1% | | 11.2% | 44.9% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 90 |
| Actuated Cycle Length: 72.7 |
| Natural Cycle: 90 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 32: Cuyamaca Street & Riverwalk Drive



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 17 | 6 | 15 | 120 | 0 | 33 | 13 | 976 | 177 | 80 | 906 | 1 |
| Future Volume (veh/h) | 17 | 6 | 15 | 120 | 0 | 33 | 13 | 976 | 177 | 80 | 906 | 1 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.97 | 1.00 | | 0.96 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 18 | 7 | 16 | 130 | 0 | 36 | 14 | 1061 | 192 | 87 | 985 | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 84 | 23 | 53 | 197 | 0 | 170 | 25 | 1385 | 250 | 111 | 1866 | 2 |
| Arrive On Green | 0.05 | 0.05 | 0.05 | 0.11 | 0.00 | 0.11 | 0.01 | 0.46 | 0.46 | 0.06 | 0.51 | 0.51 |
| Sat Flow, veh/h | 1781 | 495 | 1131 | 1781 | 0 | 1542 | 1781 | 2986 | 539 | 1781 | 3643 | 4 |
| Grp Volume(v), veh/h | 18 | 0 | 23 | 130 | 0 | 36 | 14 | 630 | 623 | 87 | 480 | 506 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1626 | 1781 | 0 | 1542 | 1781 | 1777 | 1748 | 1781 | 1777 | 1870 |
| Q Serve(g_s), s | 0.6 | 0.0 | 0.8 | 4.0 | 0.0 | 1.2 | 0.4 | 16.8 | 16.9 | 2.7 | 10.3 | 10.3 |
| Cycle Q Clear(g_c), s | 0.6 | 0.0 | 0.8 | 4.0 | 0.0 | 1.2 | 0.4 | 16.8 | 16.9 | 2.7 | 10.3 | 10.3 |
| Prop In Lane | 1.00 | | 0.70 | 1.00 | | 1.00 | 1.00 | | 0.31 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 84 | 0 | 77 | 197 | 0 | 170 | 25 | 824 | 811 | 111 | 910 | 958 |
| V/C Ratio(X) | 0.21 | 0.00 | 0.30 | 0.66 | 0.00 | 0.21 | 0.56 | 0.76 | 0.77 | 0.78 | 0.53 | 0.53 |
| Avail Cap(c_a), veh/h | 501 | 0 | 457 | 504 | 0 | 436 | 125 | 1071 | 1054 | 175 | 1121 | 1180 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 26.1 | 0.0 | 26.2 | 24.3 | 0.0 | 23.1 | 27.9 | 12.7 | 12.7 | 26.3 | 9.3 | 9.3 |
| Incr Delay (d2), s/veh | 1.3 | 0.0 | 2.2 | 3.8 | 0.0 | 0.6 | 18.4 | 2.5 | 2.6 | 11.3 | 0.5 | 0.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.3 | 0.0 | 0.3 | 1.8 | 0.0 | 0.4 | 0.3 | 5.8 | 5.8 | 1.4 | 3.2 | 3.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 27.4 | 0.0 | 28.4 | 28.0 | 0.0 | 23.7 | 46.3 | 15.1 | 15.3 | 37.6 | 9.8 | 9.7 |
| LnGrp LOS | C | A | C | C | A | C | D | B | B | D | A | A |
| Approach Vol, veh/h | | 41 | | | 166 | | | 1267 | | | 1073 | |
| Approach Delay, s/veh | | 27.9 | | | 27.1 | | | 15.6 | | | 12.0 | |
| Approach LOS | | C | | | C | | | B | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 8.1 | 30.9 | | 7.2 | 5.3 | 33.6 | | 10.8 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 5.6 | 34.3 | | 16.0 | 4.0 | 35.9 | | 16.1 | | | | |
| Max Q Clear Time (g_c+I1), s | 4.7 | 18.9 | | 2.8 | 2.4 | 12.3 | | 6.0 | | | | |
| Green Ext Time (p_c), s | 0.0 | 7.5 | | 0.1 | 0.0 | 6.6 | | 0.4 | | | | |

| Intersection Summary | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HCM 6th Ctrl Delay | | | 15.0 | | | | | | | | | |
| HCM 6th LOS | | | B | | | | | | | | | |

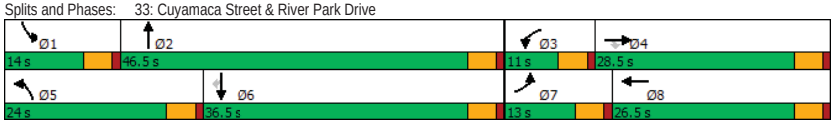




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 86 | 21 | 108 | 60 | 11 | 34 | 248 | 988 | 84 | 98 | 892 | 49 |
| Future Volume (vph) | 86 | 21 | 108 | 60 | 11 | 34 | 248 | 988 | 84 | 98 | 892 | 49 |
| Confl. Peds. (#/hr) | | | 3 | | | 5 | | | 6 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | | | | 6 |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 26.5 | 26.5 | 8.5 | 26.5 | | 8.5 | 22.5 | | 8.5 | 26.5 | 26.5 |
| Total Split (s) | 13.0 | 28.5 | 28.5 | 11.0 | 26.5 | | 24.0 | 46.5 | | 14.0 | 36.5 | 36.5 |
| Total Split (%) | 13.0% | 28.5% | 28.5% | 11.0% | 26.5% | | 24.0% | 46.5% | | 14.0% | 36.5% | 36.5% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | | None | Min | | None | Min | Min |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 75.1 |
| Natural Cycle: 90 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 33: Cuyamaca Street & River Park Drive



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 86 | 21 | 108 | 60 | 11 | 34 | 248 | 988 | 84 | 98 | 892 | 49 |
| Future Volume (veh/h) | 86 | 21 | 108 | 60 | 11 | 34 | 248 | 988 | 84 | 98 | 892 | 49 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 93 | 23 | 117 | 65 | 12 | 37 | 270 | 1074 | 91 | 107 | 970 | 53 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 120 | 232 | 195 | 83 | 41 | 126 | 327 | 1554 | 132 | 138 | 1294 | 576 |
| Arrive On Green | 0.07 | 0.12 | 0.12 | 0.05 | 0.10 | 0.10 | 0.18 | 0.47 | 0.47 | 0.08 | 0.36 | 0.36 |
| Sat Flow, veh/h | 1781 | 1870 | 1574 | 1781 | 399 | 1229 | 1781 | 3308 | 280 | 1781 | 3554 | 1581 |
| Grp Volume(v), veh/h | 93 | 23 | 117 | 65 | 0 | 49 | 270 | 577 | 588 | 107 | 970 | 53 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1574 | 1781 | 0 | 1628 | 1781 | 1777 | 1811 | 1781 | 1777 | 1581 |
| Q Serve(g_s), s | 3.3 | 0.7 | 4.5 | 2.3 | 0.0 | 1.8 | 9.3 | 16.2 | 16.3 | 3.8 | 15.2 | 1.4 |
| Cycle Q Clear(g_c), s | 3.3 | 0.7 | 4.5 | 2.3 | 0.0 | 1.8 | 9.3 | 16.2 | 16.3 | 3.8 | 15.2 | 1.4 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.76 | 1.00 | | 0.15 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 120 | 232 | 195 | 83 | 0 | 167 | 327 | 835 | 851 | 138 | 1294 | 576 |
| V/C Ratio(X) | 0.77 | 0.10 | 0.60 | 0.79 | 0.00 | 0.29 | 0.83 | 0.69 | 0.69 | 0.77 | 0.75 | 0.09 |
| Avail Cap(c_a), veh/h | 237 | 704 | 592 | 182 | 0 | 561 | 545 | 1170 | 1192 | 265 | 1783 | 793 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 29.3 | 24.8 | 26.4 | 30.1 | 0.0 | 26.5 | 25.1 | 13.3 | 13.3 | 28.9 | 17.7 | 13.3 |
| Incr Delay (d2), s/veh | 10.1 | 0.2 | 2.9 | 15.0 | 0.0 | 1.0 | 5.3 | 1.0 | 1.0 | 8.8 | 1.2 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.7 | 0.3 | 1.8 | 1.3 | 0.0 | 0.7 | 4.1 | 5.6 | 5.7 | 1.8 | 5.7 | 0.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 39.3 | 25.0 | 29.4 | 45.1 | 0.0 | 27.4 | 30.4 | 14.3 | 14.3 | 37.7 | 18.9 | 13.4 |
| LnGrp LOS | D | C | C | D | A | C | C | B | B | D | B | B |
| Approach Vol, veh/h | | 233 | | | 114 | | | 1435 | | | 1130 | |
| Approach Delay, s/veh | | 32.9 | | | 37.5 | | | 17.3 | | | 20.4 | |
| Approach LOS | | C | | | D | | | B | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 9.5 | 34.5 | 7.5 | 12.4 | 16.2 | 27.7 | 8.8 | 11.1 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 9.5 | 42.0 | 6.5 | 24.0 | 19.5 | 32.0 | 8.5 | 22.0 |
| Max Q Clear Time (g_c+I1), s | 5.8 | 18.3 | 4.3 | 6.5 | 11.3 | 17.2 | 5.3 | 3.8 |
| Green Ext Time (p_c), s | 0.1 | 8.4 | 0.0 | 0.4 | 0.5 | 6.0 | 0.1 | 0.2 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 20.6 |
| HCM 6th LOS | C |

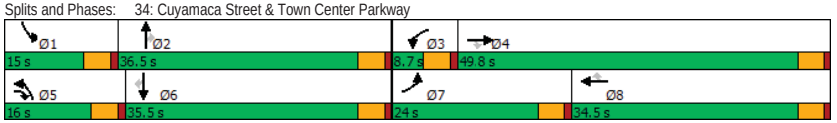




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 654 | 86 | 138 | 63 | 82 | 90 | 379 | 959 | 49 | 170 | 863 | 291 |
| Future Volume (vph) | 654 | 86 | 138 | 63 | 82 | 90 | 379 | 959 | 49 | 170 | 863 | 291 |
| Confl. Peds. (#/hr) | | | 12 | | | 9 | | | 17 | | | 4 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | 2 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 7 | 4 | 5 | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | 2 | | | 6 |
| Detector Phase | 7 | 4 | 5 | 3 | 8 | 8 | 5 | 2 | 2 | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 34.5 | 8.5 | 8.5 | 34.5 | 34.5 | 8.5 | 34.5 | 34.5 | 8.5 | 34.5 | 34.5 |
| Total Split (s) | 24.0 | 49.8 | 16.0 | 8.7 | 34.5 | 34.5 | 16.0 | 36.5 | 36.5 | 15.0 | 35.5 | 35.5 |
| Total Split (%) | 21.8% | 45.3% | 14.5% | 7.9% | 31.4% | 31.4% | 14.5% | 33.2% | 33.2% | 13.6% | 32.3% | 32.3% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lead | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | None | None | Min | Min | None | Min | Min |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 85.6 |
| Natural Cycle: 110 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 34: Cuyamaca Street & Town Center Parkway



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 654 | 86 | 138 | 63 | 82 | 90 | 379 | 959 | 49 | 170 | 863 | 291 |
| Future Volume (veh/h) | 654 | 86 | 138 | 63 | 82 | 90 | 379 | 959 | 49 | 170 | 863 | 291 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.97 | 1.00 | | 0.95 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 711 | 93 | 150 | 68 | 89 | 98 | 412 | 1042 | 53 | 185 | 938 | 316 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 772 | 626 | 734 | 128 | 527 | 228 | 455 | 1541 | 454 | 214 | 1482 | 452 |
| Arrive On Green | 0.22 | 0.33 | 0.33 | 0.04 | 0.15 | 0.15 | 0.13 | 0.30 | 0.30 | 0.12 | 0.29 | 0.29 |
| Sat Flow, veh/h | 3456 | 1870 | 1568 | 3456 | 3554 | 1535 | 3456 | 5106 | 1506 | 1781 | 5106 | 1558 |
| Grp Volume(v), veh/h | 711 | 93 | 150 | 68 | 89 | 98 | 412 | 1042 | 53 | 185 | 938 | 316 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1870 | 1568 | 1728 | 1777 | 1535 | 1728 | 1702 | 1506 | 1781 | 1702 | 1558 |
| Q Serve(g_s), s | 17.6 | 3.0 | 4.9 | 1.7 | 1.9 | 5.1 | 10.3 | 15.6 | 2.2 | 8.9 | 13.9 | 15.8 |
| Cycle Q Clear(g_c), s | 17.6 | 3.0 | 4.9 | 1.7 | 1.9 | 5.1 | 10.3 | 15.6 | 2.2 | 8.9 | 13.9 | 15.8 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 772 | 626 | 734 | 128 | 527 | 228 | 455 | 1541 | 454 | 214 | 1482 | 452 |
| V/C Ratio(X) | 0.92 | 0.15 | 0.20 | 0.53 | 0.17 | 0.43 | 0.90 | 0.68 | 0.12 | 0.86 | 0.63 | 0.70 |
| Avail Cap(c_a), veh/h | 772 | 971 | 1023 | 166 | 1222 | 528 | 455 | 1872 | 552 | 214 | 1814 | 554 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 33.1 | 20.3 | 13.7 | 41.3 | 32.5 | 33.8 | 37.3 | 26.7 | 22.1 | 37.7 | 26.9 | 27.6 |
| Incr Delay (d2), s/veh | 16.3 | 0.1 | 0.1 | 3.4 | 0.2 | 1.3 | 21.3 | 0.7 | 0.1 | 28.5 | 0.5 | 3.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 8.9 | 1.3 | 1.7 | 0.8 | 0.8 | 1.9 | 5.5 | 6.1 | 0.8 | 5.5 | 5.5 | 6.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 49.4 | 20.4 | 13.9 | 44.7 | 32.6 | 35.1 | 58.7 | 27.5 | 22.2 | 66.1 | 27.4 | 30.5 |
| LnGrp LOS | D | C | B | D | C | D | E | C | C | E | C | C |
| Approach Vol, veh/h | | 954 | | | 255 | | | 1507 | | | 1439 | |
| Approach Delay, s/veh | | 41.0 | | | 36.8 | | | 35.8 | | | 33.1 | |
| Approach LOS | | D | | | D | | | D | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 15.0 | 30.8 | 7.7 | 33.7 | 16.0 | 29.8 | 24.0 | 17.4 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 10.5 | 32.0 | 4.2 | 45.3 | 11.5 | 31.0 | 19.5 | 30.0 |
| Max Q Clear Time (g_c+I1), s | 10.9 | 17.6 | 3.7 | 6.9 | 12.3 | 17.8 | 19.6 | 7.1 |
| Green Ext Time (p_c), s | 0.0 | 6.3 | 0.0 | 1.1 | 0.0 | 6.2 | 0.0 | 0.8 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 36.1 |
| HCM 6th LOS | D |

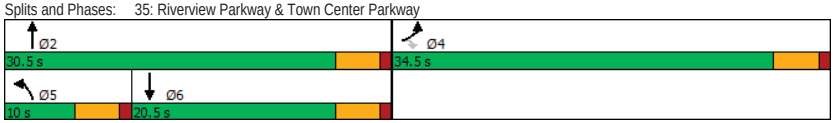




| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 5 | 172 | 145 | 54 | 32 | 2 |
| Future Volume (vph) | 5 | 172 | 145 | 54 | 32 | 2 |
| Confl. Peds. (#/hr) | | | | | | |
| Confl. Bikes (#/hr) | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | Prot | NA | NA | |
| Protected Phases | 4 | | 5 | 2 | 6 | |
| Permitted Phases | | 4 | | | | |
| Detector Phase | 4 | 4 | 5 | 2 | 6 | |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Minimum Split (s) | 34.5 | 34.5 | 8.5 | 25.5 | 20.5 | |
| Total Split (s) | 34.5 | 34.5 | 10.0 | 30.5 | 20.5 | |
| Total Split (%) | 53.1% | 53.1% | 15.4% | 46.9% | 31.5% | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lead/Lag | | | Lead | | Lag | |
| Lead-Lag Optimize? | | | Yes | | Yes | |
| Recall Mode | None | None | None | Min | Min | |

| Intersection Summary |
|---|
| Cycle Length: 65 |
| Actuated Cycle Length: 37.1 |
| Natural Cycle: 65 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 35: Riverview Parkway & Town Center Parkway



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 5 | 172 | 145 | 54 | 32 | 2 |
| Future Volume (veh/h) | 5 | 172 | 145 | 54 | 32 | 2 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 5 | 187 | 158 | 59 | 35 | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 284 | 253 | 200 | 1655 | 569 | 32 |
| Arrive On Green | 0.16 | 0.16 | 0.11 | 0.47 | 0.17 | 0.17 |
| Sat Flow, veh/h | 1781 | 1585 | 1781 | 3647 | 3512 | 194 |
| Grp Volume(v), veh/h | 5 | 187 | 158 | 59 | 18 | 19 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 1781 | 1777 | 1777 | 1836 |
| Q Serve(g_s), s | 0.1 | 2.7 | 2.1 | 0.2 | 0.2 | 0.2 |
| Cycle Q Clear(g_c), s | 0.1 | 2.7 | 2.1 | 0.2 | 0.2 | 0.2 |
| Prop In Lane | 1.00 | 1.00 | 1.00 | | | 0.11 |
| Lane Grp Cap(c), veh/h | 284 | 253 | 200 | 1655 | 296 | 306 |
| V/C Ratio(X) | 0.02 | 0.74 | 0.79 | 0.04 | 0.06 | 0.06 |
| Avail Cap(c_a), veh/h | 2224 | 1979 | 408 | 3846 | 1183 | 1222 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 8.5 | 9.6 | 10.4 | 3.5 | 8.4 | 8.4 |
| Incr Delay (d2), s/veh | 0.0 | 4.2 | 6.9 | 0.0 | 0.1 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.3 | 0.9 | 0.0 | 0.1 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 8.5 | 13.8 | 17.3 | 3.5 | 8.5 | 8.5 |
| LnGrp LOS | A | B | B | A | A | A |
| Approach Vol, veh/h | 192 | | | 217 | 37 | |
| Approach Delay, s/veh | 13.7 | | | 13.5 | 8.5 | |
| Approach LOS | B | | | B | A | |

| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 15.7 | | 8.3 | 7.2 | 8.5 |
| Change Period (Y+Rc), s | | 4.5 | | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | | 26.0 | | 30.0 | 5.5 | 16.0 |
| Max Q Clear Time (g_c+I1), s | | 2.2 | | 4.7 | 4.1 | 2.2 |
| Green Ext Time (p_c), s | | 0.3 | | 0.6 | 0.1 | 0.1 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 13.2 |
| HCM 6th LOS | | B |

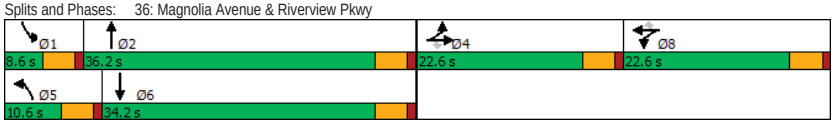




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 1 | 0 | 29 | 50 | 0 | 13 | 58 | 1225 | 46 | 13 | 783 | 7 |
| Future Volume (vph) | 1 | 0 | 29 | 50 | 0 | 13 | 58 | 1225 | 46 | 13 | 783 | 7 |
| Confl. Peds. (#/hr) | | | 8 | | | | | | | | | 1 |
| Confl. Bikes (#/hr) | | | | | | 6 | | | 4 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Split | NA | Perm | Split | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | | | | |
| Detector Phase | 4 | 4 | 4 | 8 | 8 | 8 | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 8.5 | 22.5 | | 8.5 | 22.5 | |
| Total Split (s) | 22.6 | 22.6 | 22.6 | 22.6 | 22.6 | 22.6 | 10.6 | 36.2 | | 8.6 | 34.2 | |
| Total Split (%) | 25.1% | 25.1% | 25.1% | 25.1% | 25.1% | 25.1% | 11.8% | 40.2% | | 9.6% | 38.0% | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | None | None | None | None | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 90 |
| Actuated Cycle Length: 56.2 |
| Natural Cycle: 90 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 36: Magnolia Avenue & Riverview Pkwy



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 1 | 0 | 29 | 50 | 0 | 13 | 58 | 1225 | 46 | 13 | 783 | 7 |
| Future Volume (veh/h) | 1 | 0 | 29 | 50 | 0 | 13 | 58 | 1225 | 46 | 13 | 783 | 7 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.97 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 1 | 0 | 32 | 54 | 0 | 14 | 63 | 1332 | 50 | 14 | 851 | 8 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 85 | 0 | 74 | 89 | 0 | 77 | 85 | 1783 | 67 | 25 | 1723 | 16 |
| Arrive On Green | 0.05 | 0.00 | 0.05 | 0.05 | 0.00 | 0.05 | 0.05 | 0.51 | 0.51 | 0.01 | 0.48 | 0.48 |
| Sat Flow, veh/h | 1781 | 0 | 1540 | 1781 | 0 | 1541 | 1781 | 3489 | 131 | 1781 | 3606 | 34 |
| Grp Volume(v), veh/h | 1 | 0 | 32 | 54 | 0 | 14 | 63 | 677 | 705 | 14 | 419 | 440 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1540 | 1781 | 0 | 1541 | 1781 | 1777 | 1843 | 1781 | 1777 | 1863 |
| Q Serve(g_s), s | 0.0 | 0.0 | 1.0 | 1.4 | 0.0 | 0.4 | 1.7 | 14.4 | 14.4 | 0.4 | 7.7 | 7.7 |
| Cycle Q Clear(g_c), s | 0.0 | 0.0 | 1.0 | 1.4 | 0.0 | 0.4 | 1.7 | 14.4 | 14.4 | 0.4 | 7.7 | 7.7 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.07 | 1.00 | | 0.02 |
| Lane Grp Cap(c), veh/h | 85 | 0 | 74 | 89 | 0 | 77 | 85 | 908 | 942 | 25 | 849 | 890 |
| V/C Ratio(X) | 0.01 | 0.00 | 0.43 | 0.61 | 0.00 | 0.18 | 0.75 | 0.75 | 0.75 | 0.55 | 0.49 | 0.49 |
| Avail Cap(c_a), veh/h | 676 | 0 | 584 | 676 | 0 | 584 | 228 | 1180 | 1224 | 153 | 1106 | 1160 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 21.6 | 0.0 | 22.1 | 22.2 | 0.0 | 21.7 | 22.4 | 9.2 | 9.2 | 23.4 | 8.5 | 8.5 |
| Incr Delay (d2), s/veh | 0.1 | 0.0 | 4.0 | 6.6 | 0.0 | 1.1 | 12.2 | 1.9 | 1.9 | 17.5 | 0.4 | 0.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.0 | 0.4 | 0.7 | 0.0 | 0.2 | 0.9 | 3.9 | 4.1 | 0.3 | 1.9 | 2.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 21.7 | 0.0 | 26.0 | 28.8 | 0.0 | 22.9 | 34.6 | 11.1 | 11.1 | 40.9 | 9.0 | 8.9 |
| LnGrp LOS | C | A | C | C | A | C | C | B | B | D | A | A |
| Approach Vol, veh/h | | 33 | | | 68 | | | 1445 | | | 873 | |
| Approach Delay, s/veh | | 25.9 | | | 27.6 | | | 12.1 | | | 9.5 | |
| Approach LOS | | C | | | C | | | B | | | A | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.2 | 28.9 | | 6.8 | 6.8 | 27.3 | | 6.9 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 4.1 | 31.7 | | 18.1 | 6.1 | 29.7 | | 18.1 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.4 | 16.4 | | 3.0 | 3.7 | 9.7 | | 3.4 | | | | |
| Green Ext Time (p_c), s | 0.0 | 7.9 | | 0.0 | 0.0 | 4.8 | | 0.2 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 11.8 |
| HCM 6th LOS | | B |

HCM 6th Signalized Intersection Summary
N:\2462\Analysis\Intersections\Synchro\6 Existing + Cuml PM.syn



| Intersection | |
|---|---|
| Int Delay, s/veh | 4.8 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 0 | 14 | 0 | 75 | 287 | 669 | 0 | 0 | 256 | 670 |
| Future Vol, veh/h | 0 | 0 | 0 | 14 | 0 | 75 | 287 | 669 | 0 | 0 | 256 | 670 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| Sign Control | Free | Free | Free | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | 190 | - | - | - | - | - |
| Veh in Median Storage, # | - | 2 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 0 | 15 | 0 | 82 | 312 | 727 | 0 | 0 | 278 | 728 |

| Major/Minor | Minor1 | | | Major1 | | | Major2 | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1993 | 2357 | 727 | 1006 | 0 | - | - | - | 0 | |
| Stage 1 | 1351 | 1351 | - | - | - | - | - | - | - | |
| Stage 2 | 642 | 1006 | - | - | - | - | - | - | - | |
| Critical Hdwy | 6.42 | 6.52 | 6.22 | 4.12 | - | - | - | - | - | |
| Critical Hdwy Stg 1 | 5.42 | 5.52 | - | - | - | - | - | - | - | |
| Critical Hdwy Stg 2 | 5.42 | 5.52 | - | - | - | - | - | - | - | |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 2.218 | - | - | - | - | - | |
| Pot Cap-1 Maneuver | 66 | 36 | 424 | 689 | - | 0 | 0 | - | - | |
| Stage 1 | 241 | 219 | - | - | - | 0 | 0 | - | - | |
| Stage 2 | 524 | 319 | - | - | - | 0 | 0 | - | - | |
| Platoon blocked, % | | | | | - | | | - | - | |
| Mov Cap-1 Maneuver | 36 | 0 | 424 | 689 | - | - | - | - | - | |
| Mov Cap-2 Maneuver | 36 | 0 | - | - | - | - | - | - | - | |
| Stage 1 | 132 | 0 | - | - | - | - | - | - | - | |
| Stage 2 | 524 | 0 | - | - | - | - | - | - | - | |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 59.1 | 4.3 | 0 |
| HCM LOS | F | | |

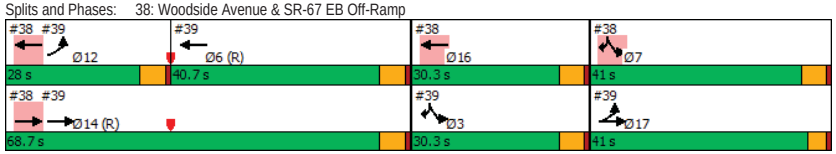
| Minor Lane/Major Mvmt | NBL | NBTWBLn1 | SBT | SBR |
|---|---|---|---|---|
| Capacity (veh/h) | 689 | - 157 | - | - |
| HCM Lane V/C Ratio | 0.453 | - 0.616 | - | - |
| HCM Control Delay (s) | 14.5 | - 59.1 | - | - |
| HCM Lane LOS | B | - F | - | - |
| HCM 95th %tile Q(veh) | 2.4 | - 3.3 | - | - |

HCM 6th TWSC
N:\2462\Analysis\Intersections\Synchro\6 Existing + Cuml PM.syn

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR | Ø3 | Ø6 | Ø12 | Ø16 | Ø17 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 602 | 137 | 0 | 775 | 116 | | | | | |
| Future Volume (vph) | 0 | 602 | 137 | 0 | 775 | 116 | | | | | |
| Confl. Peds. (#/hr) | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | | | |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | | | | | |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| Parking (#/hr) | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | | | | | | |
| Shared Lane Traffic (%) | | | | | | | | | | | |
| Turn Type | | NA | NA | | Prot | Prot | | | | | |
| Protected Phases | | 14 | 12 16 | | 7 | 7 | 3 | 6 | 12 | 16 | 17 |
| Permitted Phases | | | | | | | | | | | |
| Detector Phase | | 14 | 12 16 | | 7 | 7 | | | | | |
| Switch Phase | | | | | | | | | | | |
| Minimum Initial (s) | | 4.0 | | | 8.0 | 8.0 | 5.0 | 5.0 | 5.0 | 2.0 | 5.0 |
| Minimum Split (s) | | 20.0 | | | 27.3 | 27.3 | 30.3 | 29.3 | 24.3 | 20.0 | 9.2 |
| Total Split (s) | | 68.7 | | | 41.0 | 41.0 | 30.3 | 40.7 | 28.0 | 30.3 | 41.0 |
| Total Split (%) | | 49.1% | | | 29.3% | 29.3% | 22% | 29% | 20% | 22% | 29% |
| Yellow Time (s) | | 4.3 | | | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 3.2 |
| All-Red Time (s) | | 1.0 | | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | | 0.0 | | | 0.0 | 0.0 | | | | | |
| Total Lost Time (s) | | 5.3 | | | 5.3 | 5.3 | | | | | |
| Lead/Lag | | | | | | | | Lag | Lead | | |
| Lead-Lag Optimize? | | | | | | | | Yes | Yes | | |
| Recall Mode | | C-Max | | | Max | Max | None | C-Max | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 140 |
| Actuated Cycle Length: 140 |
| Offset: 0 (0%), Referenced to phase 6:WBT and 14:EBT, Start of Green |
| Natural Cycle: 125 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 38: Woodside Avenue & SR-67 EB Off-Ramp








| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 602 | 137 | 0 | 775 | 116 |
| Future Volume (vph) | 0 | 602 | 137 | 0 | 775 | 116 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 5.3 | 5.3 | | 5.3 | 5.3 |
| Lane Util. Factor | | 0.95 | 1.00 | | 0.97 | 1.00 |
| Frt | | 1.00 | 1.00 | | 1.00 | 0.85 |
| Flt Protected | | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | | 3539 | 1863 | | 3433 | 1583 |
| Flt Permitted | | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (perm) | | 3539 | 1863 | | 3433 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 654 | 149 | 0 | 842 | 126 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 22 |
| Lane Group Flow (vph) | 0 | 654 | 149 | 0 | 842 | 104 |
| Turn Type | | NA | NA | | Prot | Prot |
| Protected Phases | | 14 | 12 16 | | 7 | 7 |
| Permitted Phases | | | | | | |
| Actuated Green, G (s) | | 63.4 | 39.6 | | 39.5 | 39.5 |
| Effective Green, g (s) | | 63.4 | 39.6 | | 39.5 | 39.5 |
| Actuated g/C Ratio | | 0.45 | 0.28 | | 0.28 | 0.28 |
| Clearance Time (s) | | 5.3 | | | 5.3 | 5.3 |
| Vehicle Extension (s) | | 1.0 | | | 3.0 | 3.0 |
| Lane Grp Cap (vph) | | 1602 | 526 | | 968 | 446 |
| v/s Ratio Prot | | c0.18 | c0.08 | | c0.25 | 0.07 |
| v/s Ratio Perm | | | | | | |
| v/c Ratio | | 0.41 | 0.28 | | 0.87 | 0.23 |
| Uniform Delay, d1 | | 25.7 | 39.1 | | 47.8 | 38.6 |
| Progression Factor | | 1.00 | 1.19 | | 1.00 | 1.00 |
| Incremental Delay, d2 | | 0.8 | 0.2 | | 10.5 | 1.2 |
| Delay (s) | | 26.5 | 46.7 | | 58.3 | 39.9 |
| Level of Service | | C | D | | E | D |
| Approach Delay (s) | | 26.5 | 46.7 | | 55.9 | |
| Approach LOS | | C | D | | E | |

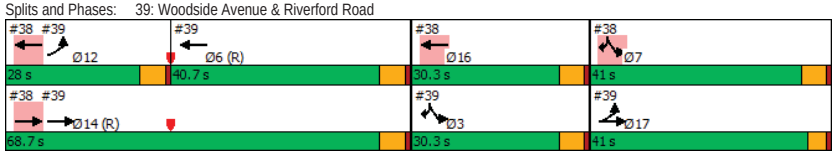
| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 44.3 | HCM 2000 Level of Service | D |
| HCM 2000 Volume to Capacity ratio | 0.56 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 21.2 |
| Intersection Capacity Utilization | 47.6% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR | Ø7 | Ø12 | Ø14 | Ø16 | Ø17 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | |
| Traffic Volume (vph) | 652 | 727 | 106 | 313 | 197 | 36 | | | | | |
| Future Volume (vph) | 652 | 727 | 106 | 313 | 197 | 36 | | | | | |
| Confl. Peds. (#/hr) | | | | | | 2 | | | | | |
| Confl. Bikes (#/hr) | | | | 2 | | 1 | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | | | |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | | | | | |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| Parking (#/hr) | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | | | | | | |
| Shared Lane Traffic (%) | | | | | | | | | | | |
| Turn Type | Prot | NA | NA | | Prot | Prot | | | | | |
| Protected Phases | 12 17 | 14 17 | 6 | | 3 | 3 | 7 | 12 | 14 | 16 | 17 |
| Permitted Phases | | | | | | | | | | | |
| Detector Phase | 12 17 | 14 17 | 6 | | 3 | 3 | | | | | |
| Switch Phase | | | | | | | | | | | |
| Minimum Initial (s) | | | 5.0 | | 5.0 | 5.0 | 8.0 | 5.0 | 4.0 | 2.0 | 5.0 |
| Minimum Split (s) | | | 29.3 | | 30.3 | 30.3 | 27.3 | 24.3 | 20.0 | 20.0 | 9.2 |
| Total Split (s) | | | 40.7 | | 30.3 | 30.3 | 41.0 | 28.0 | 68.7 | 30.3 | 41.0 |
| Total Split (%) | | | 29.1% | | 21.6% | 21.6% | 29% | 20% | 49% | 22% | 29% |
| Yellow Time (s) | | | 4.3 | | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 3.2 |
| All-Red Time (s) | | | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | | | 0.0 | | 0.0 | 0.0 | | | | | |
| Total Lost Time (s) | | | 5.3 | | 5.3 | 5.3 | | | | | |
| Lead/Lag | | | Lag | | | | | Lead | | | |
| Lead-Lag Optimize? | | | Yes | | | | | Yes | | | |
| Recall Mode | | | C-Max | | None | None | Max | None | C-Max | None | None |

| Intersection Summary |
|---|
| Cycle Length: 140 |
| Actuated Cycle Length: 140 |
| Offset: 0 (0%), Referenced to phase 6:WBT and 14:EBT, Start of Green |
| Natural Cycle: 125 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 39: Woodside Avenue & Riverford Road






Existing + Cuml PM
39: Woodside Avenue & Riverford Road
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 652 | 727 | 106 | 313 | 197 | 36 |
| Future Volume (vph) | 652 | 727 | 106 | 313 | 197 | 36 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.3 | 5.3 | 5.3 | | 5.3 | 5.3 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.98 | | 1.00 | 1.00 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.90 | | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | 1770 | 1863 | 1647 | | 1770 | 1583 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (perm) | 1770 | 1863 | 1647 | | 1770 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 709 | 790 | 115 | 340 | 214 | 39 |
| RTOR Reduction (vph) | 0 | 0 | 73 | 0 | 0 | 30 |
| Lane Group Flow (vph) | 709 | 790 | 382 | 0 | 214 | 9 |
| Confl. Peds. (#/hr) | | | | | | 2 |
| Confl. Bikes (#/hr) | | | | 2 | | 1 |
| Turn Type | Prot | NA | NA | | Prot | Prot |
| Protected Phases | 12 17 | 14 17 | 6 | | 3 | 3 |
| Permitted Phases | | | | | | |
| Actuated Green, G (s) | 63.2 | 108.2 | 39.7 | | 21.2 | 21.2 |
| Effective Green, g (s) | 59.0 | 104.0 | 39.7 | | 21.2 | 21.2 |
| Actuated g/C Ratio | 0.42 | 0.74 | 0.28 | | 0.15 | 0.15 |
| Clearance Time (s) | | | 5.3 | | 5.3 | 5.3 |
| Vehicle Extension (s) | | | 3.0 | | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 745 | 1383 | 467 | | 268 | 239 |
| v/s Ratio Prot | c0.40 | 0.42 | c0.23 | | c0.12 | 0.01 |
| v/s Ratio Perm | | | | | | |
| v/c Ratio | 0.95 | 0.57 | 0.82 | | 0.80 | 0.04 |
| Uniform Delay, d1 | 39.1 | 8.0 | 46.8 | | 57.3 | 50.7 |
| Progression Factor | 0.49 | 0.14 | 1.00 | | 1.00 | 1.00 |
| Incremental Delay, d2 | 17.8 | 0.4 | 14.7 | | 15.2 | 0.1 |
| Delay (s) | 37.0 | 1.6 | 61.5 | | 72.5 | 50.8 |
| Level of Service | D | A | E | | E | D |
| Approach Delay (s) | | 18.3 | 61.5 | | 69.2 | |
| Approach LOS | | B | E | | E | |

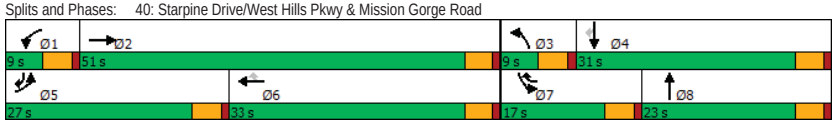
| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 33.0 | HCM 2000 Level of Service | C |
| HCM 2000 Volume to Capacity ratio | 0.89 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 21.2 |
| Intersection Capacity Utilization | 85.8% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 464 | 807 | 24 | 44 | 336 | 148 | 23 | 38 | 59 | 211 | 43 | 314 |
| Future Volume (vph) | 464 | 807 | 24 | 44 | 336 | 148 | 23 | 38 | 59 | 211 | 43 | 314 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | 1 |
| Confl. Bikes (#/hr) | | | 5 | | | 6 | | | | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Prot | NA | | Prot | NA | pm+ov |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 5 |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 5 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 29.5 | | 8.5 | 29.5 | 8.5 | 8.5 | 22.5 | | 8.5 | 29.5 | 8.5 |
| Total Split (s) | 27.0 | 51.0 | | 9.0 | 33.0 | 17.0 | 9.0 | 23.0 | | 17.0 | 31.0 | 27.0 |
| Total Split (%) | 27.0% | 51.0% | | 9.0% | 33.0% | 17.0% | 9.0% | 23.0% | | 17.0% | 31.0% | 27.0% |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | Lead |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | Min | | None | Min | None | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 64.6 |
| Natural Cycle: 80 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 40: Starpine Drive/West Hills Pkwy & Mission Gorge Road








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 464 | 807 | 24 | 44 | 336 | 148 | 23 | 38 | 59 | 211 | 43 | 314 |
| Future Volume (veh/h) | 464 | 807 | 24 | 44 | 336 | 148 | 23 | 38 | 59 | 211 | 43 | 314 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.98 | 1.00 | | 1.00 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 504 | 877 | 26 | 48 | 365 | 161 | 25 | 41 | 64 | 229 | 47 | 341 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 719 | 1284 | 38 | 70 | 697 | 477 | 42 | 73 | 114 | 375 | 366 | 1109 |
| Arrive On Green | 0.21 | 0.36 | 0.36 | 0.04 | 0.20 | 0.20 | 0.02 | 0.11 | 0.11 | 0.11 | 0.20 | 0.20 |
| Sat Flow, veh/h | 3456 | 3521 | 104 | 1781 | 3554 | 1555 | 1781 | 658 | 1027 | 3456 | 1870 | 2706 |
| Grp Volume(v), veh/h | 504 | 443 | 460 | 48 | 365 | 161 | 25 | 0 | 105 | 229 | 47 | 341 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1848 | 1781 | 1777 | 1555 | 1781 | 0 | 1685 | 1728 | 1870 | 1353 |
| Q Serve(g_s), s | 6.5 | 10.1 | 10.1 | 1.3 | 4.4 | 3.8 | 0.7 | 0.0 | 2.8 | 3.0 | 1.0 | 4.1 |
| Cycle Q Clear(g_c), s | 6.5 | 10.1 | 10.1 | 1.3 | 4.4 | 3.8 | 0.7 | 0.0 | 2.8 | 3.0 | 1.0 | 4.1 |
| Prop In Lane | 1.00 | | 0.06 | 1.00 | | 1.00 | 1.00 | | 0.61 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 719 | 648 | 674 | 70 | 697 | 477 | 42 | 0 | 187 | 375 | 366 | 1109 |
| V/C Ratio(X) | 0.70 | 0.68 | 0.68 | 0.68 | 0.52 | 0.34 | 0.59 | 0.00 | 0.56 | 0.61 | 0.13 | 0.31 |
| Avail Cap(c_a), veh/h | 1627 | 1729 | 1798 | 168 | 2119 | 1099 | 168 | 0 | 652 | 904 | 1037 | 2080 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 17.6 | 12.8 | 12.8 | 22.7 | 17.2 | 12.9 | 23.1 | 0.0 | 20.2 | 20.3 | 15.9 | 9.7 |
| Incr Delay (d2), s/veh | 1.3 | 1.3 | 1.2 | 11.1 | 0.6 | 0.4 | 12.6 | 0.0 | 2.6 | 1.6 | 0.2 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.0 | 2.8 | 3.0 | 0.7 | 1.5 | 1.2 | 0.4 | 0.0 | 1.1 | 1.1 | 0.4 | 1.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 18.8 | 14.1 | 14.1 | 33.7 | 17.8 | 13.3 | 35.7 | 0.0 | 22.8 | 22.0 | 16.0 | 9.9 |
| LnGrp LOS | B | B | B | C | B | B | D | A | C | C | B | A |
| Approach Vol, veh/h | | 1407 | | | 574 | | | 130 | | | 617 | |
| Approach Delay, s/veh | | 15.8 | | | 17.9 | | | 25.3 | | | 14.8 | |
| Approach LOS | | B | | | B | | | C | | | B | |

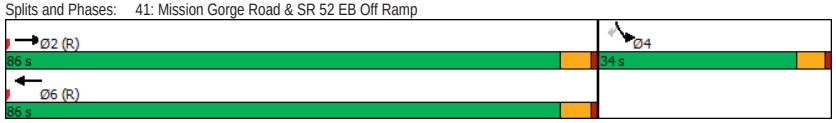
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 6.4 | 21.9 | 5.6 | 13.8 | 14.4 | 13.9 | 9.7 | 9.8 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 4.5 | 46.5 | 4.5 | 26.5 | 22.5 | 28.5 | 12.5 | 18.5 |
| Max Q Clear Time (g_c+I1), s | 3.3 | 12.1 | 2.7 | 6.1 | 8.5 | 6.4 | 5.0 | 4.8 |
| Green Ext Time (p_c), s | 0.0 | 5.4 | 0.0 | 1.5 | 1.5 | 2.6 | 0.4 | 0.4 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 16.5 | |
| HCM 6th LOS | B | |

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 1108 | 657 | 0 | 299 | 42 |
| Future Volume (vph) | 0 | 1108 | 657 | 0 | 299 | 42 |
| Confl. Peds. (#/hr) | | | | | | |
| Confl. Bikes (#/hr) | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | | NA | NA | | Prot | Perm |
| Protected Phases | | 2 | 6 | | 4 | |
| Permitted Phases | | | | | | 4 |
| Detector Phase | | 2 | 6 | | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | | 6.0 | 11.0 | | 10.0 | 10.0 |
| Minimum Split (s) | | 20.0 | 20.0 | | 20.0 | 20.0 |
| Total Split (s) | | 86.0 | 86.0 | | 34.0 | 34.0 |
| Total Split (%) | | 71.7% | 71.7% | | 28.3% | 28.3% |
| Yellow Time (s) | | 4.4 | 4.4 | | 4.1 | 4.1 |
| All-Red Time (s) | | 1.0 | 1.0 | | 1.0 | 1.0 |
| Lost Time Adjust (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | | 5.4 | 5.4 | | 5.1 | 5.1 |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | | C-Min | C-Min | | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green, Master Intersection |
| Natural Cycle: 45 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 41: Mission Gorge Road & SR 52 EB Off Ramp








| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 1108 | 657 | 0 | 299 | 42 |
| Future Volume (veh/h) | 0 | 1108 | 657 | 0 | 299 | 42 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 0 | 1870 | 1870 | 0 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 1204 | 714 | 0 | 325 | 46 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 0 | 2 | 2 | 0 | 2 | 2 |
| Cap, veh/h | 0 | 2824 | 2824 | 0 | 408 | 187 |
| Arrive On Green | 0.00 | 0.79 | 1.00 | 0.00 | 0.12 | 0.12 |
| Sat Flow, veh/h | 0 | 3741 | 3741 | 0 | 3456 | 1585 |
| Grp Volume(v), veh/h | 0 | 1204 | 714 | 0 | 325 | 46 |
| Grp Sat Flow(s),veh/h/ln | 0 | 1777 | 1777 | 0 | 1728 | 1585 |
| Q Serve(g_s), s | 0.0 | 12.6 | 0.0 | 0.0 | 11.0 | 3.2 |
| Cycle Q Clear(g_c), s | 0.0 | 12.6 | 0.0 | 0.0 | 11.0 | 3.2 |
| Prop In Lane | 0.00 | | | 0.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 0 | 2824 | 2824 | 0 | 408 | 187 |
| V/C Ratio(X) | 0.00 | 0.43 | 0.25 | 0.00 | 0.80 | 0.25 |
| Avail Cap(c_a), veh/h | 0 | 2824 | 2824 | 0 | 832 | 382 |
| HCM Platoon Ratio | 1.00 | 1.00 | 2.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.00 | 1.00 | 0.98 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 0.0 | 3.8 | 0.0 | 0.0 | 51.5 | 48.1 |
| Incr Delay (d2), s/veh | 0.0 | 0.5 | 0.2 | 0.0 | 3.6 | 0.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 3.8 | 0.1 | 0.0 | 5.0 | 1.3 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 4.3 | 0.2 | 0.0 | 55.1 | 48.8 |
| LnGrp LOS | A | A | A | A | E | D |
| Approach Vol, veh/h | | 1204 | 714 | | 371 | |
| Approach Delay, s/veh | | 4.3 | 0.2 | | 54.4 | |
| Approach LOS | | A | A | | D | |

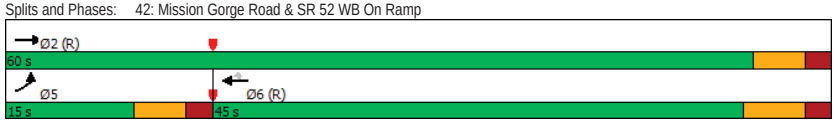
| Timer - Assigned Phs | 2 | | 4 | | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 100.7 | | 19.3 | | 100.7 |
| Change Period (Y+Rc), s | 5.4 | | 5.1 | | 5.4 |
| Max Green Setting (Gmax), s | 80.6 | | 28.9 | | 80.6 |
| Max Q Clear Time (g_c+I1), s | 14.6 | | 13.0 | | 2.0 |
| Green Ext Time (p_c), s | 12.9 | | 1.2 | | 5.4 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 11.1 |
| HCM 6th LOS | B |

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 16 | 1327 | 649 | 165 | 0 | 0 |
| Future Volume (vph) | 16 | 1327 | 649 | 165 | 0 | 0 |
| Confl. Peds. (#/hr) | | | | | | |
| Confl. Bikes (#/hr) | | | | 1 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | |
| Shared Lane Traffic (%) | | | | 10% | | |
| Turn Type | Prot | NA | NA | Perm | | |
| Protected Phases | 5 | 2 | 6 | | | |
| Permitted Phases | | | | 6 | | |
| Detector Phase | 5 | 2 | 6 | 6 | | |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 10.0 | 10.0 | | |
| Minimum Split (s) | 10.7 | 21.0 | 22.4 | 22.4 | | |
| Total Split (s) | 15.0 | 60.0 | 45.0 | 45.0 | | |
| Total Split (%) | 25.0% | 100.0% | 75.0% | 75.0% | | |
| Yellow Time (s) | 3.7 | 3.7 | 4.4 | 4.4 | | |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | | |
| Total Lost Time (s) | 5.7 | 5.7 | 6.4 | 6.4 | | |
| Lead/Lag | Lead | | Lag | Lag | | |
| Lead-Lag Optimize? | Yes | | Yes | Yes | | |
| Recall Mode | None | C-Min | C-Min | C-Min | | |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 60 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 40 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 42: Mission Gorge Road & SR 52 WB On Ramp








| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 16 | 1327 | 649 | 165 | 0 | 0 |
| Future Volume (veh/h) | 16 | 1327 | 649 | 165 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 0.98 | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Work Zone On Approach | | No | No | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | | |
| Adj Flow Rate, veh/h | 17 | 1442 | 705 | 179 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | | |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | | |
| Cap, veh/h | 37 | 3175 | 2909 | 1208 | | |
| Arrive On Green | 0.04 | 1.00 | 1.00 | 1.00 | | |
| Sat Flow, veh/h | 1781 | 3647 | 3741 | 1553 | | |
| Grp Volume(v), veh/h | 17 | 1442 | 705 | 179 | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1870 | 1553 | | |
| Q Serve(g_s), s | 0.6 | 0.0 | 0.0 | 0.0 | | |
| Cycle Q Clear(g_c), s | 0.6 | 0.0 | 0.0 | 0.0 | | |
| Prop In Lane | 1.00 | | | 1.00 | | |
| Lane Grp Cap(c), veh/h | 37 | 3175 | 2909 | 1208 | | |
| V/C Ratio(X) | 0.46 | 0.45 | 0.24 | 0.15 | | |
| Avail Cap(c_a), veh/h | 276 | 3216 | 2909 | 1208 | | |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 2.00 | | |
| Upstream Filter(I) | 0.86 | 0.86 | 0.97 | 0.97 | | |
| Uniform Delay (d), s/veh | 28.4 | 0.0 | 0.0 | 0.0 | | |
| Incr Delay (d2), s/veh | 7.7 | 0.4 | 0.2 | 0.3 | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | | |
| %ile BackOfQ(50%),veh/ln | 0.3 | 0.2 | 0.1 | 0.1 | | |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 36.1 | 0.4 | 0.2 | 0.3 | | |
| LnGrp LOS | D | A | A | A | | |
| Approach Vol, veh/h | | 1459 | 884 | | | |
| Approach Delay, s/veh | | 0.8 | 0.2 | | | |
| Approach LOS | | A | A | | | |

| Timer - Assigned Phs | 2 | | 5 | 6 |
|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 60.0 | | 6.9 | 53.1 |
| Change Period (Y+Rc), s | * 6.4 | | * 5.7 | 6.4 |
| Max Green Setting (Gmax), s | * 54 | | * 9.3 | 38.6 |
| Max Q Clear Time (g_c+I1), s | 2.0 | | 2.6 | 2.0 |
| Green Ext Time (p_c), s | 4.0 | | 0.0 | 5.9 |

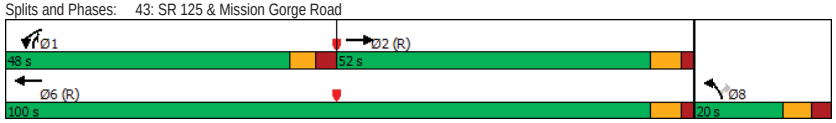
| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 0.6 |
| HCM 6th LOS | A |

| Notes |
|---|
| User approved volume balancing among the lanes for turning movement. |
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. |

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 1101 | 193 | 768 | 722 | 173 | 903 |
| Future Volume (vph) | 1101 | 193 | 768 | 722 | 173 | 903 |
| Confl. Peds. (#/hr) | | 5 | | | | |
| Confl. Bikes (#/hr) | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | NA | | Prot | NA | Prot | pm+ov |
| Protected Phases | 2 | | 1 | 6 | 8 | 1 |
| Permitted Phases | | | | | | 8 |
| Detector Phase | 2 | | 1 | 6 | 8 | 1 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 11.0 | | 5.0 | 10.0 | 5.0 | 5.0 |
| Minimum Split (s) | 17.4 | | 11.7 | 20.0 | 20.0 | 11.7 |
| Total Split (s) | 52.0 | | 48.0 | 100.0 | 20.0 | 48.0 |
| Total Split (%) | 43.3% | | 40.0% | 83.3% | 16.7% | 40.0% |
| Yellow Time (s) | 4.4 | | 3.7 | 4.4 | 4.1 | 3.7 |
| All-Red Time (s) | 2.0 | | 3.0 | 2.0 | 3.0 | 3.0 |
| Lost Time Adjust (s) | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.4 | | 6.7 | 6.4 | 7.1 | 6.7 |
| Lead/Lag | Lag | | Lead | | | Lead |
| Lead-Lag Optimize? | Yes | | Yes | | | Yes |
| Recall Mode | C-Max | | None | C-Max | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 107 (89%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 80 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 43: SR 125 & Mission Gorge Road








| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 1101 | 193 | 768 | 722 | 173 | 903 |
| Future Volume (veh/h) | 1101 | 193 | 768 | 722 | 173 | 903 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | 0.99 | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 1197 | 210 | 835 | 785 | 188 | 982 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 1955 | 343 | 955 | 3983 | 371 | 1071 |
| Arrive On Green | 0.90 | 0.90 | 0.09 | 0.26 | 0.11 | 0.11 |
| Sat Flow, veh/h | 4534 | 766 | 3456 | 5274 | 3456 | 2790 |
| Grp Volume(v), veh/h | 933 | 474 | 835 | 785 | 188 | 982 |
| Grp Sat Flow(s),veh/h/ln | 1702 | 1727 | 1728 | 1702 | 1728 | 1395 |
| Q Serve(g_s), s | 7.6 | 7.6 | 28.6 | 14.4 | 6.2 | 12.9 |
| Cycle Q Clear(g_c), s | 7.6 | 7.6 | 28.6 | 14.4 | 6.2 | 12.9 |
| Prop In Lane | | 0.44 | 1.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 1525 | 774 | 955 | 3983 | 371 | 1071 |
| V/C Ratio(X) | 0.61 | 0.61 | 0.87 | 0.20 | 0.51 | 0.92 |
| Avail Cap(c_a), veh/h | 1525 | 774 | 1189 | 3983 | 371 | 1071 |
| HCM Platoon Ratio | 2.00 | 2.00 | 0.33 | 0.33 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.92 | 0.92 | 0.93 | 0.93 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 3.8 | 3.8 | 52.5 | 15.2 | 50.5 | 35.2 |
| Incr Delay (d2), s/veh | 1.7 | 3.3 | 5.9 | 0.1 | 1.1 | 12.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.8 | 2.1 | 14.0 | 6.6 | 2.7 | 15.2 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 5.5 | 7.2 | 58.4 | 15.3 | 51.7 | 47.4 |
| LnGrp LOS | A | A | E | B | D | D |
| Approach Vol, veh/h | 1407 | | | 1620 | 1170 | |
| Approach Delay, s/veh | 6.1 | | | 37.5 | 48.1 | |
| Approach LOS | A | | | D | D | |

| Timer - Assigned Phs | 1 | 2 | | | 6 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 39.8 | 60.2 | | | 100.0 | 20.0 |
| Change Period (Y+Rc), s | * 6.7 | 6.4 | | | 6.4 | 7.1 |
| Max Green Setting (Gmax), s | * 41 | 45.6 | | | 93.6 | 12.9 |
| Max Q Clear Time (g_c+I1), s | 30.6 | 9.6 | | | 16.4 | 14.9 |
| Green Ext Time (p_c), s | 2.5 | 12.0 | | | 6.1 | 0.0 |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 29.9 | |
| HCM 6th LOS | | C | |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

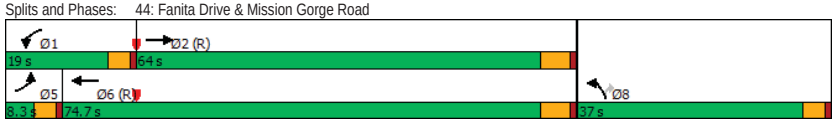
Existing + Cuml PM
44: Fanita Drive & Mission Gorge Road

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 5 | 1574 | 430 | 290 | 1117 | 0 | 348 | 0 | 369 | 0 | 0 | 0 |
| Future Volume (vph) | 5 | 1574 | 430 | 290 | 1117 | 0 | 348 | 0 | 369 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | | | 6 | | | | | | | | | |
| Confl. Bikes (#/hr) | | | 4 | | | 3 | | | 3 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | | Perm | | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | | | | | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | | 8 | | | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 7.0 | | 7.0 | | | |
| Minimum Split (s) | 8.2 | 33.3 | | 8.2 | 20.0 | | 34.2 | | 34.2 | | | |
| Total Split (s) | 8.3 | 64.0 | | 19.0 | 74.7 | | 37.0 | | 37.0 | | | |
| Total Split (%) | 6.9% | 53.3% | | 15.8% | 62.3% | | 30.8% | | 30.8% | | | |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | | 3.2 | | 3.2 | | | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | | 1.0 | | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | | 0.0 | | | |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | | 4.2 | | 4.2 | | | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | | None | | | |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 9 (8%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 90 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 44: Fanita Drive & Mission Gorge Road




Timings
N:\2462\Analysis\Intersections\Synchro\6 Existing + Cuml PM.syn

Existing + Cuml PM
44: Fanita Drive & Mission Gorge Road

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 5 | 1574 | 430 | 290 | 1117 | 0 | 348 | 0 | 369 | 0 | 0 | 0 |
| Future Volume (veh/h) | 5 | 1574 | 430 | 290 | 1117 | 0 | 348 | 0 | 369 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 1.00 | 1.00 | | 1.00 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 0 | 1870 | 0 | 1870 | | | |
| Adj Flow Rate, veh/h | 5 | 1711 | 467 | 315 | 1214 | 0 | 378 | 0 | 401 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 0 | 2 | 0 | 2 | | | |
| Cap, veh/h | 9 | 2034 | 541 | 371 | 3127 | 0 | 927 | 0 | 425 | | | |
| Arrive On Green | 0.01 | 0.51 | 0.51 | 0.11 | 0.61 | 0.00 | 0.27 | 0.00 | 0.27 | | | |
| Sat Flow, veh/h | 1781 | 3986 | 1061 | 3456 | 5274 | 0 | 3456 | 0 | 1585 | | | |
| Grp Volume(v), veh/h | 5 | 1455 | 723 | 315 | 1214 | 0 | 378 | 0 | 401 | | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1702 | 1643 | 1728 | 1702 | 0 | 1728 | 0 | 1585 | | | |
| Q Serve(g_s), s | 0.3 | 43.9 | 46.2 | 10.7 | 14.5 | 0.0 | 10.8 | 0.0 | 29.7 | | | |
| Cycle Q Clear(g_c), s | 0.3 | 43.9 | 46.2 | 10.7 | 14.5 | 0.0 | 10.8 | 0.0 | 29.7 | | | |
| Prop In Lane | 1.00 | | 0.65 | 1.00 | | 0.00 | 1.00 | | 1.00 | | | |
| Lane Grp Cap(c), veh/h | 9 | 1737 | 838 | 371 | 3127 | 0 | 927 | 0 | 425 | | | |
| V/C Ratio(X) | 0.55 | 0.84 | 0.86 | 0.85 | 0.39 | 0.00 | 0.41 | 0.00 | 0.94 | | | |
| Avail Cap(c_a), veh/h | 61 | 1737 | 838 | 426 | 3127 | 0 | 945 | 0 | 433 | | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 0.65 | 0.65 | 0.65 | 0.85 | 0.85 | 0.00 | 1.00 | 0.00 | 1.00 | | | |
| Uniform Delay (d), s/veh | 59.6 | 25.1 | 25.7 | 52.6 | 11.8 | 0.0 | 36.1 | 0.0 | 43.0 | | | |
| Incr Delay (d2), s/veh | 29.4 | 3.3 | 7.8 | 10.4 | 0.3 | 0.0 | 0.3 | 0.0 | 29.2 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ln | 0.2 | 17.3 | 18.6 | 5.1 | 5.2 | 0.0 | 4.5 | 0.0 | 14.7 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 89.0 | 28.5 | 33.5 | 63.0 | 12.1 | 0.0 | 36.4 | 0.0 | 72.2 | | | |
| LnGrp LOS | F | C | C | E | B | A | D | A | E | | | |
| Approach Vol, veh/h | | 2183 | | | 1529 | | | 779 | | | | |
| Approach Delay, s/veh | | 30.3 | | | 22.6 | | | 54.9 | | | | |
| Approach LOS | | C | | | C | | | D | | | | |

| Timer - Assigned Phs | 1 | 2 | | 5 | 6 | | 8 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 17.1 | 66.5 | | 4.8 | 78.8 | | 36.4 | | | | | |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | | * 4.2 | 5.3 | | 4.2 | | | | | |
| Max Green Setting (Gmax), s | * 15 | 58.7 | | * 4.1 | 69.4 | | 32.8 | | | | | |
| Max Q Clear Time (g_c+I1), s | 12.7 | 48.2 | | 2.3 | 16.5 | | 31.7 | | | | | |
| Green Ext Time (p_c), s | 0.1 | 9.1 | | 0.0 | 13.1 | | 0.4 | | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 31.9 | |
| HCM 6th LOS | C | |

Notes

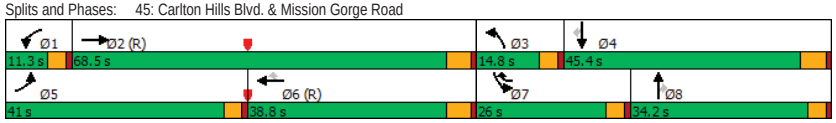
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
N:\2462\Analysis\Intersections\Synchro\6 Existing + Cuml PM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 675 | 1185 | 68 | 34 | 878 | 499 | 59 | 84 | 22 | 358 | 33 | 521 |
| Future Volume (vph) | 675 | 1185 | 68 | 34 | 878 | 499 | 59 | 84 | 22 | 358 | 33 | 521 |
| Confl. Peds. (#/hr) | | | 8 | | | | | | 8 | | | 2 |
| Confl. Bikes (#/hr) | | | 1 | | | 2 | | | 1 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | 47% |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | 6 | | | 8 | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | 8 | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 23.3 | | 8.2 | 34.3 | 8.2 | 8.2 | 34.2 | 34.2 | 8.2 | 32.4 | 32.4 |
| Total Split (s) | 41.0 | 68.5 | | 11.3 | 38.8 | 26.0 | 14.8 | 34.2 | 34.2 | 26.0 | 45.4 | 45.4 |
| Total Split (%) | 29.3% | 48.9% | | 8.1% | 27.7% | 18.6% | 10.6% | 24.4% | 24.4% | 18.6% | 32.4% | 32.4% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | 3.2 | 3.2 | 3.2 | 3.2 | 3.2 | 4.4 | 4.4 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | 4.2 | 4.2 | 4.2 | 4.2 | 4.2 | 5.4 | 5.4 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | C-Min | | None | C-Min | None | None | None | None | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 140 |
| Actuated Cycle Length: 140 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 115 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 45: Carlton Hills Blvd. & Mission Gorge Road








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 675 | 1185 | 68 | 34 | 878 | 499 | 59 | 84 | 22 | 358 | 33 | 521 |
| Future Volume (veh/h) | 675 | 1185 | 68 | 34 | 878 | 499 | 59 | 84 | 22 | 358 | 33 | 521 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.99 | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 734 | 1288 | 74 | 37 | 954 | 542 | 64 | 91 | 24 | 389 | 0 | 533 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 791 | 2952 | 170 | 48 | 2025 | 817 | 82 | 213 | 174 | 443 | 0 | 608 |
| Arrive On Green | 0.23 | 0.60 | 0.60 | 0.03 | 0.40 | 0.40 | 0.05 | 0.11 | 0.11 | 0.12 | 0.00 | 0.19 |
| Sat Flow, veh/h | 3456 | 4931 | 283 | 1781 | 5106 | 1564 | 1781 | 1870 | 1530 | 3563 | 0 | 3160 |
| Grp Volume(v), veh/h | 734 | 889 | 473 | 37 | 954 | 542 | 64 | 91 | 24 | 389 | 0 | 533 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1702 | 1810 | 1781 | 1702 | 1564 | 1781 | 1870 | 1530 | 1781 | 0 | 1580 |
| Q Serve(g_s), s | 29.1 | 19.9 | 19.9 | 2.9 | 19.4 | 35.6 | 5.0 | 6.3 | 2.0 | 15.0 | 0.0 | 22.9 |
| Cycle Q Clear(g_c), s | 29.1 | 19.9 | 19.9 | 2.9 | 19.4 | 35.6 | 5.0 | 6.3 | 2.0 | 15.0 | 0.0 | 22.9 |
| Prop In Lane | 1.00 | | 0.16 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 791 | 2038 | 1084 | 48 | 2025 | 817 | 82 | 213 | 174 | 443 | 0 | 608 |
| V/C Ratio(X) | 0.93 | 0.44 | 0.44 | 0.78 | 0.47 | 0.66 | 0.78 | 0.43 | 0.14 | 0.88 | 0.00 | 0.88 |
| Avail Cap(c_a), veh/h | 908 | 2038 | 1084 | 90 | 2025 | 817 | 135 | 401 | 328 | 555 | 0 | 903 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.50 | 0.50 | 0.50 | 0.80 | 0.80 | 0.80 | 1.00 | 1.00 | 1.00 | 0.84 | 0.00 | 0.84 |
| Uniform Delay (d), s/veh | 52.9 | 15.3 | 15.3 | 67.7 | 31.3 | 24.6 | 66.1 | 57.8 | 55.8 | 60.3 | 0.0 | 54.9 |
| Incr Delay (d2), s/veh | 7.7 | 0.3 | 0.6 | 7.9 | 0.6 | 3.4 | 14.9 | 0.5 | 0.1 | 9.5 | 0.0 | 5.8 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 13.3 | 7.5 | 8.0 | 1.4 | 8.0 | 13.8 | 2.6 | 3.1 | 0.8 | 7.3 | 0.0 | 9.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 60.6 | 15.6 | 15.9 | 75.7 | 32.0 | 28.0 | 81.0 | 58.3 | 56.0 | 69.7 | 0.0 | 60.7 |
| LnGrp LOS | E | B | B | E | C | C | F | E | E | E | A | E |
| Approach Vol, veh/h | | 2096 | | | 1533 | | | 179 | | | 922 | |
| Approach Delay, s/veh | | 31.4 | | | 31.6 | | | 66.1 | | | 64.5 | |
| Approach LOS | | C | | | C | | | E | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.9 | 89.1 | 10.6 | 32.3 | 36.2 | 60.8 | 21.6 | 21.3 |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | * 4.2 | 5.4 | * 4.2 | 5.3 | * 4.2 | * 5.4 |
| Max Green Setting (Gmax), s | * 7.1 | 63.2 | * 11 | 40.0 | * 37 | 33.5 | * 22 | * 30 |
| Max Q Clear Time (g_c+I1), s | 4.9 | 21.9 | 7.0 | 24.9 | 31.1 | 37.6 | 17.0 | 8.3 |
| Green Ext Time (p_c), s | 0.0 | 13.3 | 0.0 | 2.0 | 0.9 | 0.0 | 0.4 | 0.3 |

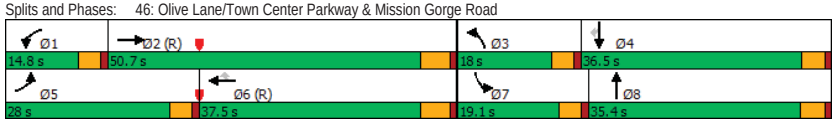
| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 39.2 | |
| HCM 6th LOS | | D | |

| Notes |
|---|
| User approved volume balancing among the lanes for turning movement. |
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 616 | 989 | 105 | 69 | 589 | 341 | 326 | 219 | 49 | 336 | 183 | 534 |
| Future Volume (vph) | 616 | 989 | 105 | 69 | 589 | 341 | 326 | 219 | 49 | 336 | 183 | 534 |
| Confl. Peds. (#/hr) | | | 9 | | | 16 | | | 3 | | | 6 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | Perm | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | 10.0 | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 26.3 | | 8.2 | 36.3 | 36.3 | 8.2 | 34.6 | | 8.2 | 36.5 | 36.5 |
| Total Split (s) | 28.0 | 50.7 | | 14.8 | 37.5 | 37.5 | 18.0 | 35.4 | | 19.1 | 36.5 | 36.5 |
| Total Split (%) | 23.3% | 42.3% | | 12.3% | 31.3% | 31.3% | 15.0% | 29.5% | | 15.9% | 30.4% | 30.4% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | 4.3 | 3.2 | 3.6 | | 3.2 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | 5.3 | 4.2 | 4.6 | | 4.2 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | C-Min | | None | C-Min | C-Min | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 61 (51%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 110 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 46: Olive Lane/Town Center Parkway & Mission Gorge Road








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 616 | 989 | 105 | 69 | 589 | 341 | 326 | 219 | 49 | 336 | 183 | 534 |
| Future Volume (veh/h) | 616 | 989 | 105 | 69 | 589 | 341 | 326 | 219 | 49 | 336 | 183 | 534 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 1.00 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 670 | 1075 | 114 | 75 | 640 | 371 | 354 | 238 | 53 | 365 | 199 | 580 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 685 | 2031 | 215 | 96 | 1475 | 450 | 397 | 354 | 79 | 418 | 459 | 679 |
| Arrive On Green | 0.20 | 0.43 | 0.43 | 0.05 | 0.29 | 0.29 | 0.12 | 0.24 | 0.24 | 0.12 | 0.25 | 0.25 |
| Sat Flow, veh/h | 3456 | 4683 | 496 | 1781 | 5106 | 1559 | 3456 | 1480 | 330 | 3456 | 1870 | 2769 |
| Grp Volume(v), veh/h | 670 | 781 | 408 | 75 | 640 | 371 | 354 | 0 | 291 | 365 | 199 | 580 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1702 | 1775 | 1781 | 1702 | 1559 | 1728 | 0 | 1810 | 1728 | 1870 | 1385 |
| Q Serve(g_s), s | 23.1 | 20.2 | 20.3 | 5.0 | 12.2 | 26.7 | 12.1 | 0.0 | 17.5 | 12.5 | 10.8 | 24.0 |
| Cycle Q Clear(g_c), s | 23.1 | 20.2 | 20.3 | 5.0 | 12.2 | 26.7 | 12.1 | 0.0 | 17.5 | 12.5 | 10.8 | 24.0 |
| Prop In Lane | 1.00 | | 0.28 | 1.00 | | 1.00 | 1.00 | | 0.18 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 685 | 1476 | 770 | 96 | 1475 | 450 | 397 | 0 | 433 | 418 | 459 | 679 |
| V/C Ratio(X) | 0.98 | 0.53 | 0.53 | 0.79 | 0.43 | 0.82 | 0.89 | 0.00 | 0.67 | 0.87 | 0.43 | 0.85 |
| Avail Cap(c_a), veh/h | 685 | 1476 | 770 | 157 | 1475 | 450 | 397 | 0 | 464 | 429 | 499 | 738 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.84 | 0.84 | 0.84 | 0.75 | 0.75 | 0.75 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 47.8 | 25.0 | 25.0 | 56.1 | 34.7 | 39.8 | 52.4 | 0.0 | 41.4 | 51.9 | 38.2 | 43.2 |
| Incr Delay (d2), s/veh | 25.9 | 1.1 | 2.2 | 4.0 | 0.7 | 12.2 | 20.8 | 0.0 | 4.0 | 16.7 | 1.2 | 10.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 12.2 | 8.1 | 8.7 | 2.3 | 5.1 | 11.7 | 6.4 | 0.0 | 8.3 | 6.4 | 5.1 | 9.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 73.7 | 26.1 | 27.2 | 60.1 | 35.4 | 52.0 | 73.1 | 0.0 | 45.4 | 68.6 | 39.5 | 53.2 |
| LnGrp LOS | E | C | C | E | D | D | E | A | D | E | D | D |
| Approach Vol, veh/h | | 1859 | | | 1086 | | | 645 | | | 1144 | |
| Approach Delay, s/veh | | 43.5 | | | 42.8 | | | 60.6 | | | 55.7 | |
| Approach LOS | | D | | | D | | | E | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 10.6 | 57.3 | 18.0 | 34.0 | 28.0 | 40.0 | 18.7 | 33.3 |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | * 4.2 | * 4.6 | * 4.2 | 5.3 | * 4.2 | 4.6 |
| Max Green Setting (Gmax), s | * 11 | 45.4 | * 14 | * 32 | * 24 | 32.2 | * 15 | 30.8 |
| Max Q Clear Time (g_c+I1), s | 7.0 | 22.3 | 14.1 | 26.0 | 25.1 | 28.7 | 14.5 | 19.5 |
| Green Ext Time (p_c), s | 0.0 | 9.4 | 0.0 | 3.0 | 0.0 | 2.3 | 0.0 | 1.7 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 48.6 |
| HCM 6th LOS | D |

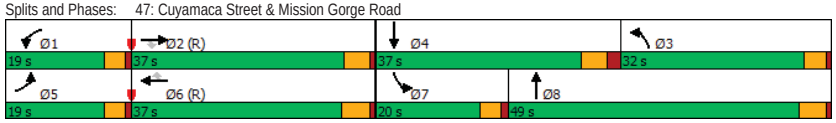
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 278 | 645 | 322 | 283 | 507 | 182 | 584 | 824 | 195 | 305 | 838 | 147 |
| Future Volume (vph) | 278 | 645 | 322 | 283 | 507 | 182 | 584 | 824 | 195 | 305 | 838 | 147 |
| Confl. Peds. (#/hr) | | | 31 | | | 31 | | | 34 | | | 23 |
| Confl. Bikes (#/hr) | | | 4 | | | 2 | | | 3 | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | 10.0 | 4.0 | 7.0 | | 4.0 | 15.0 | |
| Minimum Split (s) | 19.0 | 34.8 | 34.8 | 8.2 | 34.3 | 34.3 | 8.2 | 38.0 | | 8.2 | 37.0 | |
| Total Split (s) | 19.0 | 37.0 | 37.0 | 19.0 | 37.0 | 37.0 | 32.0 | 49.0 | | 20.0 | 37.0 | |
| Total Split (%) | 15.2% | 29.6% | 29.6% | 15.2% | 29.6% | 29.6% | 25.6% | 39.2% | | 16.0% | 29.6% | |
| Yellow Time (s) | 3.2 | 3.8 | 3.8 | 3.2 | 4.3 | 4.3 | 3.2 | 4.0 | | 3.2 | 4.0 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 2.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.2 | 4.8 | 4.8 | 4.2 | 5.3 | 5.3 | 4.2 | 5.0 | | 4.2 | 6.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lag | Lag | | Lead | Lead | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | C-Min | C-Min | None | C-Min | C-Min | None | None | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 125 |
| Actuated Cycle Length: 125 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green, Master Intersection |
| Natural Cycle: 110 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 47: Cuyamaca Street & Mission Gorge Road








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 278 | 645 | 322 | 283 | 507 | 182 | 584 | 824 | 195 | 305 | 838 | 147 |
| Future Volume (veh/h) | 278 | 645 | 322 | 283 | 507 | 182 | 584 | 824 | 195 | 305 | 838 | 147 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.96 | 1.00 | | 0.96 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1683 | 1683 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 302 | 701 | 350 | 308 | 551 | 198 | 635 | 896 | 212 | 332 | 911 | 160 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 356 | 1441 | 426 | 362 | 1449 | 429 | 703 | 895 | 212 | 386 | 1067 | 186 |
| Arrive On Green | 0.10 | 0.28 | 0.28 | 0.10 | 0.28 | 0.28 | 0.20 | 0.35 | 0.35 | 0.11 | 0.25 | 0.25 |
| Sat Flow, veh/h | 3456 | 5106 | 1510 | 3456 | 5106 | 1513 | 3456 | 2542 | 601 | 3456 | 4340 | 758 |
| Grp Volume(v), veh/h | 302 | 701 | 350 | 308 | 551 | 198 | 635 | 563 | 545 | 332 | 714 | 357 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1702 | 1510 | 1728 | 1702 | 1513 | 1728 | 1599 | 1544 | 1728 | 1702 | 1694 |
| Q Serve(g_s), s | 10.7 | 14.3 | 16.3 | 11.0 | 10.8 | 13.5 | 22.4 | 44.0 | 44.0 | 11.8 | 25.0 | 25.2 |
| Cycle Q Clear(g_c), s | 10.7 | 14.3 | 16.3 | 11.0 | 10.8 | 13.5 | 22.4 | 44.0 | 44.0 | 11.8 | 25.0 | 25.2 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.39 | 1.00 | | 0.45 |
| Lane Grp Cap(c), veh/h | 356 | 1441 | 426 | 362 | 1449 | 429 | 703 | 563 | 543 | 386 | 837 | 417 |
| V/C Ratio(X) | 0.85 | 0.49 | 0.82 | 0.85 | 0.38 | 0.46 | 0.90 | 1.00 | 1.00 | 0.86 | 0.85 | 0.86 |
| Avail Cap(c_a), veh/h | 409 | 1441 | 426 | 409 | 1449 | 429 | 769 | 563 | 543 | 437 | 844 | 420 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.78 | 0.78 | 0.78 | 0.94 | 0.94 | 0.94 | 0.09 | 0.09 | 0.09 | 0.80 | 0.80 | 0.80 |
| Uniform Delay (d), s/veh | 55.1 | 37.3 | 15.2 | 55.0 | 35.9 | 36.9 | 48.6 | 40.5 | 40.5 | 54.6 | 45.0 | 45.0 |
| Incr Delay (d2), s/veh | 10.0 | 0.9 | 13.0 | 12.4 | 0.7 | 3.3 | 1.4 | 11.5 | 12.1 | 11.0 | 7.9 | 15.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 5.1 | 6.0 | 7.0 | 5.3 | 4.5 | 5.3 | 9.7 | 18.6 | 18.1 | 5.7 | 11.3 | 12.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 65.1 | 38.3 | 28.2 | 67.4 | 36.7 | 40.2 | 50.0 | 52.0 | 52.6 | 65.5 | 52.8 | 60.1 |
| LnGrp LOS | E | D | C | E | D | D | D | F | F | E | D | E |
| Approach Vol, veh/h | | 1353 | | | 1057 | | | 1743 | | | 1403 | |
| Approach Delay, s/veh | | 41.7 | | | 46.3 | | | 51.5 | | | 57.7 | |
| Approach LOS | | D | | | D | | | D | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 17.3 | 40.6 | 30.4 | 36.7 | 17.1 | 40.8 | 18.2 | 49.0 |
| Change Period (Y+Rc), s | * 4.2 | * 5.3 | 5.0 | * 6 | * 4.2 | 5.3 | * 4.2 | 5.0 |
| Max Green Setting (Gmax), s | * 15 | * 32 | 27.8 | * 31 | * 15 | 31.7 | * 16 | 44.0 |
| Max Q Clear Time (g_c+I1), s | 13.0 | 18.3 | 24.4 | 27.2 | 12.7 | 15.5 | 13.8 | 46.0 |
| Green Ext Time (p_c), s | 0.1 | 9.3 | 0.6 | 3.1 | 0.1 | 6.0 | 0.2 | 0.0 |

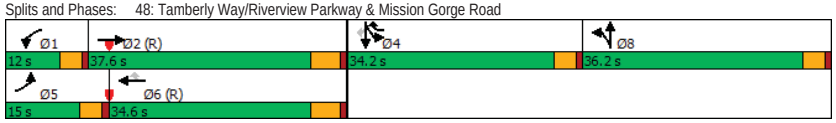
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 49.7 | |
| HCM 6th LOS | D | |

| Notes |
|---|
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 145 | 972 | 23 | 43 | 814 | 174 | 44 | 11 | 44 | 254 | 16 | 113 |
| Future Volume (vph) | 145 | 972 | 23 | 43 | 814 | 174 | 44 | 11 | 44 | 254 | 16 | 113 |
| Confl. Peds. (#/hr) | | | 13 | | | 13 | | | 10 | | | 8 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | 2 | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | 47% | | |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Split | NA | | Split | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 4 | 8 | 8 | | 4 | 4 | |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 4 | 8 | 8 | | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | 7.0 | 4.0 | 4.0 | | 7.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 23.3 | | 8.2 | 34.3 | 34.2 | 36.2 | 36.2 | | 34.2 | 34.2 | 34.2 |
| Total Split (s) | 15.0 | 37.6 | | 12.0 | 34.6 | 34.2 | 36.2 | 36.2 | | 34.2 | 34.2 | 34.2 |
| Total Split (%) | 12.5% | 31.3% | | 10.0% | 28.8% | 28.5% | 30.2% | 30.2% | | 28.5% | 28.5% | 28.5% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | 3.2 | 3.2 | 3.2 | | 3.2 | 3.2 | 3.2 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | 4.2 | 4.2 | 4.2 | | 4.2 | 4.2 | 4.2 |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | None | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 34 (28%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 115 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 48: Tamberly Way/Riverview Parkway & Mission Gorge Road








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 145 | 972 | 23 | 43 | 814 | 174 | 44 | 11 | 44 | 254 | 16 | 113 |
| Future Volume (veh/h) | 145 | 972 | 23 | 43 | 814 | 174 | 44 | 11 | 44 | 254 | 16 | 113 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.95 | 1.00 | | 0.96 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 158 | 1057 | 25 | 47 | 885 | 189 | 48 | 12 | 48 | 288 | 0 | 123 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 160 | 3133 | 74 | 60 | 2832 | 1051 | 155 | 27 | 109 | 425 | 0 | 182 |
| Arrive On Green | 0.09 | 0.61 | 0.61 | 0.07 | 1.00 | 1.00 | 0.09 | 0.09 | 0.09 | 0.12 | 0.00 | 0.12 |
| Sat Flow, veh/h | 1781 | 5130 | 121 | 1781 | 5106 | 1554 | 1781 | 313 | 1253 | 3563 | 0 | 1529 |
| Grp Volume(v), veh/h | 158 | 701 | 381 | 47 | 885 | 189 | 48 | 0 | 60 | 288 | 0 | 123 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1702 | 1847 | 1781 | 1702 | 1554 | 1781 | 0 | 1566 | 1781 | 0 | 1529 |
| Q Serve(g_s), s | 10.6 | 12.1 | 12.1 | 3.1 | 0.0 | 0.0 | 3.0 | 0.0 | 4.4 | 9.3 | 0.0 | 9.2 |
| Cycle Q Clear(g_c), s | 10.6 | 12.1 | 12.1 | 3.1 | 0.0 | 0.0 | 3.0 | 0.0 | 4.4 | 9.3 | 0.0 | 9.2 |
| Prop In Lane | 1.00 | | 0.07 | 1.00 | | 1.00 | 1.00 | | 0.80 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 160 | 2079 | 1128 | 60 | 2832 | 1051 | 155 | 0 | 136 | 425 | 0 | 182 |
| V/C Ratio(X) | 0.99 | 0.34 | 0.34 | 0.78 | 0.31 | 0.18 | 0.31 | 0.00 | 0.44 | 0.68 | 0.00 | 0.67 |
| Avail Cap(c_a), veh/h | 160 | 2079 | 1128 | 116 | 2832 | 1051 | 475 | 0 | 418 | 891 | 0 | 382 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.70 | 0.70 | 0.70 | 0.98 | 0.98 | 0.98 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 54.5 | 11.4 | 11.5 | 55.5 | 0.0 | 0.0 | 51.4 | 0.0 | 52.0 | 50.6 | 0.0 | 50.6 |
| Incr Delay (d2), s/veh | 55.1 | 0.3 | 0.6 | 7.8 | 0.3 | 0.4 | 0.4 | 0.0 | 0.8 | 0.7 | 0.0 | 1.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 7.1 | 4.3 | 4.8 | 1.5 | 0.1 | 0.1 | 1.4 | 0.0 | 1.7 | 4.2 | 0.0 | 3.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 109.6 | 11.8 | 12.0 | 63.3 | 0.3 | 0.4 | 51.8 | 0.0 | 52.8 | 51.3 | 0.0 | 52.2 |
| LnGrp LOS | F | B | B | E | A | A | D | A | D | D | A | D |
| Approach Vol, veh/h | | 1240 | | | 1121 | | | 108 | | | 411 | |
| Approach Delay, s/veh | | 24.3 | | | 2.9 | | | 52.4 | | | 51.6 | |
| Approach LOS | | C | | | A | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 8.3 | 78.6 | | 18.5 | 15.0 | 71.8 | | 14.6 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | | * 4.2 | * 4.2 | 5.3 | | 4.2 | | | | |
| Max Green Setting (Gmax), s | * 7.8 | 32.3 | | * 30 | * 11 | 29.3 | | 32.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 5.1 | 14.1 | | 11.3 | 12.6 | 2.0 | | 6.4 | | | | |
| Green Ext Time (p_c), s | 0.0 | 10.4 | | 0.7 | 0.0 | 11.8 | | 0.3 | | | | |

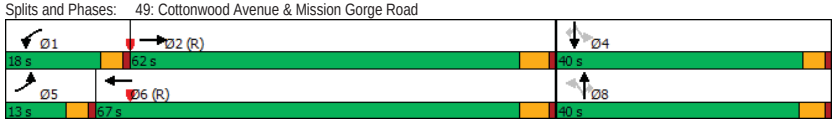
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 20.9 | |
| HCM 6th LOS | C | |

| Notes |
|---|
| User approved volume balancing among the lanes for turning movement. |
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 17 | 1176 | 100 | 55 | 852 | 4 | 92 | 1 | 83 | 3 | 2 | 9 |
| Future Volume (vph) | 17 | 1176 | 100 | 55 | 852 | 4 | 92 | 1 | 83 | 3 | 2 | 9 |
| Confl. Peds. (#/hr) | | | 3 | | | 14 | | | 1 | | | 4 |
| Confl. Bikes (#/hr) | | | 3 | | | 1 | | | 2 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Perm | NA | Perm | Perm | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | 8 | 4 | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | 8 | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 4.0 | 4.0 | 4.0 | 7.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 23.3 | | 8.2 | 24.3 | | 33.8 | 33.8 | 33.8 | 32.2 | 32.2 | 32.2 |
| Total Split (s) | 13.0 | 62.0 | | 18.0 | 67.0 | | 40.0 | 40.0 | 40.0 | 40.0 | 40.0 | 40.0 |
| Total Split (%) | 10.8% | 51.7% | | 15.0% | 55.8% | | 33.3% | 33.3% | 33.3% | 33.3% | 33.3% | 33.3% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | | 3.8 | 3.8 | 3.8 | 3.2 | 3.2 | 3.2 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | | | 4.8 | 4.8 | | 4.2 | 4.2 |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | None | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 44 (37%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 70 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 49: Cottonwood Avenue & Mission Gorge Road








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 17 | 1176 | 100 | 55 | 852 | 4 | 92 | 1 | 83 | 3 | 2 | 9 |
| Future Volume (veh/h) | 17 | 1176 | 100 | 55 | 852 | 4 | 92 | 1 | 83 | 3 | 2 | 9 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 0.99 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 18 | 1278 | 109 | 60 | 926 | 4 | 100 | 1 | 90 | 3 | 2 | 10 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 27 | 2579 | 220 | 77 | 2977 | 13 | 60 | 0 | 466 | 48 | 21 | 465 |
| Arrive On Green | 0.03 | 1.00 | 1.00 | 0.09 | 1.00 | 1.00 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 |
| Sat Flow, veh/h | 1781 | 4781 | 408 | 1781 | 5247 | 23 | 0 | 1 | 1562 | 0 | 70 | 1559 |
| Grp Volume(v), veh/h | 18 | 910 | 477 | 60 | 601 | 329 | 101 | 0 | 90 | 5 | 0 | 10 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1702 | 1785 | 1781 | 1702 | 1865 | 1 | 0 | 1562 | 70 | 0 | 1559 |
| Q Serve(g_s), s | 1.2 | 0.0 | 0.0 | 4.0 | 0.0 | 0.0 | 0.0 | 0.0 | 5.1 | 0.0 | 0.0 | 0.5 |
| Cycle Q Clear(g_c), s | 1.2 | 0.0 | 0.0 | 4.0 | 0.0 | 0.0 | 35.8 | 0.0 | 5.1 | 35.8 | 0.0 | 0.5 |
| Prop In Lane | 1.00 | | 0.23 | 1.00 | | 0.01 | 0.99 | | 1.00 | 0.60 | | 1.00 |
| Lane Grp Cap(c), veh/h | 27 | 1836 | 963 | 77 | 1932 | 1059 | 60 | 0 | 466 | 69 | 0 | 465 |
| V/C Ratio(X) | 0.67 | 0.50 | 0.50 | 0.78 | 0.31 | 0.31 | 1.68 | 0.00 | 0.19 | 0.07 | 0.00 | 0.02 |
| Avail Cap(c_a), veh/h | 131 | 1836 | 963 | 205 | 1932 | 1059 | 60 | 0 | 466 | 69 | 0 | 465 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.92 | 0.92 | 0.92 | 0.70 | 0.70 | 0.70 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 57.9 | 0.0 | 0.0 | 54.3 | 0.0 | 0.0 | 59.8 | 0.0 | 31.3 | 34.6 | 0.0 | 29.7 |
| Incr Delay (d2), s/veh | 9.5 | 0.9 | 1.7 | 4.5 | 0.3 | 0.5 | 367.9 | 0.0 | 0.1 | 0.2 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.6 | 0.2 | 0.4 | 1.8 | 0.1 | 0.2 | 8.0 | 0.0 | 2.0 | 0.1 | 0.0 | 0.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 67.4 | 0.9 | 1.7 | 58.7 | 0.3 | 0.5 | 427.7 | 0.0 | 31.4 | 34.7 | 0.0 | 29.7 |
| LnGrp LOS | E | A | A | E | A | A | F | A | C | C | A | C |
| Approach Vol, veh/h | | 1405 | | | 990 | | | 191 | | | 15 | |
| Approach Delay, s/veh | | 2.0 | | | 3.9 | | | 241.0 | | | 31.4 | |
| Approach LOS | | A | | | A | | | F | | | C | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 9.4 | 70.0 | | 40.6 | 6.0 | 73.4 | | 40.6 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | | * 4.8 | * 4.2 | 5.3 | | * 4.8 | | | | |
| Max Green Setting (Gmax), s | * 14 | 56.7 | | * 36 | * 8.8 | 61.7 | | * 35 | | | | |
| Max Q Clear Time (g_c+I1), s | 6.0 | 2.0 | | 37.8 | 3.2 | 2.0 | | 37.8 | | | | |
| Green Ext Time (p_c), s | 0.0 | 10.2 | | 0.0 | 0.0 | 11.1 | | 0.0 | | | | |

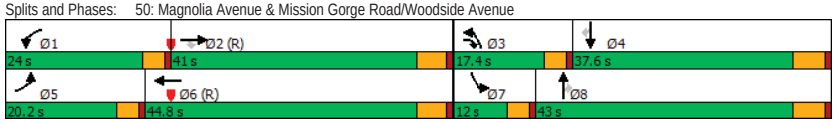
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 20.5 | |
| HCM 6th LOS | C | |

| Notes |
|---|
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 323 | 660 | 305 | 467 | 561 | 184 | 262 | 903 | 446 | 162 | 549 | 181 |
| Future Volume (vph) | 323 | 660 | 305 | 467 | 561 | 184 | 262 | 903 | 446 | 162 | 549 | 181 |
| Confl. Peds. (#/hr) | | | 2 | | | 9 | | | 13 | | | 1 |
| Confl. Bikes (#/hr) | | | 2 | | | 1 | | | 3 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | | | | 8 | | | 4 |
| Detector Phase | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | 8 | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 4.0 | 4.0 | 10.0 | | 4.0 | 7.0 | 7.0 | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 38.3 | 8.2 | 8.2 | 35.3 | | 8.2 | 34.7 | 34.7 | 8.2 | 35.7 | 35.7 |
| Total Split (s) | 20.2 | 41.0 | 17.4 | 24.0 | 44.8 | | 17.4 | 43.0 | 43.0 | 12.0 | 37.6 | 37.6 |
| Total Split (%) | 16.8% | 34.2% | 14.5% | 20.0% | 37.3% | | 14.5% | 35.8% | 35.8% | 10.0% | 31.3% | 31.3% |
| Yellow Time (s) | 3.2 | 4.3 | 3.2 | 3.2 | 4.3 | | 3.2 | 4.7 | 4.7 | 3.2 | 4.7 | 4.7 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | 4.2 | 4.2 | 5.3 | | 4.2 | 5.7 | 5.7 | 4.2 | 5.7 | 5.7 |
| Lead/Lag | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | C-Min | None | None | C-Min | | None | None | None | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 71 (59%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 105 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 50: Magnolia Avenue & Mission Gorge Road/Woodside Avenue








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 323 | 660 | 305 | 467 | 561 | 184 | 262 | 903 | 446 | 162 | 549 | 181 |
| Future Volume (veh/h) | 323 | 660 | 305 | 467 | 561 | 184 | 262 | 903 | 446 | 162 | 549 | 181 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 351 | 717 | 332 | 508 | 610 | 200 | 285 | 982 | 485 | 176 | 597 | 197 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 401 | 1069 | 627 | 559 | 906 | 297 | 343 | 1105 | 480 | 225 | 983 | 438 |
| Arrive On Green | 0.23 | 0.60 | 0.60 | 0.16 | 0.35 | 0.35 | 0.03 | 0.10 | 0.10 | 0.07 | 0.28 | 0.28 |
| Sat Flow, veh/h | 3456 | 3554 | 1561 | 3456 | 2616 | 856 | 3456 | 3554 | 1543 | 3456 | 3554 | 1583 |
| Grp Volume(v), veh/h | 351 | 717 | 332 | 508 | 414 | 396 | 285 | 982 | 485 | 176 | 597 | 197 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1561 | 1728 | 1777 | 1695 | 1728 | 1777 | 1543 | 1728 | 1777 | 1583 |
| Q Serve(g_s), s | 11.7 | 16.2 | 15.2 | 17.3 | 23.8 | 23.9 | 9.8 | 32.7 | 37.3 | 6.0 | 17.5 | 12.3 |
| Cycle Q Clear(g_c), s | 11.7 | 16.2 | 15.2 | 17.3 | 23.8 | 23.9 | 9.8 | 32.7 | 37.3 | 6.0 | 17.5 | 12.3 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.51 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 401 | 1069 | 627 | 559 | 616 | 587 | 343 | 1105 | 480 | 225 | 983 | 438 |
| V/C Ratio(X) | 0.88 | 0.67 | 0.53 | 0.91 | 0.67 | 0.67 | 0.83 | 0.89 | 1.01 | 0.78 | 0.61 | 0.45 |
| Avail Cap(c_a), veh/h | 461 | 1069 | 627 | 570 | 616 | 587 | 380 | 1105 | 480 | 225 | 983 | 438 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.93 | 0.93 | 0.93 | 1.00 | 1.00 | 1.00 | 0.79 | 0.79 | 0.79 | 0.94 | 0.94 | 0.94 |
| Uniform Delay (d), s/veh | 45.2 | 19.9 | 14.9 | 49.4 | 33.4 | 33.4 | 57.0 | 51.8 | 53.8 | 55.3 | 37.8 | 35.9 |
| Incr Delay (d2), s/veh | 13.3 | 3.1 | 3.0 | 17.9 | 5.8 | 6.1 | 9.7 | 7.6 | 39.3 | 14.3 | 1.1 | 0.9 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 5.1 | 5.1 | 4.1 | 8.7 | 10.9 | 10.5 | 4.9 | 16.7 | 20.6 | 3.0 | 7.5 | 4.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 58.5 | 23.1 | 17.9 | 67.3 | 39.2 | 39.5 | 66.7 | 59.4 | 93.2 | 69.6 | 38.9 | 36.8 |
| LnGrp LOS | E | C | B | E | D | D | E | E | F | E | D | D |
| Approach Vol, veh/h | | 1400 | | | 1318 | | | 1752 | | | 970 | |
| Approach Delay, s/veh | | 30.7 | | | 50.1 | | | 69.9 | | | 44.0 | |
| Approach LOS | | C | | | D | | | E | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 23.6 | 41.4 | 16.1 | 38.9 | 18.1 | 46.9 | 12.0 | 43.0 |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | * 4.2 | 5.7 | * 4.2 | 5.3 | * 4.2 | 5.7 |
| Max Green Setting (Gmax), s | * 20 | 35.7 | * 13 | 31.9 | * 16 | 39.5 | * 7.8 | 37.3 |
| Max Q Clear Time (g_c+I1), s | 19.3 | 18.2 | 11.8 | 19.5 | 13.7 | 25.9 | 8.0 | 39.3 |
| Green Ext Time (p_c), s | 0.1 | 6.6 | 0.1 | 4.3 | 0.2 | 6.3 | 0.0 | 0.0 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 50.4 | |
| HCM 6th LOS | D | |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 17.1 |
| Intersection LOS | C |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 31 | 245 | 220 | 1 | 0 | 183 | 0 | 0 | 10 | 511 | 7 |
| Future Vol, veh/h | 0 | 31 | 245 | 220 | 1 | 0 | 183 | 0 | 0 | 10 | 511 | 7 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 34 | 266 | 239 | 1 | 0 | 199 | 0 | 0 | 11 | 555 | 8 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 2 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay | 16.3 | 16.6 | 16.9 | 17.7 |
| HCM LOS | C | C | C | C |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 100% | 4% | 0% |
| Vol Thru, % | 0% | 100% | 11% | 0% | 96% | 97% |
| Vol Right, % | 0% | 0% | 89% | 0% | 0% | 3% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 183 | 0 | 276 | 221 | 266 | 263 |
| LT Vol | 183 | 0 | 0 | 220 | 10 | 0 |
| Through Vol | 0 | 0 | 31 | 1 | 256 | 256 |
| RT Vol | 0 | 0 | 245 | 0 | 0 | 7 |
| Lane Flow Rate | 199 | 0 | 300 | 240 | 289 | 285 |
| Geometry Grp | 7 | 7 | 2 | 2 | 7 | 7 |
| Degree of Util (X) | 0.44 | 0 | 0.527 | 0.477 | 0.552 | 0.542 |
| Departure Headway (Hd) | 7.972 | 7.457 | 6.32 | 7.151 | 6.881 | 6.843 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 452 | 0 | 570 | 502 | 522 | 525 |
| Service Time | 5.738 | 5.223 | 4.375 | 5.212 | 4.639 | 4.6 |
| HCM Lane V/C Ratio | 0.44 | 0 | 0.526 | 0.478 | 0.554 | 0.543 |
| HCM Control Delay | 16.9 | 10.2 | 16.3 | 16.6 | 17.9 | 17.5 |
| HCM Lane LOS | C | N | C | C | C | C |
| HCM 95th-tile Q | 2.2 | 0 | 3.1 | 2.5 | 3.3 | 3.2 |

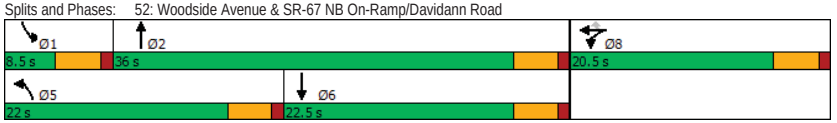




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 0 | 28 | 1 | 8 | 376 | 567 | 59 | 1 | 193 | 2 |
| Future Volume (vph) | 0 | 0 | 0 | 28 | 1 | 8 | 376 | 567 | 59 | 1 | 193 | 2 |
| Confl. Peds. (#/hr) | | | 2 | | | | | | 2 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 2 | | | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | | | | Split | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | | | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | 8 | | | | | | |
| Detector Phase | | | | 8 | 8 | 8 | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | | | | 20.5 | 20.5 | 20.5 | 8.5 | 22.5 | | 8.5 | 22.5 | |
| Total Split (s) | | | | 20.5 | 20.5 | 20.5 | 22.0 | 36.0 | | 8.5 | 22.5 | |
| Total Split (%) | | | | 31.5% | 31.5% | 31.5% | 33.8% | 55.4% | | 13.1% | 34.6% | |
| Yellow Time (s) | | | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | | | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | | | | | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | | | | | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | | | | None | None | None | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 65 |
| Actuated Cycle Length: 39.6 |
| Natural Cycle: 65 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 52: Woodside Avenue & SR-67 NB On-Ramp/Davidann Road



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 28 | 1 | 8 | 376 | 567 | 59 | 1 | 193 | 2 |
| Future Volume (veh/h) | 0 | 0 | 0 | 28 | 1 | 8 | 376 | 567 | 59 | 1 | 193 | 2 |
| Initial Q (Qb), veh | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | | | 1.00 | | 1.00 | 1.00 | | 0.98 | 1.00 | | 0.97 |
| Parking Bus, Adj | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | | | | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | | | | 30 | 1 | 9 | 409 | 616 | 64 | 1 | 210 | 2 |
| Peak Hour Factor | | | | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | | | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | | | | 65 | 2 | 60 | 528 | 855 | 89 | 6 | 405 | 4 |
| Arrive On Green | | | | 0.04 | 0.04 | 0.04 | 0.30 | 0.51 | 0.51 | 0.00 | 0.22 | 0.22 |
| Sat Flow, veh/h | | | | 1726 | 58 | 1585 | 1781 | 1662 | 173 | 1781 | 1849 | 18 |
| Grp Volume(v), veh/h | | | | 31 | 0 | 9 | 409 | 0 | 680 | 1 | 0 | 212 |
| Grp Sat Flow(s),veh/h/ln | | | | 1784 | 0 | 1585 | 1781 | 0 | 1834 | 1781 | 0 | 1867 |
| Q Serve(g_s), s | | | | 0.5 | 0.0 | 0.2 | 6.3 | 0.0 | 8.6 | 0.0 | 0.0 | 3.0 |
| Cycle Q Clear(g_c), s | | | | 0.5 | 0.0 | 0.2 | 6.3 | 0.0 | 8.6 | 0.0 | 0.0 | 3.0 |
| Prop In Lane | | | | 0.97 | | 1.00 | 1.00 | | 0.09 | 1.00 | | 0.01 |
| Lane Grp Cap(c), veh/h | | | | 67 | 0 | 60 | 528 | 0 | 944 | 6 | 0 | 409 |
| V/C Ratio(X) | | | | 0.46 | 0.00 | 0.15 | 0.77 | 0.00 | 0.72 | 0.17 | 0.00 | 0.52 |
| Avail Cap(c_a), veh/h | | | | 944 | 0 | 839 | 1031 | 0 | 1912 | 236 | 0 | 1112 |
| HCM Platoon Ratio | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | | | | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | | | | 14.2 | 0.0 | 14.1 | 9.7 | 0.0 | 5.7 | 15.1 | 0.0 | 10.4 |
| Incr Delay (d2), s/veh | | | | 4.8 | 0.0 | 1.1 | 2.5 | 0.0 | 1.1 | 13.0 | 0.0 | 1.0 |
| Initial Q Delay(d3),s/veh | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | | 0.3 | 0.0 | 0.1 | 2.0 | 0.0 | 1.6 | 0.0 | 0.0 | 1.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | 19.1 | 0.0 | 15.2 | 12.2 | 0.0 | 6.7 | 28.1 | 0.0 | 11.4 |
| LnGrp LOS | | | | B | A | B | B | A | A | C | A | B |
| Approach Vol, veh/h | | | | | 40 | | | 1089 | | | 213 | |
| Approach Delay, s/veh | | | | | 18.2 | | | 8.8 | | | 11.5 | |
| Approach LOS | | | | | B | | | A | | | B | |

| Timer - Assigned Phs | 1 | 2 | | | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 4.5 | 20.1 | | | 13.5 | 11.1 | | 5.6 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 4.0 | 31.5 | | | 17.5 | 18.0 | | 16.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.0 | 10.6 | | | 8.3 | 5.0 | | 2.5 | | | | |
| Green Ext Time (p_c), s | 0.0 | 4.9 | | | 0.9 | 0.9 | | 0.1 | | | | |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 9.5 |
| HCM 6th LOS | A |





| Intersection | |
|---|---|
| Int Delay, s/veh | 4.9 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 155 | 384 | 336 | 0 | 0 | 754 |
| Future Vol, veh/h | 155 | 384 | 336 | 0 | 0 | 754 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 1 | 1 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | 300 | - | - | - | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 168 | 417 | 365 | 0 | 0 | 820 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 775 | 183 | 0 | - | - | - |
| Stage 1 | 365 | - | - | - | - | - |
| Stage 2 | 410 | - | - | - | - | - |
| Critical Hdwy | 6.84 | 6.94 | - | - | - | - |
| Critical Hdwy Stg 1 | 5.84 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.84 | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 3.32 | - | - | - | - |
| Pot Cap-1 Maneuver | 335 | 828 | - | 0 | 0 | - |
| Stage 1 | 673 | - | - | 0 | 0 | - |
| Stage 2 | 638 | - | - | 0 | 0 | - |
| Platoon blocked, % | | | - | | | - |
| Mov Cap-1 Maneuver | 335 | 828 | - | - | - | - |
| Mov Cap-2 Maneuver | 452 | - | - | - | - | - |
| Stage 1 | 673 | - | - | - | - | - |
| Stage 2 | 638 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 14.8 | 0 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBT | WBLn1 | WBLn2 | SBT |
|---|---|---|---|---|
| Capacity (veh/h) | - | 452 | 828 | - |
| HCM Lane V/C Ratio | - | 0.373 | 0.504 | - |
| HCM Control Delay (s) | - | 17.6 | 13.7 | - |
| HCM Lane LOS | - | C | B | - |
| HCM 95th %tile Q(veh) | - | 1.7 | 2.9 | - |

Existing + Cuml PM
54: Fanita Drive & SR 52 EB On Ramp

Fanita Ranch
06/06/2019

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 336 | 91 | 360 | 549 |
| Future Volume (Veh/h) | 0 | 0 | 336 | 91 | 360 | 549 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 0 | 365 | 99 | 391 | 597 |
| Pedestrians | 1 | | | | | |
| Lane Width (ft) | 0.0 | | | | | |
| Walking Speed (ft/s) | 4.0 | | | | | |
| Percent Blockage | 0 | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | 769 | | | 1029 |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 1496 | 233 | | | 465 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 1496 | 233 | | | 465 | |
| tC, single (s) | 6.8 | 6.9 | | | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 100 | 100 | | | 64 | |
| cM capacity (veh/h) | 73 | 769 | | | 1093 | |

| Direction, Lane # | NB 1 | NB 2 | SB 1 | SB 2 | SB 3 |
|---|---|---|---|---|---|
| Volume Total | 243 | 221 | 391 | 298 | 298 |
| Volume Left | 0 | 0 | 391 | 0 | 0 |
| Volume Right | 0 | 99 | 0 | 0 | 0 |
| cSH | 1700 | 1700 | 1093 | 1700 | 1700 |
| Volume to Capacity | 0.14 | 0.13 | 0.36 | 0.18 | 0.18 |
| Queue Length 95th (ft) | 0 | 0 | 41 | 0 | 0 |
| Control Delay (s) | 0.0 | 0.0 | 10.1 | 0.0 | 0.0 |
| Lane LOS | | | B | | |
| Approach Delay (s) | 0.0 | | 4.0 | | |
| Approach LOS | | | | | |

| Intersection Summary | | | | | |
|---|---|---|---|---|---|
| Average Delay | | | 2.7 | | |
| Intersection Capacity Utilization | | | 39.9% | ICU Level of Service | A |
| Analysis Period (min) | | | 15 | | |



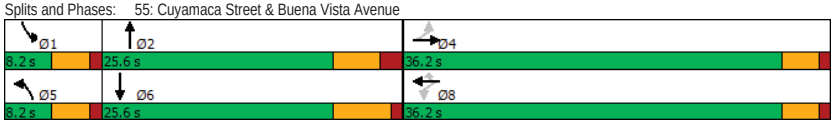
Existing + Cuml PM
55: Cuyamaca Street & Buena Vista Avenue

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 29 | 18 | 48 | 347 | 4 | 89 | 26 | 1709 | 234 | 74 | 1612 | 15 |
| Future Volume (vph) | 29 | 18 | 48 | 347 | 4 | 89 | 26 | 1709 | 234 | 74 | 1612 | 15 |
| Confl. Peds. (#/hr) | | | 5 | | | 11 | | | 14 | | | 3 |
| Confl. Bikes (#/hr) | | | 1 | | | 1 | | | 2 | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Perm | NA | | Perm | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | 8 | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | 8 | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 10.0 | | 4.0 | 10.0 | |
| Minimum Split (s) | 36.2 | 36.2 | | 34.2 | 34.2 | 34.2 | 8.2 | 24.0 | | 8.2 | 24.0 | |
| Total Split (s) | 36.2 | 36.2 | | 36.2 | 36.2 | 36.2 | 8.2 | 25.6 | | 8.2 | 25.6 | |
| Total Split (%) | 51.7% | 51.7% | | 51.7% | 51.7% | 51.7% | 11.7% | 36.6% | | 11.7% | 36.6% | |
| Yellow Time (s) | 3.2 | 3.2 | | 3.2 | 3.2 | 3.2 | 3.2 | 4.0 | | 3.2 | 4.9 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 2.0 | | 1.0 | 1.1 | |
| Lost Time Adjust (s) | | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | | 4.2 | | | 4.2 | 4.2 | 4.2 | 6.0 | | 4.2 | 6.0 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | None | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 70 |
| Actuated Cycle Length: 57.9 |
| Natural Cycle: 90 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 55: Cuyamaca Street & Buena Vista Avenue



Existing + Cuml PM
55: Cuyamaca Street & Buena Vista Avenue

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 29 | 18 | 48 | 347 | 4 | 89 | 26 | 1709 | 234 | 74 | 1612 | 15 |
| Future Volume (veh/h) | 29 | 18 | 48 | 347 | 4 | 89 | 26 | 1709 | 234 | 74 | 1612 | 15 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.95 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 32 | 20 | 52 | 377 | 4 | 97 | 28 | 1858 | 254 | 80 | 1752 | 16 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 67 | 55 | 55 | 374 | 3 | 710 | 43 | 1265 | 171 | 102 | 1634 | 15 |
| Arrive On Green | 0.46 | 0.46 | 0.46 | 0.46 | 0.46 | 0.46 | 0.02 | 0.28 | 0.28 | 0.06 | 0.31 | 0.31 |
| Sat Flow, veh/h | 0 | 119 | 119 | 595 | 6 | 1554 | 1781 | 4518 | 610 | 1781 | 5217 | 48 |
| Grp Volume(v), veh/h | 104 | 0 | 0 | 381 | 0 | 97 | 28 | 1394 | 718 | 80 | 1143 | 625 |
| Grp Sat Flow(s),veh/h/ln | 239 | 0 | 0 | 602 | 0 | 1554 | 1781 | 1702 | 1725 | 1781 | 1702 | 1860 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.5 | 1.1 | 19.6 | 19.6 | 3.1 | 21.9 | 21.9 |
| Cycle Q Clear(g_c), s | 32.0 | 0.0 | 0.0 | 32.0 | 0.0 | 2.5 | 1.1 | 19.6 | 19.6 | 3.1 | 21.9 | 21.9 |
| Prop In Lane | 0.31 | | 0.50 | 0.99 | | 1.00 | 1.00 | | 0.35 | 1.00 | | 0.03 |
| Lane Grp Cap(c), veh/h | 176 | 0 | 0 | 377 | 0 | 710 | 43 | 953 | 483 | 102 | 1066 | 583 |
| V/C Ratio(X) | 0.59 | 0.00 | 0.00 | 1.01 | 0.00 | 0.14 | 0.66 | 1.46 | 1.49 | 0.79 | 1.07 | 1.07 |
| Avail Cap(c_a), veh/h | 176 | 0 | 0 | 377 | 0 | 710 | 102 | 953 | 483 | 102 | 1066 | 583 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 16.4 | 0.0 | 0.0 | 23.3 | 0.0 | 11.0 | 33.9 | 25.2 | 25.2 | 32.6 | 24.0 | 24.0 |
| Incr Delay (d2), s/veh | 3.5 | 0.0 | 0.0 | 48.8 | 0.0 | 0.0 | 6.2 | 214.1 | 229.5 | 30.0 | 49.2 | 58.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.0 | 0.0 | 0.0 | 11.3 | 0.0 | 0.8 | 0.5 | 35.5 | 38.1 | 2.1 | 15.2 | 18.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 19.9 | 0.0 | 0.0 | 72.1 | 0.0 | 11.0 | 40.0 | 239.3 | 254.7 | 62.6 | 73.2 | 82.3 |
| LnGrp LOS | B | A | A | F | A | B | D | F | F | E | F | F |
| Approach Vol, veh/h | | 104 | | | 478 | | | 2140 | | | 1848 | |
| Approach Delay, s/veh | | 19.9 | | | 59.7 | | | 241.9 | | | 75.8 | |
| Approach LOS | | B | | | E | | | F | | | E | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 8.2 | 25.6 | | 36.2 | 5.9 | 27.9 | | 36.2 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 6.0 | | * 4.2 | * 4.2 | * 6 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | * 4 | 19.6 | | * 32 | * 4 | * 20 | | * 32 | | | | |
| Max Q Clear Time (g_c+I1), s | 5.1 | 21.6 | | 34.0 | 3.1 | 23.9 | | 34.0 | | | | |
| Green Ext Time (p_c), s | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | | 0.0 | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | | 150.6 |
| HCM 6th LOS | | | F |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



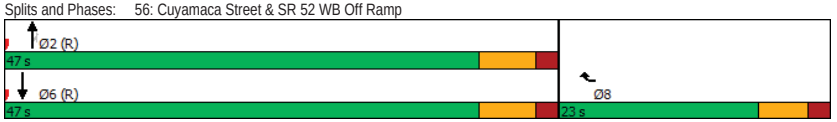
Existing + Cuml PM
56: Cuyamaca Street & SR 52 WB Off Ramp

Fanita Ranch
06/06/2019

| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 647 | 1230 | 336 | 0 | 1876 |
| Future Volume (vph) | 0 | 647 | 1230 | 336 | 0 | 1876 |
| Confl. Peds. (#/hr) | | | | 4 | | |
| Confl. Bikes (#/hr) | | | | 3 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | 0% | | | 0% |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | | Prot | NA | Perm | | NA |
| Protected Phases | | 8 | 2 | | | 6 |
| Permitted Phases | | | | 2 | | |
| Detector Phase | | 8 | 2 | 2 | | 6 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | | 5.0 | 14.0 | 14.0 | | 14.0 |
| Minimum Split (s) | | 20.0 | 45.8 | 45.8 | | 20.8 |
| Total Split (s) | | 23.0 | 47.0 | 47.0 | | 47.0 |
| Total Split (%) | | 32.9% | 67.1% | 67.1% | | 67.1% |
| Yellow Time (s) | | 4.1 | 4.8 | 4.8 | | 4.8 |
| All-Red Time (s) | | 2.0 | 2.0 | 2.0 | | 2.0 |
| Lost Time Adjust (s) | | 0.0 | 0.0 | 0.0 | | 0.0 |
| Total Lost Time (s) | | 6.1 | 6.8 | 6.8 | | 6.8 |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | | None | C-Max | C-Max | | C-Max |

| Intersection Summary |
|---|
| Cycle Length: 70 |
| Actuated Cycle Length: 70 |
| Offset: 22 (31%), Referenced to phase 2:NBT and 6:SBT, Start of Green |
| Natural Cycle: 70 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 56: Cuyamaca Street & SR 52 WB Off Ramp



Existing + Cuml PM
56: Cuyamaca Street & SR 52 WB Off Ramp

Fanita Ranch
06/06/2019

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 647 | 1230 | 336 | 0 | 1876 |
| Future Volume (veh/h) | 0 | 647 | 1230 | 336 | 0 | 1876 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | | 0.98 | 1.00 | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | No | | | No |
| Adj Sat Flow, veh/h/ln | 0 | 1870 | 1870 | 1870 | 0 | 1870 |
| Adj Flow Rate, veh/h | 0 | 703 | 1337 | 365 | 0 | 2039 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 0 | 2 | 2 | 2 | 0 | 2 |
| Cap, veh/h | 0 | 0 | 4610 | 1398 | 0 | 4610 |
| Arrive On Green | 0.00 | 0.00 | 0.30 | 0.30 | 0.00 | 0.90 |
| Sat Flow, veh/h | 0 | | 5274 | 1548 | 0 | 5443 |
| Grp Volume(v), veh/h | 0.0 | | 1337 | 365 | 0 | 2039 |
| Grp Sat Flow(s),veh/h/ln | | | 1702 | 1548 | 0 | 1702 |
| Q Serve(g_s), s | | | 14.1 | 12.6 | 0.0 | 4.5 |
| Cycle Q Clear(g_c), s | | | 14.1 | 12.6 | 0.0 | 4.5 |
| Prop In Lane | | | | 1.00 | 0.00 | |
| Lane Grp Cap(c), veh/h | | | 4610 | 1398 | 0 | 4610 |
| V/C Ratio(X) | | | 0.29 | 0.26 | 0.00 | 0.44 |
| Avail Cap(c_a), veh/h | | | 4610 | 1398 | 0 | 4610 |
| HCM Platoon Ratio | | | 0.33 | 0.33 | 1.00 | 1.00 |
| Upstream Filter(I) | | | 1.00 | 1.00 | 0.00 | 0.41 |
| Uniform Delay (d), s/veh | | | 7.3 | 6.8 | 0.0 | 0.5 |
| Incr Delay (d2), s/veh | | | 0.2 | 0.5 | 0.0 | 0.1 |
| Initial Q Delay(d3),s/veh | | | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | 1.8 | 0.6 | 0.0 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | | | 7.5 | 7.3 | 0.0 | 0.7 |
| LnGrp LOS | | | A | A | A | A |
| Approach Vol, veh/h | | | 1702 | | | 2039 |
| Approach Delay, s/veh | | | 7.4 | | | 0.7 |
| Approach LOS | | | A | | | A |

| Timer - Assigned Phs | | 2 | | | | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 70.0 | | | | 70.0 |
| Change Period (Y+Rc), s | | 6.8 | | | | 6.8 |
| Max Green Setting (Gmax), s | | 40.2 | | | | 40.2 |
| Max Q Clear Time (g_c+I1), s | | 16.1 | | | | 6.5 |
| Green Ext Time (p_c), s | | 12.2 | | | | 21.2 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 3.8 |
| HCM 6th LOS | A |



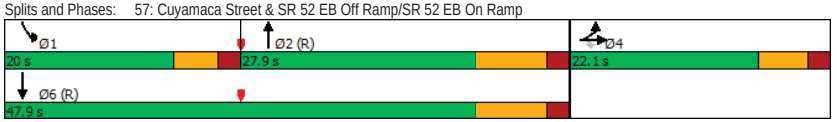
Existing + Cuml PM
57: Cuyamaca Street & SR 52 EB Off Ramp/SR 52 EB On Ramp

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 676 | 5 | 356 | 0 | 0 | 0 | 0 | 891 | 221 | 662 | 602 | 0 |
| Future Volume (vph) | 676 | 5 | 356 | 0 | 0 | 0 | 0 | 891 | 221 | 662 | 602 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | | | | 9 | | | 13 |
| Confl. Bikes (#/hr) | | | | | | | | | 2 | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | 50% | | | | | | | | | | | |
| Turn Type | Split | NA | Perm | | | | | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | | | | | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | | | | |
| Detector Phase | 4 | 4 | 4 | | | | | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | | | | | 11.0 | | 5.0 | 12.0 | |
| Minimum Split (s) | 22.1 | 22.1 | 22.1 | | | | | 27.0 | | 10.7 | 32.0 | |
| Total Split (s) | 22.1 | 22.1 | 22.1 | | | | | 27.9 | | 20.0 | 47.9 | |
| Total Split (%) | 31.6% | 31.6% | 31.6% | | | | | 39.9% | | 28.6% | 68.4% | |
| Yellow Time (s) | 4.1 | 4.1 | 4.1 | | | | | 6.0 | | 3.7 | 6.0 | |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | | | | | 2.0 | | 2.0 | 2.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | | | | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 6.1 | 6.1 | 6.1 | | | | | 8.0 | | 5.7 | 8.0 | |
| Lead/Lag | | | | | | | | Lag | | Lead | | |
| Lead-Lag Optimize? | | | | | | | | Yes | | Yes | | |
| Recall Mode | None | None | None | | | | | C-Min | | None | C-Min | |

| Intersection Summary |
|---|
| Cycle Length: 70 |
| Actuated Cycle Length: 70 |
| Offset: 10 (14%), Referenced to phase 2:NBT and 6:SBT, Start of Green |
| Natural Cycle: 80 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 57: Cuyamaca Street & SR 52 EB Off Ramp/SR 52 EB On Ramp



Existing + Cuml PM — Fanita Ranch

57: Cuyamaca Street & SR 52 EB Off Ramp/SR 52 EB On Ramp — 06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 676 | 5 | 356 | 0 | 0 | 0 | 0 | 891 | 221 | 662 | 602 | 0 |
| Future Volume (veh/h) | 676 | 5 | 356 | 0 | 0 | 0 | 0 | 891 | 221 | 662 | 602 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | | | | 1.00 | | 0.98 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | | | | 0 | 1870 | 1870 | 1870 | 1870 | 0 |
| Adj Flow Rate, veh/h | 739 | 0 | 348 | | | | 0 | 968 | 216 | 720 | 654 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | | | | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | | | | 0 | 2 | 2 | 2 | 2 | 0 |
| Cap, veh/h | 814 | 0 | 361 | | | | 0 | 1182 | 263 | 706 | 2026 | 0 |
| Arrive On Green | 0.23 | 0.00 | 0.23 | | | | 0.00 | 0.09 | 0.09 | 0.07 | 0.19 | 0.00 |
| Sat Flow, veh/h | 3563 | 0 | 1581 | | | | 0 | 4326 | 925 | 3456 | 3647 | 0 |
| Grp Volume(v), veh/h | 739 | 0 | 348 | | | | 0 | 792 | 392 | 720 | 654 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1581 | | | | 0 | 1702 | 1678 | 1728 | 1777 | 0 |
| Q Serve(g_s), s | 14.1 | 0.0 | 15.2 | | | | 0.0 | 16.0 | 16.1 | 14.3 | 11.1 | 0.0 |
| Cycle Q Clear(g_c), s | 14.1 | 0.0 | 15.2 | | | | 0.0 | 16.0 | 16.1 | 14.3 | 11.1 | 0.0 |
| Prop In Lane | 1.00 | | 1.00 | | | | 0.00 | | 0.55 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 814 | 0 | 361 | | | | 0 | 968 | 477 | 706 | 2026 | 0 |
| V/C Ratio(X) | 0.91 | 0.00 | 0.96 | | | | 0.00 | 0.82 | 0.82 | 1.02 | 0.32 | 0.00 |
| Avail Cap(c_a), veh/h | 814 | 0 | 361 | | | | 0 | 968 | 477 | 706 | 2026 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | | | | 1.00 | 0.33 | 0.33 | 0.33 | 0.33 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | | | | 0.00 | 0.89 | 0.89 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | 26.3 | 0.0 | 26.7 | | | | 0.0 | 29.9 | 30.0 | 32.6 | 16.7 | 0.0 |
| Incr Delay (d2), s/veh | 13.9 | 0.0 | 37.5 | | | | 0.0 | 6.9 | 13.3 | 39.0 | 0.4 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 7.2 | 0.0 | 9.2 | | | | 0.0 | 8.0 | 8.8 | 10.3 | 5.1 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 40.2 | 0.0 | 64.3 | | | | 0.0 | 36.8 | 43.2 | 71.6 | 17.2 | 0.0 |
| LnGrp LOS | D | A | E | | | | A | D | D | F | B | A |
| Approach Vol, veh/h | | 1087 | | | | | | 1184 | | | 1374 | |
| Approach Delay, s/veh | | 47.9 | | | | | | 38.9 | | | 45.7 | |
| Approach LOS | | D | | | | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | 4 | 6 |
|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 20.0 | 27.9 | 22.1 | 47.9 |
| Change Period (Y+Rc), s | * 5.7 | 8.0 | 6.1 | 8.0 |
| Max Green Setting (Gmax), s | * 14 | 19.9 | 16.0 | 39.9 |
| Max Q Clear Time (g_c+I1), s | 16.3 | 18.1 | 17.2 | 13.1 |
| Green Ext Time (p_c), s | 0.0 | 1.3 | 0.0 | 4.6 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 44.2 |
| HCM 6th LOS | D |

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



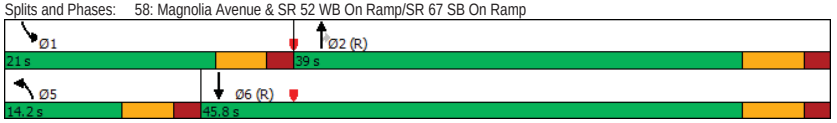
Existing + Cuml PM — Fanita Ranch

58: Magnolia Avenue & SR 52 WB On Ramp/SR 67 SB On Ramp — 06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 243 | 1539 | 142 | 576 | 630 | 349 |
| Future Volume (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 243 | 1539 | 142 | 576 | 630 | 349 |
| Confl. Peds. (#/hr) | | | | | | | | | 2 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | | | | | | | Prot | NA | Perm | Prot | NA | |
| Protected Phases | | | | | | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | | | 2 | | | |
| Detector Phase | | | | | | | 5 | 2 | 2 | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | | | | | | 5.0 | 6.0 | 6.0 | 5.0 | 7.0 | |
| Minimum Split (s) | | | | | | | 10.7 | 38.4 | 38.4 | 10.7 | 39.4 | |
| Total Split (s) | | | | | | | 14.2 | 39.0 | 39.0 | 21.0 | 45.8 | |
| Total Split (%) | | | | | | | 23.7% | 65.0% | 65.0% | 35.0% | 76.3% | |
| Yellow Time (s) | | | | | | | 3.7 | 4.4 | 4.4 | 3.7 | 4.4 | |
| All-Red Time (s) | | | | | | | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | |
| Lost Time Adjust (s) | | | | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | | | | | | | 5.7 | 6.4 | 6.4 | 5.7 | 6.4 | |
| Lead/Lag | | | | | | | Lead | Lag | Lag | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | Yes | Yes | Yes | |
| Recall Mode | | | | | | | None | C-Max | C-Max | None | C-Max | |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 60 |
| Offset: 17 (28%), Referenced to phase 2:NBT and 6:SBT, Start of Green |
| Natural Cycle: 60 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 58: Magnolia Avenue & SR 52 WB On Ramp/SR 67 SB On Ramp



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 0 | 0 | 0 | 243 | 1539 | 142 | 576 | 630 | 349 |
| Future Volume (veh/h) | 0 | 0 | 0 | 0 | 0 | 0 | 243 | 1539 | 142 | 576 | 630 | 349 |
| Initial Q (Qb), veh | | | | | | | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | | | | | | 1.00 | | 1.00 | 1.00 | | 0.98 |
| Parking Bus, Adj | | | | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | | | | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | | | | | | | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | | | | | | | 264 | 1673 | 154 | 626 | 685 | 379 |
| Peak Hour Factor | | | | | | | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | | | | | | | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | | | | | | | 364 | 3003 | 931 | 726 | 1516 | 838 |
| Arrive On Green | | | | | | | 0.21 | 1.00 | 1.00 | 0.35 | 1.00 | 1.00 |
| Sat Flow, veh/h | | | | | | | 3456 | 5106 | 1582 | 3456 | 2187 | 1209 |
| Grp Volume(v), veh/h | | | | | | | 264 | 1673 | 154 | 626 | 556 | 508 |
| Grp Sat Flow(s),veh/h/ln | | | | | | | 1728 | 1702 | 1582 | 1728 | 1777 | 1619 |
| Q Serve(g_s), s | | | | | | | 4.3 | 0.0 | 0.0 | 10.1 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | | | | | | | 4.3 | 0.0 | 0.0 | 10.1 | 0.0 | 0.0 |
| Prop In Lane | | | | | | | 1.00 | | 1.00 | 1.00 | | 0.75 |
| Lane Grp Cap(c), veh/h | | | | | | | 364 | 3003 | 931 | 726 | 1231 | 1122 |
| V/C Ratio(X) | | | | | | | 0.73 | 0.56 | 0.17 | 0.86 | 0.45 | 0.45 |
| Avail Cap(c_a), veh/h | | | | | | | 490 | 3003 | 931 | 881 | 1231 | 1122 |
| HCM Platoon Ratio | | | | | | | 2.00 | 2.00 | 2.00 | 1.67 | 1.67 | 1.67 |
| Upstream Filter(I) | | | | | | | 0.25 | 0.25 | 0.25 | 0.66 | 0.66 | 0.66 |
| Uniform Delay (d), s/veh | | | | | | | 22.9 | 0.0 | 0.0 | 18.7 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | | | | | | | 0.5 | 0.2 | 0.1 | 4.4 | 0.8 | 0.9 |
| Initial Q Delay(d3),s/veh | | | | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | | | | | 1.5 | 0.1 | 0.0 | 3.3 | 0.3 | 0.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | | | | 23.4 | 0.2 | 0.1 | 23.1 | 0.8 | 0.9 |
| LnGrp LOS | | | | | | | C | A | A | C | A | A |
| Approach Vol, veh/h | | | | | | | | 2091 | | | 1690 | |
| Approach Delay, s/veh | | | | | | | | 3.1 | | | 9.1 | |
| Approach LOS | | | | | | | | A | | | A | |

| Timer - Assigned Phs | 1 | 2 | | 5 | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 18.3 | 41.7 | | 12.0 | 48.0 |
| Change Period (Y+Rc), s | * 5.7 | 6.4 | | * 5.7 | 6.4 |
| Max Green Setting (Gmax), s | * 15 | 32.6 | | * 8.5 | 39.4 |
| Max Q Clear Time (g_c+I1), s | 12.1 | 2.0 | | 6.3 | 2.0 |
| Green Ext Time (p_c), s | 0.5 | 17.0 | | 0.1 | 7.9 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 5.8 |
| HCM 6th LOS | | A |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

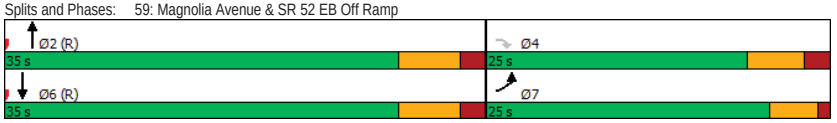




| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 520 | 488 | 0 | 1444 | 571 | 0 |
| Future Volume (vph) | 520 | 488 | 0 | 1444 | 571 | 0 |
| Confl. Peds. (#/hr) | | | | | | 1 |
| Confl. Bikes (#/hr) | | | | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | | NA | NA | |
| Protected Phases | 7 | | | 2 | 6 | |
| Permitted Phases | | 4 | | | | |
| Detector Phase | 7 | 4 | | 2 | 6 | |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 5.0 | | 5.0 | 5.0 | |
| Minimum Split (s) | 8.5 | 22.1 | | 22.4 | 27.4 | |
| Total Split (s) | 25.0 | 25.0 | | 35.0 | 35.0 | |
| Total Split (%) | 41.7% | 41.7% | | 58.3% | 58.3% | |
| Yellow Time (s) | 3.5 | 4.1 | | 4.4 | 4.4 | |
| All-Red Time (s) | 1.0 | 2.0 | | 2.0 | 2.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 6.1 | | 6.4 | 6.4 | |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | None | None | | C-Max | C-Max | |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 60 |
| Offset: 2 (3%), Referenced to phase 2:NBT and 6:SBT, Start of Green |
| Natural Cycle: 70 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 59: Magnolia Avenue & SR 52 EB Off Ramp



| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 520 | 488 | 0 | 1444 | 571 | 0 |
| Future Volume (veh/h) | 520 | 488 | 0 | 1444 | 571 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 0 | 1870 | 1870 | 0 |
| Adj Flow Rate, veh/h | 565 | 530 | 0 | 1570 | 621 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 0 | 2 | 2 | 0 |
| Cap, veh/h | 609 | 542 | 0 | 1694 | 1694 | 0 |
| Arrive On Green | 0.34 | 0.34 | 0.00 | 0.48 | 0.95 | 0.00 |
| Sat Flow, veh/h | 1781 | 1585 | 0 | 3741 | 3741 | 0 |
| Grp Volume(v), veh/h | 565 | 530 | 0 | 1570 | 621 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 0 | 1777 | 1777 | 0 |
| Q Serve(g_s), s | 18.3 | 19.8 | 0.0 | 24.9 | 0.8 | 0.0 |
| Cycle Q Clear(g_c), s | 18.3 | 19.8 | 0.0 | 24.9 | 0.8 | 0.0 |
| Prop In Lane | 1.00 | 1.00 | 0.00 | | | 0.00 |
| Lane Grp Cap(c), veh/h | 609 | 542 | 0 | 1694 | 1694 | 0 |
| V/C Ratio(X) | 0.93 | 0.98 | 0.00 | 0.93 | 0.37 | 0.00 |
| Avail Cap(c_a), veh/h | 609 | 542 | 0 | 1694 | 1694 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 2.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.67 | 0.88 | 0.00 |
| Uniform Delay (d), s/veh | 19.0 | 19.5 | 0.0 | 14.7 | 0.8 | 0.0 |
| Incr Delay (d2), s/veh | 20.7 | 33.1 | 0.0 | 7.4 | 0.5 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 10.2 | 11.4 | 0.0 | 9.0 | 0.3 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 39.8 | 52.7 | 0.0 | 22.1 | 1.3 | 0.0 |
| LnGrp LOS | D | D | A | C | A | A |
| Approach Vol, veh/h | 1095 | | | 1570 | 621 | |
| Approach Delay, s/veh | 46.0 | | | 22.1 | 1.3 | |
| Approach LOS | D | | | C | A | |

| Timer - Assigned Phs | 2 | 4 | 6 |
|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 35.0 | 25.0 | 35.0 |
| Change Period (Y+Rc), s | 6.4 | 4.5 | 6.4 |
| Max Green Setting (Gmax), s | 28.6 | 20.5 | 28.6 |
| Max Q Clear Time (g_c+I1), s | 26.9 | 21.8 | 2.8 |
| Green Ext Time (p_c), s | 1.4 | 0.0 | 4.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 26.1 |
| HCM 6th LOS | C |

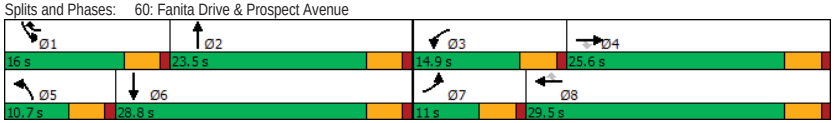




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 90 | 91 | 39 | 103 | 106 | 145 | 42 | 205 | 89 | 193 | 247 | 106 |
| Future Volume (vph) | 90 | 91 | 39 | 103 | 106 | 145 | 42 | 205 | 89 | 193 | 247 | 106 |
| Confl. Peds. (#/hr) | | | 6 | | | 4 | | | 2 | | | 1 |
| Confl. Bikes (#/hr) | | | 4 | | | 4 | | | 1 | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | pm+ov | Prot | NA | | Prot | NA | |
| Protected Phases | 7 | 4 | | 3 | 8 | 1 | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | | | | |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | 1 | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | 8.5 | 24.5 | 24.5 | 8.5 | 29.5 | 8.5 | 8.5 | 22.5 | | 8.5 | 24.5 | |
| Total Split (s) | 11.0 | 25.6 | 25.6 | 14.9 | 29.5 | 16.0 | 10.7 | 23.5 | | 16.0 | 28.8 | |
| Total Split (%) | 13.8% | 32.0% | 32.0% | 18.6% | 36.9% | 20.0% | 13.4% | 29.4% | | 20.0% | 36.0% | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | None | None | None | None | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 80 |
| Actuated Cycle Length: 59.3 |
| Natural Cycle: 80 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 60: Fanita Drive & Prospect Avenue



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 90 | 91 | 39 | 103 | 106 | 145 | 42 | 205 | 89 | 193 | 247 | 106 |
| Future Volume (veh/h) | 90 | 91 | 39 | 103 | 106 | 145 | 42 | 205 | 89 | 193 | 247 | 106 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 98 | 99 | 42 | 112 | 115 | 158 | 46 | 223 | 97 | 210 | 268 | 115 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 125 | 289 | 238 | 146 | 311 | 495 | 68 | 292 | 127 | 267 | 849 | 353 |
| Arrive On Green | 0.07 | 0.15 | 0.15 | 0.08 | 0.17 | 0.17 | 0.04 | 0.24 | 0.24 | 0.15 | 0.35 | 0.35 |
| Sat Flow, veh/h | 1781 | 1870 | 1539 | 1781 | 1870 | 1546 | 1781 | 1225 | 533 | 1781 | 2425 | 1009 |
| Grp Volume(v), veh/h | 98 | 99 | 42 | 112 | 115 | 158 | 46 | 0 | 320 | 210 | 194 | 189 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1539 | 1781 | 1870 | 1546 | 1781 | 0 | 1758 | 1781 | 1777 | 1657 |
| Q Serve(g_s), s | 2.6 | 2.3 | 1.1 | 3.0 | 2.6 | 3.7 | 1.2 | 0.0 | 8.1 | 5.4 | 3.8 | 4.0 |
| Cycle Q Clear(g_c), s | 2.6 | 2.3 | 1.1 | 3.0 | 2.6 | 3.7 | 1.2 | 0.0 | 8.1 | 5.4 | 3.8 | 4.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.30 | 1.00 | | 0.61 |
| Lane Grp Cap(c), veh/h | 125 | 289 | 238 | 146 | 311 | 495 | 68 | 0 | 419 | 267 | 622 | 580 |
| V/C Ratio(X) | 0.78 | 0.34 | 0.18 | 0.77 | 0.37 | 0.32 | 0.68 | 0.00 | 0.76 | 0.79 | 0.31 | 0.33 |
| Avail Cap(c_a), veh/h | 241 | 823 | 677 | 386 | 975 | 1044 | 230 | 0 | 696 | 427 | 900 | 840 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 21.9 | 18.1 | 17.6 | 21.6 | 17.8 | 12.5 | 22.8 | 0.0 | 17.0 | 19.6 | 11.4 | 11.4 |
| Incr Delay (d2), s/veh | 10.1 | 0.7 | 0.3 | 8.2 | 0.7 | 0.4 | 11.1 | 0.0 | 2.9 | 5.1 | 0.3 | 0.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.3 | 0.9 | 0.4 | 1.4 | 1.0 | 1.1 | 0.7 | 0.0 | 3.0 | 2.3 | 1.2 | 1.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 32.0 | 18.8 | 18.0 | 29.8 | 18.5 | 12.9 | 33.8 | 0.0 | 19.9 | 24.7 | 11.7 | 11.8 |
| LnGrp LOS | C | B | B | C | B | B | C | A | B | C | B | B |
| Approach Vol, veh/h | | 239 | | | 385 | | | 366 | | | 593 | |
| Approach Delay, s/veh | | 24.1 | | | 19.5 | | | 21.7 | | | 16.3 | |
| Approach LOS | | C | | | B | | | C | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 11.7 | 15.9 | 8.4 | 11.9 | 6.3 | 21.3 | 7.9 | 12.5 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 11.5 | 19.0 | 10.4 | 21.1 | 6.2 | 24.3 | 6.5 | 25.0 |
| Max Q Clear Time (g_c+I1), s | 7.4 | 10.1 | 5.0 | 4.3 | 3.2 | 6.0 | 4.6 | 5.7 |
| Green Ext Time (p_c), s | 0.2 | 1.2 | 0.1 | 0.5 | 0.0 | 2.0 | 0.0 | 1.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 19.5 |
| HCM 6th LOS | B |

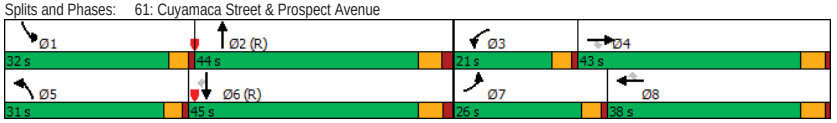




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 127 | 170 | 174 | 93 | 180 | 211 | 178 | 753 | 75 | 183 | 581 | 212 |
| Future Volume (vph) | 127 | 170 | 174 | 93 | 180 | 211 | 178 | 753 | 75 | 183 | 581 | 212 |
| Confl. Peds. (#/hr) | | | 4 | | | 10 | | | 7 | | | 6 |
| Confl. Bikes (#/hr) | | | 2 | | | 2 | | | 4 | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | | | | 6 |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | 8 | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 7.0 | 7.0 | 4.0 | 7.0 | 7.0 | 4.0 | 10.0 | | 4.0 | 10.0 | 10.0 |
| Minimum Split (s) | 8.2 | 35.2 | 35.2 | 8.2 | 36.2 | 36.2 | 8.2 | 33.0 | | 8.2 | 31.0 | 31.0 |
| Total Split (s) | 26.0 | 43.0 | 43.0 | 21.0 | 38.0 | 38.0 | 31.0 | 44.0 | | 32.0 | 45.0 | 45.0 |
| Total Split (%) | 18.6% | 30.7% | 30.7% | 15.0% | 27.1% | 27.1% | 22.1% | 31.4% | | 22.9% | 32.1% | 32.1% |
| Yellow Time (s) | 3.2 | 4.2 | 4.2 | 3.2 | 4.2 | 4.2 | 3.2 | 4.0 | | 3.2 | 4.1 | 4.1 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 2.0 | | 1.0 | 1.9 | 1.9 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.2 | 5.2 | 4.2 | 5.2 | 5.2 | 4.2 | 6.0 | | 4.2 | 6.0 | 6.0 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | None | None | C-Min | | None | C-Min | C-Min |

| Intersection Summary |
|---|
| Cycle Length: 140 |
| Actuated Cycle Length: 140 |
| Offset: 26 (19%), Referenced to phase 2:NBT and 6:SBT, Start of Green |
| Natural Cycle: 90 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 61: Cuyamaca Street & Prospect Avenue



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 127 | 170 | 174 | 93 | 180 | 211 | 178 | 753 | 75 | 183 | 581 | 212 |
| Future Volume (veh/h) | 127 | 170 | 174 | 93 | 180 | 211 | 178 | 753 | 75 | 183 | 581 | 212 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 0.97 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 138 | 185 | 189 | 101 | 196 | 229 | 193 | 818 | 82 | 199 | 632 | 230 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 162 | 376 | 312 | 123 | 637 | 275 | 218 | 2191 | 218 | 221 | 1662 | 729 |
| Arrive On Green | 0.09 | 0.20 | 0.20 | 0.07 | 0.18 | 0.18 | 0.12 | 0.47 | 0.47 | 0.25 | 0.94 | 0.94 |
| Sat Flow, veh/h | 1781 | 1870 | 1553 | 1781 | 3554 | 1536 | 1781 | 4704 | 469 | 1781 | 3554 | 1559 |
| Grp Volume(v), veh/h | 138 | 185 | 189 | 101 | 196 | 229 | 193 | 591 | 309 | 199 | 632 | 230 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1553 | 1781 | 1777 | 1536 | 1781 | 1702 | 1769 | 1781 | 1777 | 1559 |
| Q Serve(g_s), s | 10.7 | 12.3 | 15.5 | 7.8 | 6.7 | 20.1 | 14.9 | 15.7 | 15.9 | 15.2 | 2.5 | 1.9 |
| Cycle Q Clear(g_c), s | 10.7 | 12.3 | 15.5 | 7.8 | 6.7 | 20.1 | 14.9 | 15.7 | 15.9 | 15.2 | 2.5 | 1.9 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.27 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 162 | 376 | 312 | 123 | 637 | 275 | 218 | 1586 | 824 | 221 | 1662 | 729 |
| V/C Ratio(X) | 0.85 | 0.49 | 0.61 | 0.82 | 0.31 | 0.83 | 0.89 | 0.37 | 0.38 | 0.90 | 0.38 | 0.32 |
| Avail Cap(c_a), veh/h | 277 | 505 | 419 | 214 | 833 | 360 | 341 | 1586 | 824 | 354 | 1662 | 729 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 2.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 0.96 | 0.96 | 0.96 | 1.00 | 1.00 | 1.00 | 0.88 | 0.88 | 0.88 |
| Uniform Delay (d), s/veh | 62.7 | 49.6 | 50.9 | 64.3 | 49.9 | 55.4 | 60.5 | 24.2 | 24.2 | 51.8 | 2.5 | 2.5 |
| Incr Delay (d2), s/veh | 4.8 | 1.1 | 2.0 | 4.8 | 0.2 | 10.1 | 10.8 | 0.7 | 1.3 | 10.4 | 0.6 | 1.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 5.0 | 5.9 | 6.2 | 3.7 | 3.0 | 8.5 | 7.4 | 6.5 | 6.9 | 6.5 | 0.8 | 0.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 67.5 | 50.7 | 52.9 | 69.1 | 50.1 | 65.5 | 71.3 | 24.8 | 25.5 | 62.3 | 3.1 | 3.5 |
| LnGrp LOS | E | D | D | E | D | E | E | C | C | E | A | A |
| Approach Vol, veh/h | | 512 | | | 526 | | | 1093 | | | 1061 | |
| Approach Delay, s/veh | | 56.0 | | | 60.4 | | | 33.2 | | | 14.3 | |
| Approach LOS | | E | | | E | | | C | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 21.5 | 71.2 | 13.9 | 33.3 | 21.3 | 71.5 | 16.9 | 30.3 |
| Change Period (Y+Rc), s | * 4.2 | 6.0 | * 4.2 | 5.2 | * 4.2 | * 6 | * 4.2 | 5.2 |
| Max Green Setting (Gmax), s | * 28 | 38.0 | * 17 | 37.8 | * 27 | * 39 | * 22 | 32.8 |
| Max Q Clear Time (g_c+I1), s | 17.2 | 17.9 | 9.8 | 17.5 | 16.9 | 4.5 | 12.7 | 22.1 |
| Green Ext Time (p_c), s | 0.2 | 8.1 | 0.1 | 1.7 | 0.2 | 8.4 | 0.1 | 1.1 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 35.1 |
| HCM 6th LOS | D |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

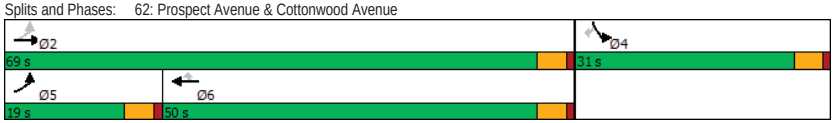




| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 93 | 343 | 258 | 97 | 77 | 45 |
| Future Volume (vph) | 93 | 343 | 258 | 97 | 77 | 45 |
| Confl. Peds. (#/hr) | | | | 1 | | 4 |
| Confl. Bikes (#/hr) | | | | 3 | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | pm+pt | NA | NA | Perm | Prot | Perm |
| Protected Phases | 5 | 2 | 6 | | 4 | |
| Permitted Phases | 2 | | | 6 | | 4 |
| Detector Phase | 5 | 2 | 6 | 6 | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 |
| Total Split (s) | 19.0 | 69.0 | 50.0 | 50.0 | 31.0 | 31.0 |
| Total Split (%) | 19.0% | 69.0% | 50.0% | 50.0% | 31.0% | 31.0% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | | Lag | Lag | | |
| Lead-Lag Optimize? | Yes | | Yes | Yes | | |
| Recall Mode | None | Min | Min | Min | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 41.6 |
| Natural Cycle: 55 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 62: Prospect Avenue & Cottonwood Avenue



Existing + Cuml PM
62: Prospect Avenue & Cottonwood Avenue

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 93 | 343 | 258 | 97 | 77 | 45 |
| Future Volume (veh/h) | 93 | 343 | 258 | 97 | 77 | 45 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 0.97 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 101 | 373 | 280 | 105 | 84 | 49 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 591 | 1023 | 539 | 445 | 171 | 152 |
| Arrive On Green | 0.08 | 0.55 | 0.29 | 0.29 | 0.10 | 0.10 |
| Sat Flow, veh/h | 1781 | 1870 | 1870 | 1545 | 1781 | 1585 |
| Grp Volume(v), veh/h | 101 | 373 | 280 | 105 | 84 | 49 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1870 | 1545 | 1781 | 1585 |
| Q Serve(g_s), s | 0.8 | 2.8 | 3.2 | 1.3 | 1.1 | 0.7 |
| Cycle Q Clear(g_c), s | 0.8 | 2.8 | 3.2 | 1.3 | 1.1 | 0.7 |
| Prop In Lane | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 591 | 1023 | 539 | 445 | 171 | 152 |
| V/C Ratio(X) | 0.17 | 0.36 | 0.52 | 0.24 | 0.49 | 0.32 |
| Avail Cap(c_a), veh/h | 1472 | 4783 | 3374 | 2786 | 1872 | 1665 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 4.7 | 3.2 | 7.5 | 6.9 | 10.8 | 10.6 |
| Incr Delay (d2), s/veh | 0.1 | 0.2 | 0.8 | 0.3 | 2.2 | 1.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.1 | 0.1 | 0.7 | 0.2 | 0.4 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 4.8 | 3.4 | 8.3 | 7.1 | 13.0 | 11.8 |
| LnGrp LOS | A | A | A | A | B | B |
| Approach Vol, veh/h | | 474 | 385 | | 133 | |
| Approach Delay, s/veh | | 3.7 | 8.0 | | 12.6 | |
| Approach LOS | | A | A | | B | |
| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 |
| Phs Duration (G+Y+Rc), s | | 18.3 | | 6.9 | 6.5 | 11.8 |
| Change Period (Y+Rc), s | | 4.5 | | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | | 64.5 | | 26.5 | 14.5 | 45.5 |
| Max Q Clear Time (g_c+I1), s | | 4.8 | | 3.1 | 2.8 | 5.2 |
| Green Ext Time (p_c), s | | 2.4 | | 0.3 | 0.2 | 2.1 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 6.6 |
| HCM 6th LOS | A |



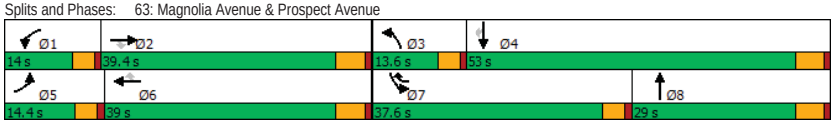
Existing + Cuml PM
63: Magnolia Avenue & Prospect Avenue

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 147 | 289 | 87 | 63 | 282 | 923 | 40 | 403 | 90 | 656 | 373 | 73 |
| Future Volume (vph) | 147 | 289 | 87 | 63 | 282 | 923 | 40 | 403 | 90 | 656 | 373 | 73 |
| Confl. Peds. (#/hr) | | | 9 | | | 1 | | | 5 | | | 4 |
| Confl. Bikes (#/hr) | | | 2 | | | 1 | | | 1 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | pm+ov | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | 4.0 | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 39.3 | 39.3 | 8.2 | 37.4 | 8.2 | 8.2 | 23.2 | | 8.2 | 36.2 | 36.2 |
| Total Split (s) | 14.4 | 39.4 | 39.4 | 14.0 | 39.0 | 37.6 | 13.6 | 29.0 | | 37.6 | 53.0 | 53.0 |
| Total Split (%) | 12.0% | 32.8% | 32.8% | 11.7% | 32.5% | 31.3% | 11.3% | 24.2% | | 31.3% | 44.2% | 44.2% |
| Yellow Time (s) | 3.2 | 4.3 | 4.3 | 3.2 | 4.4 | 3.2 | 3.2 | 4.2 | | 3.2 | 4.2 | 4.2 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | 5.3 | 4.2 | 5.4 | 4.2 | 4.2 | 5.2 | | 4.2 | 5.2 | 5.2 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | Min | Min | None | Min | None | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 99.4 |
| Natural Cycle: 95 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 63: Magnolia Avenue & Prospect Avenue



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 147 | 289 | 87 | 63 | 282 | 923 | 40 | 403 | 90 | 656 | 373 | 73 |
| Future Volume (veh/h) | 147 | 289 | 87 | 63 | 282 | 923 | 40 | 403 | 90 | 656 | 373 | 73 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 160 | 314 | 95 | 68 | 307 | 1003 | 43 | 438 | 98 | 713 | 405 | 79 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 229 | 620 | 514 | 88 | 1117 | 1528 | 55 | 538 | 119 | 831 | 1410 | 619 |
| Arrive On Green | 0.07 | 0.33 | 0.33 | 0.05 | 0.31 | 0.31 | 0.03 | 0.19 | 0.19 | 0.24 | 0.40 | 0.40 |
| Sat Flow, veh/h | 3456 | 1870 | 1551 | 1781 | 3554 | 2726 | 1781 | 2878 | 638 | 3456 | 3554 | 1560 |
| Grp Volume(v), veh/h | 160 | 314 | 95 | 68 | 307 | 1003 | 43 | 269 | 267 | 713 | 405 | 79 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1870 | 1551 | 1781 | 1777 | 1363 | 1781 | 1777 | 1739 | 1728 | 1777 | 1560 |
| Q Serve(g_s), s | 4.5 | 13.4 | 4.3 | 3.7 | 6.4 | 25.6 | 2.4 | 14.4 | 14.6 | 19.5 | 7.7 | 3.2 |
| Cycle Q Clear(g_c), s | 4.5 | 13.4 | 4.3 | 3.7 | 6.4 | 25.6 | 2.4 | 14.4 | 14.6 | 19.5 | 7.7 | 3.2 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.37 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 229 | 620 | 514 | 88 | 1117 | 1528 | 55 | 538 | 325 | 831 | 1410 | 619 |
| V/C Ratio(X) | 0.70 | 0.51 | 0.18 | 0.77 | 0.27 | 0.66 | 0.78 | 0.81 | 0.82 | 0.86 | 0.29 | 0.13 |
| Avail Cap(c_a), veh/h | 356 | 644 | 534 | 176 | 1206 | 1597 | 169 | 427 | 418 | 1166 | 1716 | 754 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 45.2 | 26.6 | 23.6 | 46.5 | 25.5 | 15.5 | 47.6 | 38.6 | 38.7 | 36.0 | 20.3 | 19.0 |
| Incr Delay (d2), s/veh | 3.8 | 0.6 | 0.2 | 13.4 | 0.1 | 0.9 | 21.1 | 8.8 | 9.8 | 4.7 | 0.1 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.0 | 6.0 | 1.6 | 2.0 | 2.7 | 7.6 | 1.4 | 7.0 | 7.0 | 8.6 | 3.2 | 1.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 49.1 | 27.2 | 23.7 | 59.9 | 25.6 | 16.4 | 68.8 | 47.3 | 48.5 | 40.7 | 20.4 | 19.1 |
| LnGrp LOS | D | C | C | E | C | B | E | D | D | D | C | B |
| Approach Vol, veh/h | | 569 | | | 1378 | | | 579 | | | 1197 | |
| Approach Delay, s/veh | | 32.8 | | | 20.6 | | | 49.5 | | | 32.4 | |
| Approach LOS | | C | | | C | | | D | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 9.1 | 38.2 | 7.2 | 44.5 | 10.8 | 36.5 | 28.0 | 23.7 |
| Change Period (Y+Rc), s | * 4.2 | * 5.4 | * 4.2 | 5.2 | * 4.2 | 5.4 | * 4.2 | 5.2 |
| Max Green Setting (Gmax), s | * 9.8 | * 34 | * 9.4 | 47.8 | * 10 | 33.6 | * 33 | 23.8 |
| Max Q Clear Time (g_c+I1), s | 5.7 | 15.4 | 4.4 | 9.7 | 6.5 | 27.6 | 21.5 | 16.6 |
| Green Ext Time (p_c), s | 0.0 | 2.1 | 0.0 | 3.2 | 0.2 | 3.3 | 2.3 | 1.9 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 30.8 |
| HCM 6th LOS | C |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

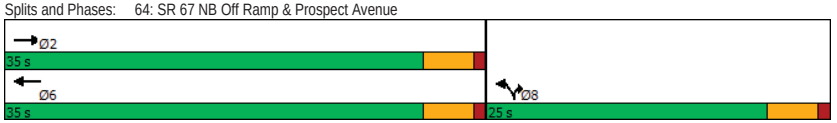




| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 1093 | 0 | 0 | 662 | 668 | 150 |
| Future Volume (vph) | 1093 | 0 | 0 | 662 | 668 | 150 |
| Confl. Peds. (#/hr) | | 5 | | | | |
| Confl. Bikes (#/hr) | | 3 | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | NA | | | NA | Prot | Prot |
| Protected Phases | 2 | | | 6 | 8 | 8 |
| Permitted Phases | | | | | | |
| Detector Phase | 2 | | | 6 | 8 | 8 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 5.0 | | | 10.0 | 5.0 | 5.0 |
| Minimum Split (s) | 20.6 | | | 20.6 | 20.6 | 20.6 |
| Total Split (s) | 35.0 | | | 35.0 | 25.0 | 25.0 |
| Total Split (%) | 58.3% | | | 58.3% | 41.7% | 41.7% |
| Yellow Time (s) | 3.6 | | | 3.6 | 3.6 | 3.6 |
| All-Red Time (s) | 1.0 | | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.6 | | | 4.6 | 4.6 | 4.6 |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | Min | | | Min | None | None |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 45.3 |
| Natural Cycle: 50 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 64: SR 67 NB Off Ramp & Prospect Avenue



| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 1093 | 0 | 0 | 662 | 668 | 150 |
| Future Volume (veh/h) | 1093 | 0 | 0 | 662 | 668 | 150 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | 1.00 | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 0 | 0 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 1188 | 0 | 0 | 720 | 726 | 163 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 0 | 0 | 2 | 2 | 2 |
| Cap, veh/h | 1673 | 0 | 0 | 1673 | 985 | 452 |
| Arrive On Green | 0.47 | 0.00 | 0.00 | 0.47 | 0.28 | 0.28 |
| Sat Flow, veh/h | 3741 | 0 | 0 | 3741 | 3456 | 1585 |
| Grp Volume(v), veh/h | 1188 | 0 | 0 | 720 | 726 | 163 |
| Grp Sat Flow(s),veh/h/ln | 1777 | 0 | 0 | 1777 | 1728 | 1585 |
| Q Serve(g_s), s | 10.0 | 0.0 | 0.0 | 5.1 | 7.2 | 3.1 |
| Cycle Q Clear(g_c), s | 10.0 | 0.0 | 0.0 | 5.1 | 7.2 | 3.1 |
| Prop In Lane | | 0.00 | 0.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 1673 | 0 | 0 | 1673 | 985 | 452 |
| V/C Ratio(X) | 0.71 | 0.00 | 0.00 | 0.43 | 0.74 | 0.36 |
| Avail Cap(c_a), veh/h | 2870 | 0 | 0 | 2870 | 1873 | 859 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 7.9 | 0.0 | 0.0 | 6.6 | 12.2 | 10.7 |
| Incr Delay (d2), s/veh | 0.2 | 0.0 | 0.0 | 0.2 | 0.4 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.2 | 0.0 | 0.0 | 1.1 | 2.2 | 0.9 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 8.1 | 0.0 | 0.0 | 6.8 | 12.6 | 10.9 |
| LnGrp LOS | A | A | A | A | B | B |
| Approach Vol, veh/h | 1188 | | | 720 | 889 | |
| Approach Delay, s/veh | 8.1 | | | 6.8 | 12.3 | |
| Approach LOS | A | | | A | B | |

| Timer - Assigned Phs | 2 | | | | 6 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 22.3 | | | | 22.3 | 15.3 |
| Change Period (Y+Rc), s | 4.6 | | | | 4.6 | 4.6 |
| Max Green Setting (Gmax), s | 30.4 | | | | 30.4 | 20.4 |
| Max Q Clear Time (g_c+I1), s | 12.0 | | | | 7.1 | 9.2 |
| Green Ext Time (p_c), s | 5.7 | | | | 5.0 | 1.6 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 9.1 |
| HCM 6th LOS | | A |

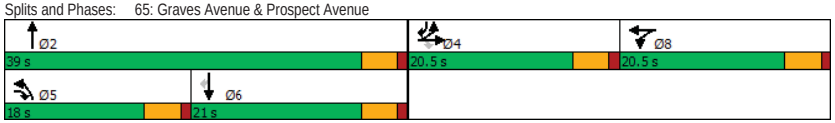




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 358 | 15 | 768 | 2 | 12 | 0 | 449 | 34 | 1 | 0 | 46 | 226 |
| Future Volume (vph) | 358 | 15 | 768 | 2 | 12 | 0 | 449 | 34 | 1 | 0 | 46 | 226 |
| Confl. Peds. (#/hr) | | | | | | 1 | | | 6 | | | |
| Confl. Bikes (#/hr) | | | 3 | | | 1 | | | 2 | | | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | 48% | | | | | | | | | | | |
| Turn Type | Split | NA | pm+ov | Split | NA | | Prot | NA | | | NA | pm+ov |
| Protected Phases | 4 | 4 | 5 | 8 | 8 | | 5 | 2 | | | 6 | 4 |
| Permitted Phases | | | 4 | | | | | | | | | 6 |
| Detector Phase | 4 | 4 | 5 | 8 | 8 | | 5 | 2 | | | 6 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | | 4.0 | 4.0 |
| Minimum Split (s) | 20.5 | 20.5 | 8.5 | 20.5 | 20.5 | | 8.5 | 20.5 | | | 20.5 | 20.5 |
| Total Split (s) | 20.5 | 20.5 | 18.0 | 20.5 | 20.5 | | 18.0 | 39.0 | | | 21.0 | 20.5 |
| Total Split (%) | 25.6% | 25.6% | 22.5% | 25.6% | 25.6% | | 22.5% | 48.8% | | | 26.3% | 25.6% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | | | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | | | 4.5 | 4.5 |
| Lead/Lag | | | Lead | | | | Lead | | | | Lag | |
| Lead-Lag Optimize? | | | Yes | | | | Yes | | | | Yes | |
| Recall Mode | None | None | None | None | None | | None | Min | | | Min | None |

| Intersection Summary |
|---|
| Cycle Length: 80 |
| Actuated Cycle Length: 51.9 |
| Natural Cycle: 80 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 65: Graves Avenue & Prospect Avenue



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 358 | 15 | 768 | 2 | 12 | 0 | 449 | 34 | 1 | 0 | 46 | 226 |
| Future Volume (veh/h) | 358 | 15 | 768 | 2 | 12 | 0 | 449 | 34 | 1 | 0 | 46 | 226 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 1.00 | 1.00 | | 0.97 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 0 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 400 | 0 | 835 | 2 | 13 | 0 | 488 | 37 | 1 | 0 | 50 | 246 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 0 | 2 | 2 |
| Cap, veh/h | 1077 | 0 | 764 | 30 | 32 | 0 | 645 | 770 | 21 | 0 | 288 | 719 |
| Arrive On Green | 0.30 | 0.00 | 0.30 | 0.02 | 0.02 | 0.00 | 0.19 | 0.43 | 0.43 | 0.00 | 0.15 | 0.15 |
| Sat Flow, veh/h | 3563 | 0 | 1548 | 1781 | 1870 | 0 | 3456 | 1811 | 49 | 0 | 1870 | 1559 |
| Grp Volume(v), veh/h | 400 | 0 | 835 | 2 | 13 | 0 | 488 | 0 | 38 | 0 | 50 | 246 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1548 | 1781 | 1870 | 0 | 1728 | 0 | 1860 | 0 | 1870 | 1559 |
| Q Serve(g_s), s | 4.7 | 0.0 | 16.0 | 0.1 | 0.4 | 0.0 | 7.1 | 0.0 | 0.6 | 0.0 | 1.2 | 5.4 |
| Cycle Q Clear(g_c), s | 4.7 | 0.0 | 16.0 | 0.1 | 0.4 | 0.0 | 7.1 | 0.0 | 0.6 | 0.0 | 1.2 | 5.4 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.00 | 1.00 | | 0.03 | 0.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 1077 | 0 | 764 | 30 | 32 | 0 | 645 | 0 | 791 | 0 | 288 | 719 |
| V/C Ratio(X) | 0.37 | 0.00 | 1.09 | 0.07 | 0.41 | 0.00 | 0.76 | 0.00 | 0.05 | 0.00 | 0.17 | 0.34 |
| Avail Cap(c_a), veh/h | 1077 | 0 | 764 | 539 | 565 | 0 | 882 | 0 | 1213 | 0 | 583 | 965 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 14.5 | 0.0 | 13.6 | 25.6 | 25.7 | 0.0 | 20.4 | 0.0 | 8.9 | 0.0 | 19.5 | 9.3 |
| Incr Delay (d2), s/veh | 0.2 | 0.0 | 61.0 | 0.9 | 8.1 | 0.0 | 2.5 | 0.0 | 0.0 | 0.0 | 0.3 | 0.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.7 | 0.0 | 19.9 | 0.0 | 0.2 | 0.0 | 2.8 | 0.0 | 0.2 | 0.0 | 0.5 | 2.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 14.7 | 0.0 | 74.6 | 26.5 | 33.8 | 0.0 | 22.9 | 0.0 | 8.9 | 0.0 | 19.8 | 9.6 |
| LnGrp LOS | B | A | F | C | C | A | C | A | A | A | B | A |
| Approach Vol, veh/h | | 1235 | | | 15 | | | 526 | | | 296 | |
| Approach Delay, s/veh | | 55.2 | | | 32.8 | | | 21.9 | | | 11.3 | |
| Approach LOS | | E | | | C | | | C | | | B | |

| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 27.0 | | 20.5 | 14.4 | 12.6 | | 5.4 | | | | |
| Change Period (Y+Rc), s | | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | | 34.5 | | 16.0 | 13.5 | 16.5 | | 16.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 2.6 | | 18.0 | 9.1 | 7.4 | | 2.4 | | | | |
| Green Ext Time (p_c), s | | 0.1 | | 0.0 | 0.8 | 0.7 | | 0.0 | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 40.3 | |
| HCM 6th LOS | | D | |

**Notes**

User approved volume balancing among the lanes for turning movement.

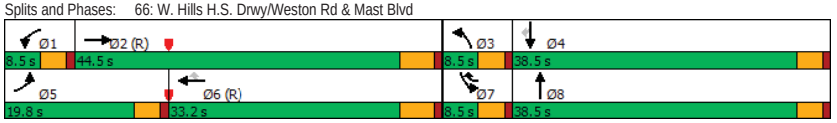




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 190 | 1527 | 3 | 13 | 480 | 102 | 0 | 9 | 4 | 44 | 4 | 81 |
| Future Volume (vph) | 190 | 1527 | 3 | 13 | 480 | 102 | 0 | 9 | 4 | 44 | 4 | 81 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | 4.0 | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.5 | 22.5 | | 8.5 | 27.3 | 8.5 | 8.5 | 38.5 | | 8.5 | 33.5 | 33.5 |
| Total Split (s) | 19.8 | 44.5 | | 8.5 | 33.2 | 8.5 | 8.5 | 38.5 | | 8.5 | 38.5 | 38.5 |
| Total Split (%) | 19.8% | 44.5% | | 8.5% | 33.2% | 8.5% | 8.5% | 38.5% | | 8.5% | 38.5% | 38.5% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | 3.2 | 3.2 | 3.2 | | 3.2 | 3.2 | 3.2 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | 4.2 | 4.2 | 4.2 | | 4.2 | 4.2 | 4.2 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | C-Min | | None | C-Min | None | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 81 (81%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 115 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 66: W. Hills H.S. Drwy/Weston Rd & Mast Blvd



Existing + Cuml PM
66: W. Hills H.S. Drwy/Weston Rd & Mast Blvd

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 190 | 1527 | 3 | 13 | 480 | 102 | 0 | 9 | 4 | 44 | 4 | 81 |
| Future Volume (veh/h) | 190 | 1527 | 3 | 13 | 480 | 102 | 0 | 9 | 4 | 44 | 4 | 81 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 207 | 1660 | 3 | 14 | 522 | 111 | 0 | 10 | 4 | 48 | 4 | 88 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 241 | 2574 | 5 | 23 | 2079 | 982 | 2 | 84 | 34 | 61 | 267 | 226 |
| Arrive On Green | 0.09 | 0.47 | 0.47 | 0.03 | 1.00 | 1.00 | 0.00 | 0.07 | 0.07 | 0.03 | 0.14 | 0.14 |
| Sat Flow, veh/h | 1781 | 3639 | 7 | 1781 | 3554 | 1585 | 1781 | 1271 | 508 | 1781 | 1870 | 1585 |
| Grp Volume(v), veh/h | 207 | 810 | 853 | 14 | 522 | 111 | 0 | 0 | 14 | 48 | 4 | 88 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1869 | 1781 | 1777 | 1585 | 1781 | 0 | 1779 | 1781 | 1870 | 1585 |
| Q Serve(g_s), s | 11.5 | 34.5 | 34.6 | 0.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.7 | 2.7 | 0.2 | 5.0 |
| Cycle Q Clear(g_c), s | 11.5 | 34.5 | 34.6 | 0.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.7 | 2.7 | 0.2 | 5.0 |
| Prop In Lane | 1.00 | | 0.00 | 1.00 | | 1.00 | 1.00 | | 0.29 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 241 | 1257 | 1322 | 23 | 2079 | 982 | 2 | 0 | 118 | 61 | 267 | 226 |
| V/C Ratio(X) | 0.86 | 0.64 | 0.64 | 0.61 | 0.25 | 0.11 | 0.00 | 0.00 | 0.12 | 0.78 | 0.01 | 0.39 |
| Avail Cap(c_a), veh/h | 278 | 1257 | 1322 | 77 | 2079 | 982 | 77 | 0 | 610 | 77 | 642 | 544 |
| HCM Platoon Ratio | 0.67 | 0.67 | 0.67 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.80 | 0.80 | 0.80 | 0.99 | 0.99 | 0.99 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 44.5 | 16.8 | 16.8 | 48.5 | 0.0 | 0.0 | 0.0 | 0.0 | 43.9 | 47.9 | 36.8 | 38.9 |
| Incr Delay (d2), s/veh | 17.2 | 2.1 | 2.0 | 23.2 | 0.3 | 0.2 | 0.0 | 0.0 | 0.4 | 32.9 | 0.0 | 1.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 6.3 | 15.2 | 15.9 | 0.5 | 0.1 | 0.1 | 0.0 | 0.0 | 0.3 | 1.7 | 0.1 | 2.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 61.7 | 18.8 | 18.7 | 71.6 | 0.3 | 0.2 | 0.0 | 0.0 | 44.4 | 80.8 | 36.8 | 40.0 |
| LnGrp LOS | E | B | B | E | A | A | A | A | D | F | D | D |
| Approach Vol, veh/h | | 1870 | | | 647 | | | 14 | | | 140 | |
| Approach Delay, s/veh | | 23.5 | | | 1.8 | | | 44.4 | | | 53.9 | |
| Approach LOS | | C | | | A | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.5 | 76.0 | 0.0 | 18.5 | 17.7 | 63.8 | 7.6 | 10.8 |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | * 4.2 | * 4.2 | * 4.2 | 5.3 | * 4.2 | * 4.2 |
| Max Green Setting (Gmax), s | * 4.3 | 39.2 | * 4.3 | * 34 | * 16 | 27.9 | * 4.3 | * 34 |
| Max Q Clear Time (g_c+I1), s | 2.8 | 36.6 | 0.0 | 7.0 | 13.5 | 2.0 | 4.7 | 2.7 |
| Green Ext Time (p_c), s | 0.0 | 2.2 | 0.0 | 0.3 | 0.1 | 3.8 | 0.0 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 20.0 |
| HCM 6th LOS | B |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

# APPENDIX H-2

## EXISTING + CUMULATIVE PROJECTS PEAK HOUR HCS FREEWAY SHEETS

## HCS7 Basic Freeway Report

### Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Cuml |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-52 EB: Santo Rd to Mast Blvd | | |

### Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Rolling |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 0.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 73.1 |
| Right-Side Lateral Clearance, ft | 10 | | |

### Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

### Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 1640 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.951 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 612 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.25 |
| Passenger Car Equivalent ($E_T$) | 3.000 | | |

### Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 73.1 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 8.4 |
| Total Ramp Density Adjustment | 2.3 | Level of Service (LOS) | A |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 73.1 | | |

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## HCS7 Basic Freeway Report

### Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Cuml |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-52 EB: Santo Rd to Mast Blvd | | |

### Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Rolling |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 0.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 73.1 |
| Right-Side Lateral Clearance, ft | 10 | | |

### Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | Mostly Familiar | Final Speed Adjustment Factor (SAF) | 0.975 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 0.968 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

### Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 5958 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.951 |
| Peak Hour Factor (PHF) | 0.92 | Flow Rate ($v_p$), pc/h/ln | 2270 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2323 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.98 |
| Passenger Car Equivalent ($E_T$) | 3.000 | | |

### Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 53.3 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 42.6 |
| Total Ramp Density Adjustment | 2.3 | Level of Service (LOS) | E |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 71.3 | | |

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## HCS7 Basic Freeway Report

### Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Cuml |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-52 WB: Mast Blvd to Santo Rd | | |

### Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Rolling |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 0.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 73.1 |
| Right-Side Lateral Clearance, ft | 10 | | |

### Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | Mostly Familiar | Final Speed Adjustment Factor (SAF) | 0.975 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 0.968 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

### Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 6442 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.951 |
| Peak Hour Factor (PHF) | 0.92 | Flow Rate ($v_p$), pc/h/ln | 2454 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2323 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 1.06 |
| Passenger Car Equivalent ($E_T$) | 3.000 | | |

### Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | - |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | - |
| Total Ramp Density Adjustment | 2.3 | Level of Service (LOS) | F |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 71.3 | | |

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## HCS7 Basic Freeway Report

### Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Cuml |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-52 WB: Mast Blvd to Santo Rd | | |

### Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Rolling |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 0.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 73.1 |
| Right-Side Lateral Clearance, ft | 10 | | |

### Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

### Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 2600 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.951 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 969 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.40 |
| Passenger Car Equivalent ($E_T$) | 3.000 | | |

### Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 73.1 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 13.3 |
| Total Ramp Density Adjustment | 2.3 | Level of Service (LOS) | B |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 73.1 | | |

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## HCS7 Basic Freeway Report

### Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Cuml |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-52 EB: Mast Blvd to SR-125 | | |

### Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 2 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.50 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.9 |
| Right-Side Lateral Clearance, ft | 10 | | |

### Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

### Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 1560 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 851 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.35 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

### Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 70.9 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 12.0 |
| Total Ramp Density Adjustment | 4.5 | Level of Service (LOS) | B |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.9 | | |

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## HCS7 Basic Freeway Report

### Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Cuml |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-52 EB: Mast Blvd to SR-125 | | |

### Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 2 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.50 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.9 |
| Right-Side Lateral Clearance, ft | 10 | | |

### Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

### Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 4922 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 2685 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 1.12 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

### Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | - |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | - |
| Total Ramp Density Adjustment | 4.5 | Level of Service (LOS) | F |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.9 | | |

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## HCS7 Basic Freeway Report

### Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Cuml |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-52 WB: SR-125 to Mast Blvd | | |

### Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 2 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.4 |
| Right-Side Lateral Clearance, ft | 10 | | |

### Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

### Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 4332 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 2364 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.98 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

### Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 54.3 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 43.5 |
| Total Ramp Density Adjustment | 5.0 | Level of Service (LOS) | E |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.4 | | |

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## HCS7 Basic Freeway Report

### Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Cuml |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-52 WB: SR-125 to Mast Blvd | | |

### Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 2 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.4 |
| Right-Side Lateral Clearance, ft | 10 | | |

### Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

### Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 2654 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1448 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.60 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

### Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 69.6 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 20.8 |
| Total Ramp Density Adjustment | 5.0 | Level of Service (LOS) | C |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.4 | | |

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## HCS7 Basic Freeway Report

### Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Cuml |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-52 EB: SR-125 to Cuyamaca St | | |

### Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.4 |
| Right-Side Lateral Clearance, ft | 8 | | |

### Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

### Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 1861 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 677 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.28 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

### Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 70.4 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 9.6 |
| Total Ramp Density Adjustment | 5.0 | Level of Service (LOS) | A |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.4 | | |

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## HCS7 Basic Freeway Report

### Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Cuml |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-52 EB: SR-125 to Cuyamaca St | | |

### Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.4 |
| Right-Side Lateral Clearance, ft | 8 | | |

### Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

### Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 4621 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1681 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.70 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

### Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 67.5 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 24.9 |
| Total Ramp Density Adjustment | 5.0 | Level of Service (LOS) | C |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.4 | | |

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## HCS7 Basic Freeway Report

### Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Cuml |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-52 WB: Cuyamaca St to SR-125 | | |

### Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.83 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.1 |
| Right-Side Lateral Clearance, ft | 10 | | |

### Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

### Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 3474 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1264 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.53 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

### Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 70.0 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 18.1 |
| Total Ramp Density Adjustment | 5.4 | Level of Service (LOS) | C |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.1 | | |

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## HCS7 Basic Freeway Report

### Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Cuml |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-52 WB: Cuyamaca St to SR-125 | | |

### Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.83 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.1 |
| Right-Side Lateral Clearance, ft | 10 | | |

### Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

### Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 3070 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1117 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.47 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

### Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 70.1 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 15.9 |
| Total Ramp Density Adjustment | 5.4 | Level of Service (LOS) | B |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.1 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Cuml |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-52 EB: Cuyamaca St to SR-67 | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.33 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 71.3 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 1370 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 498 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.21 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 71.3 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 7.0 |
| Total Ramp Density Adjustment | 4.1 | Level of Service (LOS) | A |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 71.3 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Cuml |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-52 EB: Cuyamaca St to SR-67 | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.33 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 71.3 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 4274 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1554 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.65 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 69.4 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 22.4 |
| Total Ramp Density Adjustment | 4.1 | Level of Service (LOS) | C |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 71.3 | | |

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## HCS7 Basic Freeway Report

### Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Cuml |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-52 WB: SR-67 to Cuyamaca St | | |

### Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.50 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.9 |
| Right-Side Lateral Clearance, ft | 10 | | |

### Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

### Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 3426 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1246 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.52 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

### Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 70.8 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 17.6 |
| Total Ramp Density Adjustment | 4.5 | Level of Service (LOS) | B |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.9 | | |

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## HCS7 Basic Freeway Report

### Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Cuml |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-52 WB: SR-67 to Cuyamaca St | | |

### Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.50 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.9 |
| Right-Side Lateral Clearance, ft | 10 | | |

### Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

### Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 2632 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 957 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.40 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

### Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 70.9 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 13.5 |
| Total Ramp Density Adjustment | 4.5 | Level of Service (LOS) | B |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.9 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Cuml |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-67 NB: SR-52 to Riverford Rd | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 2 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.00 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 69.6 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 2386 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.932 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1362 |
| Total Trucks, % | 7.30 | Capacity (c), pc/h/ln | 2396 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2396 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.57 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 69.3 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 19.7 |
| Total Ramp Density Adjustment | 5.8 | Level of Service (LOS) | C |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 69.6 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Cuml |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-67 NB: SR-52 to Riverford Rd | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 2 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.00 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 69.6 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 3841 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.932 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 2192 |
| Total Trucks, % | 7.30 | Capacity (c), pc/h/ln | 2396 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2396 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.91 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 58.4 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 37.5 |
| Total Ramp Density Adjustment | 5.8 | Level of Service (LOS) | E |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 69.6 | | |

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## HCS7 Basic Freeway Report

### Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Cuml |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-67 SB: Riverford Rd to SR-52 | | |

### Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 2 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.17 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 69.2 |
| Right-Side Lateral Clearance, ft | 10 | | |

### Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

### Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 3373 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.932 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1925 |
| Total Trucks, % | 7.30 | Capacity (c), pc/h/ln | 2392 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2392 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.80 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

### Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 63.5 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 30.3 |
| Total Ramp Density Adjustment | 6.2 | Level of Service (LOS) | D |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 69.2 | | |

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## HCS7 Basic Freeway Report

### Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Cuml |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-67 SB: Riverford Rd to SR-52 | | |

### Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 2 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.17 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 69.2 |
| Right-Side Lateral Clearance, ft | 10 | | |

### Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

### Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 2835 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.932 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1618 |
| Total Trucks, % | 7.30 | Capacity (c), pc/h/ln | 2392 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2392 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.68 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

### Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 67.4 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 24.0 |
| Total Ramp Density Adjustment | 6.2 | Level of Service (LOS) | C |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 69.2 | | |

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## HCS7 Basic Freeway Report

### Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Cuml |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-67 NB: Bradley Ave to SR-52 | | |

### Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 4 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.17 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 69.2 |
| Right-Side Lateral Clearance, ft | 10 | | |

### Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

### Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 2896 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.937 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 822 |
| Total Trucks, % | 6.70 | Capacity (c), pc/h/ln | 2392 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2392 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.34 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

### Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 69.2 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 11.9 |
| Total Ramp Density Adjustment | 6.2 | Level of Service (LOS) | B |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 69.2 | | |

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## HCS7 Basic Freeway Report

### Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Cuml |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-67 NB: Bradley Ave to SR-52 | | |

### Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 4 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.17 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 69.2 |
| Right-Side Lateral Clearance, ft | 10 | | |

### Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

### Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 4662 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.937 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1323 |
| Total Trucks, % | 6.70 | Capacity (c), pc/h/ln | 2392 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2392 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.55 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

### Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 69.1 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 19.1 |
| Total Ramp Density Adjustment | 6.2 | Level of Service (LOS) | C |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 69.2 | | |

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## HCS7 Basic Freeway Report

### Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Cuml |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-67 SB: SR-52 to Bradley Ave | | |

### Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.16 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 69.3 |
| Right-Side Lateral Clearance, ft | 10 | | |

### Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

### Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 4094 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.937 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1549 |
| Total Trucks, % | 6.70 | Capacity (c), pc/h/ln | 2393 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2393 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.65 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

### Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 68.1 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 22.7 |
| Total Ramp Density Adjustment | 6.1 | Level of Service (LOS) | C |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 69.3 | | |

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## HCS7 Basic Freeway Report

### Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Cuml |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-67 SB: SR-52 to Bradley Ave | | |

### Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.16 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 69.3 |
| Right-Side Lateral Clearance, ft | 10 | | |

### Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

### Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 3442 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.937 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1303 |
| Total Trucks, % | 6.70 | Capacity (c), pc/h/ln | 2393 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2393 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.54 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

### Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 69.2 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 18.8 |
| Total Ramp Density Adjustment | 6.1 | Level of Service (LOS) | C |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 69.3 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Cuml |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-125 NB: South of SR-52 | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 5 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.4 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 3227 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.958 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 717 |
| Total Trucks, % | 4.40 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.30 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 70.4 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 10.2 |
| Total Ramp Density Adjustment | 5.0 | Level of Service (LOS) | A |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.4 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Cuml |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-125 NB: South of SR-52 | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 5 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.4 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 2849 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.958 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 633 |
| Total Trucks, % | 4.40 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.26 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 70.4 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 9.0 |
| Total Ramp Density Adjustment | 5.0 | Level of Service (LOS) | A |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.4 | | |

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## HCS7 Basic Freeway Report

### Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Cuml |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-125 SB: South of SR-52 | | |

### Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 4 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.4 |
| Right-Side Lateral Clearance, ft | 10 | | |

### Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

### Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 2073 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.958 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 576 |
| Total Trucks, % | 4.40 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.24 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

### Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 70.4 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 8.2 |
| Total Ramp Density Adjustment | 5.0 | Level of Service (LOS) | A |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.4 | | |

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## HCS7 Basic Freeway Report

### Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Cuml |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-125 SB: South of SR-52 | | |

### Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 4 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.4 |
| Right-Side Lateral Clearance, ft | 10 | | |

### Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

### Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 3638 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.958 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1010 |
| Total Trucks, % | 4.40 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.42 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

### Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 70.4 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 14.3 |
| Total Ramp Density Adjustment | 5.0 | Level of Service (LOS) | B |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.4 | | |

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# APPENDIX I

## EXISTING + CUMULATIVE PROJECTS + PROJECT PEAK HOUR ANALYSES

# APPENDIX I-1

## EXISTING + CUMULATIVE PROJECTS + PROJECT PEAK HOUR SYNCHRO INTERSECTION SHEETS

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.3 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 15 | 0 | 244 | 7 | 0 | 472 |
| Future Vol, veh/h | 15 | 0 | 244 | 7 | 0 | 472 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | 150 | 50 | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 16 | 0 | 265 | 8 | 0 | 513 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 778 | 265 | 0 | 0 | 273 | 0 |
| Stage 1 | 265 | - | - | - | - | - |
| Stage 2 | 513 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | - | - | 4.12 | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | - | - | 2.218 | - |
| Pot Cap-1 Maneuver | 365 | 774 | - | - | 1290 | - |
| Stage 1 | 779 | - | - | - | - | - |
| Stage 2 | 601 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | |
| Mov Cap-1 Maneuver | 365 | 774 | - | - | 1290 | - |
| Mov Cap-2 Maneuver | 365 | - | - | - | - | - |
| Stage 1 | 779 | - | - | - | - | - |
| Stage 2 | 601 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 15.3 | 0 | 0 |
| HCM LOS | C | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | SBL | SBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 365 | 1290 | - |
| HCM Lane V/C Ratio | - | - | 0.045 | - | - |
| HCM Control Delay (s) | - | - | 15.3 | 0 | - |
| HCM Lane LOS | - | - | C | A | - |
| HCM 95th %tile Q(veh) | - | - | 0.1 | 0 | - |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 12.8 |
| Intersection LOS | B |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 40 | 32 | 8 | 0 | 26 | 206 | 8 | 0 | 398 | 0 |
| Future Vol, veh/h | 0 | 0 | 40 | 32 | 8 | 0 | 26 | 206 | 8 | 0 | 398 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 43 | 35 | 9 | 0 | 28 | 224 | 9 | 0 | 433 | 0 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 3 | 3 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 3 | 3 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 3 | 3 | 1 | 1 |
| HCM Control Delay | 8.7 | 10 | 10.1 | 15.1 |
| HCM LOS | A | A | B | C |

| Lane | NBLn1 | NBLn2 | NBLn3 | EBLn1 | WBLn1 | SBLn1 | SBLn2 | SBLn3 |
|---|---|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 0% | 80% | 0% | 0% | 0% |
| Vol Thru, % | 0% | 100% | 0% | 0% | 20% | 100% | 100% | 100% |
| Vol Right, % | 0% | 0% | 100% | 100% | 0% | 0% | 0% | 0% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 26 | 206 | 8 | 40 | 40 | 0 | 398 | 0 |
| LT Vol | 26 | 0 | 0 | 0 | 32 | 0 | 0 | 0 |
| Through Vol | 0 | 206 | 0 | 0 | 8 | 0 | 398 | 0 |
| RT Vol | 0 | 0 | 8 | 40 | 0 | 0 | 0 | 0 |
| Lane Flow Rate | 28 | 224 | 9 | 43 | 43 | 0 | 433 | 0 |
| Geometry Grp | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| Degree of Util (X) | 0.044 | 0.321 | 0.011 | 0.067 | 0.08 | 0 | 0.603 | 0 |
| Departure Headway (Hd) | 5.666 | 5.162 | 4.457 | 5.559 | 6.653 | 5.021 | 5.021 | 5.021 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 630 | 694 | 799 | 640 | 536 | 0 | 718 | 0 |
| Service Time | 3.415 | 2.911 | 2.205 | 3.336 | 4.431 | 2.763 | 2.763 | 2.763 |
| HCM Lane V/C Ratio | 0.044 | 0.323 | 0.011 | 0.067 | 0.08 | 0 | 0.603 | 0 |
| HCM Control Delay | 8.7 | 10.4 | 7.3 | 8.7 | 10 | 7.8 | 15.1 | 7.8 |
| HCM Lane LOS | A | B | A | A | A | N | C | N |
| HCM 95th-tile Q | 0.1 | 1.4 | 0 | 0.2 | 0.3 | 0 | 4.1 | 0 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 17.9 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 0 | 0 | 17 | 128 | 0 | 1 | 10 | 397 | 58 | 1 | 766 | 0 |
| Future Vol, veh/h | 0 | 0 | 17 | 128 | 0 | 1 | 10 | 397 | 58 | 1 | 766 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 18 | 139 | 0 | 1 | 11 | 432 | 63 | 1 | 833 | 0 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1321 | 1352 | 833 | 1330 | 1321 | 464 | 833 | 0 | 0 | 495 | 0 | 0 |
| Stage 1 | 835 | 835 | - | 486 | 486 | - | - | - | - | - | - | - |
| Stage 2 | 486 | 517 | - | 844 | 835 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | 4.12 | - | - | 4.12 | - | - |
| Critical Hdwy Stg 1 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | 2.218 | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 134 | 150 | 369 | ~ 132 | 157 | 598 | 800 | - | - | 1069 | - | - |
| Stage 1 | 362 | 383 | - | 563 | 551 | - | - | - | - | - | - | - |
| Stage 2 | 563 | 534 | - | 358 | 383 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 132 | 147 | 369 | ~ 123 | 154 | 598 | 800 | - | - | 1069 | - | - |
| Mov Cap-2 Maneuver | 132 | 147 | - | ~ 123 | 154 | - | - | - | - | - | - | - |
| Stage 1 | 355 | 382 | - | 552 | 541 | - | - | - | - | - | - | - |
| Stage 2 | 551 | 524 | - | 339 | 382 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 15.3 | 188.5 | 0.2 | 0 |
| HCM LOS | C | F | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 800 | - | - | 369 | 124 | 1069 | - | - |
| HCM Lane V/C Ratio | 0.014 | - | - | 0.05 | 1.131 | 0.001 | - | - |
| HCM Control Delay (s) | 9.6 | 0 | - | 15.3 | 188.5 | 8.4 | 0 | - |
| HCM Lane LOS | A | A | - | C | F | A | A | - |
| HCM 95th %tile Q(veh) | 0 | - | - | 0.2 | 8.3 | 0 | - | - |

| Notes |
|---|
| ~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 30.9 |
| Intersection LOS | D |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 0 | 1 | 12 | 233 | 0 | 4 | 3 | 257 | 68 | 8 | 515 | 0 |
| Future Vol, veh/h | 0 | 1 | 12 | 233 | 0 | 4 | 3 | 257 | 68 | 8 | 515 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 1 | 13 | 253 | 0 | 4 | 3 | 279 | 74 | 9 | 560 | 0 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |

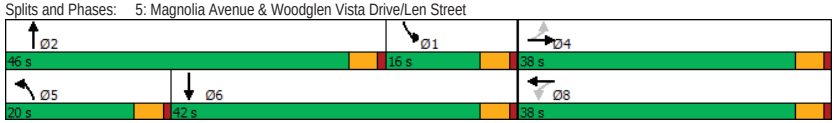
| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay | 10.2 | 15.9 | 17.9 | 46.4 |
| HCM LOS | B | C | C | E |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 98% | 100% | 0% |
| Vol Thru, % | 0% | 79% | 8% | 0% | 0% | 100% |
| Vol Right, % | 0% | 21% | 92% | 2% | 0% | 0% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 3 | 325 | 13 | 237 | 8 | 515 |
| LT Vol | 3 | 0 | 0 | 233 | 8 | 0 |
| Through Vol | 0 | 257 | 1 | 0 | 0 | 515 |
| RT Vol | 0 | 68 | 12 | 4 | 0 | 0 |
| Lane Flow Rate | 3 | 353 | 14 | 258 | 9 | 560 |
| Geometry Grp | 7 | 7 | 2 | 2 | 7 | 7 |
| Degree of Util (X) | 0.006 | 0.605 | 0.027 | 0.479 | 0.016 | 0.936 |
| Departure Headway (Hd) | 6.821 | 6.162 | 6.966 | 6.694 | 6.525 | 6.017 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 522 | 583 | 517 | 533 | 546 | 599 |
| Service Time | 4.603 | 3.943 | 4.966 | 4.786 | 4.293 | 3.785 |
| HCM Lane V/C Ratio | 0.006 | 0.605 | 0.027 | 0.484 | 0.016 | 0.935 |
| HCM Control Delay | 9.6 | 18 | 10.2 | 15.9 | 9.4 | 47 |
| HCM Lane LOS | A | C | B | C | A | E |
| HCM 95th-tile Q | 0 | 4 | 0.1 | 2.6 | 0 | 12.2 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 17 | 1 | 111 | 45 | 13 | 10 | 36 | 343 | 14 | 7 | 724 | 11 |
| Future Volume (vph) | 17 | 1 | 111 | 45 | 13 | 10 | 36 | 343 | 14 | 7 | 724 | 11 |
| Confl. Peds. (#/hr) | | | 95 | | | 4 | | | 15 | | | 95 |
| Confl. Bikes (#/hr) | | | 1 | | | 1 | | | | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Perm | NA | | Perm | NA | | Prot | NA | | Prot | NA | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 26.5 | 26.5 | | 26.5 | 26.5 | | 11.5 | 22.5 | | 11.5 | 22.5 | |
| Total Split (s) | 38.0 | 38.0 | | 38.0 | 38.0 | | 20.0 | 46.0 | | 16.0 | 42.0 | |
| Total Split (%) | 38.0% | 38.0% | | 38.0% | 38.0% | | 20.0% | 46.0% | | 16.0% | 42.0% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | | | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lead | | Lag | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 43.1 |
| Natural Cycle: 65 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 5: Magnolia Avenue & Woodglen Vista Drive/Len Street






Existing + Cuml + Proj AM
5: Magnolia Avenue & Woodglen Vista Drive/Len Street
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 17 | 1 | 111 | 45 | 13 | 10 | 36 | 343 | 14 | 7 | 724 | 11 |
| Future Volume (veh/h) | 17 | 1 | 111 | 45 | 13 | 10 | 36 | 343 | 14 | 7 | 724 | 11 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.89 | 0.93 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 0.85 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 18 | 1 | 121 | 49 | 14 | 11 | 39 | 373 | 15 | 8 | 787 | 12 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 595 | 3 | 419 | 329 | 91 | 51 | 106 | 984 | 39 | 238 | 1275 | 19 |
| Arrive On Green | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | 0.06 | 0.28 | 0.28 | 0.13 | 0.36 | 0.36 |
| Sat Flow, veh/h | 1381 | 12 | 1407 | 679 | 306 | 172 | 1781 | 3478 | 139 | 1781 | 3571 | 54 |
| Grp Volume(v), veh/h | 18 | 0 | 122 | 74 | 0 | 0 | 39 | 190 | 198 | 8 | 391 | 408 |
| Grp Sat Flow(s),veh/h/ln | 1381 | 0 | 1419 | 1158 | 0 | 0 | 1781 | 1777 | 1841 | 1781 | 1777 | 1849 |
| Q Serve(g_s), s | 0.0 | 0.0 | 3.1 | 0.7 | 0.0 | 0.0 | 1.0 | 4.1 | 4.1 | 0.2 | 8.6 | 8.6 |
| Cycle Q Clear(g_c), s | 0.3 | 0.0 | 3.1 | 3.8 | 0.0 | 0.0 | 1.0 | 4.1 | 4.1 | 0.2 | 8.6 | 8.6 |
| Prop In Lane | 1.00 | | 0.99 | 0.66 | | 0.15 | 1.00 | | 0.08 | 1.00 | | 0.03 |
| Lane Grp Cap(c), veh/h | 595 | 0 | 422 | 471 | 0 | 0 | 106 | 503 | 521 | 238 | 634 | 660 |
| V/C Ratio(X) | 0.03 | 0.00 | 0.29 | 0.16 | 0.00 | 0.00 | 0.37 | 0.38 | 0.38 | 0.03 | 0.62 | 0.62 |
| Avail Cap(c_a), veh/h | 1165 | 0 | 1008 | 1015 | 0 | 0 | 585 | 1563 | 1619 | 434 | 1412 | 1470 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 11.8 | 0.0 | 12.7 | 12.6 | 0.0 | 0.0 | 21.3 | 13.6 | 13.6 | 17.8 | 12.5 | 12.5 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 0.4 | 0.2 | 0.0 | 0.0 | 2.1 | 0.5 | 0.5 | 0.1 | 1.0 | 0.9 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.1 | 0.0 | 0.9 | 0.6 | 0.0 | 0.0 | 0.4 | 1.4 | 1.4 | 0.1 | 2.7 | 2.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 11.8 | 0.0 | 13.1 | 12.8 | 0.0 | 0.0 | 23.5 | 14.1 | 14.1 | 17.9 | 13.5 | 13.5 |
| LnGrp LOS | B | A | B | B | A | A | C | B | B | B | B | B |
| Approach Vol, veh/h | | 140 | | | 74 | | | 427 | | | 807 | |
| Approach Delay, s/veh | | 12.9 | | | 12.8 | | | 14.9 | | | 13.5 | |
| Approach LOS | | B | | | B | | | B | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 10.8 | 17.8 | | 18.5 | 7.3 | 21.3 | | 18.5 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 11.5 | 41.5 | | 33.5 | 15.5 | 37.5 | | 33.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.2 | 6.1 | | 5.1 | 3.0 | 10.6 | | 5.8 | | | | |
| Green Ext Time (p_c), s | 0.0 | 2.2 | | 0.9 | 0.0 | 5.0 | | 0.4 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 13.8 | |
| HCM 6th LOS | B | |

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\7 Existing + Cuml + Proj AM.syn

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 143.1 |
| Intersection LOS | F |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 1 | 7 | 264 | 4 | 3 | 5 | 331 | 48 | 1 | 772 | 1 |
| Future Vol, veh/h | 0 | 1 | 7 | 264 | 4 | 3 | 5 | 331 | 48 | 1 | 772 | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 1 | 8 | 287 | 4 | 3 | 5 | 360 | 52 | 1 | 839 | 1 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay | 11.8 | 20.4 | 26.7 | 245.2 |
| HCM LOS | B | C | D | F |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 97% | 100% | 0% |
| Vol Thru, % | 0% | 87% | 12% | 1% | 0% | 100% |
| Vol Right, % | 0% | 13% | 88% | 1% | 0% | 0% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 5 | 379 | 8 | 271 | 1 | 773 |
| LT Vol | 5 | 0 | 0 | 264 | 1 | 0 |
| Through Vol | 0 | 331 | 1 | 4 | 0 | 772 |
| RT Vol | 0 | 48 | 7 | 3 | 0 | 1 |
| Lane Flow Rate | 5 | 412 | 9 | 295 | 1 | 840 |
| Geometry Grp | 7 | 7 | 2 | 2 | 7 | 7 |
| Degree of Util (X) | 0.011 | 0.736 | 0.018 | 0.565 | 0.002 | 1.485 |
| Departure Headway (Hd) | 7.637 | 7.031 | 8.598 | 7.761 | 6.873 | 6.362 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 471 | 519 | 419 | 468 | 521 | 571 |
| Service Time | 5.337 | 4.731 | 6.598 | 5.761 | 4.615 | 4.104 |
| HCM Lane V/C Ratio | 0.011 | 0.794 | 0.021 | 0.63 | 0.002 | 1.471 |
| HCM Control Delay | 10.4 | 26.9 | 11.8 | 20.4 | 9.6 | 245.5 |
| HCM Lane LOS | B | D | B | C | A | F |
| HCM 95th-tile Q | 0 | 6.1 | 0.1 | 3.4 | 0 | 41.6 |

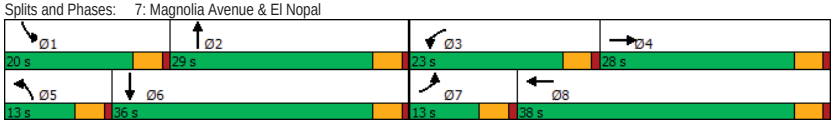




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 46 | 64 | 96 | 140 | 122 | 187 | 51 | 383 | 55 | 281 | 685 | 85 |
| Future Volume (vph) | 46 | 64 | 96 | 140 | 122 | 187 | 51 | 383 | 55 | 281 | 685 | 85 |
| Confl. Peds. (#/hr) | | | | | | 2 | | | | | | |
| Confl. Bikes (#/hr) | | | 2 | | | 2 | | | 1 | | | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | | Prot | NA | |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 11.5 | 26.5 | | 11.5 | 25.5 | | 11.5 | 22.5 | | 11.5 | 22.5 | |
| Total Split (s) | 13.0 | 28.0 | | 23.0 | 38.0 | | 13.0 | 29.0 | | 20.0 | 36.0 | |
| Total Split (%) | 13.0% | 28.0% | | 23.0% | 38.0% | | 13.0% | 29.0% | | 20.0% | 36.0% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | | None | Max | | None | Max | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 84.1 |
| Natural Cycle: 80 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 7: Magnolia Avenue & El Nopal



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 46 | 64 | 96 | 140 | 122 | 187 | 51 | 383 | 55 | 281 | 685 | 85 |
| Future Volume (veh/h) | 46 | 64 | 96 | 140 | 122 | 187 | 51 | 383 | 55 | 281 | 685 | 85 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 50 | 70 | 104 | 152 | 133 | 203 | 55 | 416 | 60 | 305 | 745 | 92 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 103 | 128 | 191 | 191 | 159 | 242 | 108 | 922 | 132 | 334 | 1344 | 166 |
| Arrive On Green | 0.06 | 0.19 | 0.19 | 0.11 | 0.24 | 0.24 | 0.06 | 0.30 | 0.30 | 0.19 | 0.42 | 0.42 |
| Sat Flow, veh/h | 1781 | 673 | 1000 | 1781 | 661 | 1008 | 1781 | 3110 | 445 | 1781 | 3174 | 392 |
| Grp Volume(v), veh/h | 50 | 0 | 174 | 152 | 0 | 336 | 55 | 236 | 240 | 305 | 417 | 420 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1673 | 1781 | 0 | 1669 | 1781 | 1777 | 1779 | 1781 | 1777 | 1789 |
| Q Serve(g_s), s | 2.2 | 0.0 | 7.8 | 6.9 | 0.0 | 15.8 | 2.5 | 8.9 | 9.1 | 13.9 | 14.6 | 14.6 |
| Cycle Q Clear(g_c), s | 2.2 | 0.0 | 7.8 | 6.9 | 0.0 | 15.8 | 2.5 | 8.9 | 9.1 | 13.9 | 14.6 | 14.6 |
| Prop In Lane | 1.00 | | 0.60 | 1.00 | | 0.60 | 1.00 | | 0.25 | 1.00 | | 0.22 |
| Lane Grp Cap(c), veh/h | 103 | 0 | 319 | 191 | 0 | 401 | 108 | 527 | 527 | 334 | 752 | 757 |
| V/C Ratio(X) | 0.49 | 0.00 | 0.55 | 0.80 | 0.00 | 0.84 | 0.51 | 0.45 | 0.45 | 0.91 | 0.55 | 0.55 |
| Avail Cap(c_a), veh/h | 183 | 0 | 476 | 399 | 0 | 677 | 183 | 527 | 527 | 334 | 752 | 757 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 37.7 | 0.0 | 30.2 | 36.0 | 0.0 | 29.9 | 37.6 | 23.6 | 23.6 | 32.9 | 17.9 | 18.0 |
| Incr Delay (d2), s/veh | 3.5 | 0.0 | 1.5 | 7.3 | 0.0 | 4.7 | 3.7 | 2.7 | 2.8 | 28.3 | 2.9 | 2.9 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.1 | 0.0 | 3.2 | 3.3 | 0.0 | 6.7 | 1.1 | 3.9 | 4.0 | 8.3 | 6.0 | 6.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 41.2 | 0.0 | 31.6 | 43.3 | 0.0 | 34.6 | 41.3 | 26.3 | 26.4 | 61.2 | 20.9 | 20.9 |
| LnGrp LOS | D | A | C | D | A | C | D | C | C | E | C | C |
| Approach Vol, veh/h | | 224 | | | 488 | | | 531 | | | 1142 | |
| Approach Delay, s/veh | | 33.8 | | | 37.3 | | | 27.9 | | | 31.6 | |
| Approach LOS | | C | | | D | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 20.0 | 29.0 | 13.4 | 20.3 | 9.5 | 39.5 | 9.3 | 24.3 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 15.5 | 24.5 | 18.5 | 23.5 | 8.5 | 31.5 | 8.5 | 33.5 |
| Max Q Clear Time (g_c+I1), s | 15.9 | 11.1 | 8.9 | 9.8 | 4.5 | 16.6 | 4.2 | 17.8 |
| Green Ext Time (p_c), s | 0.0 | 2.2 | 0.3 | 0.8 | 0.0 | 4.4 | 0.0 | 2.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 32.2 |
| HCM 6th LOS | C |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 24.6 |
| Intersection LOS | C |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 408 | 21 | 173 | 314 | 17 | 224 |
| Future Vol, veh/h | 408 | 21 | 173 | 314 | 17 | 224 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 443 | 23 | 188 | 341 | 18 | 243 |
| Number of Lanes | 1 | 1 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB |
|---|---|---|---|
| Opposing Approach | WB | EB | |
| Opposing Lanes | 1 | 2 | 0 |
| Conflicting Approach Left | | NB | EB |
| Conflicting Lanes Left | 0 | 1 | 2 |
| Conflicting Approach Right | NB | | WB |
| Conflicting Lanes Right | 1 | 0 | 1 |
| HCM Control Delay | 23.7 | 30.9 | 13.6 |
| HCM LOS | C | D | B |

| Lane | NBLn1 | EBLn1 | EBLn2 | WBLn1 |
|---|---|---|---|---|
| Vol Left, % | 7% | 0% | 0% | 36% |
| Vol Thru, % | 0% | 100% | 0% | 64% |
| Vol Right, % | 93% | 0% | 100% | 0% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 241 | 408 | 21 | 487 |
| LT Vol | 17 | 0 | 0 | 173 |
| Through Vol | 0 | 408 | 0 | 314 |
| RT Vol | 224 | 0 | 21 | 0 |
| Lane Flow Rate | 262 | 443 | 23 | 529 |
| Geometry Grp | 2 | 7 | 7 | 5 |
| Degree of Util (X) | 0.434 | 0.745 | 0.034 | 0.834 |
| Departure Headway (Hd) | 5.966 | 6.045 | 5.334 | 5.673 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 600 | 594 | 667 | 635 |
| Service Time | 4.043 | 3.808 | 3.096 | 3.734 |
| HCM Lane V/C Ratio | 0.437 | 0.746 | 0.034 | 0.833 |
| HCM Control Delay | 13.6 | 24.5 | 8.3 | 30.9 |
| HCM Lane LOS | B | C | A | D |
| HCM 95th-tile Q | 2.2 | 6.5 | 0.1 | 8.9 |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 125.5 |
| Intersection LOS | F |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 90 | 43 | 424 | 75 | 68 | 825 |
| Future Vol, veh/h | 90 | 43 | 424 | 75 | 68 | 825 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 98 | 47 | 461 | 82 | 74 | 897 |
| Number of Lanes | 1 | 0 | 1 | 0 | 0 | 1 |

| Approach | WB | NB | SB |
|---|---|---|---|
| Opposing Approach | | SB | NB |
| Opposing Lanes | 0 | 1 | 1 |
| Conflicting Approach Left | NB | | WB |
| Conflicting Lanes Left | 1 | 0 | 1 |
| Conflicting Approach Right | SB | WB | |
| Conflicting Lanes Right | 1 | 1 | 0 |
| HCM Control Delay | 13 | 26.3 | 197.7 |
| HCM LOS | B | D | F |

| Lane | NBLn1 | WBLn1 | SBLn1 |
|---|---|---|---|
| Vol Left, % | 0% | 68% | 8% |
| Vol Thru, % | 85% | 0% | 92% |
| Vol Right, % | 15% | 32% | 0% |
| Sign Control | Stop | Stop | Stop |
| Traffic Vol by Lane | 499 | 133 | 893 |
| LT Vol | 0 | 90 | 68 |
| Through Vol | 424 | 0 | 825 |
| RT Vol | 75 | 43 | 0 |
| Lane Flow Rate | 542 | 145 | 971 |
| Geometry Grp | 1 | 1 | 1 |
| Degree of Util (X) | 0.786 | 0.267 | 1.383 |
| Departure Headway (Hd) | 5.678 | 7.368 | 5.131 |
| Convergence, Y/N | Yes | Yes | Yes |
| Cap | 640 | 490 | 709 |
| Service Time | 3.678 | 5.368 | 3.22 |
| HCM Lane V/C Ratio | 0.847 | 0.296 | 1.37 |
| HCM Control Delay | 26.3 | 13 | 197.7 |
| HCM Lane LOS | D | B | F |
| HCM 95th-tile Q | 7.6 | 1.1 | 41.6 |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 11.9 |
| Intersection LOS | B |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 3 | 20 | 262 | 8 | 27 | 10 | 244 | 39 | 4 | 2 | 28 | 1 |
| Future Vol, veh/h | 3 | 20 | 262 | 8 | 27 | 10 | 244 | 39 | 4 | 2 | 28 | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 3 | 22 | 285 | 9 | 29 | 11 | 265 | 42 | 4 | 2 | 30 | 1 |
| Number of Lanes | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 2 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 2 | 2 | 3 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 3 | 2 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 3 | 2 | 1 | 2 |
| HCM Control Delay | 11.1 | 9.6 | 13.3 | 9.5 |
| HCM LOS | B | A | B | A |

| Lane | NBLn1 | NBLn2 | NBLn3 | EBLn1 | EBLn2 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 13% | 0% | 18% | 100% | 0% |
| Vol Thru, % | 0% | 100% | 76% | 87% | 0% | 60% | 0% | 97% |
| Vol Right, % | 0% | 0% | 24% | 0% | 100% | 22% | 0% | 3% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 244 | 26 | 17 | 23 | 262 | 45 | 2 | 29 |
| LT Vol | 244 | 0 | 0 | 3 | 0 | 8 | 2 | 0 |
| Through Vol | 0 | 26 | 13 | 20 | 0 | 27 | 0 | 28 |
| RT Vol | 0 | 0 | 4 | 0 | 262 | 10 | 0 | 1 |
| Lane Flow Rate | 265 | 28 | 18 | 25 | 285 | 49 | 2 | 32 |
| Geometry Grp | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| Degree of Util (X) | 0.458 | 0.045 | 0.028 | 0.041 | 0.405 | 0.085 | 0.004 | 0.056 |
| Departure Headway (Hd) | 6.211 | 5.706 | 5.54 | 5.888 | 5.121 | 6.277 | 6.916 | 6.384 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 581 | 629 | 647 | 612 | 706 | 571 | 518 | 561 |
| Service Time | 3.934 | 3.43 | 3.264 | 3.588 | 2.821 | 4.011 | 4.653 | 4.121 |
| HCM Lane V/C Ratio | 0.456 | 0.045 | 0.028 | 0.041 | 0.404 | 0.086 | 0.004 | 0.057 |
| HCM Control Delay | 14.1 | 8.7 | 8.4 | 8.8 | 11.3 | 9.6 | 9.7 | 9.5 |
| HCM Lane LOS | B | A | A | A | B | A | A | A |
| HCM 95th-tile Q | 2.4 | 0.1 | 0.1 | 0.1 | 2 | 0.3 | 0 | 0.2 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 4.8 |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 8 | 42 | 23 | 20 | 0 | 32 |
| Future Vol, veh/h | 8 | 42 | 23 | 20 | 0 | 32 |
| Conflicting Peds, #/hr | 1 | 1 | 1 | 0 | 0 | 1 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | 150 | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 9 | 46 | 25 | 22 | 0 | 35 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 92 | 20 | 36 | 0 | - | 0 |
| Stage 1 | 19 | - | - | - | - | - |
| Stage 2 | 73 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | 4.12 | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | 2.218 | - | - | - |
| Pot Cap-1 Maneuver | 908 | 1058 | 1575 | - | - | - |
| Stage 1 | 1004 | - | - | - | - | - |
| Stage 2 | 950 | - | - | - | - | - |
| Platoon blocked, % | | | | | - | - |
| Mov Cap-1 Maneuver | 892 | 1056 | 1574 | | - | - |
| Mov Cap-2 Maneuver | 892 | - | - | | - | - |
| Stage 1 | 987 | - | - | | - | - |
| Stage 2 | 949 | - | - | | - | - |

| Approach | EB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 8.7 | 3.9 | 0 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1574 | - | 1026 | - | - |
| HCM Lane V/C Ratio | 0.016 | - | 0.053 | - | - |
| HCM Control Delay (s) | 7.3 | - | 8.7 | - | - |
| HCM Lane LOS | A | - | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | 0.2 | - | - |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 272.6 |
| Intersection LOS | F |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 11 | 93 | 1 | 1 | 1 | 393 | 32 | 3 | 1015 | 0 |
| Future Vol, veh/h | 0 | 0 | 11 | 93 | 1 | 1 | 1 | 393 | 32 | 3 | 1015 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 12 | 101 | 1 | 1 | 1 | 427 | 35 | 3 | 1103 | 0 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 3 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 3 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 3 | 2 | 1 | 1 |
| HCM Control Delay | 11.4 | 14.4 | 19.9 | 405.3 |
| HCM LOS | B | B | C | F |

| Lane | NBLn1 | NBLn2 | NBLn3 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 0% | 98% | 100% | 0% |
| Vol Thru, % | 0% | 100% | 0% | 0% | 1% | 0% | 100% |
| Vol Right, % | 0% | 0% | 100% | 100% | 1% | 0% | 0% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 1 | 393 | 32 | 11 | 95 | 3 | 1015 |
| LT Vol | 1 | 0 | 0 | 0 | 93 | 3 | 0 |
| Through Vol | 0 | 393 | 0 | 0 | 1 | 0 | 1015 |
| RT Vol | 0 | 0 | 32 | 11 | 1 | 0 | 0 |
| Lane Flow Rate | 1 | 427 | 35 | 12 | 103 | 3 | 1103 |
| Geometry Grp | 7 | 7 | 7 | 7 | 7 | 8 | 8 |
| Degree of Util (X) | 0.002 | 0.669 | 0.048 | 0.023 | 0.221 | 0.006 | 1.855 |
| Departure Headway (Hd) | 6.847 | 6.337 | 5.622 | 8.454 | 9.144 | 6.557 | 6.052 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 526 | 572 | 641 | 426 | 395 | 542 | 607 |
| Service Time | 4.547 | 4.037 | 3.322 | 6.154 | 6.844 | 4.339 | 3.835 |
| HCM Lane V/C Ratio | 0.002 | 0.747 | 0.055 | 0.028 | 0.261 | 0.006 | 1.817 |
| HCM Control Delay | 9.6 | 20.9 | 8.6 | 11.4 | 14.4 | 9.4 | 406.5 |
| HCM Lane LOS | A | C | A | B | B | A | F |
| HCM 95th-tile Q | 0 | 5 | 0.2 | 0.1 | 0.8 | 0 | 68.7 |

| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 163 | 34 | 477 | 111 | 111 | 949 |
| Future Volume (vph) | 163 | 34 | 477 | 111 | 111 | 949 |
| Confl. Peds. (#/hr) | | 4 | | 11 | | |
| Confl. Bikes (#/hr) | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | 0% | | | 0% |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | NA | | Prot | NA |
| Protected Phases | 8 | | 2 | | 1 | 6 |
| Permitted Phases | | 8 | | | | |
| Detector Phase | 8 | 8 | 2 | | 1 | 6 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | | 8.5 | 20.5 |
| Total Split (s) | 22.5 | 22.5 | 22.5 | | 10.0 | 32.5 |
| Total Split (%) | 40.9% | 40.9% | 40.9% | | 18.2% | 59.1% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Lead/Lag | | | Lag | | Lead | |
| Lead-Lag Optimize? | | | Yes | | Yes | |
| Recall Mode | None | None | Min | | None | Min |

| Intersection Summary |
|---|
| Cycle Length: 55 |
| Actuated Cycle Length: 41.8 |
| Natural Cycle: 55 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 13: Magnolia Avenue & 2nd Street

Existing + Cuml + Proj AM
13: Magnolia Avenue & 2nd Street
Fanita Ranch
06/06/2019

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 163 | 34 | 477 | 111 | 111 | 949 |
| Future Volume (veh/h) | 163 | 34 | 477 | 111 | 111 | 949 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | | 0.98 | 1.00 | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | No | | | No |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 177 | 37 | 518 | 121 | 121 | 1032 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 262 | 233 | 923 | 214 | 152 | 1980 |
| Arrive On Green | 0.15 | 0.15 | 0.32 | 0.32 | 0.09 | 0.56 |
| Sat Flow, veh/h | 1781 | 1585 | 2945 | 663 | 1781 | 3647 |
| Grp Volume(v), veh/h | 177 | 37 | 322 | 317 | 121 | 1032 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 1777 | 1738 | 1781 | 1777 |
| Q Serve(g_s), s | 2.9 | 0.6 | 4.5 | 4.6 | 2.0 | 5.5 |
| Cycle Q Clear(g_c), s | 2.9 | 0.6 | 4.5 | 4.6 | 2.0 | 5.5 |
| Prop In Lane | 1.00 | 1.00 | | 0.38 | 1.00 | |
| Lane Grp Cap(c), veh/h | 262 | 233 | 575 | 562 | 152 | 1980 |
| V/C Ratio(X) | 0.68 | 0.16 | 0.56 | 0.56 | 0.79 | 0.52 |
| Avail Cap(c_a), veh/h | 1054 | 938 | 1052 | 1028 | 322 | 3272 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 12.3 | 11.3 | 8.5 | 8.5 | 13.6 | 4.2 |
| Incr Delay (d2), s/veh | 3.0 | 0.3 | 0.9 | 0.9 | 9.0 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.1 | 0.2 | 1.1 | 1.1 | 0.9 | 0.3 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 15.3 | 11.6 | 9.4 | 9.4 | 22.6 | 4.4 |
| LnGrp LOS | B | B | A | A | C | A |
| Approach Vol, veh/h | 214 | | 639 | | | 1153 |
| Approach Delay, s/veh | 14.7 | | 9.4 | | | 6.3 |
| Approach LOS | B | | A | | | A |

| Timer - Assigned Phs | 1 | 2 | | | 6 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.1 | 14.3 | | | 21.4 | 9.0 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 5.5 | 18.0 | | | 28.0 | 18.0 |
| Max Q Clear Time (g_c+I1), s | 4.0 | 6.6 | | | 7.5 | 4.9 |
| Green Ext Time (p_c), s | 0.0 | 2.8 | | | 7.1 | 0.5 |

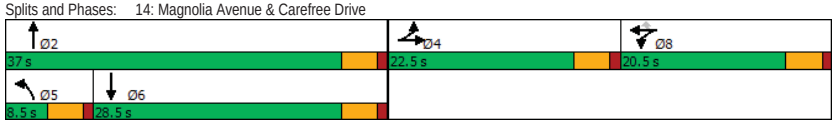
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 8.2 | |
| HCM 6th LOS | A | |

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\7 Existing + Cuml + Proj AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 14 | 0 | 58 | 189 | 0 | 31 | 17 | 554 | 0 | 0 | 1064 | 19 |
| Future Volume (vph) | 14 | 0 | 58 | 189 | 0 | 31 | 17 | 554 | 0 | 0 | 1064 | 19 |
| Confl. Peds. (#/hr) | | | 115 | | | | | | 13 | | | 18 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | 50% | | | | | | | | |
| Turn Type | Split | NA | | Split | NA | Perm | Prot | NA | | | NA | |
| Protected Phases | 4 | 4 | | 8 | 8 | | 5 | 2 | | | 6 | |
| Permitted Phases | | | | | | 8 | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | 8 | 5 | 2 | | | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | | 4.0 | |
| Minimum Split (s) | 22.5 | 22.5 | | 20.5 | 20.5 | 20.5 | 8.5 | 22.5 | | | 22.5 | |
| Total Split (s) | 22.5 | 22.5 | | 20.5 | 20.5 | 20.5 | 8.5 | 37.0 | | | 28.5 | |
| Total Split (%) | 28.1% | 28.1% | | 25.6% | 25.6% | 25.6% | 10.6% | 46.3% | | | 35.6% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | 0.0 | |
| Total Lost Time (s) | | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | | 4.5 | |
| Lead/Lag | | | | | | | Lead | | | | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | | | | Yes | |
| Recall Mode | None | None | | None | None | None | None | Min | | | Min | |

| Intersection Summary |
|---|
| Cycle Length: 80 |
| Actuated Cycle Length: 53.5 |
| Natural Cycle: 90 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 14: Magnolia Avenue & Carefree Drive






Existing + Cuml + Proj AM
14: Magnolia Avenue & Carefree Drive
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 14 | 0 | 58 | 189 | 0 | 31 | 17 | 554 | 0 | 0 | 1064 | 19 |
| Future Volume (veh/h) | 14 | 0 | 58 | 189 | 0 | 31 | 17 | 554 | 0 | 0 | 1064 | 19 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.84 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.96 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 0 | 0 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 15 | 0 | 63 | 205 | 0 | 34 | 18 | 602 | 0 | 0 | 1157 | 21 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 0 | 0 | 2 | 2 |
| Cap, veh/h | 56 | 0 | 237 | 343 | 0 | 153 | 31 | 1662 | 0 | 0 | 1338 | 24 |
| Arrive On Green | 0.21 | 0.00 | 0.21 | 0.10 | 0.00 | 0.10 | 0.02 | 0.47 | 0.00 | 0.00 | 0.38 | 0.38 |
| Sat Flow, veh/h | 268 | 0 | 1126 | 3563 | 0 | 1585 | 1781 | 3647 | 0 | 0 | 3661 | 65 |
| Grp Volume(v), veh/h | 78 | 0 | 0 | 205 | 0 | 34 | 18 | 602 | 0 | 0 | 576 | 602 |
| Grp Sat Flow(s),veh/h/ln | 1394 | 0 | 0 | 1781 | 0 | 1585 | 1781 | 1777 | 0 | 0 | 1777 | 1855 |
| Q Serve(g_s), s | 2.8 | 0.0 | 0.0 | 3.3 | 0.0 | 1.2 | 0.6 | 6.5 | 0.0 | 0.0 | 18.0 | 18.0 |
| Cycle Q Clear(g_c), s | 2.8 | 0.0 | 0.0 | 3.3 | 0.0 | 1.2 | 0.6 | 6.5 | 0.0 | 0.0 | 18.0 | 18.0 |
| Prop In Lane | 0.19 | | 0.81 | 1.00 | | 1.00 | 1.00 | | 0.00 | 0.00 | | 0.03 |
| Lane Grp Cap(c), veh/h | 294 | 0 | 0 | 343 | 0 | 153 | 31 | 1662 | 0 | 0 | 667 | 696 |
| V/C Ratio(X) | 0.27 | 0.00 | 0.00 | 0.60 | 0.00 | 0.22 | 0.58 | 0.36 | 0.00 | 0.00 | 0.86 | 0.86 |
| Avail Cap(c_a), veh/h | 419 | 0 | 0 | 952 | 0 | 424 | 119 | 1929 | 0 | 0 | 712 | 744 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 19.8 | 0.0 | 0.0 | 25.9 | 0.0 | 25.0 | 29.2 | 10.2 | 0.0 | 0.0 | 17.3 | 17.3 |
| Incr Delay (d2), s/veh | 0.5 | 0.0 | 0.0 | 1.7 | 0.0 | 0.7 | 16.3 | 0.1 | 0.0 | 0.0 | 10.3 | 10.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.9 | 0.0 | 0.0 | 1.4 | 0.0 | 0.5 | 0.4 | 2.0 | 0.0 | 0.0 | 7.9 | 8.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 20.2 | 0.0 | 0.0 | 27.6 | 0.0 | 25.7 | 45.6 | 10.3 | 0.0 | 0.0 | 27.6 | 27.3 |
| LnGrp LOS | C | A | A | C | A | C | D | B | A | A | C | C |
| Approach Vol, veh/h | | 78 | | | 239 | | | 620 | | | 1178 | |
| Approach Delay, s/veh | | 20.2 | | | 27.3 | | | 11.4 | | | 27.4 | |
| Approach LOS | | C | | | C | | | B | | | C | |

| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 32.5 | | 17.1 | 5.5 | 27.0 | | 10.3 | | | | |
| Change Period (Y+Rc), s | | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | | 32.5 | | 18.0 | 4.0 | 24.0 | | 16.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 8.5 | | 4.8 | 2.6 | 20.0 | | 5.3 | | | | |
| Green Ext Time (p_c), s | | 3.9 | | 0.3 | 0.0 | 2.5 | | 0.6 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 22.4 | |
| HCM 6th LOS | C | |

Notes

User approved volume balancing among the lanes for turning movement.

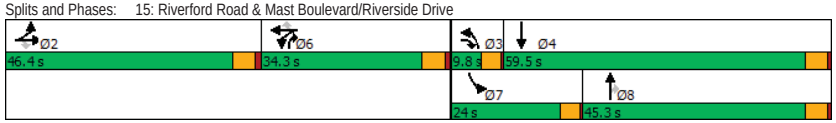
Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\7 Existing + Cuml + Proj AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 31 | 32 | 56 | 456 | 11 | 266 | 18 | 223 | 330 | 355 | 377 | 13 |
| Future Volume (vph) | 31 | 32 | 56 | 456 | 11 | 266 | 18 | 223 | 330 | 355 | 377 | 13 |
| Confl. Peds. (#/hr) | | | 4 | | | 3 | | | 7 | | | |
| Confl. Bikes (#/hr) | | | 1 | | | 2 | | | 2 | | | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Split | NA | pm+ov | Split | NA | Perm | Prot | NA | pm+ov | Prot | NA | |
| Protected Phases | 2 | 2 | 3 | 6 | 6 | | 3 | 8 | 6 | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | 8 | | | |
| Detector Phase | 2 | 2 | 3 | 6 | 6 | 6 | 3 | 8 | 6 | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 6.0 | 6.0 | 5.0 | 4.0 | 4.0 | 4.0 | 5.0 | 6.0 | 4.0 | 4.0 | 6.0 | |
| Minimum Split (s) | 45.3 | 45.3 | 9.1 | 34.3 | 34.3 | 34.3 | 9.1 | 45.3 | 34.3 | 8.6 | 49.9 | |
| Total Split (s) | 46.4 | 46.4 | 9.8 | 34.3 | 34.3 | 34.3 | 9.8 | 45.3 | 34.3 | 24.0 | 59.5 | |
| Total Split (%) | 30.9% | 30.9% | 6.5% | 22.9% | 22.9% | 22.9% | 6.5% | 30.2% | 22.9% | 16.0% | 39.7% | |
| Yellow Time (s) | 4.3 | 4.3 | 3.6 | 4.3 | 4.3 | 4.3 | 3.6 | 3.9 | 4.3 | 3.6 | 3.9 | |
| All-Red Time (s) | 1.0 | 1.0 | 0.5 | 1.0 | 1.0 | 1.0 | 0.5 | 1.0 | 1.0 | 0.5 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 5.3 | 5.3 | 4.1 | 5.3 | 5.3 | 5.3 | 4.1 | 4.9 | 5.3 | 4.1 | 4.9 | |
| Lead/Lag | | | Lead | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | Yes | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | None | None | None | None | None | Min | None | None | Min | |

**Intersection Summary**

Cycle Length: 150
Actuated Cycle Length: 92.9
Natural Cycle: 150
Control Type: Actuated-Uncoordinated

Splits and Phases: 15: Riverford Road & Mast Boulevard/Riverside Drive








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 31 | 32 | 56 | 456 | 11 | 266 | 18 | 223 | 330 | 355 | 377 | 13 |
| Future Volume (veh/h) | 31 | 32 | 56 | 456 | 11 | 266 | 18 | 223 | 330 | 355 | 377 | 13 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.95 | 1.00 | | 0.97 | 1.00 | | 0.98 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 34 | 35 | 61 | 496 | 12 | 289 | 20 | 242 | 359 | 386 | 410 | 14 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 150 | 300 | 285 | 799 | 822 | 356 | 39 | 439 | 730 | 403 | 789 | 27 |
| Arrive On Green | 0.08 | 0.08 | 0.08 | 0.23 | 0.23 | 0.23 | 0.02 | 0.23 | 0.23 | 0.23 | 0.44 | 0.44 |
| Sat Flow, veh/h | 1781 | 3554 | 2657 | 3456 | 3554 | 1538 | 1781 | 1870 | 1549 | 1781 | 1797 | 61 |
| Grp Volume(v), veh/h | 34 | 35 | 61 | 496 | 12 | 289 | 20 | 242 | 359 | 386 | 0 | 424 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1329 | 1728 | 1777 | 1538 | 1781 | 1870 | 1549 | 1781 | 0 | 1858 |
| Q Serve(g_s), s | 1.6 | 0.8 | 1.8 | 11.3 | 0.2 | 15.6 | 1.0 | 10.0 | 14.2 | 18.8 | 0.0 | 14.6 |
| Cycle Q Clear(g_c), s | 1.6 | 0.8 | 1.8 | 11.3 | 0.2 | 15.6 | 1.0 | 10.0 | 14.2 | 18.8 | 0.0 | 14.6 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.03 |
| Lane Grp Cap(c), veh/h | 150 | 300 | 285 | 799 | 822 | 356 | 39 | 439 | 730 | 403 | 0 | 816 |
| V/C Ratio(X) | 0.23 | 0.12 | 0.21 | 0.62 | 0.01 | 0.81 | 0.51 | 0.55 | 0.49 | 0.96 | 0.00 | 0.52 |
| Avail Cap(c_a), veh/h | 833 | 1662 | 1304 | 1140 | 1173 | 508 | 116 | 860 | 1079 | 403 | 0 | 1155 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 37.6 | 37.2 | 35.9 | 30.3 | 26.0 | 32.0 | 42.5 | 29.6 | 16.3 | 33.6 | 0.0 | 17.9 |
| Incr Delay (d2), s/veh | 0.8 | 0.2 | 0.4 | 0.8 | 0.0 | 6.6 | 9.9 | 1.1 | 0.5 | 33.7 | 0.0 | 0.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.7 | 0.3 | 0.6 | 4.6 | 0.1 | 6.3 | 0.5 | 4.5 | 7.5 | 11.7 | 0.0 | 6.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 38.3 | 37.4 | 36.3 | 31.1 | 26.1 | 38.6 | 52.4 | 30.6 | 16.8 | 67.3 | 0.0 | 18.4 |
| LnGrp LOS | D | D | D | C | C | D | D | C | B | E | A | B |
| Approach Vol, veh/h | | 130 | | | 797 | | | 621 | | | 810 | |
| Approach Delay, s/veh | | 37.1 | | | 33.7 | | | 23.3 | | | 41.7 | |
| Approach LOS | | D | | | C | | | C | | | D | |

| Timer - Assigned Phs | | 2 | 3 | 4 | | 6 | 7 | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 12.7 | 6.0 | 43.5 | | 25.6 | 24.0 | 25.5 | | | | |
| Change Period (Y+Rc), s | | 5.3 | 4.1 | 4.9 | | 5.3 | 4.1 | 4.9 | | | | |
| Max Green Setting (Gmax), s | | 41.1 | 5.7 | 54.6 | | 29.0 | 19.9 | 40.4 | | | | |
| Max Q Clear Time (g_c+I1), s | | 3.8 | 3.0 | 16.6 | | 17.6 | 20.8 | 16.2 | | | | |
| Green Ext Time (p_c), s | | 0.5 | 0.0 | 2.9 | | 2.4 | 0.0 | 2.8 | | | | |

**Intersection Summary**

| | | |
|---|---|---|
| HCM 6th Ctrl Delay | 33.9 | |
| HCM 6th LOS | C | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 6 | 0 | 173 | 3 | 0 | 0 | 0 | 0 | 563 | 0 | 2 |
| Future Volume (vph) | 0 | 6 | 0 | 173 | 3 | 0 | 0 | 0 | 0 | 563 | 0 | 2 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | 1 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | 50% | | |
| Turn Type | | NA | | Split | NA | | | | | Split | NA | |
| Protected Phases | | 8 | | 4 | 4 | | | | | 2 | 2 | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | | 8 | | 4 | 4 | | | | | 2 | 2 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | 7.0 | | 8.0 | 8.0 | | | | | 5.0 | 5.0 | |
| Minimum Split (s) | | 25.1 | | 28.4 | 28.4 | | | | | 32.3 | 32.3 | |
| Total Split (s) | | 25.1 | | 30.0 | 30.0 | | | | | 34.9 | 34.9 | |
| Total Split (%) | | 27.9% | | 33.3% | 33.3% | | | | | 38.8% | 38.8% | |
| Yellow Time (s) | | 4.1 | | 4.4 | 4.4 | | | | | 4.1 | 4.1 | |
| All-Red Time (s) | | 1.0 | | 1.0 | 1.0 | | | | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | | 0.0 | 0.0 | | | | | 0.0 | 0.0 | |
| Total Lost Time (s) | | 5.1 | | 5.4 | 5.4 | | | | | 5.1 | 5.1 | |
| Lead/Lag | | | | | | | | | | | | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Recall Mode | | None | | None | None | | | | | None | None | |

**Intersection Summary**

Cycle Length: 90
Actuated Cycle Length: 40.1
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 16: SR 52 EB Ramps & Mast Blvd

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 6 | 0 | 173 | 3 | 0 | 0 | 0 | 0 | 563 | 0 | 2 |
| Future Volume (veh/h) | 0 | 6 | 0 | 173 | 3 | 0 | 0 | 0 | 0 | 563 | 0 | 2 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | | | | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | | | | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | | | | No | |
| Adj Sat Flow, veh/h/ln | 0 | 1870 | 1870 | 1870 | 1870 | 0 | | | | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 7 | 0 | 188 | 3 | 0 | | | | 614 | 0 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 0 | 2 | 2 | 2 | 2 | 0 | | | | 2 | 2 | 2 |
| Cap, veh/h | 0 | 25 | 0 | 367 | 385 | 0 | | | | 1021 | 536 | 0 |
| Arrive On Green | 0.00 | 0.01 | 0.00 | 0.21 | 0.21 | 0.00 | | | | 0.29 | 0.00 | 0.00 |
| Sat Flow, veh/h | 0 | 1870 | 0 | 1781 | 1870 | 0 | | | | 3563 | 1870 | 0 |
| Grp Volume(v), veh/h | 0 | 7 | 0 | 188 | 3 | 0 | | | | 614 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 0 | 1870 | 0 | 1781 | 1870 | 0 | | | | 1781 | 1870 | 0 |
| Q Serve(g_s), s | 0.0 | 0.1 | 0.0 | 3.0 | 0.0 | 0.0 | | | | 4.7 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 0.0 | 0.1 | 0.0 | 3.0 | 0.0 | 0.0 | | | | 4.7 | 0.0 | 0.0 |
| Prop In Lane | 0.00 | | 0.00 | 1.00 | | 0.00 | | | | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 0 | 25 | 0 | 367 | 385 | 0 | | | | 1021 | 536 | 0 |
| V/C Ratio(X) | 0.00 | 0.28 | 0.00 | 0.51 | 0.01 | 0.00 | | | | 0.60 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 0 | 1185 | 0 | 1389 | 1458 | 0 | | | | 3364 | 1766 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | | | | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 0.0 | 15.4 | 0.0 | 11.1 | 10.0 | 0.0 | | | | 9.7 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 0.0 | 2.3 | 0.0 | 1.1 | 0.0 | 0.0 | | | | 0.6 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.1 | 0.0 | 0.9 | 0.0 | 0.0 | | | | 1.3 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 17.7 | 0.0 | 12.2 | 10.0 | 0.0 | | | | 10.3 | 0.0 | 0.0 |
| LnGrp LOS | A | B | A | B | A | A | | | | B | A | A |
| Approach Vol, veh/h | | 7 | | | 191 | | | | | | 614 | |
| Approach Delay, s/veh | | 17.7 | | | 12.2 | | | | | | 10.3 | |
| Approach LOS | | B | | | B | | | | | | B | |

| Timer - Assigned Phs | | 2 | | 4 | | | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 14.1 | | 11.9 | | | | 5.5 | | | | |
| Change Period (Y+Rc), s | | 5.1 | | 5.4 | | | | 5.1 | | | | |
| Max Green Setting (Gmax), s | | 29.8 | | 24.6 | | | | 20.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 6.7 | | 5.0 | | | | 2.1 | | | | |
| Green Ext Time (p_c), s | | 2.3 | | 0.5 | | | | 0.0 | | | | |

**Intersection Summary**

| | | |
|---|---|---|
| HCM 6th Ctrl Delay | 10.8 | |
| HCM 6th LOS | B | |

**Notes**

User approved volume balancing among the lanes for turning movement.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 7 | 562 | 0 | 0 | 170 | 2614 | 6 | 0 | 51 | 0 | 0 | 0 |
| Future Volume (vph) | 7 | 562 | 0 | 0 | 170 | 2614 | 6 | 0 | 51 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | 47% | | | 44% | | | |
| Turn Type | Prot | NA | | | NA | Perm | Perm | NA | Perm | | | |
| Protected Phases | 5 | 2 | | | 6 | | | 8 | | | | |
| Permitted Phases | | | | | | 6 | 8 | | 8 | | | |
| Detector Phase | 5 | 2 | | | 6 | 6 | 8 | 8 | 8 | | | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 10.0 | | | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | | | |
| Minimum Split (s) | 11.7 | 38.6 | | | 28.4 | 28.4 | 43.1 | 43.1 | 43.1 | | | |
| Total Split (s) | 11.7 | 86.9 | | | 75.2 | 75.2 | 43.1 | 43.1 | 43.1 | | | |
| Total Split (%) | 9.0% | 66.8% | | | 57.8% | 57.8% | 33.2% | 33.2% | 33.2% | | | |
| Yellow Time (s) | 3.7 | 4.1 | | | 4.4 | 4.4 | 4.1 | 4.1 | 4.1 | | | |
| All-Red Time (s) | 1.0 | 1.0 | | | 1.0 | 1.0 | 2.0 | 2.0 | 2.0 | | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | 0.0 | | | |
| Total Lost Time (s) | 4.7 | 5.1 | | | 5.4 | 5.4 | | 6.1 | 6.1 | | | |
| Lead/Lag | Lead | | | | Lag | Lag | | | | | | |
| Lead-Lag Optimize? | Yes | | | | Yes | Yes | | | | | | |
| Recall Mode | None | Min | | | Min | Min | None | None | None | | | |

| Intersection Summary |
|---|
| Cycle Length: 130 |
| Actuated Cycle Length: 106.1 |
| Natural Cycle: 145 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 17: SR-52 WB Ramps & Mast Blvd

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 7 | 562 | 0 | 0 | 170 | 2614 | 6 | 0 | 51 | 0 | 0 | 0 |
| Future Volume (veh/h) | 7 | 562 | 0 | 0 | 170 | 2614 | 6 | 0 | 51 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.98 | 1.00 | | 1.00 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.99 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 0 | 0 | 1870 | 1945 | 1870 | 1870 | 1870 | | | |
| Adj Flow Rate, veh/h | 8 | 611 | 0 | 0 | 0 | 2964 | 0 | 0 | 62 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | |
| Percent Heavy Veh, % | 2 | 2 | 0 | 0 | 2 | 2 | 2 | 2 | 2 | | | |
| Cap, veh/h | 25 | 2825 | 0 | 0 | 1368 | 2363 | 0 | 156 | 268 | | | |
| Arrive On Green | 0.01 | 0.79 | 0.00 | 0.00 | 0.00 | 0.73 | 0.00 | 0.00 | 0.08 | | | |
| Sat Flow, veh/h | 1781 | 3647 | 0 | 0 | 1870 | 3229 | 0 | 1848 | 3170 | | | |
| Grp Volume(v), veh/h | 8 | 611 | 0 | 0 | 0 | 2964 | 0 | 0 | 62 | | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 0 | 0 | 1870 | 1615 | 0 | 1848 | 1585 | | | |
| Q Serve(g_s), s | 0.4 | 4.1 | 0.0 | 0.0 | 0.0 | 69.8 | 0.0 | 0.0 | 1.7 | | | |
| Cycle Q Clear(g_c), s | 0.4 | 4.1 | 0.0 | 0.0 | 0.0 | 69.8 | 0.0 | 0.0 | 1.7 | | | |
| Prop In Lane | 1.00 | | 0.00 | 0.00 | | 1.00 | 0.00 | | 1.00 | | | |
| Lane Grp Cap(c), veh/h | 25 | 2825 | 0 | 0 | 1368 | 2363 | 0 | 156 | 268 | | | |
| V/C Ratio(X) | 0.32 | 0.22 | 0.00 | 0.00 | 0.00 | 1.25 | 0.00 | 0.00 | 0.23 | | | |
| Avail Cap(c_a), veh/h | 131 | 3047 | 0 | 0 | 1368 | 2363 | 0 | 717 | 1229 | | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | | | |
| Uniform Delay (d), s/veh | 46.6 | 2.4 | 0.0 | 0.0 | 0.0 | 12.8 | 0.0 | 0.0 | 40.8 | | | |
| Incr Delay (d2), s/veh | 2.7 | 0.0 | 0.0 | 0.0 | 0.0 | 118.2 | 0.0 | 0.0 | 0.2 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ln | 0.2 | 0.9 | 0.0 | 0.0 | 0.0 | 56.5 | 0.0 | 0.0 | 0.7 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 49.3 | 2.5 | 0.0 | 0.0 | 0.0 | 131.0 | 0.0 | 0.0 | 40.9 | | | |
| LnGrp LOS | D | A | A | A | A | F | A | A | D | | | |
| Approach Vol, veh/h | | 619 | | | 2964 | | | 62 | | | | |
| Approach Delay, s/veh | | 3.1 | | | 131.0 | | | 40.9 | | | | |
| Approach LOS | | A | | | F | | | D | | | | |

| Timer - Assigned Phs | 2 | 5 | 6 | 8 |
|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 81.2 | 6.0 | 75.2 | 14.2 |
| Change Period (Y+Rc), s | * 5.4 | * 4.7 | 5.4 | 6.1 |
| Max Green Setting (Gmax), s | * 82 | * 7 | 69.8 | 37.0 |
| Max Q Clear Time (g_c+I1), s | 6.1 | 2.4 | 71.8 | 3.7 |
| Green Ext Time (p_c), s | 4.7 | 0.0 | 0.0 | 0.1 |

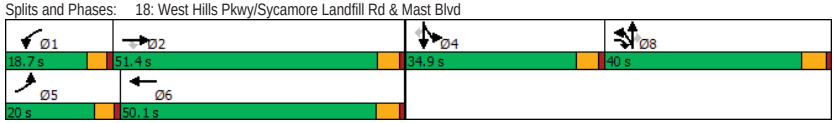
| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 107.7 |
| HCM 6th LOS | F |

| Notes |
|---|
| User approved volume balancing among the lanes for turning movement. |
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 119 | 402 | 105 | 197 | 1654 | 17 | 1070 | 13 | 256 | 6 | 4 | 97 |
| Future Volume (vph) | 119 | 402 | 105 | 197 | 1654 | 17 | 1070 | 13 | 256 | 6 | 4 | 97 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | 49% | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | | Split | NA | Perm | Split | NA | Perm |
| Protected Phases | 5 | 2 | 8 | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Permitted Phases | | | 2 | | | | | | 8 | | | 4 |
| Detector Phase | 5 | 2 | 8 | 1 | 6 | | 8 | 8 | 8 | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 10.0 | 10.0 | 4.0 | 10.0 | | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| Minimum Split (s) | 20.0 | 34.9 | 33.4 | 8.4 | 35.2 | | 33.4 | 33.4 | 33.4 | 34.9 | 34.9 | 34.9 |
| Total Split (s) | 20.0 | 51.4 | 40.0 | 18.7 | 50.1 | | 40.0 | 40.0 | 40.0 | 34.9 | 34.9 | 34.9 |
| Total Split (%) | 13.8% | 35.4% | 27.6% | 12.9% | 34.6% | | 27.6% | 27.6% | 27.6% | 24.1% | 24.1% | 24.1% |
| Yellow Time (s) | 3.4 | 3.9 | 4.4 | 3.4 | 4.2 | | 4.4 | 4.4 | 4.4 | 3.9 | 3.9 | 3.9 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.4 | 4.9 | 5.4 | 4.4 | 5.2 | | 5.4 | 5.4 | 5.4 | | 4.9 | 4.9 |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | Min | None | None | Min | | None | None | None | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 145 |
| Actuated Cycle Length: 122.5 |
| Natural Cycle: 145 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 18: West Hills Pkwy/Sycamore Landfill Rd & Mast Blvd






Existing + Cuml + Proj AM
18: West Hills Pkwy/Sycamore Landfill Rd & Mast Blvd
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 119 | 402 | 105 | 197 | 1654 | 17 | 1070 | 13 | 256 | 6 | 4 | 97 |
| Future Volume (veh/h) | 119 | 402 | 105 | 197 | 1654 | 17 | 1070 | 13 | 256 | 6 | 4 | 97 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.98 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 129 | 437 | 114 | 214 | 1798 | 18 | 1173 | 0 | 278 | 7 | 4 | 105 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 157 | 1365 | 1066 | 272 | 1350 | 13 | 1028 | 0 | 457 | 95 | 54 | 131 |
| Arrive On Green | 0.09 | 0.38 | 0.38 | 0.08 | 0.37 | 0.37 | 0.29 | 0.00 | 0.29 | 0.08 | 0.08 | 0.08 |
| Sat Flow, veh/h | 1781 | 3554 | 1585 | 3456 | 3604 | 36 | 3563 | 0 | 1585 | 1154 | 659 | 1585 |
| Grp Volume(v), veh/h | 129 | 437 | 114 | 214 | 885 | 931 | 1173 | 0 | 278 | 11 | 0 | 105 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1585 | 1728 | 1777 | 1863 | 1781 | 0 | 1585 | 1813 | 0 | 1585 |
| Q Serve(g_s), s | 8.5 | 10.4 | 3.0 | 7.3 | 44.9 | 44.9 | 34.6 | 0.0 | 18.1 | 0.7 | 0.0 | 7.8 |
| Cycle Q Clear(g_c), s | 8.5 | 10.4 | 3.0 | 7.3 | 44.9 | 44.9 | 34.6 | 0.0 | 18.1 | 0.7 | 0.0 | 7.8 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.02 | 1.00 | | 1.00 | 0.64 | | 1.00 |
| Lane Grp Cap(c), veh/h | 157 | 1365 | 1066 | 272 | 665 | 698 | 1028 | 0 | 457 | 150 | 0 | 131 |
| V/C Ratio(X) | 0.82 | 0.32 | 0.11 | 0.79 | 1.33 | 1.33 | 1.14 | 0.00 | 0.61 | 0.07 | 0.00 | 0.80 |
| Avail Cap(c_a), veh/h | 232 | 1378 | 1072 | 412 | 665 | 698 | 1028 | 0 | 457 | 454 | 0 | 397 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 53.7 | 25.9 | 6.9 | 54.2 | 37.5 | 37.5 | 42.6 | 0.0 | 36.8 | 50.8 | 0.0 | 54.0 |
| Incr Delay (d2), s/veh | 8.6 | 0.2 | 0.1 | 2.7 | 158.8 | 160.0 | 75.3 | 0.0 | 2.7 | 0.2 | 0.0 | 10.8 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 4.1 | 4.3 | 2.1 | 3.2 | 48.0 | 50.5 | 25.3 | 0.0 | 7.1 | 0.3 | 0.0 | 3.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 62.3 | 26.1 | 7.0 | 56.9 | 196.3 | 197.5 | 118.0 | 0.0 | 39.5 | 51.0 | 0.0 | 64.8 |
| LnGrp LOS | E | C | A | E | F | F | F | A | D | D | A | E |
| Approach Vol, veh/h | | 680 | | | 2030 | | | 1451 | | | 116 | |
| Approach Delay, s/veh | | 29.8 | | | 182.2 | | | 102.9 | | | 63.5 | |
| Approach LOS | | C | | | F | | | F | | | E | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 13.9 | 51.2 | | 14.8 | 15.0 | 50.1 | | 40.0 | | | | |
| Change Period (Y+Rc), s | 4.4 | * 5.2 | | 4.9 | 4.4 | 5.2 | | 5.4 | | | | |
| Max Green Setting (Gmax), s | 14.3 | * 47 | | 30.0 | 15.6 | 44.9 | | 34.6 | | | | |
| Max Q Clear Time (g_c+I1), s | 9.3 | 12.4 | | 9.8 | 10.5 | 46.9 | | 36.6 | | | | |
| Green Ext Time (p_c), s | 0.2 | 4.4 | | 0.3 | 0.1 | 0.0 | | 0.0 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 127.8 | |
| HCM 6th LOS | F | |

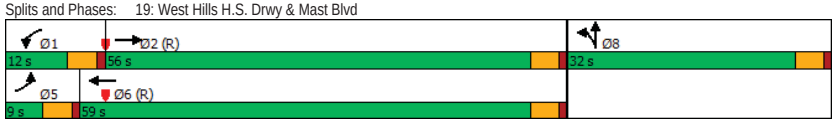
| Notes |
|---|
| User approved volume balancing among the lanes for turning movement. |
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. |

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\7 Existing + Cuml + Proj AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 2 | 599 | 36 | 77 | 1792 | 0 | 28 | 0 | 42 | 0 | 0 | 0 |
| Future Volume (vph) | 2 | 599 | 36 | 77 | 1792 | 0 | 28 | 0 | 42 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | 9 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Split | NA | | | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | | | | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | | | | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | | | | |
| Minimum Split (s) | 8.5 | 22.5 | | 8.5 | 20.5 | | 31.5 | 31.5 | | | | |
| Total Split (s) | 9.0 | 56.0 | | 12.0 | 59.0 | | 32.0 | 32.0 | | | | |
| Total Split (%) | 9.0% | 56.0% | | 12.0% | 59.0% | | 32.0% | 32.0% | | | | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | | | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | | |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | | 4.5 | | | | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | | | | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 100 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 19: West Hills H.S. Drwy & Mast Blvd






Existing + Cuml + Proj AM
19: West Hills H.S. Drwy & Mast Blvd
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 2 | 599 | 36 | 77 | 1792 | 0 | 28 | 0 | 42 | 0 | 0 | 0 |
| Future Volume (veh/h) | 2 | 599 | 36 | 77 | 1792 | 0 | 28 | 0 | 42 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 0 | 1900 | 1870 | 1900 | | | |
| Adj Flow Rate, veh/h | 2 | 651 | 39 | 84 | 1948 | 0 | 30 | 0 | 46 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 0 | 0 | 2 | 0 | | | |
| Cap, veh/h | 4 | 2539 | 152 | 106 | 2852 | 0 | 39 | 0 | 60 | | | |
| Arrive On Green | 0.00 | 0.75 | 0.75 | 0.12 | 1.00 | 0.00 | 0.06 | 0.00 | 0.06 | | | |
| Sat Flow, veh/h | 1781 | 3407 | 204 | 1781 | 3647 | 0 | 654 | 0 | 1003 | | | |
| Grp Volume(v), veh/h | 2 | 339 | 351 | 84 | 1948 | 0 | 76 | 0 | 0 | | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1834 | 1781 | 1777 | 0 | 1657 | 0 | 0 | | | |
| Q Serve(g_s), s | 0.1 | 6.0 | 6.0 | 4.6 | 0.0 | 0.0 | 4.5 | 0.0 | 0.0 | | | |
| Cycle Q Clear(g_c), s | 0.1 | 6.0 | 6.0 | 4.6 | 0.0 | 0.0 | 4.5 | 0.0 | 0.0 | | | |
| Prop In Lane | 1.00 | | 0.11 | 1.00 | | 0.00 | 0.39 | | 0.61 | | | |
| Lane Grp Cap(c), veh/h | 4 | 1324 | 1366 | 106 | 2852 | 0 | 100 | 0 | 0 | | | |
| V/C Ratio(X) | 0.52 | 0.26 | 0.26 | 0.79 | 0.68 | 0.00 | 0.76 | 0.00 | 0.00 | | | |
| Avail Cap(c_a), veh/h | 80 | 1324 | 1366 | 134 | 2852 | 0 | 456 | 0 | 0 | | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 0.93 | 0.93 | 0.93 | 0.21 | 0.21 | 0.00 | 1.00 | 0.00 | 0.00 | | | |
| Uniform Delay (d), s/veh | 49.8 | 4.0 | 4.0 | 43.4 | 0.0 | 0.0 | 46.3 | 0.0 | 0.0 | | | |
| Incr Delay (d2), s/veh | 75.3 | 0.4 | 0.4 | 5.3 | 0.3 | 0.0 | 11.3 | 0.0 | 0.0 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ln | 0.1 | 1.7 | 1.8 | 2.0 | 0.1 | 0.0 | 2.2 | 0.0 | 0.0 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 125.1 | 4.4 | 4.4 | 48.8 | 0.3 | 0.0 | 57.6 | 0.0 | 0.0 | | | |
| LnGrp LOS | F | A | A | D | A | A | E | A | A | | | |
| Approach Vol, veh/h | | 692 | | | 2032 | | | 76 | | | | |
| Approach Delay, s/veh | | 4.8 | | | 2.3 | | | 57.6 | | | | |
| Approach LOS | | A | | | A | | | E | | | | |

| Timer - Assigned Phs | 1 | 2 | | | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 10.5 | 79.0 | | | 4.7 | 84.8 | | 10.5 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 7.5 | 51.5 | | | 4.5 | 54.5 | | 27.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 6.6 | 8.0 | | | 2.1 | 2.0 | | 6.5 | | | | |
| Green Ext Time (p_c), s | 0.0 | 4.4 | | | 0.0 | 26.5 | | 0.3 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 4.4 | |
| HCM 6th LOS | A | |

Fanita Ranch
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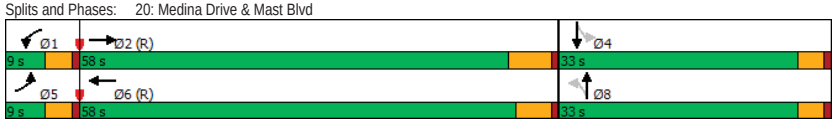
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 10 | 887 | 36 | 11 | 1829 | 10 | 31 | 4 | 10 | 21 | 12 | 27 |
| Future Volume (vph) | 10 | 887 | 36 | 11 | 1829 | 10 | 31 | 4 | 10 | 21 | 12 | 27 |
| Confl. Peds. (#/hr) | | | 2 | | | | | | 1 | | | 10 |
| Confl. Bikes (#/hr) | | | 1 | | | 1 | | | 2 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Perm | NA | | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | | 4 | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 22.0 | | 8.2 | 22.0 | | 32.2 | 32.2 | | 32.2 | 32.2 | |
| Total Split (s) | 9.0 | 58.0 | | 9.0 | 58.0 | | 33.0 | 33.0 | | 33.0 | 33.0 | |
| Total Split (%) | 9.0% | 58.0% | | 9.0% | 58.0% | | 33.0% | 33.0% | | 33.0% | 33.0% | |
| Yellow Time (s) | 3.2 | 5.1 | | 3.2 | 4.3 | | 3.2 | 3.2 | | 3.2 | 3.2 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | 0.0 | |
| Total Lost Time (s) | 4.2 | 6.1 | | 4.2 | 5.3 | | | 4.2 | | | 4.2 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 100 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 20: Medina Drive & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 10 | 887 | 36 | 11 | 1829 | 10 | 31 | 4 | 10 | 21 | 12 | 27 |
| Future Volume (veh/h) | 10 | 887 | 36 | 11 | 1829 | 10 | 31 | 4 | 10 | 21 | 12 | 27 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 0.98 | | 0.98 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 11 | 964 | 39 | 12 | 1988 | 11 | 34 | 4 | 11 | 23 | 13 | 29 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 19 | 2594 | 105 | 20 | 2705 | 15 | 155 | 23 | 34 | 85 | 50 | 69 |
| Arrive On Green | 0.00 | 0.25 | 0.25 | 0.02 | 1.00 | 1.00 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 |
| Sat Flow, veh/h | 1781 | 3477 | 141 | 1781 | 3623 | 20 | 962 | 238 | 347 | 371 | 510 | 709 |
| Grp Volume(v), veh/h | 11 | 493 | 510 | 12 | 974 | 1025 | 49 | 0 | 0 | 65 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1841 | 1781 | 1777 | 1866 | 1548 | 0 | 0 | 1590 | 0 | 0 |
| Q Serve(g_s), s | 0.6 | 23.0 | 23.0 | 0.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.5 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 0.6 | 23.0 | 23.0 | 0.7 | 0.0 | 0.0 | 2.6 | 0.0 | 0.0 | 3.6 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | | 0.08 | 1.00 | | 0.01 | 0.69 | | 0.22 | 0.35 | | 0.45 |
| Lane Grp Cap(c), veh/h | 19 | 1325 | 1373 | 20 | 1327 | 1394 | 212 | 0 | 0 | 204 | 0 | 0 |
| V/C Ratio(X) | 0.59 | 0.37 | 0.37 | 0.59 | 0.73 | 0.74 | 0.23 | 0.00 | 0.00 | 0.32 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 86 | 1325 | 1373 | 86 | 1327 | 1394 | 481 | 0 | 0 | 496 | 0 | 0 |
| HCM Platoon Ratio | 0.33 | 0.33 | 0.33 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.91 | 0.91 | 0.91 | 0.53 | 0.53 | 0.53 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 49.6 | 18.2 | 18.2 | 48.6 | 0.0 | 0.0 | 41.8 | 0.0 | 0.0 | 42.3 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 23.7 | 0.7 | 0.7 | 5.4 | 2.0 | 1.9 | 0.2 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.4 | 11.1 | 11.4 | 0.3 | 0.7 | 0.7 | 1.1 | 0.0 | 0.0 | 1.5 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 73.3 | 19.0 | 19.0 | 54.0 | 2.0 | 1.9 | 42.1 | 0.0 | 0.0 | 42.6 | 0.0 | 0.0 |
| LnGrp LOS | E | B | B | D | A | A | D | A | A | D | A | A |
| Approach Vol, veh/h | | 1014 | | | 2011 | | | 49 | | | 65 | |
| Approach Delay, s/veh | | 19.6 | | | 2.2 | | | 42.1 | | | 42.6 | |
| Approach LOS | | B | | | A | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.3 | 80.7 | | 14.0 | 5.3 | 80.8 | | 14.0 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 6.1 | | * 4.2 | * 4.2 | * 6.1 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | * 4.8 | 51.9 | | * 29 | * 4.8 | * 53 | | * 29 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.7 | 25.0 | | 5.6 | 2.6 | 2.0 | | 4.6 | | | | |
| Green Ext Time (p_c), s | 0.0 | 11.0 | | 0.2 | 0.0 | 39.8 | | 0.1 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 9.3 | |
| HCM 6th LOS | A | |

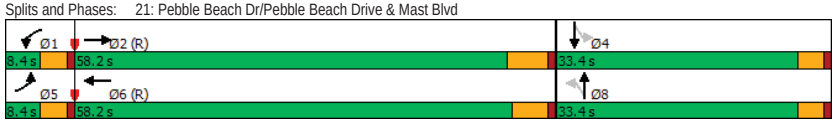
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 10 | 880 | 26 | 16 | 1873 | 22 | 18 | 7 | 37 | 67 | 22 | 22 |
| Future Volume (vph) | 10 | 880 | 26 | 16 | 1873 | 22 | 18 | 7 | 37 | 67 | 22 | 22 |
| Confl. Peds. (#/hr) | | | 8 | | | 1 | | | 2 | | | 11 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Perm | NA | | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | | 4 | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 23.9 | | 8.2 | 23.3 | | 33.2 | 33.2 | | 32.2 | 32.2 | |
| Total Split (s) | 8.4 | 58.2 | | 8.4 | 58.2 | | 33.4 | 33.4 | | 33.4 | 33.4 | |
| Total Split (%) | 8.4% | 58.2% | | 8.4% | 58.2% | | 33.4% | 33.4% | | 33.4% | 33.4% | |
| Yellow Time (s) | 3.2 | 4.9 | | 3.2 | 4.3 | | 3.2 | 3.2 | | 3.2 | 3.2 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | 0.0 | |
| Total Lost Time (s) | 4.2 | 5.9 | | 4.2 | 5.3 | | | 4.2 | | | 4.2 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 110 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 21: Pebble Beach Dr/Pebble Beach Drive & Mast Blvd






Existing + Cuml + Proj AM
21: Pebble Beach Dr/Pebble Beach Drive & Mast Blvd
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 10 | 880 | 26 | 16 | 1873 | 22 | 18 | 7 | 37 | 67 | 22 | 22 |
| Future Volume (veh/h) | 10 | 880 | 26 | 16 | 1873 | 22 | 18 | 7 | 37 | 67 | 22 | 22 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 1.00 | 0.98 | | 1.00 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 11 | 957 | 28 | 17 | 2036 | 24 | 20 | 8 | 40 | 73 | 24 | 24 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 19 | 2529 | 74 | 27 | 2597 | 31 | 86 | 45 | 120 | 162 | 52 | 39 |
| Arrive On Green | 0.02 | 1.00 | 1.00 | 0.03 | 1.00 | 1.00 | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 |
| Sat Flow, veh/h | 1781 | 3525 | 103 | 1781 | 3597 | 42 | 315 | 363 | 968 | 837 | 420 | 311 |
| Grp Volume(v), veh/h | 11 | 482 | 503 | 17 | 1004 | 1056 | 68 | 0 | 0 | 121 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1851 | 1781 | 1777 | 1863 | 1646 | 0 | 0 | 1568 | 0 | 0 |
| Q Serve(g_s), s | 0.6 | 0.0 | 0.0 | 0.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 3.3 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 0.6 | 0.0 | 0.0 | 0.9 | 0.0 | 0.0 | 3.7 | 0.0 | 0.0 | 6.9 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | | 0.06 | 1.00 | | 0.02 | 0.29 | | 0.59 | 0.60 | | 0.20 |
| Lane Grp Cap(c), veh/h | 19 | 1275 | 1328 | 27 | 1283 | 1345 | 251 | 0 | 0 | 253 | 0 | 0 |
| V/C Ratio(X) | 0.59 | 0.38 | 0.38 | 0.63 | 0.78 | 0.79 | 0.27 | 0.00 | 0.00 | 0.48 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 75 | 1275 | 1328 | 75 | 1283 | 1345 | 507 | 0 | 0 | 499 | 0 | 0 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.94 | 0.94 | 0.94 | 0.09 | 0.09 | 0.09 | 0.99 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 48.7 | 0.0 | 0.0 | 48.2 | 0.0 | 0.0 | 39.9 | 0.0 | 0.0 | 41.2 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 9.7 | 0.8 | 0.8 | 0.8 | 0.5 | 0.4 | 0.2 | 0.0 | 0.0 | 0.5 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.3 | 0.3 | 0.3 | 0.4 | 0.2 | 0.2 | 1.5 | 0.0 | 0.0 | 2.9 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 58.5 | 0.8 | 0.8 | 49.1 | 0.5 | 0.4 | 40.2 | 0.0 | 0.0 | 41.7 | 0.0 | 0.0 |
| LnGrp LOS | E | A | A | D | A | A | D | A | A | D | A | A |
| Approach Vol, veh/h | | 996 | | | 2077 | | | 68 | | | 121 | |
| Approach Delay, s/veh | | 1.4 | | | 0.8 | | | 40.2 | | | 41.7 | |
| Approach LOS | | A | | | A | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.7 | 77.7 | | 16.6 | 5.3 | 78.1 | | 16.6 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 5.9 | | * 4.2 | * 4.2 | * 5.9 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | * 4.2 | 52.3 | | * 29 | * 4.2 | * 53 | | * 29 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.9 | 2.0 | | 8.9 | 2.6 | 2.0 | | 5.7 | | | | |
| Green Ext Time (p_c), s | 0.0 | 15.7 | | 0.4 | 0.0 | 46.2 | | 0.2 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 3.4 | |
| HCM 6th LOS | A | |

Notes

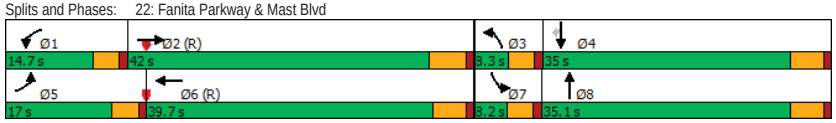
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\7 Existing + Cuml + Proj AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 307 | 568 | 113 | 80 | 1297 | 58 | 42 | 141 | 33 | 66 | 273 | 563 |
| Future Volume (vph) | 307 | 568 | 113 | 80 | 1297 | 58 | 42 | 141 | 33 | 66 | 273 | 563 |
| Confl. Peds. (#/hr) | | | 8 | | | | | | 6 | | | 2 |
| Confl. Bikes (#/hr) | | | 2 | | | 2 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | | | | | | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 27.5 | 27.5 | 8.2 | 28.1 | | 8.2 | 35.1 | | 8.2 | 28.1 | 28.1 |
| Total Split (s) | 17.0 | 42.0 | 42.0 | 14.7 | 39.7 | | 8.3 | 35.1 | | 8.2 | 35.0 | 35.0 |
| Total Split (%) | 17.0% | 42.0% | 42.0% | 14.7% | 39.7% | | 8.3% | 35.1% | | 8.2% | 35.0% | 35.0% |
| Yellow Time (s) | 3.2 | 4.5 | 4.5 | 3.2 | 4.1 | | 3.2 | 4.1 | | 3.2 | 4.1 | 4.1 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.5 | 5.5 | 4.2 | 5.1 | | 4.2 | 5.1 | | 4.2 | 5.1 | 5.1 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | C-Max | C-Max | None | C-Max | | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 14.1 (14%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 140 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 22: Fanita Parkway & Mast Blvd






Existing + Cuml + Proj AM
22: Fanita Parkway & Mast Blvd
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 307 | 568 | 113 | 80 | 1297 | 58 | 42 | 141 | 33 | 66 | 273 | 563 |
| Future Volume (veh/h) | 307 | 568 | 113 | 80 | 1297 | 58 | 42 | 141 | 33 | 66 | 273 | 563 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.98 | 1.00 | | 0.99 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 334 | 617 | 123 | 87 | 1410 | 63 | 46 | 153 | 36 | 72 | 297 | 554 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 228 | 1479 | 639 | 110 | 1212 | 54 | 59 | 427 | 100 | 71 | 559 | 473 |
| Arrive On Green | 0.26 | 0.83 | 0.83 | 0.12 | 0.70 | 0.70 | 0.03 | 0.29 | 0.29 | 0.04 | 0.30 | 0.30 |
| Sat Flow, veh/h | 1781 | 3554 | 1536 | 1781 | 3461 | 154 | 1781 | 1462 | 344 | 1781 | 1870 | 1582 |
| Grp Volume(v), veh/h | 334 | 617 | 123 | 87 | 722 | 751 | 46 | 0 | 189 | 72 | 297 | 554 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1536 | 1781 | 1777 | 1838 | 1781 | 0 | 1806 | 1781 | 1870 | 1582 |
| Q Serve(g_s), s | 12.8 | 4.5 | 1.6 | 4.7 | 35.0 | 35.0 | 2.6 | 0.0 | 8.3 | 4.0 | 13.2 | 29.9 |
| Cycle Q Clear(g_c), s | 12.8 | 4.5 | 1.6 | 4.7 | 35.0 | 35.0 | 2.6 | 0.0 | 8.3 | 4.0 | 13.2 | 29.9 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.08 | 1.00 | | 0.19 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 228 | 1479 | 639 | 110 | 622 | 644 | 59 | 0 | 527 | 71 | 559 | 473 |
| V/C Ratio(X) | 1.46 | 0.42 | 0.19 | 0.79 | 1.16 | 1.17 | 0.78 | 0.00 | 0.36 | 1.01 | 0.53 | 1.17 |
| Avail Cap(c_a), veh/h | 228 | 1479 | 639 | 187 | 622 | 644 | 73 | 0 | 542 | 71 | 559 | 473 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.93 | 0.93 | 0.93 | 0.61 | 0.61 | 0.61 | 0.98 | 0.00 | 0.98 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 37.2 | 5.3 | 5.0 | 43.2 | 15.0 | 15.0 | 48.0 | 0.0 | 28.0 | 48.0 | 29.2 | 35.0 |
| Incr Delay (d2), s/veh | 230.2 | 0.8 | 0.6 | 5.7 | 83.6 | 85.4 | 31.3 | 0.0 | 1.5 | 109.6 | 2.6 | 97.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 19.1 | 1.4 | 0.6 | 2.1 | 19.5 | 20.6 | 1.6 | 0.0 | 3.7 | 3.9 | 6.1 | 23.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 267.4 | 6.1 | 5.6 | 48.9 | 98.6 | 100.4 | 79.3 | 0.0 | 29.5 | 157.6 | 31.8 | 132.7 |
| LnGrp LOS | F | A | A | D | F | F | E | A | C | F | C | F |
| Approach Vol, veh/h | | 1074 | | | 1560 | | | 235 | | | 923 | |
| Approach Delay, s/veh | | 87.3 | | | 96.7 | | | 39.2 | | | 102.2 | |
| Approach LOS | | F | | | F | | | D | | | F | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 10.4 | 47.1 | 7.5 | 35.0 | 17.0 | 40.5 | 8.2 | 34.3 |
| Change Period (Y+Rc), s | * 4.2 | 5.5 | * 4.2 | 5.1 | * 4.2 | * 5.5 | * 4.2 | 5.1 |
| Max Green Setting (Gmax), s | * 11 | 36.5 | * 4.1 | 29.9 | * 13 | * 35 | * 4 | 30.0 |
| Max Q Clear Time (g_c+I1), s | 6.7 | 6.5 | 4.6 | 31.9 | 14.8 | 37.0 | 6.0 | 10.3 |
| Green Ext Time (p_c), s | 0.0 | 11.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.1 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 91.8 | |
| HCM 6th LOS | F | |

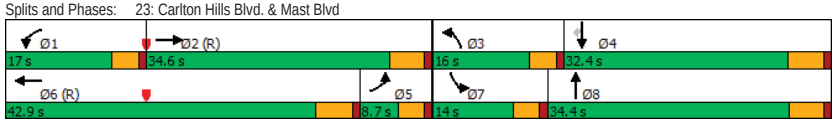
| Notes |
|---|
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. |

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\7 Existing + Cuml + Proj AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 39 | 431 | 146 | 171 | 1078 | 91 | 173 | 181 | 80 | 117 | 263 | 74 |
| Future Volume (vph) | 39 | 431 | 146 | 171 | 1078 | 91 | 173 | 181 | 80 | 117 | 263 | 74 |
| Confl. Peds. (#/hr) | | | 5 | | | 6 | | | 22 | | | 8 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 33.1 | | 8.2 | 32.4 | | 8.2 | 34.2 | | 8.2 | 32.4 | 32.4 |
| Total Split (s) | 8.7 | 34.6 | | 17.0 | 42.9 | | 16.0 | 34.4 | | 14.0 | 32.4 | 32.4 |
| Total Split (%) | 8.7% | 34.6% | | 17.0% | 42.9% | | 16.0% | 34.4% | | 14.0% | 32.4% | 32.4% |
| Yellow Time (s) | 3.2 | 4.1 | | 3.2 | 4.4 | | 3.2 | 4.2 | | 3.2 | 4.4 | 4.4 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.1 | | 4.2 | 5.4 | | 4.2 | 5.2 | | 4.2 | 5.4 | 5.4 |
| Lead/Lag | Lag | Lag | | Lead | Lead | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | C-Min | | None | C-Min | | None | Min | | None | Min | Min |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 89 (89%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 95 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 23: Carlton Hills Blvd. & Mast Blvd






Existing + Cuml + Proj AM
23: Carlton Hills Blvd. & Mast Blvd
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 39 | 431 | 146 | 171 | 1078 | 91 | 173 | 181 | 80 | 117 | 263 | 74 |
| Future Volume (veh/h) | 39 | 431 | 146 | 171 | 1078 | 91 | 173 | 181 | 80 | 117 | 263 | 74 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.97 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 42 | 468 | 159 | 186 | 1172 | 99 | 188 | 197 | 87 | 127 | 286 | 80 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 221 | 1012 | 341 | 217 | 1240 | 105 | 210 | 514 | 217 | 156 | 650 | 282 |
| Arrive On Green | 0.04 | 0.13 | 0.13 | 0.12 | 0.37 | 0.37 | 0.12 | 0.21 | 0.21 | 0.09 | 0.18 | 0.18 |
| Sat Flow, veh/h | 1781 | 2606 | 879 | 1781 | 3316 | 280 | 1781 | 2409 | 1017 | 1781 | 3554 | 1544 |
| Grp Volume(v), veh/h | 42 | 318 | 309 | 186 | 627 | 644 | 188 | 143 | 141 | 127 | 286 | 80 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1708 | 1781 | 1777 | 1818 | 1781 | 1777 | 1649 | 1781 | 1777 | 1544 |
| Q Serve(g_s), s | 2.3 | 16.6 | 16.8 | 10.2 | 34.2 | 34.3 | 10.4 | 6.9 | 7.4 | 7.0 | 7.2 | 3.2 |
| Cycle Q Clear(g_c), s | 2.3 | 16.6 | 16.8 | 10.2 | 34.2 | 34.3 | 10.4 | 6.9 | 7.4 | 7.0 | 7.2 | 3.2 |
| Prop In Lane | 1.00 | | 0.51 | 1.00 | | 0.15 | 1.00 | | 0.62 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 221 | 690 | 663 | 217 | 665 | 680 | 210 | 379 | 352 | 156 | 650 | 282 |
| V/C Ratio(X) | 0.19 | 0.46 | 0.47 | 0.86 | 0.94 | 0.95 | 0.89 | 0.38 | 0.40 | 0.81 | 0.44 | 0.28 |
| Avail Cap(c_a), veh/h | 221 | 690 | 663 | 228 | 666 | 682 | 210 | 519 | 481 | 175 | 959 | 417 |
| HCM Platoon Ratio | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.88 | 0.88 | 0.88 | 0.84 | 0.84 | 0.84 | 0.95 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 43.1 | 33.9 | 34.0 | 43.1 | 30.3 | 30.3 | 43.5 | 33.7 | 33.8 | 44.8 | 36.3 | 18.2 |
| Incr Delay (d2), s/veh | 0.1 | 1.9 | 2.1 | 20.8 | 20.9 | 21.0 | 32.8 | 1.7 | 2.0 | 20.3 | 2.0 | 2.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.0 | 8.2 | 8.0 | 5.6 | 17.5 | 18.0 | 6.4 | 3.1 | 3.1 | 3.9 | 3.2 | 1.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 43.2 | 35.8 | 36.0 | 63.9 | 51.2 | 51.3 | 76.3 | 35.4 | 35.9 | 65.2 | 38.3 | 20.6 |
| LnGrp LOS | D | D | D | E | D | D | E | D | D | E | D | C |
| Approach Vol, veh/h | | 669 | | | 1457 | | | 472 | | | 493 | |
| Approach Delay, s/veh | | 36.4 | | | 52.9 | | | 51.8 | | | 42.4 | |
| Approach LOS | | D | | | D | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 16.4 | 43.9 | 16.0 | 23.7 | 17.5 | 42.8 | 13.0 | 26.7 |
| Change Period (Y+Rc), s | * 4.2 | 5.1 | * 4.2 | 5.4 | 5.1 | * 5.4 | * 4.2 | * 5.4 |
| Max Green Setting (Gmax), s | * 13 | 29.5 | * 12 | 27.0 | 4.5 | * 38 | * 9.8 | * 29 |
| Max Q Clear Time (g_c+I1), s | 12.2 | 18.8 | 12.4 | 9.2 | 4.3 | 36.3 | 9.0 | 9.4 |
| Green Ext Time (p_c), s | 0.0 | 5.0 | 0.0 | 4.5 | 0.0 | 1.1 | 0.0 | 3.2 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 47.5 | |
| HCM 6th LOS | D | |

Notes

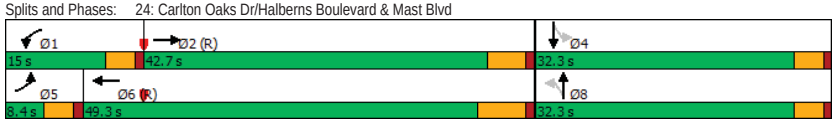
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\7 Existing + Cuml + Proj AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 10 | 615 | 18 | 92 | 1301 | 22 | 42 | 23 | 73 | 44 | 40 | 45 |
| Future Volume (vph) | 10 | 615 | 18 | 92 | 1301 | 22 | 42 | 23 | 73 | 44 | 40 | 45 |
| Confl. Peds. (#/hr) | | | 6 | | | | | | 8 | | | 1 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Perm | NA | | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | | 4 | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 29.2 | | 8.2 | 28.3 | | 32.2 | 32.2 | | 32.2 | 32.2 | |
| Total Split (s) | 8.4 | 42.7 | | 15.0 | 49.3 | | 32.3 | 32.3 | | 32.3 | 32.3 | |
| Total Split (%) | 9.3% | 47.4% | | 16.7% | 54.8% | | 35.9% | 35.9% | | 35.9% | 35.9% | |
| Yellow Time (s) | 3.2 | 4.2 | | 3.2 | 5.3 | | 3.2 | 3.2 | | 3.2 | 3.2 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.2 | 5.2 | | 4.2 | 6.3 | | 4.2 | 4.2 | | 4.2 | 4.2 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 90 |
| Actuated Cycle Length: 90 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 80 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 24: Carlton Oaks Dr/Halberns Boulevard & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 10 | 615 | 18 | 92 | 1301 | 22 | 42 | 23 | 73 | 44 | 40 | 45 |
| Future Volume (veh/h) | 10 | 615 | 18 | 92 | 1301 | 22 | 42 | 23 | 73 | 44 | 40 | 45 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.98 | 0.99 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 11 | 668 | 20 | 100 | 1414 | 24 | 46 | 25 | 79 | 48 | 43 | 49 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 19 | 2199 | 66 | 127 | 2449 | 42 | 200 | 55 | 174 | 185 | 112 | 128 |
| Arrive On Green | 0.01 | 0.62 | 0.62 | 0.07 | 0.68 | 0.68 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 |
| Sat Flow, veh/h | 1781 | 3522 | 105 | 1781 | 3576 | 61 | 1302 | 390 | 1233 | 1275 | 797 | 908 |
| Grp Volume(v), veh/h | 11 | 337 | 351 | 100 | 702 | 736 | 46 | 0 | 104 | 48 | 0 | 92 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1851 | 1781 | 1777 | 1859 | 1302 | 0 | 1623 | 1275 | 0 | 1705 |
| Q Serve(g_s), s | 0.6 | 7.9 | 7.9 | 5.0 | 18.5 | 18.6 | 3.0 | 0.0 | 5.3 | 3.2 | 0.0 | 4.4 |
| Cycle Q Clear(g_c), s | 0.6 | 7.9 | 7.9 | 5.0 | 18.5 | 18.6 | 7.4 | 0.0 | 5.3 | 8.5 | 0.0 | 4.4 |
| Prop In Lane | 1.00 | | 0.06 | 1.00 | | 0.03 | 1.00 | | 0.76 | 1.00 | | 0.53 |
| Lane Grp Cap(c), veh/h | 19 | 1109 | 1155 | 127 | 1217 | 1274 | 200 | 0 | 229 | 185 | 0 | 240 |
| V/C Ratio(X) | 0.58 | 0.30 | 0.30 | 0.79 | 0.58 | 0.58 | 0.23 | 0.00 | 0.45 | 0.26 | 0.00 | 0.38 |
| Avail Cap(c_a), veh/h | 83 | 1109 | 1155 | 214 | 1217 | 1274 | 423 | 0 | 507 | 403 | 0 | 532 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.82 | 0.82 | 0.82 | 0.54 | 0.54 | 0.54 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 44.3 | 7.8 | 7.8 | 41.1 | 7.4 | 7.4 | 38.5 | 0.0 | 35.5 | 39.4 | 0.0 | 35.1 |
| Incr Delay (d2), s/veh | 8.2 | 0.6 | 0.6 | 2.2 | 1.1 | 1.0 | 0.2 | 0.0 | 0.5 | 0.3 | 0.0 | 0.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.3 | 2.7 | 2.8 | 2.2 | 5.7 | 5.9 | 0.9 | 0.0 | 2.1 | 1.0 | 0.0 | 1.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 52.5 | 8.4 | 8.4 | 43.3 | 8.5 | 8.4 | 38.7 | 0.0 | 36.0 | 39.7 | 0.0 | 35.5 |
| LnGrp LOS | D | A | A | D | A | A | D | A | D | D | A | D |
| Approach Vol, veh/h | | 699 | | | 1538 | | | 150 | | | 140 | |
| Approach Delay, s/veh | | 9.1 | | | 10.7 | | | 36.8 | | | 36.9 | |
| Approach LOS | | A | | | B | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 10.6 | 62.5 | | 16.9 | 5.2 | 67.9 | | 16.9 | | | | |
| Change Period (Y+Rc), s | * 4.2 | * 6.3 | | * 4.2 | * 4.2 | 6.3 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | * 11 | * 38 | | * 28 | * 4.2 | 43.0 | | * 28 | | | | |
| Max Q Clear Time (g_c+I1), s | 7.0 | 9.9 | | 10.5 | 2.6 | 20.6 | | 9.4 | | | | |
| Green Ext Time (p_c), s | 0.0 | 8.7 | | 0.3 | 0.0 | 17.1 | | 0.4 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 13.3 | |
| HCM 6th LOS | B | |

Notes

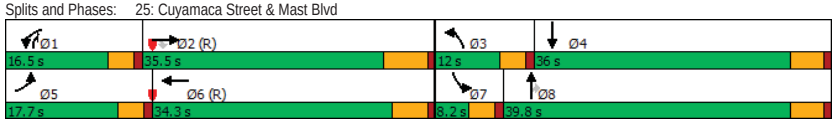
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 164 | 332 | 219 | 362 | 679 | 6 | 210 | 274 | 198 | 9 | 601 | 522 |
| Future Volume (vph) | 164 | 332 | 219 | 362 | 679 | 6 | 210 | 274 | 198 | 9 | 601 | 522 |
| Confl. Peds. (#/hr) | | | 8 | | | 5 | | | 3 | | | 3 |
| Confl. Bikes (#/hr) | | | 4 | | | 1 | | | 3 | | | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | | Prot | NA | pm+ov | Prot | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | 1 | 7 | 4 | |
| Permitted Phases | | | 2 | | | | | | 8 | | | |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | | 3 | 8 | 1 | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | | 4.0 | 7.0 | 4.0 | 4.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 34.3 | 34.3 | 8.2 | 32.3 | | 8.2 | 33.1 | 8.2 | 8.2 | 34.0 | |
| Total Split (s) | 17.7 | 35.5 | 35.5 | 16.5 | 34.3 | | 12.0 | 39.8 | 16.5 | 8.2 | 36.0 | |
| Total Split (%) | 17.7% | 35.5% | 35.5% | 16.5% | 34.3% | | 12.0% | 39.8% | 16.5% | 8.2% | 36.0% | |
| Yellow Time (s) | 3.2 | 5.3 | 5.3 | 3.2 | 4.3 | | 3.2 | 4.1 | 3.2 | 3.2 | 4.0 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.2 | 6.3 | 6.3 | 4.2 | 5.3 | | 4.2 | 5.1 | 4.2 | 4.2 | 5.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | |
| Recall Mode | None | C-Min | C-Min | None | C-Min | | None | None | None | None | None | |

**Intersection Summary**

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 31 (31%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 95
Control Type: Actuated-Coordinated

Splits and Phases: 25: Cuyamaca Street & Mast Blvd






Existing + Cuml + Proj AM
25: Cuyamaca Street & Mast Blvd
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 164 | 332 | 219 | 362 | 679 | 6 | 210 | 274 | 198 | 9 | 601 | 522 |
| Future Volume (veh/h) | 164 | 332 | 219 | 362 | 679 | 6 | 210 | 274 | 198 | 9 | 601 | 522 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 178 | 361 | 238 | 393 | 738 | 7 | 228 | 298 | 215 | 10 | 653 | 567 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 209 | 1034 | 451 | 425 | 1069 | 10 | 270 | 1344 | 785 | 17 | 557 | 478 |
| Arrive On Green | 0.12 | 0.29 | 0.29 | 0.12 | 0.30 | 0.30 | 0.08 | 0.38 | 0.38 | 0.01 | 0.31 | 0.31 |
| Sat Flow, veh/h | 1781 | 3554 | 1548 | 3456 | 3606 | 34 | 3456 | 3554 | 1560 | 1781 | 1795 | 1543 |
| Grp Volume(v), veh/h | 178 | 361 | 238 | 393 | 364 | 381 | 228 | 298 | 215 | 10 | 646 | 574 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1548 | 1728 | 1777 | 1863 | 1728 | 1777 | 1560 | 1781 | 1777 | 1561 |
| Q Serve(g_s), s | 9.8 | 8.0 | 12.9 | 11.3 | 18.1 | 18.1 | 6.5 | 5.7 | 8.0 | 0.6 | 31.0 | 31.0 |
| Cycle Q Clear(g_c), s | 9.8 | 8.0 | 12.9 | 11.3 | 18.1 | 18.1 | 6.5 | 5.7 | 8.0 | 0.6 | 31.0 | 31.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.02 | 1.00 | | 1.00 | 1.00 | | 0.99 |
| Lane Grp Cap(c), veh/h | 209 | 1034 | 451 | 425 | 527 | 552 | 270 | 1344 | 785 | 17 | 551 | 484 |
| V/C Ratio(X) | 0.85 | 0.35 | 0.53 | 0.92 | 0.69 | 0.69 | 0.85 | 0.22 | 0.27 | 0.58 | 1.17 | 1.19 |
| Avail Cap(c_a), veh/h | 240 | 1038 | 452 | 425 | 527 | 552 | 270 | 1344 | 785 | 71 | 551 | 484 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.97 | 0.97 | 0.97 | 0.94 | 0.94 | 0.94 | 0.83 | 0.83 | 0.83 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 43.3 | 28.0 | 29.7 | 43.4 | 31.1 | 31.1 | 45.5 | 21.1 | 14.4 | 49.3 | 34.5 | 34.5 |
| Incr Delay (d2), s/veh | 19.2 | 0.9 | 4.3 | 24.4 | 6.8 | 6.5 | 17.4 | 0.1 | 0.2 | 10.9 | 95.9 | 102.9 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 5.3 | 3.4 | 5.2 | 6.1 | 8.4 | 8.8 | 3.4 | 2.3 | 2.7 | 0.3 | 27.5 | 25.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 62.5 | 28.9 | 34.0 | 67.8 | 37.9 | 37.6 | 62.9 | 21.2 | 14.6 | 60.2 | 130.4 | 137.4 |
| LnGrp LOS | E | C | C | E | D | D | E | C | B | E | F | F |
| Approach Vol, veh/h | | 777 | | | 1138 | | | 741 | | | 1230 | |
| Approach Delay, s/veh | | 38.1 | | | 48.2 | | | 32.1 | | | 133.1 | |
| Approach LOS | | D | | | D | | | C | | | F | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 16.5 | 35.4 | 12.0 | 36.1 | 16.0 | 35.9 | 5.2 | 42.9 |
| Change Period (Y+Rc), s | * 4.2 | 6.3 | * 4.2 | * 5.1 | * 4.2 | * 6.3 | * 4.2 | 5.1 |
| Max Green Setting (Gmax), s | * 12 | 29.2 | * 7.8 | * 31 | * 14 | * 29 | * 4 | 34.7 |
| Max Q Clear Time (g_c+I1), s | 13.3 | 14.9 | 8.5 | 33.0 | 11.8 | 20.1 | 2.6 | 10.0 |
| Green Ext Time (p_c), s | 0.0 | 3.8 | 0.0 | 0.0 | 0.0 | 3.5 | 0.0 | 3.9 |

**Intersection Summary**

| | | |
|---|---|---|
| HCM 6th Ctrl Delay | 70.0 | |
| HCM 6th LOS | E | |

**Notes**

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\7 Existing + Cuml + Proj AM.syn

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 505 | 68 | 118 | 918 | 21 | 92 |
| Future Volume (vph) | 505 | 68 | 118 | 918 | 21 | 92 |
| Confl. Peds. (#/hr) | | 17 | | | | 29 |
| Confl. Bikes (#/hr) | | 3 | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | NA | | Prot | NA | Prot | Perm |
| Protected Phases | 2 | | 1 | 6 | 8 | |
| Permitted Phases | | | | | | 8 |
| Detector Phase | 2 | | 1 | 6 | 8 | 8 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 22.5 | | 8.5 | 20.5 | 22.5 | 22.5 |
| Total Split (s) | 23.2 | | 14.3 | 37.5 | 22.5 | 22.5 |
| Total Split (%) | 38.7% | | 23.8% | 62.5% | 37.5% | 37.5% |
| Yellow Time (s) | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lag | | Lead | | | |
| Lead-Lag Optimize? | Yes | | Yes | | | |
| Recall Mode | Min | | None | Min | None | None |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 41.3 |
| Natural Cycle: 55 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 26: Park Center Drive & Mast Blvd

Existing + Cuml + Proj AM
26: Park Center Drive & Mast Blvd
Fanita Ranch
06/06/2019

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 505 | 68 | 118 | 918 | 21 | 92 |
| Future Volume (veh/h) | 505 | 68 | 118 | 918 | 21 | 92 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | 0.95 | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 549 | 74 | 128 | 998 | 23 | 100 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 1057 | 142 | 165 | 2100 | 157 | 139 |
| Arrive On Green | 0.34 | 0.34 | 0.09 | 0.59 | 0.09 | 0.09 |
| Sat Flow, veh/h | 3220 | 420 | 1781 | 3647 | 1781 | 1585 |
| Grp Volume(v), veh/h | 311 | 312 | 128 | 998 | 23 | 100 |
| Grp Sat Flow(s),veh/h/ln | 1777 | 1770 | 1781 | 1777 | 1781 | 1585 |
| Q Serve(g_s), s | 3.9 | 4.0 | 2.0 | 4.5 | 0.3 | 1.7 |
| Cycle Q Clear(g_c), s | 3.9 | 4.0 | 2.0 | 4.5 | 0.3 | 1.7 |
| Prop In Lane | | 0.24 | 1.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 601 | 598 | 165 | 2100 | 157 | 139 |
| V/C Ratio(X) | 0.52 | 0.52 | 0.78 | 0.48 | 0.15 | 0.72 |
| Avail Cap(c_a), veh/h | 1185 | 1181 | 623 | 4184 | 1144 | 1018 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 7.4 | 7.5 | 12.4 | 3.3 | 11.8 | 12.4 |
| Incr Delay (d2), s/veh | 0.7 | 0.7 | 7.7 | 0.2 | 0.4 | 6.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.8 | 0.8 | 0.9 | 0.0 | 0.1 | 0.7 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 8.1 | 8.2 | 20.1 | 3.4 | 12.2 | 19.2 |
| LnGrp LOS | A | A | C | A | B | B |
| Approach Vol, veh/h | 623 | | | 1126 | 123 | |
| Approach Delay, s/veh | 8.1 | | | 5.3 | 17.9 | |
| Approach LOS | A | | | A | B | |

| Timer - Assigned Phs | 1 | 2 | | | 6 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.1 | 14.0 | | | 21.1 | 7.0 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 9.8 | 18.7 | | | 33.0 | 18.0 |
| Max Q Clear Time (g_c+I1), s | 4.0 | 6.0 | | | 6.5 | 3.7 |
| Green Ext Time (p_c), s | 0.1 | 2.9 | | | 7.5 | 0.3 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 7.1 | |
| HCM 6th LOS | A | |

Fanita Ranch
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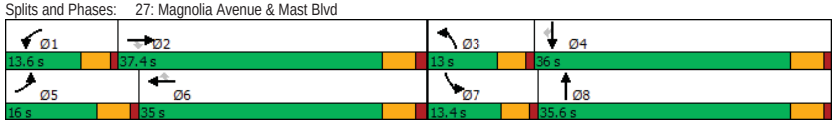
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 189 | 131 | 217 | 155 | 278 | 52 | 295 | 632 | 54 | 56 | 815 | 414 |
| Future Volume (vph) | 189 | 131 | 217 | 155 | 278 | 52 | 295 | 632 | 54 | 56 | 815 | 414 |
| Confl. Peds. (#/hr) | | | 14 | | | 31 | | | 11 | | | 8 |
| Confl. Bikes (#/hr) | | | 5 | | | 5 | | | 3 | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 11.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 9.0 | | 7.0 | 9.0 | 9.0 |
| Minimum Split (s) | 16.0 | 34.5 | 34.5 | 11.5 | 34.5 | 34.5 | 11.5 | 35.0 | | 11.5 | 36.0 | 36.0 |
| Total Split (s) | 16.0 | 37.4 | 37.4 | 13.6 | 35.0 | 35.0 | 13.0 | 35.6 | | 13.4 | 36.0 | 36.0 |
| Total Split (%) | 16.0% | 37.4% | 37.4% | 13.6% | 35.0% | 35.0% | 13.0% | 35.6% | | 13.4% | 36.0% | 36.0% |
| Yellow Time (s) | 4.0 | 4.0 | 4.0 | 3.5 | 4.0 | 4.0 | 3.5 | 4.0 | | 3.5 | 4.0 | 4.0 |
| All-Red Time (s) | 1.0 | 1.5 | 1.5 | 1.0 | 1.5 | 1.5 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 5.0 | 5.5 | 5.5 | 4.5 | 5.5 | 5.5 | 4.5 | 5.0 | | 4.5 | 5.0 | 5.0 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | Min | Min | None | Min | Min | None | Min | | None | Min | Min |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 80 |
| Natural Cycle: 100 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 27: Magnolia Avenue & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 189 | 131 | 217 | 155 | 278 | 52 | 295 | 632 | 54 | 56 | 815 | 414 |
| Future Volume (veh/h) | 189 | 131 | 217 | 155 | 278 | 52 | 295 | 632 | 54 | 56 | 815 | 414 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.94 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 205 | 142 | 236 | 168 | 302 | 57 | 321 | 687 | 59 | 61 | 886 | 450 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 428 | 870 | 375 | 184 | 776 | 326 | 333 | 1220 | 105 | 110 | 1188 | 519 |
| Arrive On Green | 0.12 | 0.24 | 0.24 | 0.10 | 0.22 | 0.22 | 0.10 | 0.37 | 0.37 | 0.06 | 0.33 | 0.33 |
| Sat Flow, veh/h | 3456 | 3554 | 1532 | 1781 | 3554 | 1492 | 3456 | 3305 | 284 | 1781 | 3554 | 1553 |
| Grp Volume(v), veh/h | 205 | 142 | 236 | 168 | 302 | 57 | 321 | 369 | 377 | 61 | 886 | 450 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1532 | 1781 | 1777 | 1492 | 1728 | 1777 | 1812 | 1781 | 1777 | 1553 |
| Q Serve(g_s), s | 4.9 | 2.8 | 12.1 | 8.2 | 6.4 | 2.7 | 8.2 | 14.6 | 14.6 | 2.9 | 19.5 | 23.9 |
| Cycle Q Clear(g_c), s | 4.9 | 2.8 | 12.1 | 8.2 | 6.4 | 2.7 | 8.2 | 14.6 | 14.6 | 2.9 | 19.5 | 23.9 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.16 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 428 | 870 | 375 | 184 | 776 | 326 | 333 | 656 | 669 | 110 | 1188 | 519 |
| V/C Ratio(X) | 0.48 | 0.16 | 0.63 | 0.91 | 0.39 | 0.17 | 0.96 | 0.56 | 0.56 | 0.56 | 0.75 | 0.87 |
| Avail Cap(c_a), veh/h | 431 | 1286 | 555 | 184 | 1189 | 499 | 333 | 656 | 669 | 180 | 1250 | 546 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 36.0 | 26.2 | 29.7 | 39.1 | 29.4 | 28.0 | 39.7 | 22.1 | 22.1 | 40.2 | 26.0 | 27.5 |
| Incr Delay (d2), s/veh | 1.0 | 0.1 | 2.1 | 41.9 | 0.4 | 0.3 | 39.2 | 1.1 | 1.1 | 1.6 | 2.4 | 13.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.0 | 1.1 | 4.4 | 5.6 | 2.7 | 1.0 | 5.1 | 5.8 | 6.0 | 1.3 | 8.0 | 10.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 37.0 | 26.3 | 31.8 | 81.0 | 29.8 | 28.3 | 78.8 | 23.2 | 23.2 | 41.8 | 28.4 | 40.8 |
| LnGrp LOS | D | C | C | F | C | C | E | C | C | D | C | D |
| Approach Vol, veh/h | | 583 | | | 527 | | | 1067 | | | 1397 | |
| Approach Delay, s/veh | | 32.3 | | | 46.0 | | | 40.0 | | | 33.0 | |
| Approach LOS | | C | | | D | | | D | | | C | |

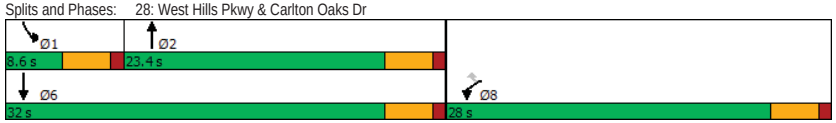
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 13.6 | 27.1 | 13.0 | 34.5 | 15.9 | 24.7 | 9.9 | 37.5 |
| Change Period (Y+Rc), s | 4.5 | 5.5 | 4.5 | 5.0 | 5.0 | 5.5 | 4.5 | 5.0 |
| Max Green Setting (Gmax), s | 9.1 | 31.9 | 8.5 | 31.0 | 11.0 | 29.5 | 8.9 | 30.6 |
| Max Q Clear Time (g_c+I1), s | 10.2 | 14.1 | 10.2 | 25.9 | 6.9 | 8.4 | 4.9 | 16.6 |
| Green Ext Time (p_c), s | 0.0 | 1.9 | 0.0 | 3.1 | 0.3 | 2.4 | 0.0 | 3.7 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 36.9 |
| HCM 6th LOS | | D |

| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 434 | 655 | 828 | 129 | 42 | 278 |
| Future Volume (vph) | 434 | 655 | 828 | 129 | 42 | 278 |
| Confl. Peds. (#/hr) | | 9 | | 6 | | |
| Confl. Bikes (#/hr) | | | | 2 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | 0% | | | 0% |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | NA | | Prot | NA |
| Protected Phases | 8 | | 2 | | 1 | 6 |
| Permitted Phases | | 8 | | | | |
| Detector Phase | 8 | 8 | 2 | | 1 | 6 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | | 8.5 | 20.5 |
| Total Split (s) | 28.0 | 28.0 | 23.4 | | 8.6 | 32.0 |
| Total Split (%) | 46.7% | 46.7% | 39.0% | | 14.3% | 53.3% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Lead/Lag | | | Lag | | Lead | |
| Lead-Lag Optimize? | | | Yes | | Yes | |
| Recall Mode | None | None | Min | | None | Min |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 51.3 |
| Natural Cycle: 60 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 28: West Hills Pkwy & Carlton Oaks Dr






Existing + Cuml + Proj AM
28: West Hills Pkwy & Carlton Oaks Dr
Fanita Ranch
06/06/2019

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 434 | 655 | 828 | 129 | 42 | 278 |
| Future Volume (veh/h) | 434 | 655 | 828 | 129 | 42 | 278 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | | 0.97 | 1.00 | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | No | | | No |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 472 | 712 | 900 | 140 | 46 | 302 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 616 | 965 | 1067 | 166 | 67 | 1689 |
| Arrive On Green | 0.35 | 0.35 | 0.35 | 0.35 | 0.04 | 0.48 |
| Sat Flow, veh/h | 1781 | 2790 | 3160 | 477 | 1781 | 3647 |
| Grp Volume(v), veh/h | 472 | 712 | 521 | 519 | 46 | 302 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1395 | 1777 | 1767 | 1781 | 1777 |
| Q Serve(g_s), s | 11.9 | 11.3 | 13.6 | 13.6 | 1.3 | 2.5 |
| Cycle Q Clear(g_c), s | 11.9 | 11.3 | 13.6 | 13.6 | 1.3 | 2.5 |
| Prop In Lane | 1.00 | 1.00 | | 0.27 | 1.00 | |
| Lane Grp Cap(c), veh/h | 616 | 965 | 618 | 615 | 67 | 1689 |
| V/C Ratio(X) | 0.77 | 0.74 | 0.84 | 0.84 | 0.68 | 0.18 |
| Avail Cap(c_a), veh/h | 833 | 1304 | 668 | 664 | 145 | 1944 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 14.6 | 14.4 | 15.1 | 15.1 | 23.9 | 7.6 |
| Incr Delay (d2), s/veh | 3.0 | 1.5 | 9.1 | 9.2 | 11.6 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 4.5 | 3.2 | 5.7 | 5.6 | 0.7 | 0.6 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 17.6 | 15.9 | 24.2 | 24.3 | 35.5 | 7.6 |
| LnGrp LOS | B | B | C | C | D | A |
| Approach Vol, veh/h | 1184 | | 1040 | | | 348 |
| Approach Delay, s/veh | 16.6 | | 24.3 | | | 11.3 |
| Approach LOS | B | | C | | | B |

| Timer - Assigned Phs | 1 | 2 | | | 6 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 6.4 | 22.0 | | | 28.4 | 21.9 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 4.1 | 18.9 | | | 27.5 | 23.5 |
| Max Q Clear Time (g_c+I1), s | 3.3 | 15.6 | | | 4.5 | 13.9 |
| Green Ext Time (p_c), s | 0.0 | 1.9 | | | 1.7 | 3.5 |

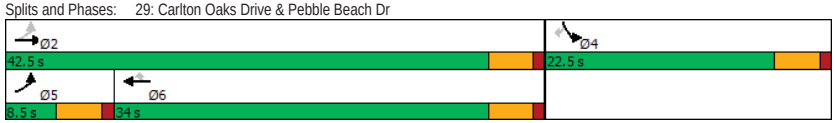
| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 19.0 | |
| HCM 6th LOS | | B | |

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\7 Existing + Cuml + Proj AM.syn

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 5 | 378 | 723 | 153 | 160 | 51 |
| Future Volume (vph) | 5 | 378 | 723 | 153 | 160 | 51 |
| Confl. Peds. (#/hr) | | | | 13 | | |
| Confl. Bikes (#/hr) | | | | 8 | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | pm+pt | NA | NA | Perm | Prot | Perm |
| Protected Phases | 5 | 2 | 6 | | 4 | |
| Permitted Phases | 2 | | | 6 | | 4 |
| Detector Phase | 5 | 2 | 6 | 6 | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 |
| Total Split (s) | 8.5 | 42.5 | 34.0 | 34.0 | 22.5 | 22.5 |
| Total Split (%) | 13.1% | 65.4% | 52.3% | 52.3% | 34.6% | 34.6% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | | Lag | Lag | | |
| Lead-Lag Optimize? | Yes | | Yes | Yes | | |
| Recall Mode | None | Min | Min | Min | None | None |

| Intersection Summary |
|---|
| Cycle Length: 65 |
| Actuated Cycle Length: 50.1 |
| Natural Cycle: 70 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 29: Carlton Oaks Drive & Pebble Beach Dr








| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 5 | 378 | 723 | 153 | 160 | 51 |
| Future Volume (veh/h) | 5 | 378 | 723 | 153 | 160 | 51 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 0.96 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 5 | 411 | 786 | 166 | 174 | 55 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 289 | 1193 | 978 | 798 | 254 | 226 |
| Arrive On Green | 0.01 | 0.64 | 0.52 | 0.52 | 0.14 | 0.14 |
| Sat Flow, veh/h | 1781 | 1870 | 1870 | 1525 | 1781 | 1585 |
| Grp Volume(v), veh/h | 5 | 411 | 786 | 166 | 174 | 55 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1870 | 1525 | 1781 | 1585 |
| Q Serve(g_s), s | 0.0 | 4.2 | 14.2 | 2.4 | 3.8 | 1.3 |
| Cycle Q Clear(g_c), s | 0.0 | 4.2 | 14.2 | 2.4 | 3.8 | 1.3 |
| Prop In Lane | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 289 | 1193 | 978 | 798 | 254 | 226 |
| V/C Ratio(X) | 0.02 | 0.34 | 0.80 | 0.21 | 0.68 | 0.24 |
| Avail Cap(c_a), veh/h | 453 | 1731 | 1344 | 1096 | 781 | 695 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 6.9 | 3.4 | 8.1 | 5.2 | 16.7 | 15.6 |
| Incr Delay (d2), s/veh | 0.0 | 0.2 | 2.6 | 0.1 | 3.2 | 0.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.6 | 4.1 | 0.5 | 1.6 | 1.2 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 6.9 | 3.6 | 10.6 | 5.4 | 20.0 | 16.2 |
| LnGrp LOS | A | A | B | A | B | B |
| Approach Vol, veh/h | | 416 | 952 | | 229 | |
| Approach Delay, s/veh | | 3.7 | 9.7 | | 19.1 | |
| Approach LOS | | A | A | | B | |

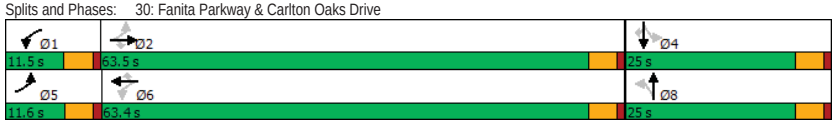
| Timer - Assigned Phs | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 30.7 | | 10.4 | 4.7 | 26.0 |
| Change Period (Y+Rc), s | 4.5 | | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 38.0 | | 18.0 | 4.0 | 29.5 |
| Max Q Clear Time (g_c+I1), s | 6.2 | | 5.8 | 2.0 | 16.2 |
| Green Ext Time (p_c), s | 2.6 | | 0.5 | 0.0 | 5.3 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 9.5 | |
| HCM 6th LOS | A | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 50 | 370 | 0 | 0 | 701 | 201 | 4 | 0 | 5 | 340 | 0 | 147 |
| Future Volume (vph) | 50 | 370 | 0 | 0 | 701 | 201 | 4 | 0 | 5 | 340 | 0 | 147 |
| Confl. Peds. (#/hr) | | | 4 | | | 4 | | | 14 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | 6 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | pm+pt | NA | Perm | pm+pt | NA | Perm | Perm | NA | | Perm | | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | 2 | | 2 | 6 | | 6 | 8 | | | 4 | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 8 | 8 | | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | | 7.0 | 7.0 | 7.0 |
| Minimum Split (s) | 11.5 | 26.5 | 26.5 | 11.5 | 20.5 | 20.5 | 22.5 | 22.5 | | 22.5 | 22.5 | 22.5 |
| Total Split (s) | 11.6 | 63.5 | 63.5 | 11.5 | 63.4 | 63.4 | 25.0 | 25.0 | | 25.0 | 25.0 | 25.0 |
| Total Split (%) | 11.6% | 63.5% | 63.5% | 11.5% | 63.4% | 63.4% | 25.0% | 25.0% | | 25.0% | 25.0% | 25.0% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | | | | | | |
| Recall Mode | None | Min | Min | None | Min | Min | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 76.2 |
| Natural Cycle: 90 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 30: Fanita Parkway & Carlton Oaks Drive






Existing + Cuml + Proj AM
30: Fanita Parkway & Carlton Oaks Drive
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 50 | 370 | 0 | 0 | 701 | 201 | 4 | 0 | 5 | 340 | 0 | 147 |
| Future Volume (veh/h) | 50 | 370 | 0 | 0 | 701 | 201 | 4 | 0 | 5 | 340 | 0 | 147 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.97 | 1.00 | | 0.97 | 0.98 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 54 | 402 | 0 | 0 | 762 | 218 | 4 | 0 | 5 | 370 | 0 | 160 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 279 | 1127 | 955 | 570 | 896 | 737 | 219 | 25 | 217 | 478 | 516 | 436 |
| Arrive On Green | 0.06 | 0.60 | 0.00 | 0.00 | 0.48 | 0.48 | 0.28 | 0.00 | 0.28 | 0.28 | 0.00 | 0.28 |
| Sat Flow, veh/h | 1781 | 1870 | 1585 | 1781 | 1870 | 1540 | 540 | 91 | 788 | 1376 | 1870 | 1579 |
| Grp Volume(v), veh/h | 54 | 402 | 0 | 0 | 762 | 218 | 9 | 0 | 0 | 370 | 0 | 160 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1585 | 1781 | 1870 | 1540 | 1418 | 0 | 0 | 1376 | 1870 | 1579 |
| Q Serve(g_s), s | 1.0 | 8.1 | 0.0 | 0.0 | 26.6 | 6.4 | 0.0 | 0.0 | 0.0 | 19.4 | 0.0 | 6.1 |
| Cycle Q Clear(g_c), s | 1.0 | 8.1 | 0.0 | 0.0 | 26.6 | 6.4 | 0.3 | 0.0 | 0.0 | 19.7 | 0.0 | 6.1 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 0.44 | | 0.56 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 279 | 1127 | 955 | 570 | 896 | 737 | 461 | 0 | 0 | 478 | 516 | 436 |
| V/C Ratio(X) | 0.19 | 0.36 | 0.00 | 0.00 | 0.85 | 0.30 | 0.02 | 0.00 | 0.00 | 0.77 | 0.00 | 0.37 |
| Avail Cap(c_a), veh/h | 336 | 1486 | 1259 | 736 | 1483 | 1221 | 461 | 0 | 0 | 478 | 516 | 436 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 13.2 | 7.5 | 0.0 | 0.0 | 17.0 | 11.7 | 19.6 | 0.0 | 0.0 | 26.6 | 0.0 | 21.7 |
| Incr Delay (d2), s/veh | 0.3 | 0.2 | 0.0 | 0.0 | 2.6 | 0.2 | 0.0 | 0.0 | 0.0 | 7.7 | 0.0 | 0.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.3 | 2.7 | 0.0 | 0.0 | 10.5 | 2.0 | 0.1 | 0.0 | 0.0 | 7.0 | 0.0 | 2.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 13.5 | 7.7 | 0.0 | 0.0 | 19.6 | 12.0 | 19.6 | 0.0 | 0.0 | 34.3 | 0.0 | 22.2 |
| LnGrp LOS | B | A | A | A | B | B | B | A | A | C | A | C |
| Approach Vol, veh/h | | 456 | | | 980 | | | 9 | | | 530 | |
| Approach Delay, s/veh | | 8.3 | | | 17.9 | | | 19.6 | | | 30.6 | |
| Approach LOS | | A | | | B | | | B | | | C | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 0.0 | 49.3 | | 25.0 | 9.2 | 40.1 | | 25.0 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 7.0 | 59.0 | | 20.5 | 7.1 | 58.9 | | 20.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 0.0 | 10.1 | | 21.7 | 3.0 | 28.6 | | 2.3 | | | | |
| Green Ext Time (p_c), s | 0.0 | 2.6 | | 0.0 | 0.0 | 7.0 | | 0.0 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 19.1 | |
| HCM 6th LOS | B | |

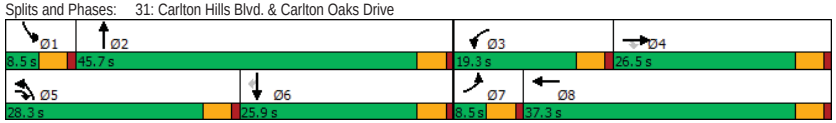
Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\7 Existing + Cuml + Proj AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 10 | 131 | 695 | 225 | 183 | 11 | 652 | 378 | 181 | 14 | 642 | 80 |
| Future Volume (vph) | 10 | 131 | 695 | 225 | 183 | 11 | 652 | 378 | 181 | 14 | 642 | 80 |
| Confl. Peds. (#/hr) | | | 16 | | | 2 | | | 3 | | | 4 |
| Confl. Bikes (#/hr) | | | 1 | | | 1 | | | 1 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 7 | 4 | 5 | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | | | | 6 |
| Detector Phase | 7 | 4 | 5 | 3 | 8 | | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 26.5 | 8.5 | 8.5 | 26.5 | | 8.5 | 22.5 | | 8.5 | 22.5 | 22.5 |
| Total Split (s) | 8.5 | 26.5 | 28.3 | 19.3 | 37.3 | | 28.3 | 45.7 | | 8.5 | 25.9 | 25.9 |
| Total Split (%) | 8.5% | 26.5% | 28.3% | 19.3% | 37.3% | | 28.3% | 45.7% | | 8.5% | 25.9% | 25.9% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | | None | Min | | None | Min | Min |

**Intersection Summary**

Cycle Length: 100
Actuated Cycle Length: 90.7
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 31: Carlton Hills Blvd. & Carlton Oaks Drive






Existing + Cuml + Proj AM
31: Carlton Hills Blvd. & Carlton Oaks Drive
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 10 | 131 | 695 | 225 | 183 | 11 | 652 | 378 | 181 | 14 | 642 | 80 |
| Future Volume (veh/h) | 10 | 131 | 695 | 225 | 183 | 11 | 652 | 378 | 181 | 14 | 642 | 80 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 11 | 142 | 755 | 245 | 199 | 12 | 709 | 411 | 197 | 15 | 698 | 87 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 19 | 419 | 703 | 268 | 1239 | 74 | 784 | 997 | 472 | 24 | 765 | 335 |
| Arrive On Green | 0.01 | 0.22 | 0.22 | 0.15 | 0.36 | 0.36 | 0.23 | 0.43 | 0.43 | 0.01 | 0.22 | 0.22 |
| Sat Flow, veh/h | 1781 | 1870 | 1531 | 1781 | 3403 | 204 | 3456 | 2328 | 1102 | 1781 | 3554 | 1556 |
| Grp Volume(v), veh/h | 11 | 142 | 755 | 245 | 103 | 108 | 709 | 312 | 296 | 15 | 698 | 87 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1531 | 1781 | 1777 | 1830 | 1728 | 1777 | 1653 | 1781 | 1777 | 1556 |
| Q Serve(g_s), s | 0.6 | 6.3 | 22.0 | 13.3 | 3.9 | 3.9 | 19.6 | 12.0 | 12.2 | 0.8 | 18.8 | 4.6 |
| Cycle Q Clear(g_c), s | 0.6 | 6.3 | 22.0 | 13.3 | 3.9 | 3.9 | 19.6 | 12.0 | 12.2 | 0.8 | 18.8 | 4.6 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.11 | 1.00 | | 0.67 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 19 | 419 | 703 | 268 | 647 | 666 | 784 | 761 | 708 | 24 | 765 | 335 |
| V/C Ratio(X) | 0.58 | 0.34 | 1.07 | 0.91 | 0.16 | 0.16 | 0.90 | 0.41 | 0.42 | 0.62 | 0.91 | 0.26 |
| Avail Cap(c_a), veh/h | 73 | 419 | 703 | 268 | 647 | 666 | 837 | 761 | 708 | 73 | 774 | 339 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 48.4 | 32.0 | 27.2 | 41.1 | 21.1 | 21.1 | 36.9 | 19.5 | 19.5 | 48.2 | 37.7 | 32.0 |
| Incr Delay (d2), s/veh | 25.6 | 0.5 | 55.7 | 33.0 | 0.1 | 0.1 | 12.7 | 0.4 | 0.4 | 22.6 | 15.1 | 0.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.4 | 2.9 | 26.4 | 8.2 | 1.6 | 1.7 | 9.4 | 4.8 | 4.6 | 0.5 | 9.6 | 1.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 74.0 | 32.5 | 82.8 | 74.1 | 21.2 | 21.2 | 49.6 | 19.8 | 19.9 | 70.8 | 52.7 | 32.5 |
| LnGrp LOS | E | C | F | E | C | C | D | B | B | E | D | C |
| Approach Vol, veh/h | | 908 | | | 456 | | | 1317 | | | 800 | |
| Approach Delay, s/veh | | 74.9 | | | 49.6 | | | 35.9 | | | 50.9 | |
| Approach LOS | | E | | | D | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.8 | 46.6 | 19.3 | 26.5 | 26.8 | 25.6 | 5.5 | 40.3 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 4.0 | 41.2 | 14.8 | 22.0 | 23.8 | 21.4 | 4.0 | 32.8 |
| Max Q Clear Time (g_c+I1), s | 2.8 | 14.2 | 15.3 | 24.0 | 21.6 | 20.8 | 2.6 | 5.9 |
| Green Ext Time (p_c), s | 0.0 | 3.9 | 0.0 | 0.0 | 0.7 | 0.3 | 0.0 | 1.2 |

**Intersection Summary**

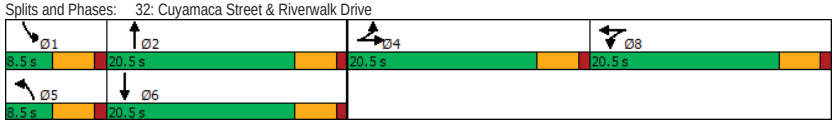
| | |
|---|---|
| HCM 6th Ctrl Delay | 51.3 |
| HCM 6th LOS | D |

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\7 Existing + Cuml + Proj AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 1 | 0 | 0 | 92 | 1 | 56 | 17 | 634 | 82 | 100 | 1292 | 3 |
| Future Volume (vph) | 1 | 0 | 0 | 92 | 1 | 56 | 17 | 634 | 82 | 100 | 1292 | 3 |
| Confl. Peds. (#/hr) | | | 17 | | | 2 | | | 1 | | | 7 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Split | | | Split | NA | | Prot | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | 20.5 | 20.5 | | 20.5 | 20.5 | | 8.5 | 20.5 | | 8.5 | 20.5 | |
| Total Split (s) | 20.5 | 20.5 | | 20.5 | 20.5 | | 8.5 | 20.5 | | 8.5 | 20.5 | |
| Total Split (%) | 29.3% | 29.3% | | 29.3% | 29.3% | | 12.1% | 29.3% | | 12.1% | 29.3% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 70 |
| Actuated Cycle Length: 46.9 |
| Natural Cycle: 90 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 32: Cuyamaca Street & Riverwalk Drive






Existing + Cuml + Proj AM
32: Cuyamaca Street & Riverwalk Drive
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 1 | 0 | 0 | 92 | 1 | 56 | 17 | 634 | 82 | 100 | 1292 | 3 |
| Future Volume (veh/h) | 1 | 0 | 0 | 92 | 1 | 56 | 17 | 634 | 82 | 100 | 1292 | 3 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.99 | 1.00 | | 1.00 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 1 | 0 | 0 | 100 | 1 | 61 | 18 | 689 | 89 | 109 | 1404 | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 67 | 71 | 0 | 176 | 3 | 154 | 32 | 1071 | 138 | 138 | 1447 | 3 |
| Arrive On Green | 0.04 | 0.00 | 0.00 | 0.10 | 0.10 | 0.10 | 0.02 | 0.34 | 0.34 | 0.08 | 0.40 | 0.40 |
| Sat Flow, veh/h | 1781 | 1870 | 0 | 1781 | 25 | 1554 | 1781 | 3165 | 408 | 1781 | 3638 | 8 |
| Grp Volume(v), veh/h | 1 | 0 | 0 | 100 | 0 | 62 | 18 | 387 | 391 | 109 | 686 | 721 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 0 | 1781 | 0 | 1580 | 1781 | 1777 | 1796 | 1781 | 1777 | 1869 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.0 | 2.2 | 0.0 | 1.5 | 0.4 | 7.4 | 7.4 | 2.4 | 15.2 | 15.2 |
| Cycle Q Clear(g_c), s | 0.0 | 0.0 | 0.0 | 2.2 | 0.0 | 1.5 | 0.4 | 7.4 | 7.4 | 2.4 | 15.2 | 15.2 |
| Prop In Lane | 1.00 | | 0.00 | 1.00 | | 0.98 | 1.00 | | 0.23 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 67 | 71 | 0 | 176 | 0 | 156 | 32 | 602 | 608 | 138 | 707 | 743 |
| V/C Ratio(X) | 0.01 | 0.00 | 0.00 | 0.57 | 0.00 | 0.40 | 0.56 | 0.64 | 0.64 | 0.79 | 0.97 | 0.97 |
| Avail Cap(c_a), veh/h | 709 | 744 | 0 | 709 | 0 | 628 | 177 | 707 | 714 | 177 | 707 | 743 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 18.6 | 0.0 | 0.0 | 17.3 | 0.0 | 17.0 | 19.6 | 11.2 | 11.3 | 18.2 | 11.9 | 11.9 |
| Incr Delay (d2), s/veh | 0.1 | 0.0 | 0.0 | 2.9 | 0.0 | 1.6 | 14.2 | 1.5 | 1.5 | 16.7 | 26.5 | 25.8 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.0 | 0.0 | 0.9 | 0.0 | 0.5 | 0.3 | 2.4 | 2.4 | 1.5 | 9.3 | 9.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 18.7 | 0.0 | 0.0 | 20.2 | 0.0 | 18.6 | 33.8 | 12.8 | 12.8 | 34.9 | 38.4 | 37.6 |
| LnGrp LOS | B | A | A | C | A | B | C | B | B | C | D | D |
| Approach Vol, veh/h | | 1 | | | 162 | | | 796 | | | 1516 | |
| Approach Delay, s/veh | | 18.7 | | | 19.6 | | | 13.3 | | | 37.8 | |
| Approach LOS | | B | | | B | | | B | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.6 | 18.1 | | 6.0 | 5.2 | 20.5 | | 8.5 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 4.0 | 16.0 | | 16.0 | 4.0 | 16.0 | | 16.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 4.4 | 9.4 | | 2.0 | 2.4 | 17.2 | | 4.2 | | | | |
| Green Ext Time (p_c), s | 0.0 | 2.6 | | 0.0 | 0.0 | 0.0 | | 0.4 | | | | |

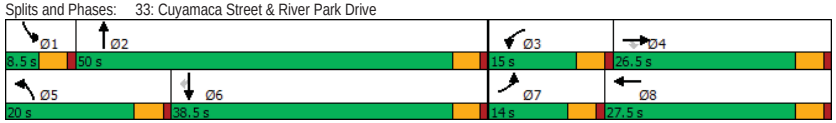
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 28.7 | |
| HCM 6th LOS | C | |

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\7 Existing + Cuml + Proj AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 67 | 27 | 101 | 79 | 31 | 28 | 131 | 747 | 83 | 16 | 1109 | 56 |
| Future Volume (vph) | 67 | 27 | 101 | 79 | 31 | 28 | 131 | 747 | 83 | 16 | 1109 | 56 |
| Confl. Peds. (#/hr) | | | 10 | | | 6 | | | 10 | | | 6 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | | | | 6 |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 26.5 | 26.5 | 8.5 | 26.5 | | 8.5 | 22.5 | | 8.5 | 26.5 | 26.5 |
| Total Split (s) | 14.0 | 26.5 | 26.5 | 15.0 | 27.5 | | 20.0 | 50.0 | | 8.5 | 38.5 | 38.5 |
| Total Split (%) | 14.0% | 26.5% | 26.5% | 15.0% | 27.5% | | 20.0% | 50.0% | | 8.5% | 38.5% | 38.5% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | | None | Min | | None | Min | Min |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 78.5 |
| Natural Cycle: 90 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 33: Cuyamaca Street & River Park Drive






Existing + Cuml + Proj AM
33: Cuyamaca Street & River Park Drive
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 67 | 27 | 101 | 79 | 31 | 28 | 131 | 747 | 83 | 16 | 1109 | 56 |
| Future Volume (veh/h) | 67 | 27 | 101 | 79 | 31 | 28 | 131 | 747 | 83 | 16 | 1109 | 56 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 73 | 29 | 110 | 86 | 34 | 30 | 142 | 812 | 90 | 17 | 1205 | 61 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 94 | 251 | 208 | 112 | 131 | 115 | 183 | 1657 | 184 | 29 | 1519 | 673 |
| Arrive On Green | 0.05 | 0.13 | 0.13 | 0.06 | 0.14 | 0.14 | 0.10 | 0.51 | 0.51 | 0.02 | 0.43 | 0.43 |
| Sat Flow, veh/h | 1781 | 1870 | 1550 | 1781 | 910 | 803 | 1781 | 3222 | 357 | 1781 | 3554 | 1574 |
| Grp Volume(v), veh/h | 73 | 29 | 110 | 86 | 0 | 64 | 142 | 448 | 454 | 17 | 1205 | 61 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1550 | 1781 | 0 | 1714 | 1781 | 1777 | 1802 | 1781 | 1777 | 1574 |
| Q Serve(g_s), s | 2.7 | 0.9 | 4.4 | 3.1 | 0.0 | 2.2 | 5.1 | 10.8 | 10.8 | 0.6 | 19.4 | 1.5 |
| Cycle Q Clear(g_c), s | 2.7 | 0.9 | 4.4 | 3.1 | 0.0 | 2.2 | 5.1 | 10.8 | 10.8 | 0.6 | 19.4 | 1.5 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.47 | 1.00 | | 0.20 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 94 | 251 | 208 | 112 | 0 | 246 | 183 | 914 | 927 | 29 | 1519 | 673 |
| V/C Ratio(X) | 0.78 | 0.12 | 0.53 | 0.77 | 0.00 | 0.26 | 0.77 | 0.49 | 0.49 | 0.59 | 0.79 | 0.09 |
| Avail Cap(c_a), veh/h | 257 | 624 | 517 | 284 | 0 | 598 | 419 | 1226 | 1243 | 108 | 1832 | 811 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 30.9 | 25.1 | 26.6 | 30.4 | 0.0 | 25.1 | 28.8 | 10.4 | 10.4 | 32.2 | 16.3 | 11.2 |
| Incr Delay (d2), s/veh | 12.8 | 0.2 | 2.1 | 10.6 | 0.0 | 0.6 | 6.8 | 0.4 | 0.4 | 17.5 | 2.1 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.4 | 0.4 | 1.7 | 1.6 | 0.0 | 0.9 | 2.4 | 3.6 | 3.6 | 0.4 | 7.2 | 0.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 43.6 | 25.3 | 28.7 | 41.1 | 0.0 | 25.7 | 35.7 | 10.8 | 10.8 | 49.8 | 18.4 | 11.3 |
| LnGrp LOS | D | C | C | D | A | C | D | B | B | D | B | B |
| Approach Vol, veh/h | | 212 | | | 150 | | | 1044 | | | 1283 | |
| Approach Delay, s/veh | | 33.4 | | | 34.5 | | | 14.2 | | | 18.5 | |
| Approach LOS | | C | | | C | | | B | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.6 | 38.4 | 8.6 | 13.3 | 11.3 | 32.7 | 8.0 | 14.0 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 4.0 | 45.5 | 10.5 | 22.0 | 15.5 | 34.0 | 9.5 | 23.0 |
| Max Q Clear Time (g_c+I1), s | 2.6 | 12.8 | 5.1 | 6.4 | 7.1 | 21.4 | 4.7 | 4.2 |
| Green Ext Time (p_c), s | 0.0 | 6.5 | 0.1 | 0.4 | 0.2 | 6.8 | 0.1 | 0.2 |

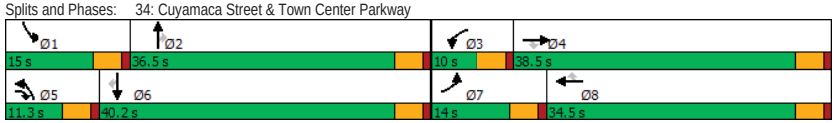
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 18.9 |
| HCM 6th LOS | | B |

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\7 Existing + Cuml + Proj AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 157 | 73 | 89 | 64 | 47 | 67 | 91 | 452 | 53 | 102 | 721 | 255 |
| Future Volume (vph) | 157 | 73 | 89 | 64 | 47 | 67 | 91 | 452 | 53 | 102 | 721 | 255 |
| Confl. Peds. (#/hr) | | | 7 | | | 1 | | | 5 | | | 3 |
| Confl. Bikes (#/hr) | | | 1 | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 7 | 4 | 5 | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | 2 | | | 6 |
| Detector Phase | 7 | 4 | 5 | 3 | 8 | 8 | 5 | 2 | 2 | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 34.5 | 8.5 | 8.5 | 34.5 | 34.5 | 8.5 | 34.5 | 34.5 | 8.5 | 34.5 | 34.5 |
| Total Split (s) | 14.0 | 38.5 | 11.3 | 10.0 | 34.5 | 34.5 | 11.3 | 36.5 | 36.5 | 15.0 | 40.2 | 40.2 |
| Total Split (%) | 14.0% | 38.5% | 11.3% | 10.0% | 34.5% | 34.5% | 11.3% | 36.5% | 36.5% | 15.0% | 40.2% | 40.2% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lead | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | None | None | Min | Min | None | Min | Min |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 60.7 |
| Natural Cycle: 90 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 34: Cuyamaca Street & Town Center Parkway








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 157 | 73 | 89 | 64 | 47 | 67 | 91 | 452 | 53 | 102 | 721 | 255 |
| Future Volume (veh/h) | 157 | 73 | 89 | 64 | 47 | 67 | 91 | 452 | 53 | 102 | 721 | 255 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 1.00 | 1.00 | | 0.99 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 171 | 79 | 97 | 70 | 51 | 73 | 99 | 491 | 58 | 111 | 784 | 277 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 293 | 293 | 340 | 176 | 437 | 195 | 214 | 1669 | 514 | 144 | 1767 | 547 |
| Arrive On Green | 0.08 | 0.16 | 0.16 | 0.05 | 0.12 | 0.12 | 0.06 | 0.33 | 0.33 | 0.08 | 0.35 | 0.35 |
| Sat Flow, veh/h | 3456 | 1870 | 1543 | 3456 | 3554 | 1581 | 3456 | 5106 | 1573 | 1781 | 5106 | 1581 |
| Grp Volume(v), veh/h | 171 | 79 | 97 | 70 | 51 | 73 | 99 | 491 | 58 | 111 | 784 | 277 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1870 | 1543 | 1728 | 1777 | 1581 | 1728 | 1702 | 1573 | 1781 | 1702 | 1581 |
| Q Serve(g_s), s | 2.2 | 1.7 | 2.5 | 0.9 | 0.6 | 2.0 | 1.3 | 3.4 | 1.2 | 2.9 | 5.6 | 6.5 |
| Cycle Q Clear(g_c), s | 2.2 | 1.7 | 2.5 | 0.9 | 0.6 | 2.0 | 1.3 | 3.4 | 1.2 | 2.9 | 5.6 | 6.5 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 293 | 293 | 340 | 176 | 437 | 195 | 214 | 1669 | 514 | 144 | 1767 | 547 |
| V/C Ratio(X) | 0.58 | 0.27 | 0.29 | 0.40 | 0.12 | 0.38 | 0.46 | 0.29 | 0.11 | 0.77 | 0.44 | 0.51 |
| Avail Cap(c_a), veh/h | 701 | 1357 | 1218 | 406 | 2275 | 1012 | 502 | 3487 | 1074 | 399 | 3891 | 1205 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 20.6 | 17.4 | 15.3 | 21.5 | 18.3 | 18.9 | 21.2 | 11.7 | 11.0 | 21.1 | 11.8 | 12.1 |
| Incr Delay (d2), s/veh | 1.8 | 0.5 | 0.5 | 1.4 | 0.1 | 1.2 | 1.6 | 0.1 | 0.1 | 8.3 | 0.2 | 0.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.9 | 0.7 | 0.8 | 0.4 | 0.2 | 0.7 | 0.5 | 1.0 | 0.4 | 1.4 | 1.7 | 2.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 22.5 | 17.9 | 15.7 | 23.0 | 18.4 | 20.1 | 22.8 | 11.8 | 11.1 | 29.4 | 12.0 | 12.9 |
| LnGrp LOS | C | B | B | C | B | C | C | B | B | C | B | B |
| Approach Vol, veh/h | | 347 | | | 194 | | | 648 | | | 1172 | |
| Approach Delay, s/veh | | 19.5 | | | 20.7 | | | 13.4 | | | 13.9 | |
| Approach LOS | | B | | | C | | | B | | | B | |

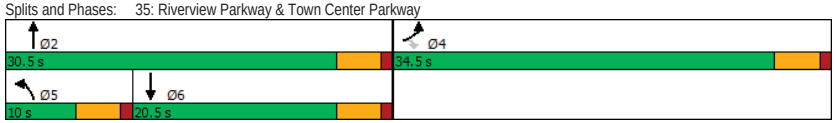
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 8.3 | 19.8 | 6.9 | 11.9 | 7.4 | 20.7 | 8.5 | 10.3 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 10.5 | 32.0 | 5.5 | 34.0 | 6.8 | 35.7 | 9.5 | 30.0 |
| Max Q Clear Time (g_c+I1), s | 4.9 | 5.4 | 2.9 | 4.5 | 3.3 | 8.5 | 4.2 | 4.0 |
| Green Ext Time (p_c), s | 0.1 | 3.6 | 0.0 | 0.7 | 0.1 | 7.0 | 0.2 | 0.5 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 15.1 |
| HCM 6th LOS | B |

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 1 | 105 | 117 | 105 | 38 | 8 |
| Future Volume (vph) | 1 | 105 | 117 | 105 | 38 | 8 |
| Confl. Peds. (#/hr) | | 4 | | | | 1 |
| Confl. Bikes (#/hr) | | 2 | | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | Prot | NA | NA | |
| Protected Phases | 4 | | 5 | 2 | 6 | |
| Permitted Phases | | 4 | | | | |
| Detector Phase | 4 | 4 | 5 | 2 | 6 | |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Minimum Split (s) | 34.5 | 34.5 | 8.5 | 25.5 | 20.5 | |
| Total Split (s) | 34.5 | 34.5 | 10.0 | 30.5 | 20.5 | |
| Total Split (%) | 53.1% | 53.1% | 15.4% | 46.9% | 31.5% | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lead/Lag | | | Lead | | Lag | |
| Lead-Lag Optimize? | | | Yes | | Yes | |
| Recall Mode | None | None | None | Min | Min | |

| Intersection Summary |
|---|
| Cycle Length: 65 |
| Actuated Cycle Length: 36.2 |
| Natural Cycle: 65 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 35: Riverview Parkway & Town Center Parkway








| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 1 | 105 | 117 | 105 | 38 | 8 |
| Future Volume (veh/h) | 1 | 105 | 117 | 105 | 38 | 8 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 1 | 114 | 127 | 114 | 41 | 9 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 164 | 146 | 176 | 1750 | 541 | 114 |
| Arrive On Green | 0.09 | 0.09 | 0.10 | 0.49 | 0.19 | 0.19 |
| Sat Flow, veh/h | 1781 | 1585 | 1781 | 3647 | 2998 | 614 |
| Grp Volume(v), veh/h | 1 | 114 | 127 | 114 | 24 | 26 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 1781 | 1777 | 1777 | 1742 |
| Q Serve(g_s), s | 0.0 | 1.5 | 1.5 | 0.4 | 0.2 | 0.3 |
| Cycle Q Clear(g_c), s | 0.0 | 1.5 | 1.5 | 0.4 | 0.2 | 0.3 |
| Prop In Lane | 1.00 | 1.00 | 1.00 | | | 0.35 |
| Lane Grp Cap(c), veh/h | 164 | 146 | 176 | 1750 | 331 | 324 |
| V/C Ratio(X) | 0.01 | 0.78 | 0.72 | 0.07 | 0.07 | 0.08 |
| Avail Cap(c_a), veh/h | 2466 | 2194 | 452 | 4263 | 1312 | 1286 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 8.9 | 9.6 | 9.5 | 2.9 | 7.3 | 7.3 |
| Incr Delay (d2), s/veh | 0.0 | 8.7 | 5.5 | 0.0 | 0.1 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 1.7 | 0.6 | 0.0 | 0.1 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 8.9 | 18.3 | 15.0 | 2.9 | 7.4 | 7.4 |
| LnGrp LOS | A | B | B | A | A | A |
| Approach Vol, veh/h | 115 | | | 241 | 50 | |
| Approach Delay, s/veh | 18.2 | | | 9.3 | 7.4 | |
| Approach LOS | B | | | A | A | |

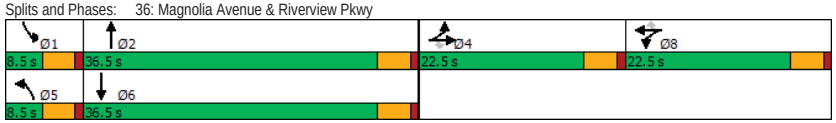
| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 15.2 | | 6.5 | 6.6 | 8.5 |
| Change Period (Y+Rc), s | | 4.5 | | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | | 26.0 | | 30.0 | 5.5 | 16.0 |
| Max Q Clear Time (g_c+I1), s | | 2.4 | | 3.5 | 3.5 | 2.3 |
| Green Ext Time (p_c), s | | 0.6 | | 0.3 | 0.1 | 0.1 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 11.6 | |
| HCM 6th LOS | B | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 1 | 0 | 7 | 38 | 0 | 8 | 47 | 1103 | 20 | 8 | 1477 | 3 |
| Future Volume (vph) | 1 | 0 | 7 | 38 | 0 | 8 | 47 | 1103 | 20 | 8 | 1477 | 3 |
| Confl. Peds. (#/hr) | | | 8 | | | | | | | | | 8 |
| Confl. Bikes (#/hr) | | | 1 | | | | | | 5 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Split | NA | Perm | Split | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | | | | |
| Detector Phase | 4 | 4 | 4 | 8 | 8 | 8 | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 8.5 | 22.5 | | 8.5 | 22.5 | |
| Total Split (s) | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 8.5 | 36.5 | | 8.5 | 36.5 | |
| Total Split (%) | 25.0% | 25.0% | 25.0% | 25.0% | 25.0% | 25.0% | 9.4% | 40.6% | | 9.4% | 40.6% | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | None | None | None | None | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 90 |
| Actuated Cycle Length: 58.2 |
| Natural Cycle: 100 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 36: Magnolia Avenue & Riverview Pkwy






Existing + Cuml + Proj AM
36: Magnolia Avenue & Riverview Pkwy
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 1 | 0 | 7 | 38 | 0 | 8 | 47 | 1103 | 20 | 8 | 1477 | 3 |
| Future Volume (veh/h) | 1 | 0 | 7 | 38 | 0 | 8 | 47 | 1103 | 20 | 8 | 1477 | 3 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.95 | 1.00 | | 1.00 | 1.00 | | 0.98 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 1 | 0 | 8 | 41 | 0 | 9 | 51 | 1199 | 22 | 9 | 1605 | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 51 | 0 | 43 | 71 | 0 | 63 | 72 | 2047 | 38 | 17 | 1976 | 4 |
| Arrive On Green | 0.03 | 0.00 | 0.03 | 0.04 | 0.00 | 0.04 | 0.04 | 0.57 | 0.57 | 0.01 | 0.54 | 0.54 |
| Sat Flow, veh/h | 1781 | 0 | 1514 | 1781 | 0 | 1585 | 1781 | 3568 | 65 | 1781 | 3639 | 7 |
| Grp Volume(v), veh/h | 1 | 0 | 8 | 41 | 0 | 9 | 51 | 597 | 624 | 9 | 784 | 824 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1514 | 1781 | 0 | 1585 | 1781 | 1777 | 1857 | 1781 | 1777 | 1869 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.3 | 1.2 | 0.0 | 0.3 | 1.5 | 11.1 | 11.1 | 0.3 | 18.6 | 18.6 |
| Cycle Q Clear(g_c), s | 0.0 | 0.0 | 0.3 | 1.2 | 0.0 | 0.3 | 1.5 | 11.1 | 11.1 | 0.3 | 18.6 | 18.6 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.04 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 51 | 0 | 43 | 71 | 0 | 63 | 72 | 1020 | 1065 | 17 | 965 | 1015 |
| V/C Ratio(X) | 0.02 | 0.00 | 0.18 | 0.58 | 0.00 | 0.14 | 0.71 | 0.59 | 0.59 | 0.54 | 0.81 | 0.81 |
| Avail Cap(c_a), veh/h | 621 | 0 | 527 | 621 | 0 | 552 | 138 | 1101 | 1150 | 138 | 1101 | 1158 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 24.4 | 0.0 | 24.5 | 24.4 | 0.0 | 24.0 | 24.5 | 7.1 | 7.1 | 25.5 | 9.6 | 9.7 |
| Incr Delay (d2), s/veh | 0.2 | 0.0 | 2.0 | 7.3 | 0.0 | 1.0 | 12.3 | 0.7 | 0.7 | 24.3 | 4.2 | 4.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.0 | 0.1 | 0.6 | 0.0 | 0.1 | 0.8 | 2.7 | 2.8 | 0.2 | 5.3 | 5.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 24.5 | 0.0 | 26.5 | 31.7 | 0.0 | 25.0 | 36.8 | 7.8 | 7.7 | 49.8 | 13.9 | 13.7 |
| LnGrp LOS | C | A | C | C | A | C | D | A | A | D | B | B |
| Approach Vol, veh/h | | 9 | | | 50 | | | 1272 | | | 1617 | |
| Approach Delay, s/veh | | 26.3 | | | 30.5 | | | 8.9 | | | 14.0 | |
| Approach LOS | | C | | | C | | | A | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.0 | 34.1 | | 6.0 | 6.6 | 32.5 | | 6.5 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 4.0 | 32.0 | | 18.0 | 4.0 | 32.0 | | 18.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.3 | 13.1 | | 2.3 | 3.5 | 20.6 | | 3.2 | | | | |
| Green Ext Time (p_c), s | 0.0 | 7.6 | | 0.0 | 0.0 | 7.4 | | 0.1 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 12.1 | |
| HCM 6th LOS | B | |

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\7 Existing + Cuml + Proj AM.syn

| Intersection | |
|---|---|
| Int Delay, s/veh | 22.3 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 0 | 15 | 0 | 184 | 391 | 583 | 0 | 0 | 360 | 558 |
| Future Vol, veh/h | 0 | 0 | 0 | 15 | 0 | 184 | 391 | 583 | 0 | 0 | 360 | 558 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 9 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | 190 | - | - | - | - | - |
| Veh in Median Storage, # | - | 2 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 0 | 16 | 0 | 200 | 425 | 634 | 0 | 0 | 391 | 607 |

| Major/Minor | Minor1 | | | Major1 | | | Major2 | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 2179 | 2482 | 634 | 998 | 0 | - | - | - | 0 |
| Stage 1 | 1484 | 1484 | - | - | - | - | - | - | - |
| Stage 2 | 695 | 998 | - | - | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.52 | 6.22 | 4.12 | - | - | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 2.218 | - | - | - | - | - |
| Pot Cap-1 Maneuver | 51 | 30 | 479 | 693 | - | 0 | 0 | - | - |
| Stage 1 | 208 | 188 | - | - | - | 0 | 0 | - | - |
| Stage 2 | 495 | 322 | - | - | - | 0 | 0 | - | - |
| Platoon blocked, % | | | | | - | | | - | - |
| Mov Cap-1 Maneuver | 20 | 0 | 479 | 693 | - | - | - | - | - |
| Mov Cap-2 Maneuver | 20 | 0 | - | - | - | - | - | - | - |
| Stage 1 | 80 | 0 | - | - | - | - | - | - | - |
| Stage 2 | 495 | 0 | - | - | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 198.1 | 7.3 | 0 |
| HCM LOS | F | | |

| Minor Lane/Major Mvmt | NBL | NBT | WBLn1 | SBT | SBR |
|---|---|---|---|---|---|
| Capacity (veh/h) | 693 | - | 175 | - | - |
| HCM Lane V/C Ratio | 0.613 | - | 1.236 | - | - |
| HCM Control Delay (s) | 18.1 | - | 198.1 | - | - |
| HCM Lane LOS | C | - | F | - | - |
| HCM 95th %tile Q(veh) | 4.2 | - | 12 | - | - |

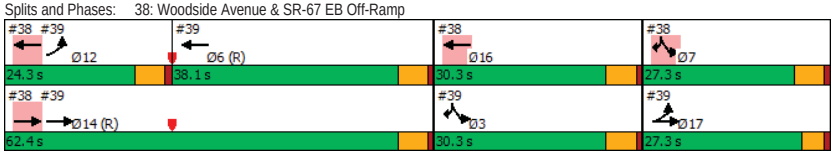




| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR | Ø3 | Ø6 | Ø12 | Ø16 | Ø17 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 292 | 166 | 0 | 515 | 129 | | | | | |
| Future Volume (vph) | 0 | 292 | 166 | 0 | 515 | 129 | | | | | |
| Confl. Peds. (#/hr) | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | | | |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | | | | | |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| Parking (#/hr) | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | | | | | | |
| Shared Lane Traffic (%) | | | | | | | | | | | |
| Turn Type | | NA | NA | | Prot | Prot | | | | | |
| Protected Phases | | 14 | 12 16 | | 7 | 7 | 3 | 6 | 12 | 16 | 17 |
| Permitted Phases | | | | | | | | | | | |
| Detector Phase | | 14 | 12 16 | | 7 | 7 | | | | | |
| Switch Phase | | | | | | | | | | | |
| Minimum Initial (s) | | 4.0 | | | 8.0 | 8.0 | 5.0 | 5.0 | 5.0 | 2.0 | 5.0 |
| Minimum Split (s) | | 20.0 | | | 27.3 | 27.3 | 30.3 | 29.3 | 24.3 | 20.0 | 9.2 |
| Total Split (s) | | 62.4 | | | 27.3 | 27.3 | 30.3 | 38.1 | 24.3 | 30.3 | 27.3 |
| Total Split (%) | | 52.0% | | | 22.8% | 22.8% | 25% | 32% | 20% | 25% | 23% |
| Yellow Time (s) | | 4.3 | | | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 3.2 |
| All-Red Time (s) | | 1.0 | | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | | 0.0 | | | 0.0 | 0.0 | | | | | |
| Total Lost Time (s) | | 5.3 | | | 5.3 | 5.3 | | | | | |
| Lead/Lag | | | | | | | | Lag | Lead | | |
| Lead-Lag Optimize? | | | | | | | | Yes | Yes | | |
| Recall Mode | | C-Max | | | Max | Max | None | C-Max | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 0 (0%), Referenced to phase 6:WBT and 14:EBT, Start of Green |
| Natural Cycle: 135 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 38: Woodside Avenue & SR-67 EB Off-Ramp



Existing + Cuml + Proj AM
38: Woodside Avenue & SR-67 EB Off-Ramp

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 292 | 166 | 0 | 515 | 129 |
| Future Volume (vph) | 0 | 292 | 166 | 0 | 515 | 129 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 5.3 | 5.3 | | 5.3 | 5.3 |
| Lane Util. Factor | | 0.95 | 1.00 | | 0.97 | 1.00 |
| Frt | | 1.00 | 1.00 | | 1.00 | 0.85 |
| Flt Protected | | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | | 3539 | 1863 | | 3433 | 1583 |
| Flt Permitted | | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (perm) | | 3539 | 1863 | | 3433 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 317 | 180 | 0 | 560 | 140 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 43 |
| Lane Group Flow (vph) | 0 | 317 | 180 | 0 | 560 | 97 |
| Turn Type | | NA | NA | | Prot | Prot |
| Protected Phases | | 14 | 12 16 | | 7 | 7 |
| Permitted Phases | | | | | | |
| Actuated Green, G (s) | | 57.1 | 40.4 | | 22.0 | 22.0 |
| Effective Green, g (s) | | 57.1 | 40.4 | | 22.0 | 22.0 |
| Actuated g/C Ratio | | 0.48 | 0.34 | | 0.18 | 0.18 |
| Clearance Time (s) | | 5.3 | | | 5.3 | 5.3 |
| Vehicle Extension (s) | | 1.0 | | | 3.0 | 3.0 |
| Lane Grp Cap (vph) | | 1683 | 627 | | 629 | 290 |
| v/s Ratio Prot | | c0.09 | c0.10 | | c0.16 | 0.06 |
| v/s Ratio Perm | | | | | | |
| v/c Ratio | | 0.19 | 0.29 | | 0.89 | 0.33 |
| Uniform Delay, d1 | | 18.1 | 29.2 | | 47.8 | 42.6 |
| Progression Factor | | 1.00 | 1.23 | | 1.00 | 1.00 |
| Incremental Delay, d2 | | 0.2 | 0.1 | | 17.2 | 3.1 |
| Delay (s) | | 18.4 | 36.2 | | 65.0 | 45.7 |
| Level of Service | | B | D | | E | D |
| Approach Delay (s) | | 18.4 | 36.2 | | 61.2 | |
| Approach LOS | | B | D | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 46.1 | HCM 2000 Level of Service | D |
| HCM 2000 Volume to Capacity ratio | 0.39 | | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 21.2 |
| Intersection Capacity Utilization | 32.3% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group



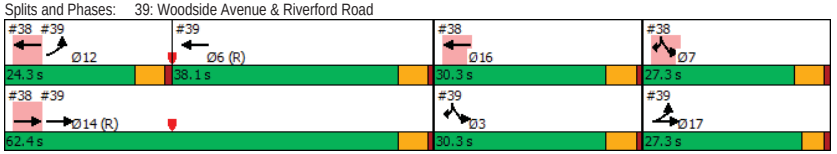
Existing + Cuml + Proj AM
39: Woodside Avenue & Riverford Road

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR | Ø7 | Ø12 | Ø14 | Ø16 | Ø17 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | |
| Traffic Volume (vph) | 462 | 345 | 126 | 513 | 336 | 42 | | | | | |
| Future Volume (vph) | 462 | 345 | 126 | 513 | 336 | 42 | | | | | |
| Confl. Peds. (#/hr) | | | | | | 1 | | | | | |
| Confl. Bikes (#/hr) | | | | 1 | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | | | |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | | | | | |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| Parking (#/hr) | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | | | | | | |
| Shared Lane Traffic (%) | | | | | | | | | | | |
| Turn Type | Prot | NA | NA | | Prot | Prot | | | | | |
| Protected Phases | 12 17 | 14 17 | 6 | | 3 | 3 | 7 | 12 | 14 | 16 | 17 |
| Permitted Phases | | | | | | | | | | | |
| Detector Phase | 12 17 | 14 17 | 6 | | 3 | 3 | | | | | |
| Switch Phase | | | | | | | | | | | |
| Minimum Initial (s) | | | 5.0 | | 5.0 | 5.0 | 8.0 | 5.0 | 4.0 | 2.0 | 5.0 |
| Minimum Split (s) | | | 29.3 | | 30.3 | 30.3 | 27.3 | 24.3 | 20.0 | 20.0 | 9.2 |
| Total Split (s) | | | 38.1 | | 30.3 | 30.3 | 27.3 | 24.3 | 62.4 | 30.3 | 27.3 |
| Total Split (%) | | | 31.8% | | 25.3% | 25.3% | 23% | 20% | 52% | 25% | 23% |
| Yellow Time (s) | | | 4.3 | | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 3.2 |
| All-Red Time (s) | | | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | | | 0.0 | | 0.0 | 0.0 | | | | | |
| Total Lost Time (s) | | | 5.3 | | 5.3 | 5.3 | | | | | |
| Lead/Lag | | | Lag | | | | | Lead | | | |
| Lead-Lag Optimize? | | | Yes | | | | | Yes | | | |
| Recall Mode | | | C-Max | | None | None | Max | None | C-Max | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 0 (0%), Referenced to phase 6:WBT and 14:EBT, Start of Green |
| Natural Cycle: 135 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 39: Woodside Avenue & Riverford Road



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 462 | 345 | 126 | 513 | 336 | 42 |
| Future Volume (vph) | 462 | 345 | 126 | 513 | 336 | 42 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.3 | 5.3 | 5.3 | | 5.3 | 5.3 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.98 | | 1.00 | 1.00 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.89 | | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | 1770 | 1863 | 1633 | | 1770 | 1583 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (perm) | 1770 | 1863 | 1633 | | 1770 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 502 | 375 | 137 | 558 | 365 | 46 |
| RTOR Reduction (vph) | 0 | 0 | 117 | 0 | 0 | 24 |
| Lane Group Flow (vph) | 502 | 375 | 578 | 0 | 365 | 22 |
| Confl. Peds. (#/hr) | | | | | | 1 |
| Confl. Bikes (#/hr) | | | | 1 | | |
| Turn Type | Prot | NA | NA | | Prot | Prot |
| Protected Phases | 12 17 | 14 17 | 6 | | 3 | 3 |
| Permitted Phases | | | | | | |
| Actuated Green, G (s) | 42.7 | 84.4 | 36.4 | | 25.0 | 25.0 |
| Effective Green, g (s) | 38.5 | 80.2 | 36.4 | | 25.0 | 25.0 |
| Actuated g/C Ratio | 0.32 | 0.67 | 0.30 | | 0.21 | 0.21 |
| Clearance Time (s) | | | 5.3 | | 5.3 | 5.3 |
| Vehicle Extension (s) | | | 3.0 | | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 567 | 1245 | 495 | | 368 | 329 |
| v/s Ratio Prot | c0.28 | 0.20 | c0.35 | | c0.21 | 0.01 |
| v/s Ratio Perm | | | | | | |
| v/c Ratio | 0.89 | 0.30 | 1.17 | | 0.99 | 0.07 |
| Uniform Delay, d1 | 38.7 | 8.3 | 41.8 | | 47.4 | 38.1 |
| Progression Factor | 0.31 | 0.08 | 1.00 | | 1.00 | 1.00 |
| Incremental Delay, d2 | 12.3 | 0.1 | 95.4 | | 44.6 | 0.1 |
| Delay (s) | 24.3 | 0.8 | 137.2 | | 91.9 | 38.2 |
| Level of Service | C | A | F | | F | D |
| Approach Delay (s) | | 14.3 | 137.2 | | 85.9 | |
| Approach LOS | | B | F | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 72.2 | HCM 2000 Level of Service | E |
| HCM 2000 Volume to Capacity ratio | 1.02 | | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 21.2 |
| Intersection Capacity Utilization | 95.8% | ICU Level of Service | F |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

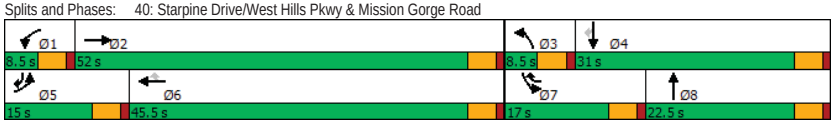




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 340 | 403 | 35 | 78 | 1082 | 565 | 33 | 57 | 73 | 120 | 59 | 483 |
| Future Volume (vph) | 340 | 403 | 35 | 78 | 1082 | 565 | 33 | 57 | 73 | 120 | 59 | 483 |
| Confl. Peds. (#/hr) | | | 3 | | | 1 | | | 1 | | | |
| Confl. Bikes (#/hr) | | | 2 | | | 6 | | | | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Prot | NA | | Prot | NA | pm+ov |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 5 |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 5 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 29.5 | | 8.5 | 29.5 | 8.5 | 8.5 | 22.5 | | 8.5 | 29.5 | 8.5 |
| Total Split (s) | 15.0 | 52.0 | | 8.5 | 45.5 | 17.0 | 8.5 | 22.5 | | 17.0 | 31.0 | 15.0 |
| Total Split (%) | 15.0% | 52.0% | | 8.5% | 45.5% | 17.0% | 8.5% | 22.5% | | 17.0% | 31.0% | 15.0% |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | Lead |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | Min | | None | Min | None | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 81.8 |
| Natural Cycle: 90 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 40: Starpine Drive/West Hills Pkwy & Mission Gorge Road



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 340 | 403 | 35 | 78 | 1082 | 565 | 33 | 57 | 73 | 120 | 59 | 483 |
| Future Volume (veh/h) | 340 | 403 | 35 | 78 | 1082 | 565 | 33 | 57 | 73 | 120 | 59 | 483 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 1.00 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 370 | 438 | 38 | 85 | 1176 | 614 | 36 | 62 | 79 | 130 | 64 | 525 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 424 | 1682 | 145 | 83 | 1540 | 771 | 48 | 130 | 166 | 206 | 387 | 906 |
| Arrive On Green | 0.12 | 0.51 | 0.51 | 0.05 | 0.43 | 0.43 | 0.03 | 0.17 | 0.17 | 0.06 | 0.21 | 0.21 |
| Sat Flow, veh/h | 3456 | 3302 | 285 | 1781 | 3554 | 1560 | 1781 | 746 | 951 | 3456 | 1870 | 2724 |
| Grp Volume(v), veh/h | 370 | 235 | 241 | 85 | 1176 | 614 | 36 | 0 | 141 | 130 | 64 | 525 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1811 | 1781 | 1777 | 1560 | 1781 | 0 | 1697 | 1728 | 1870 | 1362 |
| Q Serve(g_s), s | 9.0 | 6.4 | 6.5 | 4.0 | 24.0 | 28.2 | 1.7 | 0.0 | 6.4 | 3.1 | 2.4 | 13.7 |
| Cycle Q Clear(g_c), s | 9.0 | 6.4 | 6.5 | 4.0 | 24.0 | 28.2 | 1.7 | 0.0 | 6.4 | 3.1 | 2.4 | 13.7 |
| Prop In Lane | 1.00 | | 0.16 | 1.00 | | 1.00 | 1.00 | | 0.56 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 424 | 905 | 922 | 83 | 1540 | 771 | 48 | 0 | 296 | 206 | 387 | 906 |
| V/C Ratio(X) | 0.87 | 0.26 | 0.26 | 1.02 | 0.76 | 0.80 | 0.75 | 0.00 | 0.48 | 0.63 | 0.17 | 0.58 |
| Avail Cap(c_a), veh/h | 424 | 985 | 1004 | 83 | 1701 | 841 | 83 | 0 | 357 | 504 | 579 | 1185 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 36.9 | 11.9 | 11.9 | 40.8 | 20.5 | 18.2 | 41.4 | 0.0 | 31.8 | 39.4 | 27.9 | 23.8 |
| Incr Delay (d2), s/veh | 17.9 | 0.2 | 0.1 | 104.8 | 1.9 | 5.0 | 20.8 | 0.0 | 1.2 | 3.2 | 0.2 | 0.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 4.5 | 2.1 | 2.2 | 4.1 | 8.9 | 10.4 | 1.0 | 0.0 | 2.7 | 1.4 | 1.0 | 4.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 54.8 | 12.0 | 12.0 | 145.6 | 22.5 | 23.2 | 62.2 | 0.0 | 33.0 | 42.6 | 28.1 | 24.4 |
| LnGrp LOS | D | B | B | F | C | C | E | A | C | D | C | C |
| Approach Vol, veh/h | | 846 | | | 1875 | | | 177 | | | 719 | |
| Approach Delay, s/veh | | 30.7 | | | 28.3 | | | 39.0 | | | 28.0 | |
| Approach LOS | | C | | | C | | | D | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 8.5 | 48.1 | 6.8 | 22.2 | 15.0 | 41.6 | 9.6 | 19.4 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 4.0 | 47.5 | 4.0 | 26.5 | 10.5 | 41.0 | 12.5 | 18.0 |
| Max Q Clear Time (g_c+I1), s | 6.0 | 8.5 | 3.7 | 15.7 | 11.0 | 30.2 | 5.1 | 8.4 |
| Green Ext Time (p_c), s | 0.0 | 2.5 | 0.0 | 1.9 | 0.0 | 6.9 | 0.2 | 0.5 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 29.3 |
| HCM 6th LOS | C |

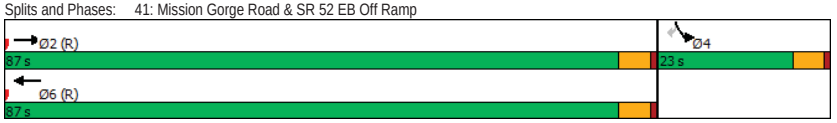




| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 929 | 1350 | 0 | 139 | 13 |
| Future Volume (vph) | 0 | 929 | 1350 | 0 | 139 | 13 |
| Confl. Peds. (#/hr) | | | | | | |
| Confl. Bikes (#/hr) | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | | NA | NA | | Prot | Perm |
| Protected Phases | | 2 | 6 | | 4 | |
| Permitted Phases | | | | | | 4 |
| Detector Phase | | 2 | 6 | | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | | 6.0 | 11.0 | | 10.0 | 10.0 |
| Minimum Split (s) | | 20.0 | 20.0 | | 20.0 | 20.0 |
| Total Split (s) | | 87.0 | 87.0 | | 23.0 | 23.0 |
| Total Split (%) | | 79.1% | 79.1% | | 20.9% | 20.9% |
| Yellow Time (s) | | 4.4 | 4.4 | | 4.1 | 4.1 |
| All-Red Time (s) | | 1.0 | 1.0 | | 1.0 | 1.0 |
| Lost Time Adjust (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | | 5.4 | 5.4 | | 5.1 | 5.1 |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | | C-Min | C-Min | | None | None |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 110 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green, Master Intersection |
| Natural Cycle: 50 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 41: Mission Gorge Road & SR 52 EB Off Ramp



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 929 | 1350 | 0 | 139 | 13 |
| Future Volume (veh/h) | 0 | 929 | 1350 | 0 | 139 | 13 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 0 | 1870 | 1870 | 0 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 1010 | 1467 | 0 | 151 | 14 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 0 | 2 | 2 | 0 | 2 | 2 |
| Cap, veh/h | 0 | 2893 | 2893 | 0 | 312 | 143 |
| Arrive On Green | 0.00 | 0.81 | 1.00 | 0.00 | 0.09 | 0.09 |
| Sat Flow, veh/h | 0 | 3741 | 3741 | 0 | 3456 | 1585 |
| Grp Volume(v), veh/h | 0 | 1010 | 1467 | 0 | 151 | 14 |
| Grp Sat Flow(s),veh/h/ln | 0 | 1777 | 1777 | 0 | 1728 | 1585 |
| Q Serve(g_s), s | 0.0 | 8.1 | 0.0 | 0.0 | 4.6 | 0.9 |
| Cycle Q Clear(g_c), s | 0.0 | 8.1 | 0.0 | 0.0 | 4.6 | 0.9 |
| Prop In Lane | 0.00 | | | 0.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 0 | 2893 | 2893 | 0 | 312 | 143 |
| V/C Ratio(X) | 0.00 | 0.35 | 0.51 | 0.00 | 0.48 | 0.10 |
| Avail Cap(c_a), veh/h | 0 | 2893 | 2893 | 0 | 562 | 258 |
| HCM Platoon Ratio | 1.00 | 1.00 | 2.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.00 | 1.00 | 0.78 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 0.0 | 2.7 | 0.0 | 0.0 | 47.6 | 45.9 |
| Incr Delay (d2), s/veh | 0.0 | 0.3 | 0.5 | 0.0 | 1.2 | 0.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 2.1 | 0.2 | 0.0 | 2.0 | 0.4 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 3.0 | 0.5 | 0.0 | 48.8 | 46.2 |
| LnGrp LOS | A | A | A | A | D | D |
| Approach Vol, veh/h | | 1010 | 1467 | | 165 | |
| Approach Delay, s/veh | | 3.0 | 0.5 | | 48.5 | |
| Approach LOS | | A | A | | D | |

| Timer - Assigned Phs | | 2 | | 4 | | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 95.0 | | 15.0 | | 95.0 |
| Change Period (Y+Rc), s | | 5.4 | | 5.1 | | 5.4 |
| Max Green Setting (Gmax), s | | 81.6 | | 17.9 | | 81.6 |
| Max Q Clear Time (g_c+I1), s | | 10.1 | | 6.6 | | 2.0 |
| Green Ext Time (p_c), s | | 9.8 | | 0.4 | | 16.8 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 4.4 |
| HCM 6th LOS | | A |

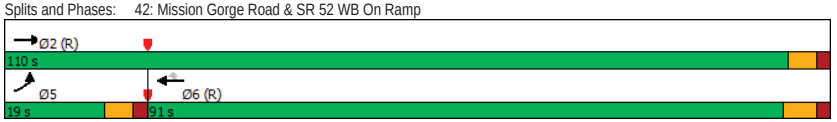




| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 60 | 955 | 1303 | 845 | 0 | 0 |
| Future Volume (vph) | 60 | 955 | 1303 | 845 | 0 | 0 |
| Confl. Peds. (#/hr) | | | | | | |
| Confl. Bikes (#/hr) | | | | 2 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | |
| Shared Lane Traffic (%) | | | | 23% | | |
| Turn Type | Prot | NA | NA | Perm | | |
| Protected Phases | 5 | 2 | 6 | | | |
| Permitted Phases | | | | 6 | | |
| Detector Phase | 5 | 2 | 6 | 6 | | |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 10.0 | 10.0 | | |
| Minimum Split (s) | 10.7 | 21.0 | 22.4 | 22.4 | | |
| Total Split (s) | 19.0 | 110.0 | 91.0 | 91.0 | | |
| Total Split (%) | 17.3% | 100.0% | 82.7% | 82.7% | | |
| Yellow Time (s) | 3.7 | 3.7 | 4.4 | 4.4 | | |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | | |
| Total Lost Time (s) | 5.7 | 5.7 | 6.4 | 6.4 | | |
| Lead/Lag | Lead | | Lag | Lag | | |
| Lead-Lag Optimize? | Yes | | Yes | Yes | | |
| Recall Mode | None | C-Min | C-Min | C-Min | | |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 110 |
| Offset: 32 (29%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 50 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 42: Mission Gorge Road & SR 52 WB On Ramp



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 60 | 955 | 1303 | 845 | 0 | 0 |
| Future Volume (veh/h) | 60 | 955 | 1303 | 845 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 0.98 | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Work Zone On Approach | | No | No | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | | |
| Adj Flow Rate, veh/h | 65 | 1038 | 1626 | 778 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | | |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | | |
| Cap, veh/h | 84 | 3347 | 3154 | 1308 | | |
| Arrive On Green | 0.09 | 1.00 | 1.00 | 1.00 | | |
| Sat Flow, veh/h | 1781 | 3647 | 3741 | 1552 | | |
| Grp Volume(v), veh/h | 65 | 1038 | 1626 | 778 | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1870 | 1552 | | |
| Q Serve(g_s), s | 3.9 | 0.0 | 0.0 | 0.0 | | |
| Cycle Q Clear(g_c), s | 3.9 | 0.0 | 0.0 | 0.0 | | |
| Prop In Lane | 1.00 | | | 1.00 | | |
| Lane Grp Cap(c), veh/h | 84 | 3347 | 3154 | 1308 | | |
| V/C Ratio(X) | 0.78 | 0.31 | 0.52 | 0.59 | | |
| Avail Cap(c_a), veh/h | 215 | 3370 | 3154 | 1308 | | |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 2.00 | | |
| Upstream Filter(I) | 0.94 | 0.94 | 0.76 | 0.76 | | |
| Uniform Delay (d), s/veh | 49.3 | 0.0 | 0.0 | 0.0 | | |
| Incr Delay (d2), s/veh | 13.5 | 0.2 | 0.5 | 1.5 | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | | |
| %ile BackOfQ(50%),veh/ln | 2.0 | 0.1 | 0.2 | 0.6 | | |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 62.8 | 0.2 | 0.5 | 1.5 | | |
| LnGrp LOS | E | A | A | A | | |
| Approach Vol, veh/h | | 1103 | 2404 | | | |
| Approach Delay, s/veh | | 3.9 | 0.8 | | | |
| Approach LOS | | A | A | | | |

| Timer - Assigned Phs | 2 | | | 5 | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 110.0 | | | 10.9 | 99.1 |
| Change Period (Y+Rc), s | * 6.4 | | | * 5.7 | 6.4 |
| Max Green Setting (Gmax), s | * 1E2 | | | * 13 | 84.6 |
| Max Q Clear Time (g_c+I1), s | 2.0 | | | 5.9 | 2.0 |
| Green Ext Time (p_c), s | 2.5 | | | 0.1 | 33.4 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 1.8 |
| HCM 6th LOS | A |

**Notes**

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

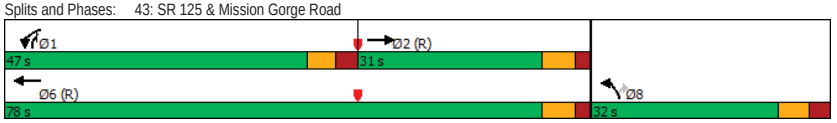




| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 704 | 264 | 1130 | 1272 | 689 | 1012 |
| Future Volume (vph) | 704 | 264 | 1130 | 1272 | 689 | 1012 |
| Confl. Peds. (#/hr) | | 11 | | | | |
| Confl. Bikes (#/hr) | | 3 | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | NA | | Prot | NA | Prot | pm+ov |
| Protected Phases | 2 | | 1 | 6 | 8 | 1 |
| Permitted Phases | | | | | | 8 |
| Detector Phase | 2 | | 1 | 6 | 8 | 1 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 11.0 | | 5.0 | 10.0 | 5.0 | 5.0 |
| Minimum Split (s) | 17.4 | | 11.7 | 20.0 | 20.0 | 11.7 |
| Total Split (s) | 31.0 | | 47.0 | 78.0 | 32.0 | 47.0 |
| Total Split (%) | 28.2% | | 42.7% | 70.9% | 29.1% | 42.7% |
| Yellow Time (s) | 4.4 | | 3.7 | 4.4 | 4.1 | 3.7 |
| All-Red Time (s) | 2.0 | | 3.0 | 2.0 | 3.0 | 3.0 |
| Lost Time Adjust (s) | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.4 | | 6.7 | 6.4 | 7.1 | 6.7 |
| Lead/Lag | Lag | | Lead | | | Lead |
| Lead-Lag Optimize? | Yes | | Yes | | | Yes |
| Recall Mode | C-Max | | None | C-Max | None | None |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 110 |
| Offset: 29 (26%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 100 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 43: SR 125 & Mission Gorge Road



| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 704 | 264 | 1130 | 1272 | 689 | 1012 |
| Future Volume (veh/h) | 704 | 264 | 1130 | 1272 | 689 | 1012 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | 0.95 | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 765 | 287 | 1228 | 1383 | 749 | 1100 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 808 | 299 | 1266 | 3324 | 782 | 1654 |
| Arrive On Green | 0.45 | 0.45 | 0.25 | 0.44 | 0.23 | 0.23 |
| Sat Flow, veh/h | 3782 | 1339 | 3456 | 5274 | 3456 | 2790 |
| Grp Volume(v), veh/h | 720 | 332 | 1228 | 1383 | 749 | 1100 |
| Grp Sat Flow(s),veh/h/ln | 1702 | 1548 | 1728 | 1702 | 1728 | 1395 |
| Q Serve(g_s), s | 22.3 | 22.8 | 38.7 | 20.5 | 23.5 | 24.9 |
| Cycle Q Clear(g_c), s | 22.3 | 22.8 | 38.7 | 20.5 | 23.5 | 24.9 |
| Prop In Lane | | 0.86 | 1.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 761 | 346 | 1266 | 3324 | 782 | 1654 |
| V/C Ratio(X) | 0.95 | 0.96 | 0.97 | 0.42 | 0.96 | 0.67 |
| Avail Cap(c_a), veh/h | 761 | 346 | 1266 | 3324 | 782 | 1654 |
| HCM Platoon Ratio | 2.00 | 2.00 | 0.67 | 0.67 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.97 | 0.97 | 0.69 | 0.69 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 29.8 | 29.9 | 40.9 | 16.6 | 42.0 | 15.1 |
| Incr Delay (d2), s/veh | 21.4 | 38.3 | 14.5 | 0.3 | 22.3 | 1.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 8.6 | 9.6 | 19.3 | 8.5 | 12.3 | 8.9 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 51.1 | 68.2 | 55.4 | 16.9 | 64.4 | 16.1 |
| LnGrp LOS | D | E | E | B | E | B |
| Approach Vol, veh/h | 1052 | | | 2611 | 1849 | |
| Approach Delay, s/veh | 56.5 | | | 35.0 | 35.6 | |
| Approach LOS | E | | | D | D | |

| Timer - Assigned Phs | 1 | 2 | 6 | 8 |
|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 47.0 | 31.0 | 78.0 | 32.0 |
| Change Period (Y+Rc), s | * 6.7 | 6.4 | 6.4 | 7.1 |
| Max Green Setting (Gmax), s | * 40 | 24.6 | 71.6 | 24.9 |
| Max Q Clear Time (g_c+I1), s | 40.7 | 24.8 | 22.5 | 26.9 |
| Green Ext Time (p_c), s | 0.0 | 0.0 | 13.3 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 39.3 |
| HCM 6th LOS | D |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

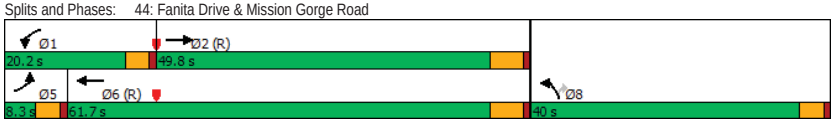




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 7 | 1226 | 412 | 342 | 1705 | 0 | 750 | 0 | 344 | 0 | 0 | 0 |
| Future Volume (vph) | 7 | 1226 | 412 | 342 | 1705 | 0 | 750 | 0 | 344 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | | | 4 | | | | | | | | | |
| Confl. Bikes (#/hr) | | | 2 | | | | | | 2 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | | Perm | | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | | | | | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | | 8 | | | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 7.0 | | 7.0 | | | |
| Minimum Split (s) | 8.2 | 33.3 | | 8.2 | 20.0 | | 34.2 | | 34.2 | | | |
| Total Split (s) | 8.3 | 49.8 | | 20.2 | 61.7 | | 40.0 | | 40.0 | | | |
| Total Split (%) | 7.5% | 45.3% | | 18.4% | 56.1% | | 36.4% | | 36.4% | | | |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | | 3.2 | | 3.2 | | | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | | 1.0 | | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | | 0.0 | | | |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | | 4.2 | | 4.2 | | | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | | None | | | |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 110 |
| Offset: 52 (47%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 90 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 44: Fanita Drive & Mission Gorge Road



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 7 | 1226 | 412 | 342 | 1705 | 0 | 750 | 0 | 344 | 0 | 0 | 0 |
| Future Volume (veh/h) | 7 | 1226 | 412 | 342 | 1705 | 0 | 750 | 0 | 344 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 1.00 | 1.00 | | 1.00 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 0 | 1870 | 0 | 1870 | | | |
| Adj Flow Rate, veh/h | 8 | 1333 | 448 | 372 | 1853 | 0 | 815 | 0 | 374 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 0 | 2 | 0 | 2 | | | |
| Cap, veh/h | 14 | 1769 | 591 | 438 | 3013 | 0 | 959 | 0 | 440 | | | |
| Arrive On Green | 0.00 | 0.16 | 0.16 | 0.04 | 0.19 | 0.00 | 0.28 | 0.00 | 0.28 | | | |
| Sat Flow, veh/h | 1781 | 3755 | 1254 | 3456 | 5274 | 0 | 3456 | 0 | 1585 | | | |
| Grp Volume(v), veh/h | 8 | 1208 | 573 | 372 | 1853 | 0 | 815 | 0 | 374 | | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1702 | 1606 | 1728 | 1702 | 0 | 1728 | 0 | 1585 | | | |
| Q Serve(g_s), s | 0.5 | 37.3 | 37.6 | 11.8 | 36.5 | 0.0 | 24.5 | 0.0 | 24.5 | | | |
| Cycle Q Clear(g_c), s | 0.5 | 37.3 | 37.6 | 11.8 | 36.5 | 0.0 | 24.5 | 0.0 | 24.5 | | | |
| Prop In Lane | 1.00 | | 0.78 | 1.00 | | 0.00 | 1.00 | | 1.00 | | | |
| Lane Grp Cap(c), veh/h | 14 | 1604 | 756 | 438 | 3013 | 0 | 959 | 0 | 440 | | | |
| V/C Ratio(X) | 0.57 | 0.75 | 0.76 | 0.85 | 0.61 | 0.00 | 0.85 | 0.00 | 0.85 | | | |
| Avail Cap(c_a), veh/h | 66 | 1604 | 756 | 503 | 3013 | 0 | 1125 | 0 | 516 | | | |
| HCM Platoon Ratio | 0.33 | 0.33 | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 0.57 | 0.57 | 0.57 | 0.49 | 0.49 | 0.00 | 1.00 | 0.00 | 1.00 | | | |
| Uniform Delay (d), s/veh | 54.7 | 40.3 | 40.5 | 51.6 | 32.9 | 0.0 | 37.6 | 0.0 | 37.6 | | | |
| Incr Delay (d2), s/veh | 19.0 | 1.9 | 4.1 | 5.4 | 0.5 | 0.0 | 5.8 | 0.0 | 11.8 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ln | 0.3 | 17.3 | 16.9 | 5.7 | 16.6 | 0.0 | 10.8 | 0.0 | 10.6 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 73.7 | 42.2 | 44.6 | 57.1 | 33.3 | 0.0 | 43.4 | 0.0 | 49.3 | | | |
| LnGrp LOS | E | D | D | E | C | A | D | A | D | | | |
| Approach Vol, veh/h | | 1789 | | | 2225 | | | 1189 | | | | |
| Approach Delay, s/veh | | 43.1 | | | 37.3 | | | 45.3 | | | | |
| Approach LOS | | D | | | D | | | D | | | | |

| Timer - Assigned Phs | 1 | 2 | | | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 18.2 | 57.1 | | | 5.1 | 70.2 | | 34.7 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | | | * 4.2 | 5.3 | | 4.2 | | | | |
| Max Green Setting (Gmax), s | * 16 | 44.5 | | | * 4.1 | 56.4 | | 35.8 | | | | |
| Max Q Clear Time (g_c+I1), s | 13.8 | 39.6 | | | 2.5 | 38.5 | | 26.5 | | | | |
| Green Ext Time (p_c), s | 0.2 | 4.1 | | | 0.0 | 13.1 | | 4.0 | | | | |

| Intersection Summary | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HCM 6th Ctrl Delay | | | 41.1 | | | | | | | | | |
| HCM 6th LOS | | | D | | | | | | | | | |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

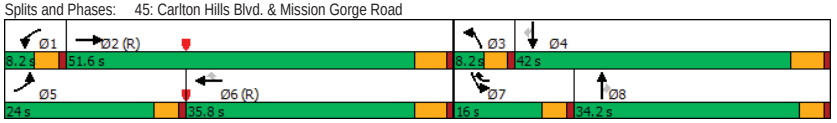




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 801 | 777 | 22 | 13 | 871 | 430 | 39 | 40 | 8 | 415 | 19 | 1126 |
| Future Volume (vph) | 801 | 777 | 22 | 13 | 871 | 430 | 39 | 40 | 8 | 415 | 19 | 1126 |
| Confl. Peds. (#/hr) | | | 13 | | | 3 | | | 5 | | | 5 |
| Confl. Bikes (#/hr) | | | 2 | | | 2 | | | 3 | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | 49% |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | 6 | | | 8 | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | 8 | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 23.3 | | 8.2 | 34.3 | 8.2 | 8.2 | 34.2 | 34.2 | 8.2 | 32.4 | 32.4 |
| Total Split (s) | 24.0 | 51.6 | | 8.2 | 35.8 | 16.0 | 8.2 | 34.2 | 34.2 | 16.0 | 42.0 | 42.0 |
| Total Split (%) | 21.8% | 46.9% | | 7.5% | 32.5% | 14.5% | 7.5% | 31.1% | 31.1% | 14.5% | 38.2% | 38.2% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | 3.2 | 3.2 | 3.2 | 3.2 | 3.2 | 4.4 | 4.4 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | 4.2 | 4.2 | 4.2 | 4.2 | 4.2 | 5.4 | 5.4 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | C-Min | | None | C-Min | None | None | None | None | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 110 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 125 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 45: Carlton Hills Blvd. & Mission Gorge Road



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 801 | 777 | 22 | 13 | 871 | 430 | 39 | 40 | 8 | 415 | 19 | 1126 |
| Future Volume (veh/h) | 801 | 777 | 22 | 13 | 871 | 430 | 39 | 40 | 8 | 415 | 19 | 1126 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.96 | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 871 | 845 | 24 | 14 | 947 | 467 | 42 | 43 | 9 | 451 | 0 | 1118 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 622 | 2299 | 65 | 23 | 1448 | 612 | 54 | 478 | 397 | 382 | 0 | 1035 |
| Arrive On Green | 0.06 | 0.15 | 0.15 | 0.00 | 0.09 | 0.09 | 0.03 | 0.26 | 0.26 | 0.11 | 0.00 | 0.33 |
| Sat Flow, veh/h | 3456 | 5098 | 145 | 1781 | 5106 | 1559 | 1781 | 1870 | 1553 | 3563 | 0 | 3110 |
| Grp Volume(v), veh/h | 871 | 564 | 305 | 14 | 947 | 467 | 42 | 43 | 9 | 451 | 0 | 1118 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1702 | 1838 | 1781 | 1702 | 1559 | 1781 | 1870 | 1553 | 1781 | 0 | 1555 |
| Q Serve(g_s), s | 19.8 | 16.4 | 16.5 | 0.9 | 19.7 | 28.2 | 2.6 | 1.9 | 0.5 | 11.8 | 0.0 | 36.6 |
| Cycle Q Clear(g_c), s | 19.8 | 16.4 | 16.5 | 0.9 | 19.7 | 28.2 | 2.6 | 1.9 | 0.5 | 11.8 | 0.0 | 36.6 |
| Prop In Lane | 1.00 | | 0.08 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 622 | 1535 | 829 | 23 | 1448 | 612 | 54 | 478 | 397 | 382 | 0 | 1035 |
| V/C Ratio(X) | 1.40 | 0.37 | 0.37 | 0.62 | 0.65 | 0.76 | 0.78 | 0.09 | 0.02 | 1.18 | 0.00 | 1.08 |
| Avail Cap(c_a), veh/h | 622 | 1535 | 829 | 65 | 1448 | 612 | 65 | 510 | 423 | 382 | 0 | 1035 |
| HCM Platoon Ratio | 0.33 | 0.33 | 0.33 | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.55 | 0.55 | 0.55 | 0.88 | 0.88 | 0.88 | 1.00 | 1.00 | 1.00 | 0.20 | 0.00 | 0.20 |
| Uniform Delay (d), s/veh | 51.7 | 32.7 | 32.7 | 54.5 | 44.6 | 36.7 | 53.0 | 31.2 | 30.7 | 49.1 | 0.0 | 36.7 |
| Incr Delay (d2), s/veh | 185.5 | 0.4 | 0.7 | 8.8 | 2.0 | 7.8 | 39.0 | 0.0 | 0.0 | 86.8 | 0.0 | 40.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 25.2 | 7.5 | 8.2 | 0.4 | 9.2 | 13.0 | 1.7 | 0.9 | 0.2 | 9.8 | 0.0 | 19.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 237.3 | 33.1 | 33.4 | 63.3 | 46.7 | 44.5 | 92.0 | 31.2 | 30.7 | 135.9 | 0.0 | 77.1 |
| LnGrp LOS | F | C | C | E | D | D | F | C | C | F | A | F |
| Approach Vol, veh/h | | 1740 | | | 1428 | | | 94 | | | 1569 | |
| Approach Delay, s/veh | | 135.3 | | | 46.1 | | | 58.3 | | | 94.0 | |
| Approach LOS | | F | | | D | | | E | | | F | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.6 | 54.9 | 7.5 | 42.0 | 24.0 | 36.5 | 16.0 | 33.5 |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | * 4.2 | 5.4 | * 4.2 | 5.3 | * 4.2 | * 5.4 |
| Max Green Setting (Gmax), s | * 4 | 46.3 | * 4 | 36.6 | * 20 | 30.5 | * 12 | * 30 |
| Max Q Clear Time (g_c+I1), s | 2.9 | 18.5 | 4.6 | 38.6 | 21.8 | 30.2 | 13.8 | 3.9 |
| Green Ext Time (p_c), s | 0.0 | 6.6 | 0.0 | 0.0 | 0.0 | 0.3 | 0.0 | 0.1 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 94.0 |
| HCM 6th LOS | F |

**Notes**

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

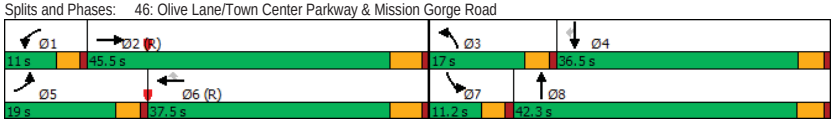




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 275 | 636 | 128 | 39 | 898 | 108 | 207 | 120 | 34 | 108 | 86 | 308 |
| Future Volume (vph) | 275 | 636 | 128 | 39 | 898 | 108 | 207 | 120 | 34 | 108 | 86 | 308 |
| Confl. Peds. (#/hr) | | | 5 | | | 8 | | | 11 | | | 3 |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | Perm | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | 10.0 | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 26.3 | | 8.2 | 36.3 | 36.3 | 8.2 | 34.6 | | 8.2 | 36.5 | 36.5 |
| Total Split (s) | 19.0 | 45.5 | | 11.0 | 37.5 | 37.5 | 17.0 | 42.3 | | 11.2 | 36.5 | 36.5 |
| Total Split (%) | 17.3% | 41.4% | | 10.0% | 34.1% | 34.1% | 15.5% | 38.5% | | 10.2% | 33.2% | 33.2% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | 4.3 | 3.2 | 3.6 | | 3.2 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | 5.3 | 4.2 | 4.6 | | 4.2 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | C-Min | | None | C-Min | C-Min | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 110 |
| Offset: 40 (36%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 90 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 46: Olive Lane/Town Center Parkway & Mission Gorge Road



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 275 | 636 | 128 | 39 | 898 | 108 | 207 | 120 | 34 | 108 | 86 | 308 |
| Future Volume (veh/h) | 275 | 636 | 128 | 39 | 898 | 108 | 207 | 120 | 34 | 108 | 86 | 308 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.99 | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 299 | 691 | 139 | 42 | 976 | 117 | 225 | 130 | 37 | 117 | 93 | 335 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 356 | 2285 | 454 | 54 | 2360 | 729 | 288 | 303 | 86 | 174 | 346 | 514 |
| Arrive On Green | 0.21 | 1.00 | 1.00 | 0.03 | 0.46 | 0.46 | 0.08 | 0.22 | 0.22 | 0.05 | 0.19 | 0.19 |
| Sat Flow, veh/h | 3456 | 4269 | 848 | 1781 | 5106 | 1577 | 3456 | 1390 | 396 | 3456 | 1870 | 2776 |
| Grp Volume(v), veh/h | 299 | 549 | 281 | 42 | 976 | 117 | 225 | 0 | 167 | 117 | 93 | 335 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1702 | 1713 | 1781 | 1702 | 1577 | 1728 | 0 | 1786 | 1728 | 1870 | 1388 |
| Q Serve(g_s), s | 9.1 | 0.0 | 0.0 | 2.6 | 14.0 | 4.7 | 7.0 | 0.0 | 8.9 | 3.7 | 4.7 | 12.3 |
| Cycle Q Clear(g_c), s | 9.1 | 0.0 | 0.0 | 2.6 | 14.0 | 4.7 | 7.0 | 0.0 | 8.9 | 3.7 | 4.7 | 12.3 |
| Prop In Lane | 1.00 | | 0.50 | 1.00 | | 1.00 | 1.00 | | 0.22 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 356 | 1822 | 917 | 54 | 2360 | 729 | 288 | 0 | 390 | 174 | 346 | 514 |
| V/C Ratio(X) | 0.84 | 0.30 | 0.31 | 0.78 | 0.41 | 0.16 | 0.78 | 0.00 | 0.43 | 0.67 | 0.27 | 0.65 |
| Avail Cap(c_a), veh/h | 465 | 1822 | 917 | 110 | 2360 | 729 | 402 | 0 | 612 | 220 | 544 | 808 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.89 | 0.89 | 0.89 | 0.69 | 0.69 | 0.69 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 42.8 | 0.0 | 0.0 | 53.0 | 19.7 | 17.2 | 49.4 | 0.0 | 37.1 | 51.4 | 38.4 | 41.5 |
| Incr Delay (d2), s/veh | 7.3 | 0.4 | 0.8 | 6.3 | 0.4 | 0.3 | 4.1 | 0.0 | 1.1 | 2.9 | 0.8 | 2.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 3.8 | 0.1 | 0.2 | 1.2 | 5.3 | 1.8 | 3.2 | 0.0 | 4.0 | 1.7 | 2.2 | 4.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 50.1 | 0.4 | 0.8 | 59.3 | 20.0 | 17.5 | 53.5 | 0.0 | 38.2 | 54.3 | 39.2 | 44.1 |
| LnGrp LOS | D | A | A | E | C | B | D | A | D | D | D | D |
| Approach Vol, veh/h | | 1129 | | | 1135 | | | 392 | | | 545 | |
| Approach Delay, s/veh | | 13.6 | | | 21.2 | | | 47.0 | | | 45.5 | |
| Approach LOS | | B | | | C | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.5 | 64.2 | 13.4 | 25.0 | 15.5 | 56.1 | 9.7 | 28.6 |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | * 4.2 | * 4.6 | * 4.2 | 5.3 | * 4.2 | 4.6 |
| Max Green Setting (Gmax), s | * 6.8 | 40.2 | * 13 | * 32 | * 15 | 32.2 | * 7 | 37.7 |
| Max Q Clear Time (g_c+I1), s | 4.6 | 2.0 | 9.0 | 14.3 | 11.1 | 16.0 | 5.7 | 10.9 |
| Green Ext Time (p_c), s | 0.0 | 7.0 | 0.2 | 3.2 | 0.2 | 8.6 | 0.0 | 1.3 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 25.8 |
| HCM 6th LOS | C |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

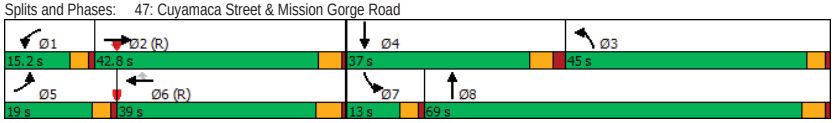




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 195 | 443 | 315 | 191 | 573 | 168 | 699 | 602 | 142 | 144 | 627 | 190 |
| Future Volume (vph) | 195 | 443 | 315 | 191 | 573 | 168 | 699 | 602 | 142 | 144 | 627 | 190 |
| Confl. Peds. (#/hr) | | | 11 | | | 14 | | | 19 | | | 16 |
| Confl. Bikes (#/hr) | | | 4 | | | | | | | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | 10.0 | 4.0 | 7.0 | | 4.0 | 15.0 | |
| Minimum Split (s) | 19.0 | 34.8 | 34.8 | 8.2 | 34.3 | 34.3 | 8.2 | 38.0 | | 8.2 | 37.0 | |
| Total Split (s) | 19.0 | 42.8 | 42.8 | 15.2 | 39.0 | 39.0 | 45.0 | 69.0 | | 13.0 | 37.0 | |
| Total Split (%) | 13.6% | 30.6% | 30.6% | 10.9% | 27.9% | 27.9% | 32.1% | 49.3% | | 9.3% | 26.4% | |
| Yellow Time (s) | 3.2 | 3.8 | 3.8 | 3.2 | 4.3 | 4.3 | 3.2 | 4.0 | | 3.2 | 4.0 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 2.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.2 | 4.8 | 4.8 | 4.2 | 5.3 | 5.3 | 4.2 | 5.0 | | 4.2 | 6.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lag | Lag | | Lead | Lead | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | C-Min | C-Min | None | C-Min | C-Min | None | None | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 140 |
| Actuated Cycle Length: 140 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green, Master Intersection |
| Natural Cycle: 120 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 47: Cuyamaca Street & Mission Gorge Road



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 195 | 443 | 315 | 191 | 573 | 168 | 699 | 602 | 142 | 144 | 627 | 190 |
| Future Volume (veh/h) | 195 | 443 | 315 | 191 | 573 | 168 | 699 | 602 | 142 | 144 | 627 | 190 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 0.96 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1683 | 1683 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 212 | 482 | 342 | 208 | 623 | 183 | 760 | 654 | 154 | 157 | 682 | 207 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 262 | 1662 | 503 | 255 | 1652 | 506 | 822 | 1045 | 246 | 204 | 836 | 249 |
| Arrive On Green | 0.08 | 0.33 | 0.33 | 0.07 | 0.32 | 0.32 | 0.24 | 0.41 | 0.41 | 0.06 | 0.22 | 0.22 |
| Sat Flow, veh/h | 3456 | 5106 | 1546 | 3456 | 5106 | 1564 | 3456 | 2562 | 602 | 3456 | 3863 | 1151 |
| Grp Volume(v), veh/h | 212 | 482 | 342 | 208 | 623 | 183 | 760 | 408 | 400 | 157 | 599 | 290 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1702 | 1546 | 1728 | 1702 | 1564 | 1728 | 1599 | 1565 | 1728 | 1702 | 1610 |
| Q Serve(g_s), s | 8.5 | 9.8 | 14.4 | 8.3 | 13.2 | 12.5 | 30.1 | 28.4 | 28.5 | 6.3 | 23.4 | 24.1 |
| Cycle Q Clear(g_c), s | 8.5 | 9.8 | 14.4 | 8.3 | 13.2 | 12.5 | 30.1 | 28.4 | 28.5 | 6.3 | 23.4 | 24.1 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.38 | 1.00 | | 0.71 |
| Lane Grp Cap(c), veh/h | 262 | 1662 | 503 | 255 | 1652 | 506 | 822 | 653 | 639 | 204 | 737 | 349 |
| V/C Ratio(X) | 0.81 | 0.29 | 0.68 | 0.82 | 0.38 | 0.36 | 0.92 | 0.63 | 0.63 | 0.77 | 0.81 | 0.83 |
| Avail Cap(c_a), veh/h | 365 | 1662 | 503 | 272 | 1652 | 506 | 1007 | 731 | 715 | 217 | 754 | 357 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.96 | 0.96 | 0.96 | 0.94 | 0.94 | 0.94 | 0.55 | 0.55 | 0.55 | 0.93 | 0.93 | 0.93 |
| Uniform Delay (d), s/veh | 63.7 | 35.2 | 11.9 | 63.9 | 36.5 | 36.3 | 52.1 | 32.9 | 33.0 | 64.9 | 52.2 | 52.4 |
| Incr Delay (d2), s/veh | 6.0 | 0.4 | 6.9 | 14.3 | 0.6 | 1.9 | 6.8 | 1.0 | 1.1 | 12.0 | 7.7 | 16.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 3.9 | 4.1 | 5.8 | 4.1 | 5.5 | 5.1 | 13.7 | 11.1 | 10.9 | 3.1 | 10.7 | 11.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 69.7 | 35.6 | 18.8 | 78.2 | 37.1 | 38.1 | 58.9 | 34.0 | 34.0 | 77.0 | 59.9 | 69.1 |
| LnGrp LOS | E | D | B | E | D | D | E | C | C | E | E | E |
| Approach Vol, veh/h | | 1036 | | | 1014 | | | 1568 | | | 1046 | |
| Approach Delay, s/veh | | 37.0 | | | 45.7 | | | 46.1 | | | 65.0 | |
| Approach LOS | | D | | | D | | | D | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 14.5 | 50.9 | 38.3 | 36.3 | 14.8 | 50.6 | 12.5 | 62.1 |
| Change Period (Y+Rc), s | * 4.2 | * 5.3 | 5.0 | * 6 | * 4.2 | 5.3 | * 4.2 | 5.0 |
| Max Green Setting (Gmax), s | * 11 | * 38 | 40.8 | * 31 | * 15 | 33.7 | * 8.8 | 64.0 |
| Max Q Clear Time (g_c+I1), s | 10.3 | 16.4 | 32.1 | 26.1 | 10.5 | 15.2 | 8.3 | 30.5 |
| Green Ext Time (p_c), s | 0.0 | 10.1 | 1.2 | 3.5 | 0.1 | 7.0 | 0.0 | 9.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 48.2 |
| HCM 6th LOS | D |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

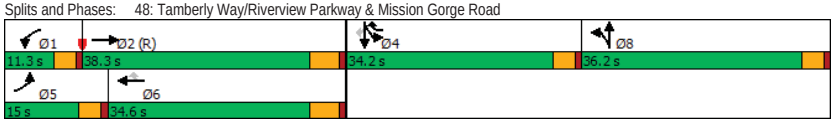




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 208 | 482 | 10 | 40 | 792 | 230 | 36 | 8 | 17 | 92 | 19 | 75 |
| Future Volume (vph) | 208 | 482 | 10 | 40 | 792 | 230 | 36 | 8 | 17 | 92 | 19 | 75 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | 1 | | | 3 | | | | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | 40% | | |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Split | NA | | Split | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 4 | 8 | 8 | | 4 | 4 | |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 4 | 8 | 8 | | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | 7.0 | 4.0 | 4.0 | | 7.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 23.3 | | 8.2 | 34.3 | 34.2 | 36.2 | 36.2 | | 34.2 | 34.2 | 34.2 |
| Total Split (s) | 15.0 | 38.3 | | 11.3 | 34.6 | 34.2 | 36.2 | 36.2 | | 34.2 | 34.2 | 34.2 |
| Total Split (%) | 12.5% | 31.9% | | 9.4% | 28.8% | 28.5% | 30.2% | 30.2% | | 28.5% | 28.5% | 28.5% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | 3.2 | 3.2 | 3.2 | | 3.2 | 3.2 | 3.2 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | 4.2 | 4.2 | 4.2 | | 4.2 | 4.2 | 4.2 |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | Min | None | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 0 (0%), Referenced to phase 2:EBT, Start of Green |
| Natural Cycle: 125 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 48: Tamberly Way/Riverview Parkway & Mission Gorge Road



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 208 | 482 | 10 | 40 | 792 | 230 | 36 | 8 | 17 | 92 | 19 | 75 |
| Future Volume (veh/h) | 208 | 482 | 10 | 40 | 792 | 230 | 36 | 8 | 17 | 92 | 19 | 75 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.99 | 1.00 | | 1.00 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 226 | 524 | 11 | 43 | 861 | 250 | 39 | 9 | 18 | 115 | 0 | 82 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 160 | 3674 | 77 | 55 | 3345 | 1137 | 62 | 19 | 39 | 252 | 0 | 111 |
| Arrive On Green | 0.09 | 0.71 | 0.71 | 0.03 | 0.66 | 0.66 | 0.03 | 0.03 | 0.03 | 0.07 | 0.00 | 0.07 |
| Sat Flow, veh/h | 1781 | 5145 | 108 | 1781 | 5106 | 1564 | 1781 | 557 | 1113 | 3563 | 0 | 1561 |
| Grp Volume(v), veh/h | 226 | 346 | 189 | 43 | 861 | 250 | 39 | 0 | 27 | 115 | 0 | 82 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1702 | 1848 | 1781 | 1702 | 1564 | 1781 | 0 | 1670 | 1781 | 0 | 1561 |
| Q Serve(g_s), s | 10.8 | 3.9 | 3.9 | 2.9 | 8.4 | 6.3 | 2.6 | 0.0 | 1.9 | 3.7 | 0.0 | 6.2 |
| Cycle Q Clear(g_c), s | 10.8 | 3.9 | 3.9 | 2.9 | 8.4 | 6.3 | 2.6 | 0.0 | 1.9 | 3.7 | 0.0 | 6.2 |
| Prop In Lane | 1.00 | | 0.06 | 1.00 | | 1.00 | 1.00 | | 0.67 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 160 | 2431 | 1320 | 55 | 3345 | 1137 | 62 | 0 | 58 | 252 | 0 | 111 |
| V/C Ratio(X) | 1.41 | 0.14 | 0.14 | 0.78 | 0.26 | 0.22 | 0.63 | 0.00 | 0.46 | 0.46 | 0.00 | 0.74 |
| Avail Cap(c_a), veh/h | 160 | 2431 | 1320 | 105 | 3345 | 1137 | 475 | 0 | 445 | 891 | 0 | 390 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.93 | 0.93 | 0.93 | 0.97 | 0.97 | 0.97 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 54.6 | 5.5 | 5.5 | 57.7 | 8.6 | 5.4 | 57.1 | 0.0 | 56.8 | 53.5 | 0.0 | 54.7 |
| Incr Delay (d2), s/veh | 215.2 | 0.1 | 0.2 | 8.3 | 0.1 | 0.2 | 3.8 | 0.0 | 2.1 | 0.5 | 0.0 | 3.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 14.3 | 1.2 | 1.4 | 1.4 | 2.8 | 2.5 | 1.2 | 0.0 | 0.8 | 1.7 | 0.0 | 2.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 269.8 | 5.6 | 5.7 | 66.0 | 8.7 | 5.5 | 61.0 | 0.0 | 58.9 | 54.0 | 0.0 | 58.3 |
| LnGrp LOS | F | A | A | E | A | A | E | A | E | D | A | E |
| Approach Vol, veh/h | | 761 | | | 1154 | | | 66 | | | 197 | |
| Approach Delay, s/veh | | 84.1 | | | 10.1 | | | 60.1 | | | 55.8 | |
| Approach LOS | | F | | | B | | | E | | | E | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.9 | 91.0 | | 12.7 | 15.0 | 83.9 | | 8.4 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | | * 4.2 | * 4.2 | 5.3 | | 4.2 | | | | |
| Max Green Setting (Gmax), s | * 7.1 | 33.0 | | * 30 | * 11 | 29.3 | | 32.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 4.9 | 5.9 | | 8.2 | 12.8 | 10.4 | | 4.6 | | | | |
| Green Ext Time (p_c), s | 0.0 | 6.0 | | 0.3 | 0.0 | 9.8 | | 0.1 | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 41.6 | |
| HCM 6th LOS | | D | |

**Notes**

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

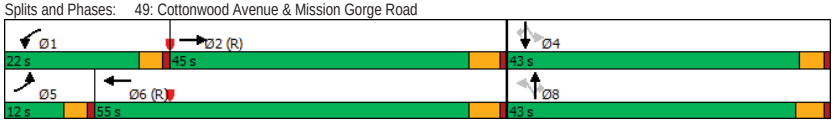




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 7 | 460 | 53 | 57 | 962 | 2 | 85 | 4 | 51 | 7 | 8 | 22 |
| Future Volume (vph) | 7 | 460 | 53 | 57 | 962 | 2 | 85 | 4 | 51 | 7 | 8 | 22 |
| Confl. Peds. (#/hr) | | | 6 | | | 19 | | | 1 | | | 4 |
| Confl. Bikes (#/hr) | | | 2 | | | 1 | | | | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Perm | NA | Perm | Perm | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | 8 | 4 | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | 8 | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 4.0 | 4.0 | 4.0 | 7.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 23.3 | | 8.2 | 24.3 | | 33.8 | 33.8 | 33.8 | 32.2 | 32.2 | 32.2 |
| Total Split (s) | 12.0 | 45.0 | | 22.0 | 55.0 | | 43.0 | 43.0 | 43.0 | 43.0 | 43.0 | 43.0 |
| Total Split (%) | 10.9% | 40.9% | | 20.0% | 50.0% | | 39.1% | 39.1% | 39.1% | 39.1% | 39.1% | 39.1% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | | 3.8 | 3.8 | 3.8 | 3.2 | 3.2 | 3.2 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | | | 4.8 | 4.8 | | 4.2 | 4.2 |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | None | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 110 |
| Offset: 21 (19%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 70 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 49: Cottonwood Avenue & Mission Gorge Road



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 7 | 460 | 53 | 57 | 962 | 2 | 85 | 4 | 51 | 7 | 8 | 22 |
| Future Volume (veh/h) | 7 | 460 | 53 | 57 | 962 | 2 | 85 | 4 | 51 | 7 | 8 | 22 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.96 | 1.00 | | 1.00 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 8 | 500 | 58 | 62 | 1046 | 2 | 92 | 4 | 55 | 8 | 9 | 24 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 14 | 2190 | 250 | 80 | 2681 | 5 | 65 | 2 | 558 | 49 | 39 | 549 |
| Arrive On Green | 0.01 | 0.47 | 0.47 | 0.09 | 1.00 | 1.00 | 0.35 | 0.35 | 0.35 | 0.35 | 0.35 | 0.35 |
| Sat Flow, veh/h | 1781 | 4633 | 528 | 1781 | 5262 | 10 | 3 | 4 | 1584 | 1 | 110 | 1557 |
| Grp Volume(v), veh/h | 8 | 365 | 193 | 62 | 677 | 371 | 96 | 0 | 55 | 17 | 0 | 24 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1702 | 1757 | 1781 | 1702 | 1868 | 7 | 0 | 1584 | 111 | 0 | 1557 |
| Q Serve(g_s), s | 0.5 | 7.0 | 7.2 | 3.7 | 0.0 | 0.0 | 0.1 | 0.0 | 2.6 | 0.1 | 0.0 | 1.1 |
| Cycle Q Clear(g_c), s | 0.5 | 7.0 | 7.2 | 3.7 | 0.0 | 0.0 | 38.8 | 0.0 | 2.6 | 38.8 | 0.0 | 1.1 |
| Prop In Lane | 1.00 | | 0.30 | 1.00 | | 0.01 | 0.96 | | 1.00 | 0.47 | | 1.00 |
| Lane Grp Cap(c), veh/h | 14 | 1609 | 831 | 80 | 1734 | 952 | 67 | 0 | 558 | 87 | 0 | 549 |
| V/C Ratio(X) | 0.57 | 0.23 | 0.23 | 0.78 | 0.39 | 0.39 | 1.44 | 0.00 | 0.10 | 0.19 | 0.00 | 0.04 |
| Avail Cap(c_a), veh/h | 126 | 1609 | 831 | 288 | 1734 | 952 | 67 | 0 | 558 | 87 | 0 | 549 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.99 | 0.99 | 0.99 | 0.60 | 0.60 | 0.60 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 54.4 | 17.1 | 17.2 | 49.6 | 0.0 | 0.0 | 54.1 | 0.0 | 23.9 | 29.3 | 0.0 | 23.4 |
| Incr Delay (d2), s/veh | 12.6 | 0.3 | 0.6 | 3.7 | 0.4 | 0.7 | 264.0 | 0.0 | 0.0 | 0.4 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.3 | 2.7 | 2.9 | 1.7 | 0.1 | 0.2 | 6.7 | 0.0 | 1.0 | 0.3 | 0.0 | 0.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 67.0 | 17.5 | 17.8 | 53.2 | 0.4 | 0.7 | 318.2 | 0.0 | 23.9 | 29.7 | 0.0 | 23.4 |
| LnGrp LOS | E | B | B | D | A | A | F | A | C | C | A | C |
| Approach Vol, veh/h | | 566 | | | 1110 | | | 151 | | | 41 | |
| Approach Delay, s/veh | | 18.3 | | | 3.5 | | | 211.0 | | | 26.0 | |
| Approach LOS | | B | | | A | | | F | | | C | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 9.1 | 57.3 | | 43.6 | 5.1 | 61.3 | | 43.6 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | | * 4.8 | * 4.2 | 5.3 | | * 4.8 | | | | |
| Max Green Setting (Gmax), s | * 18 | 39.7 | | * 39 | * 7.8 | 49.7 | | * 38 | | | | |
| Max Q Clear Time (g_c+I1), s | 5.7 | 9.2 | | 40.8 | 2.5 | 2.0 | | 40.8 | | | | |
| Green Ext Time (p_c), s | 0.0 | 3.0 | | 0.0 | 0.0 | 12.7 | | 0.0 | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | | 25.2 |
| HCM 6th LOS | | | C |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

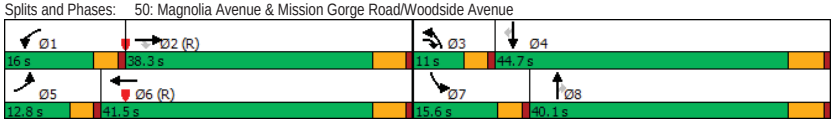




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 171 | 220 | 167 | 383 | 553 | 253 | 196 | 821 | 364 | 270 | 1207 | 312 |
| Future Volume (vph) | 171 | 220 | 167 | 383 | 553 | 253 | 196 | 821 | 364 | 270 | 1207 | 312 |
| Confl. Peds. (#/hr) | | | 6 | | | 11 | | | 19 | | | 6 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | | | | 8 | | | 4 |
| Detector Phase | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | 8 | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 4.0 | 4.0 | 10.0 | | 4.0 | 7.0 | 7.0 | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 38.3 | 8.2 | 8.2 | 35.3 | | 8.2 | 34.7 | 34.7 | 8.2 | 35.7 | 35.7 |
| Total Split (s) | 12.8 | 38.3 | 11.0 | 16.0 | 41.5 | | 11.0 | 40.1 | 40.1 | 15.6 | 44.7 | 44.7 |
| Total Split (%) | 11.6% | 34.8% | 10.0% | 14.5% | 37.7% | | 10.0% | 36.5% | 36.5% | 14.2% | 40.6% | 40.6% |
| Yellow Time (s) | 3.2 | 4.3 | 3.2 | 3.2 | 4.3 | | 3.2 | 4.7 | 4.7 | 3.2 | 4.7 | 4.7 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | 4.2 | 4.2 | 5.3 | | 4.2 | 5.7 | 5.7 | 4.2 | 5.7 | 5.7 |
| Lead/Lag | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | C-Min | None | None | C-Min | | None | None | None | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 110 |
| Offset: 24 (22%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 115 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 50: Magnolia Avenue & Mission Gorge Road/Woodside Avenue



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 171 | 220 | 167 | 383 | 553 | 253 | 196 | 821 | 364 | 270 | 1207 | 312 |
| Future Volume (veh/h) | 171 | 220 | 167 | 383 | 553 | 253 | 196 | 821 | 364 | 270 | 1207 | 312 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 186 | 239 | 182 | 416 | 601 | 248 | 213 | 892 | 357 | 293 | 1312 | 305 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 243 | 1066 | 571 | 371 | 824 | 340 | 214 | 1119 | 490 | 351 | 1260 | 559 |
| Arrive On Green | 0.12 | 0.50 | 0.50 | 0.11 | 0.34 | 0.34 | 0.12 | 0.63 | 0.63 | 0.10 | 0.35 | 0.35 |
| Sat Flow, veh/h | 3456 | 3554 | 1576 | 3456 | 2446 | 1008 | 3456 | 3554 | 1556 | 3456 | 3554 | 1577 |
| Grp Volume(v), veh/h | 186 | 239 | 182 | 416 | 436 | 413 | 213 | 892 | 357 | 293 | 1312 | 305 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1576 | 1728 | 1777 | 1677 | 1728 | 1777 | 1556 | 1728 | 1777 | 1577 |
| Q Serve(g_s), s | 5.7 | 4.2 | 7.2 | 11.8 | 23.7 | 23.8 | 6.8 | 20.5 | 17.3 | 9.2 | 39.0 | 17.0 |
| Cycle Q Clear(g_c), s | 5.7 | 4.2 | 7.2 | 11.8 | 23.7 | 23.8 | 6.8 | 20.5 | 17.3 | 9.2 | 39.0 | 17.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.60 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 243 | 1066 | 571 | 371 | 599 | 565 | 214 | 1119 | 490 | 351 | 1260 | 559 |
| V/C Ratio(X) | 0.76 | 0.22 | 0.32 | 1.12 | 0.73 | 0.73 | 1.00 | 0.80 | 0.73 | 0.83 | 1.04 | 0.55 |
| Avail Cap(c_a), veh/h | 270 | 1066 | 571 | 371 | 599 | 565 | 214 | 1119 | 490 | 358 | 1260 | 559 |
| HCM Platoon Ratio | 1.67 | 1.67 | 1.67 | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.99 | 0.99 | 0.99 | 1.00 | 1.00 | 1.00 | 0.89 | 0.89 | 0.89 | 0.75 | 0.75 | 0.75 |
| Uniform Delay (d), s/veh | 47.7 | 20.2 | 17.6 | 49.1 | 32.1 | 32.1 | 48.2 | 17.8 | 17.2 | 48.5 | 35.5 | 28.4 |
| Incr Delay (d2), s/veh | 9.3 | 0.5 | 1.5 | 84.1 | 7.6 | 8.1 | 57.2 | 3.9 | 5.3 | 11.2 | 33.6 | 1.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.6 | 1.7 | 2.5 | 9.3 | 11.1 | 10.5 | 4.3 | 5.4 | 4.6 | 4.4 | 21.6 | 6.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 57.0 | 20.7 | 19.1 | 133.2 | 39.7 | 40.2 | 105.4 | 21.6 | 22.4 | 59.8 | 69.1 | 29.4 |
| LnGrp LOS | E | C | B | F | D | D | F | C | C | E | F | C |
| Approach Vol, veh/h | | 607 | | | 1265 | | | 1462 | | | 1910 | |
| Approach Delay, s/veh | | 31.3 | | | 70.6 | | | 34.0 | | | 61.3 | |
| Approach LOS | | C | | | E | | | C | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 16.0 | 38.3 | 11.0 | 44.7 | 11.9 | 42.4 | 15.4 | 40.3 |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | * 4.2 | 5.7 | * 4.2 | 5.3 | * 4.2 | 5.7 |
| Max Green Setting (Gmax), s | * 12 | 33.0 | * 6.8 | 39.0 | * 8.6 | 36.2 | * 11 | 34.4 |
| Max Q Clear Time (g_c+I1), s | 13.8 | 9.2 | 8.8 | 41.0 | 7.7 | 25.8 | 11.2 | 22.5 |
| Green Ext Time (p_c), s | 0.0 | 2.5 | 0.0 | 0.0 | 0.0 | 5.5 | 0.0 | 7.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 52.5 |
| HCM 6th LOS | D |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 29.6 |
| Intersection LOS | D |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 6 | 138 | 339 | 9 | 0 | 303 | 0 | 0 | 9 | 554 | 37 |
| Future Vol, veh/h | 0 | 6 | 138 | 339 | 9 | 0 | 303 | 0 | 0 | 9 | 554 | 37 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 7 | 150 | 368 | 10 | 0 | 329 | 0 | 0 | 10 | 602 | 40 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 2 | 0 |

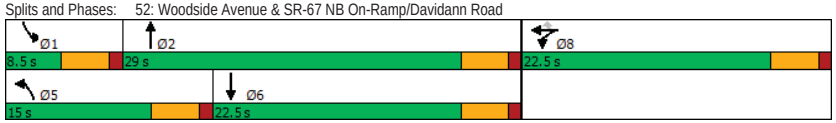
| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay | 15.1 | 36.2 | 35.7 | 26.2 |
| HCM LOS | C | E | E | D |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 97% | 3% | 0% |
| Vol Thru, % | 0% | 100% | 4% | 3% | 97% | 88% |
| Vol Right, % | 0% | 0% | 96% | 0% | 0% | 12% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 303 | 0 | 144 | 348 | 286 | 314 |
| LT Vol | 303 | 0 | 0 | 339 | 9 | 0 |
| Through Vol | 0 | 0 | 6 | 9 | 277 | 277 |
| RT Vol | 0 | 0 | 138 | 0 | 0 | 37 |
| Lane Flow Rate | 329 | 0 | 157 | 378 | 311 | 341 |
| Geometry Grp | 7 | 7 | 2 | 2 | 7 | 7 |
| Degree of Util (X) | 0.78 | 0 | 0.344 | 0.811 | 0.664 | 0.72 |
| Departure Headway (Hd) | 8.531 | 8.013 | 7.911 | 7.722 | 7.695 | 7.594 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 425 | 0 | 454 | 473 | 469 | 474 |
| Service Time | 6.286 | 5.768 | 5.979 | 5.722 | 5.454 | 5.352 |
| HCM Lane V/C Ratio | 0.774 | 0 | 0.346 | 0.799 | 0.663 | 0.719 |
| HCM Control Delay | 35.7 | 10.8 | 15.1 | 36.2 | 24.5 | 27.7 |
| HCM Lane LOS | E | N | C | E | C | D |
| HCM 95th-tile Q | 6.7 | 0 | 1.5 | 7.6 | 4.8 | 5.7 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 0 | 46 | 4 | 3 | 209 | 200 | 20 | 2 | 286 | 2 |
| Future Volume (vph) | 0 | 0 | 0 | 46 | 4 | 3 | 209 | 200 | 20 | 2 | 286 | 2 |
| Confl. Peds. (#/hr) | | | | | | | | | 1 | | | |
| Confl. Bikes (#/hr) | | | | | | 2 | | | 2 | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | | | | Split | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | | | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | 8 | | | | | | |
| Detector Phase | | | | 8 | 8 | 8 | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | | | | 22.5 | 22.5 | 22.5 | 8.5 | 22.5 | | 8.5 | 22.5 | |
| Total Split (s) | | | | 22.5 | 22.5 | 22.5 | 15.0 | 29.0 | | 8.5 | 22.5 | |
| Total Split (%) | | | | 37.5% | 37.5% | 37.5% | 25.0% | 48.3% | | 14.2% | 37.5% | |
| Yellow Time (s) | | | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | | | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | | | | | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | | | | | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | | | | None | None | None | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 39.3 |
| Natural Cycle: 60 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 52: Woodside Avenue & SR-67 NB On-Ramp/Davidann Road






Existing + Cuml + Proj AM
52: Woodside Avenue & SR-67 NB On-Ramp/Davidann Road
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 46 | 4 | 3 | 209 | 200 | 20 | 2 | 286 | 2 |
| Future Volume (veh/h) | 0 | 0 | 0 | 46 | 4 | 3 | 209 | 200 | 20 | 2 | 286 | 2 |
| Initial Q (Qb), veh | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | | | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.97 |
| Parking Bus, Adj | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | | | | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | | | | 50 | 4 | 3 | 227 | 217 | 22 | 2 | 311 | 2 |
| Peak Hour Factor | | | | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | | | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | | | | 85 | 7 | 80 | 301 | 734 | 74 | 7 | 509 | 3 |
| Arrive On Green | | | | 0.05 | 0.05 | 0.05 | 0.17 | 0.44 | 0.44 | 0.00 | 0.27 | 0.27 |
| Sat Flow, veh/h | | | | 1655 | 132 | 1546 | 1781 | 1666 | 169 | 1781 | 1856 | 12 |
| Grp Volume(v), veh/h | | | | 54 | 0 | 3 | 227 | 0 | 239 | 2 | 0 | 313 |
| Grp Sat Flow(s),veh/h/ln | | | | 1788 | 0 | 1546 | 1781 | 0 | 1835 | 1781 | 0 | 1868 |
| Q Serve(g_s), s | | | | 0.8 | 0.0 | 0.0 | 3.2 | 0.0 | 2.2 | 0.0 | 0.0 | 3.9 |
| Cycle Q Clear(g_c), s | | | | 0.8 | 0.0 | 0.0 | 3.2 | 0.0 | 2.2 | 0.0 | 0.0 | 3.9 |
| Prop In Lane | | | | 0.93 | | 1.00 | 1.00 | | 0.09 | 1.00 | | 0.01 |
| Lane Grp Cap(c), veh/h | | | | 92 | 0 | 80 | 301 | 0 | 809 | 7 | 0 | 512 |
| V/C Ratio(X) | | | | 0.58 | 0.00 | 0.04 | 0.75 | 0.00 | 0.30 | 0.30 | 0.00 | 0.61 |
| Avail Cap(c_a), veh/h | | | | 1205 | 0 | 1042 | 700 | 0 | 1684 | 267 | 0 | 1259 |
| HCM Platoon Ratio | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | | | | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | | | | 12.4 | 0.0 | 12.0 | 10.6 | 0.0 | 4.8 | 13.3 | 0.0 | 8.5 |
| Incr Delay (d2), s/veh | | | | 5.8 | 0.0 | 0.2 | 3.8 | 0.0 | 0.2 | 23.3 | 0.0 | 1.2 |
| Initial Q Delay(d3),s/veh | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | | 0.4 | 0.0 | 0.0 | 1.2 | 0.0 | 0.4 | 0.1 | 0.0 | 1.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | 18.1 | 0.0 | 12.2 | 14.4 | 0.0 | 5.0 | 36.5 | 0.0 | 9.6 |
| LnGrp LOS | | | | B | A | B | B | A | A | D | A | A |
| Approach Vol, veh/h | | | | | 57 | | | 466 | | | 315 | |
| Approach Delay, s/veh | | | | | 17.8 | | | 9.6 | | | 9.8 | |
| Approach LOS | | | | | B | | | A | | | A | |

| Timer - Assigned Phs | 1 | 2 | | 5 | 6 | | 8 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 4.6 | 16.3 | | 9.0 | 11.8 | | 5.9 | | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | | | | | |
| Max Green Setting (Gmax), s | 4.0 | 24.5 | | 10.5 | 18.0 | | 18.0 | | | | | |
| Max Q Clear Time (g_c+I1), s | 2.0 | 4.2 | | 5.2 | 5.9 | | 2.8 | | | | | |
| Green Ext Time (p_c), s | 0.0 | 1.3 | | 0.3 | 1.4 | | 0.2 | | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 10.2 | |
| HCM 6th LOS | B | |

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\7 Existing + Cuml + Proj AM.syn

| Intersection | |
|---|---|
| Int Delay, s/veh | 10 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 99 | 537 | 595 | 0 | 0 | 770 |
| Future Vol, veh/h | 99 | 537 | 595 | 0 | 0 | 770 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | 300 | - | - | - | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 108 | 584 | 647 | 0 | 0 | 837 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 1066 | 324 | 0 | - | - | - |
| Stage 1 | 647 | - | - | - | - | - |
| Stage 2 | 419 | - | - | - | - | - |
| Critical Hdwy | 6.84 | 6.8 | - | - | - | - |
| Critical Hdwy Stg 1 | 5.84 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.84 | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 3.32 | - | - | - | - |
| Pot Cap-1 Maneuver | 217 | 680 | - | 0 | 0 | - |
| Stage 1 | 483 | - | - | 0 | 0 | - |
| Stage 2 | 632 | - | - | 0 | 0 | - |
| Platoon blocked, % | | | - | | | - |
| Mov Cap-1 Maneuver | 217 | 680 | - | - | - | - |
| Mov Cap-2 Maneuver | 346 | - | - | - | - | - |
| Stage 1 | 483 | - | - | - | - | - |
| Stage 2 | 632 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 31.6 | 0 | 0 |
| HCM LOS | D | | |

| Minor Lane/Major Mvmt | NBT | WBLn1 | WBLn2 | SBT |
|---|---|---|---|---|
| Capacity (veh/h) | - | 346 | 680 | - |
| HCM Lane V/C Ratio | - | 0.311 | 0.858 | - |
| HCM Control Delay (s) | - | 20 | 33.7 | - |
| HCM Lane LOS | - | C | D | - |
| HCM 95th %tile Q(veh) | - | 1.3 | 10 | - |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 595 | 204 | 463 | 405 |
| Future Volume (Veh/h) | 0 | 0 | 595 | 204 | 463 | 405 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 0 | 647 | 222 | 503 | 440 |
| Pedestrians | 2 | | | | | |
| Lane Width (ft) | 0.0 | | | | | |
| Walking Speed (ft/s) | 4.0 | | | | | |
| Percent Blockage | 0 | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | 769 | | | 1029 |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 1986 | 436 | | | 871 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 1986 | 436 | | | 871 | |
| tC, single (s) | 6.8 | 6.9 | | | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 100 | 100 | | | 35 | |
| cM capacity (veh/h) | 18 | 568 | | | 770 | |

| Direction, Lane # | NB 1 | NB 2 | SB 1 | SB 2 | SB 3 |
|---|---|---|---|---|---|
| Volume Total | 431 | 438 | 503 | 220 | 220 |
| Volume Left | 0 | 0 | 503 | 0 | 0 |
| Volume Right | 0 | 222 | 0 | 0 | 0 |
| cSH | 1700 | 1700 | 770 | 1700 | 1700 |
| Volume to Capacity | 0.25 | 0.26 | 0.65 | 0.13 | 0.13 |
| Queue Length 95th (ft) | 0 | 0 | 123 | 0 | 0 |
| Control Delay (s) | 0.0 | 0.0 | 18.0 | 0.0 | 0.0 |
| Lane LOS | | | C | | |
| Approach Delay (s) | 0.0 | | 9.6 | | |
| Approach LOS | | | | | |

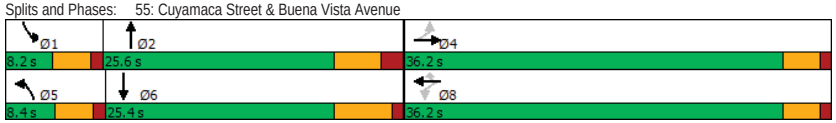
| Intersection Summary | | | | |
|---|---|---|---|---|
| Average Delay | 5.0 | | | |
| Intersection Capacity Utilization | 56.4% | ICU Level of Service | | B |
| Analysis Period (min) | 15 | | | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 10 | 5 | 12 | 201 | 1 | 67 | 52 | 1384 | 163 | 65 | 1174 | 28 |
| Future Volume (vph) | 10 | 5 | 12 | 201 | 1 | 67 | 52 | 1384 | 163 | 65 | 1174 | 28 |
| Confl. Peds. (#/hr) | | | 3 | | | 7 | | | 5 | | | 2 |
| Confl. Bikes (#/hr) | | | 1 | | | 4 | | | 3 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Perm | NA | | Perm | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | 8 | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | 8 | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 10.0 | | 4.0 | 10.0 | |
| Minimum Split (s) | 36.2 | 36.2 | | 34.2 | 34.2 | 34.2 | 8.2 | 24.0 | | 8.2 | 24.0 | |
| Total Split (s) | 36.2 | 36.2 | | 36.2 | 36.2 | 36.2 | 8.4 | 25.6 | | 8.2 | 25.4 | |
| Total Split (%) | 51.7% | 51.7% | | 51.7% | 51.7% | 51.7% | 12.0% | 36.6% | | 11.7% | 36.3% | |
| Yellow Time (s) | 3.2 | 3.2 | | 3.2 | 3.2 | 3.2 | 3.2 | 4.0 | | 3.2 | 4.9 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 2.0 | | 1.0 | 1.1 | |
| Lost Time Adjust (s) | | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | | 4.2 | | | 4.2 | 4.2 | 4.2 | 6.0 | | 4.2 | 6.0 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | None | None | Min | | None | Min | |

**Intersection Summary**

Cycle Length: 70
Actuated Cycle Length: 54.5
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

Splits and Phases: 55: Cuyamaca Street & Buena Vista Avenue








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 10 | 5 | 12 | 201 | 1 | 67 | 52 | 1384 | 163 | 65 | 1174 | 28 |
| Future Volume (veh/h) | 10 | 5 | 12 | 201 | 1 | 67 | 52 | 1384 | 163 | 65 | 1174 | 28 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 11 | 5 | 13 | 218 | 1 | 73 | 57 | 1504 | 177 | 71 | 1276 | 30 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 137 | 77 | 96 | 439 | 2 | 463 | 77 | 1726 | 203 | 89 | 1954 | 46 |
| Arrive On Green | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | 0.04 | 0.37 | 0.37 | 0.05 | 0.38 | 0.38 |
| Sat Flow, veh/h | 138 | 258 | 322 | 1007 | 6 | 1550 | 1781 | 4615 | 543 | 1781 | 5132 | 121 |
| Grp Volume(v), veh/h | 29 | 0 | 0 | 219 | 0 | 73 | 57 | 1109 | 572 | 71 | 846 | 460 |
| Grp Sat Flow(s),veh/h/ln | 717 | 0 | 0 | 1013 | 0 | 1550 | 1781 | 1702 | 1753 | 1781 | 1702 | 1848 |
| Q Serve(g_s), s | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 1.8 | 1.6 | 15.7 | 15.7 | 2.0 | 10.6 | 10.6 |
| Cycle Q Clear(g_c), s | 11.9 | 0.0 | 0.0 | 11.8 | 0.0 | 1.8 | 1.6 | 15.7 | 15.7 | 2.0 | 10.6 | 10.6 |
| Prop In Lane | 0.38 | | 0.45 | 1.00 | | 1.00 | 1.00 | | 0.31 | 1.00 | | 0.07 |
| Lane Grp Cap(c), veh/h | 310 | 0 | 0 | 441 | 0 | 463 | 77 | 1273 | 656 | 89 | 1296 | 704 |
| V/C Ratio(X) | 0.09 | 0.00 | 0.00 | 0.50 | 0.00 | 0.16 | 0.74 | 0.87 | 0.87 | 0.80 | 0.65 | 0.65 |
| Avail Cap(c_a), veh/h | 786 | 0 | 0 | 883 | 0 | 955 | 144 | 1285 | 662 | 137 | 1296 | 704 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 13.7 | 0.0 | 0.0 | 16.9 | 0.0 | 13.4 | 24.6 | 15.1 | 15.1 | 24.4 | 13.3 | 13.3 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 0.0 | 0.3 | 0.0 | 0.1 | 5.2 | 6.9 | 12.5 | 8.3 | 1.4 | 2.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.2 | 0.0 | 0.0 | 2.1 | 0.0 | 0.6 | 0.7 | 6.1 | 7.3 | 1.0 | 3.5 | 4.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 13.8 | 0.0 | 0.0 | 17.2 | 0.0 | 13.5 | 29.7 | 22.0 | 27.6 | 32.8 | 14.6 | 15.8 |
| LnGrp LOS | B | A | A | B | A | B | C | C | C | C | B | B |
| Approach Vol, veh/h | | 29 | | | 292 | | | 1738 | | | 1377 | |
| Approach Delay, s/veh | | 13.8 | | | 16.3 | | | 24.1 | | | 15.9 | |
| Approach LOS | | B | | | B | | | C | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 6.8 | 25.4 | | 19.8 | 6.4 | 25.8 | | 19.8 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 6.0 | | * 4.2 | * 4.2 | * 6 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | * 4 | 19.6 | | * 32 | * 4.2 | * 19 | | * 32 | | | | |
| Max Q Clear Time (g_c+I1), s | 4.0 | 17.7 | | 13.9 | 3.6 | 12.6 | | 13.8 | | | | |
| Green Ext Time (p_c), s | 0.0 | 1.7 | | 0.0 | 0.0 | 5.0 | | 0.9 | | | | |

**Intersection Summary**

| | | |
|---|---|---|
| HCM 6th Ctrl Delay | 20.1 | |
| HCM 6th LOS | C | |

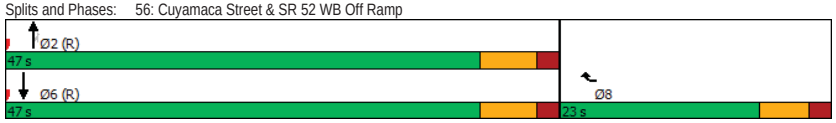
**Notes**

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 862 | 938 | 197 | 0 | 1514 |
| Future Volume (vph) | 0 | 862 | 938 | 197 | 0 | 1514 |
| Confl. Peds. (#/hr) | | | | 9 | | |
| Confl. Bikes (#/hr) | | | | 3 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | 0% | | | 0% |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | | Prot | NA | Perm | | NA |
| Protected Phases | | 8 | 2 | | | 6 |
| Permitted Phases | | | | 2 | | |
| Detector Phase | | 8 | 2 | 2 | | 6 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | | 5.0 | 14.0 | 14.0 | | 14.0 |
| Minimum Split (s) | | 20.0 | 45.8 | 45.8 | | 45.8 |
| Total Split (s) | | 23.0 | 47.0 | 47.0 | | 47.0 |
| Total Split (%) | | 32.9% | 67.1% | 67.1% | | 67.1% |
| Yellow Time (s) | | 4.1 | 4.8 | 4.8 | | 4.8 |
| All-Red Time (s) | | 2.0 | 2.0 | 2.0 | | 2.0 |
| Lost Time Adjust (s) | | 0.0 | 0.0 | 0.0 | | 0.0 |
| Total Lost Time (s) | | 6.1 | 6.8 | 6.8 | | 6.8 |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | | None | C-Max | C-Max | | C-Max |

| Intersection Summary |
|---|
| Cycle Length: 70 |
| Actuated Cycle Length: 70 |
| Offset: 22 (31%), Referenced to phase 2:NBT and 6:SBT, Start of Green |
| Natural Cycle: 80 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 56: Cuyamaca Street & SR 52 WB Off Ramp








| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 862 | 938 | 197 | 0 | 1514 |
| Future Volume (veh/h) | 0 | 862 | 938 | 197 | 0 | 1514 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | | 0.97 | 1.00 | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | No | | | No |
| Adj Sat Flow, veh/h/ln | 0 | 1870 | 1870 | 1870 | 0 | 1870 |
| Adj Flow Rate, veh/h | 0 | 937 | 1020 | 214 | 0 | 1646 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 0 | 2 | 2 | 2 | 0 | 2 |
| Cap, veh/h | 0 | 0 | 4610 | 1394 | 0 | 4610 |
| Arrive On Green | 0.00 | 0.00 | 0.30 | 0.30 | 0.00 | 0.90 |
| Sat Flow, veh/h | 0 | | 5274 | 1544 | 0 | 5443 |
| Grp Volume(v), veh/h | 0.0 | | 1020 | 214 | 0 | 1646 |
| Grp Sat Flow(s),veh/h/ln | | | 1702 | 1544 | 0 | 1702 |
| Q Serve(g_s), s | | | 10.5 | 7.1 | 0.0 | 3.2 |
| Cycle Q Clear(g_c), s | | | 10.5 | 7.1 | 0.0 | 3.2 |
| Prop In Lane | | | | 1.00 | 0.00 | |
| Lane Grp Cap(c), veh/h | | | 4610 | 1394 | 0 | 4610 |
| V/C Ratio(X) | | | 0.22 | 0.15 | 0.00 | 0.36 |
| Avail Cap(c_a), veh/h | | | 4610 | 1394 | 0 | 4610 |
| HCM Platoon Ratio | | | 0.33 | 0.33 | 1.00 | 1.00 |
| Upstream Filter(I) | | | 1.00 | 1.00 | 0.00 | 0.80 |
| Uniform Delay (d), s/veh | | | 6.1 | 4.9 | 0.0 | 0.5 |
| Incr Delay (d2), s/veh | | | 0.1 | 0.2 | 0.0 | 0.2 |
| Initial Q Delay(d3),s/veh | | | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | 0.0 | 0.1 | 0.0 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | | | 6.2 | 5.1 | 0.0 | 0.7 |
| LnGrp LOS | | | A | A | A | A |
| Approach Vol, veh/h | | | 1234 | | | 1646 |
| Approach Delay, s/veh | | | 6.0 | | | 0.7 |
| Approach LOS | | | A | | | A |

| Timer - Assigned Phs | 2 | | | | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 70.0 | | | | 70.0 |
| Change Period (Y+Rc), s | 6.8 | | | | 6.8 |
| Max Green Setting (Gmax), s | 40.2 | | | | 40.2 |
| Max Q Clear Time (g_c+I1), s | 12.5 | | | | 5.2 |
| Green Ext Time (p_c), s | 9.0 | | | | 16.3 |

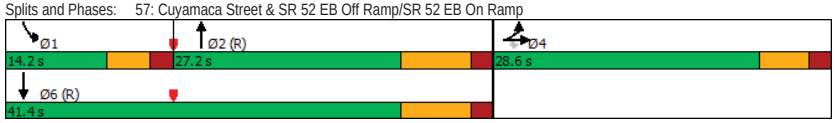
| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 2.9 |
| HCM 6th LOS | A |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 341 | 2 | 488 | 0 | 0 | 0 | 0 | 794 | 94 | 333 | 791 | 0 |
| Future Volume (vph) | 341 | 2 | 488 | 0 | 0 | 0 | 0 | 794 | 94 | 333 | 791 | 0 |
| Confl. Peds. (#/hr) | | | | | | | | | 5 | | | 24 |
| Confl. Bikes (#/hr) | | | | | | | | | 2 | | | 9 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | 50% | | | | | | | | | | | |
| Turn Type | Split | NA | Perm | | | | | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | | | | | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | | | | |
| Detector Phase | 4 | 4 | 4 | | | | | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | | | | | 11.0 | | 5.0 | 12.0 | |
| Minimum Split (s) | 22.1 | 22.1 | 22.1 | | | | | 27.0 | | 10.7 | 32.0 | |
| Total Split (s) | 28.6 | 28.6 | 28.6 | | | | | 27.2 | | 14.2 | 41.4 | |
| Total Split (%) | 40.9% | 40.9% | 40.9% | | | | | 38.9% | | 20.3% | 59.1% | |
| Yellow Time (s) | 4.1 | 4.1 | 4.1 | | | | | 6.0 | | 3.7 | 6.0 | |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | | | | | 2.0 | | 2.0 | 2.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | | | | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 6.1 | 6.1 | 6.1 | | | | | 8.0 | | 5.7 | 8.0 | |
| Lead/Lag | | | | | | | | Lag | | Lead | | |
| Lead-Lag Optimize? | | | | | | | | Yes | | Yes | | |
| Recall Mode | None | None | None | | | | | C-Min | | None | C-Min | |

**Intersection Summary**

Cycle Length: 70
Actuated Cycle Length: 70
Offset: 10 (14%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 57: Cuyamaca Street & SR 52 EB Off Ramp/SR 52 EB On Ramp






Existing + Cuml + Proj AM
57: Cuyamaca Street & SR 52 EB Off Ramp/SR 52 EB On Ramp
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 341 | 2 | 488 | 0 | 0 | 0 | 0 | 794 | 94 | 333 | 791 | 0 |
| Future Volume (veh/h) | 341 | 2 | 488 | 0 | 0 | 0 | 0 | 794 | 94 | 333 | 791 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | | | | 1.00 | | 0.98 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | | | | 0 | 1870 | 1870 | 1870 | 1870 | 0 |
| Adj Flow Rate, veh/h | 372 | 0 | 530 | | | | 0 | 863 | 102 | 362 | 860 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | | | | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | | | | 0 | 2 | 2 | 2 | 2 | 0 |
| Cap, veh/h | 1145 | 0 | 509 | | | | 0 | 1267 | 149 | 420 | 1696 | 0 |
| Arrive On Green | 0.32 | 0.00 | 0.32 | | | | 0.00 | 0.36 | 0.36 | 0.04 | 0.16 | 0.00 |
| Sat Flow, veh/h | 3563 | 0 | 1585 | | | | 0 | 4789 | 543 | 3456 | 3647 | 0 |
| Grp Volume(v), veh/h | 372 | 0 | 530 | | | | 0 | 635 | 330 | 362 | 860 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1585 | | | | 0 | 1702 | 1760 | 1728 | 1777 | 0 |
| Q Serve(g_s), s | 5.5 | 0.0 | 22.5 | | | | 0.0 | 11.0 | 11.1 | 7.3 | 15.5 | 0.0 |
| Cycle Q Clear(g_c), s | 5.5 | 0.0 | 22.5 | | | | 0.0 | 11.0 | 11.1 | 7.3 | 15.5 | 0.0 |
| Prop In Lane | 1.00 | | 1.00 | | | | 0.00 | | 0.31 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 1145 | 0 | 509 | | | | 0 | 934 | 483 | 420 | 1696 | 0 |
| V/C Ratio(X) | 0.32 | 0.00 | 1.04 | | | | 0.00 | 0.68 | 0.68 | 0.86 | 0.51 | 0.00 |
| Avail Cap(c_a), veh/h | 1145 | 0 | 509 | | | | 0 | 934 | 483 | 420 | 1696 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.33 | 1.33 | 0.33 | 0.33 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | | | | 0.00 | 0.93 | 0.93 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | 18.0 | 0.0 | 23.8 | | | | 0.0 | 19.6 | 19.7 | 33.0 | 22.0 | 0.0 |
| Incr Delay (d2), s/veh | 0.2 | 0.0 | 50.7 | | | | 0.0 | 3.7 | 7.2 | 16.0 | 1.1 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.2 | 0.0 | 14.9 | | | | 0.0 | 4.1 | 4.8 | 4.1 | 7.4 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 18.2 | 0.0 | 74.5 | | | | 0.0 | 23.3 | 26.8 | 49.0 | 23.0 | 0.0 |
| LnGrp LOS | B | A | F | | | | A | C | C | D | C | A |
| Approach Vol, veh/h | | 902 | | | | | | 965 | | | 1222 | |
| Approach Delay, s/veh | | 51.3 | | | | | | 24.5 | | | 30.7 | |
| Approach LOS | | D | | | | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | 4 | 6 |
|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 14.2 | 27.2 | 28.6 | 41.4 |
| Change Period (Y+Rc), s | * 5.7 | 8.0 | 6.1 | 8.0 |
| Max Green Setting (Gmax), s | * 8.5 | 19.2 | 22.5 | 33.4 |
| Max Q Clear Time (g_c+I1), s | 9.3 | 13.1 | 24.5 | 17.5 |
| Green Ext Time (p_c), s | 0.0 | 3.0 | 0.0 | 5.3 |

**Intersection Summary**

| | |
|---|---|
| HCM 6th Ctrl Delay | 34.8 |
| HCM 6th LOS | C |

**Notes**

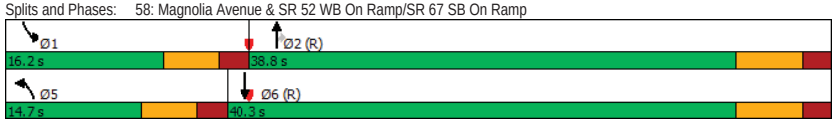
User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\7 Existing + Cuml + Proj AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 294 | 1268 | 142 | 637 | 652 | 296 |
| Future Volume (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 294 | 1268 | 142 | 637 | 652 | 296 |
| Confl. Peds. (#/hr) | | | | | | | | | 5 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | | | | | | | Prot | NA | Perm | Prot | NA | |
| Protected Phases | | | | | | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | | | 2 | | | |
| Detector Phase | | | | | | | 5 | 2 | 2 | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | | | | | | 5.0 | 6.0 | 6.0 | 5.0 | 7.0 | |
| Minimum Split (s) | | | | | | | 10.7 | 38.4 | 38.4 | 10.7 | 39.4 | |
| Total Split (s) | | | | | | | 14.7 | 38.8 | 38.8 | 16.2 | 40.3 | |
| Total Split (%) | | | | | | | 26.7% | 70.5% | 70.5% | 29.5% | 73.3% | |
| Yellow Time (s) | | | | | | | 3.7 | 4.4 | 4.4 | 3.7 | 4.4 | |
| All-Red Time (s) | | | | | | | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | |
| Lost Time Adjust (s) | | | | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | | | | | | | 5.7 | 6.4 | 6.4 | 5.7 | 6.4 | |
| Lead/Lag | | | | | | | Lead | Lag | Lag | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | Yes | Yes | Yes | |
| Recall Mode | | | | | | | None | C-Max | C-Max | None | C-Max | |

| Intersection Summary |
|---|
| Cycle Length: 55 |
| Actuated Cycle Length: 55 |
| Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green |
| Natural Cycle: 60 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 58: Magnolia Avenue & SR 52 WB On Ramp/SR 67 SB On Ramp






Existing + Cuml + Proj AM
58: Magnolia Avenue & SR 52 WB On Ramp/SR 67 SB On Ramp
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 0 | 0 | 0 | 294 | 1268 | 142 | 637 | 652 | 296 |
| Future Volume (veh/h) | 0 | 0 | 0 | 0 | 0 | 0 | 294 | 1268 | 142 | 637 | 652 | 296 |
| Initial Q (Qb), veh | | | | | | | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | | | | | | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | | | | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | | | | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | | | | | | | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | | | | | | | 320 | 1378 | 154 | 692 | 709 | 322 |
| Peak Hour Factor | | | | | | | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | | | | | | | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | | | | | | | 428 | 3008 | 911 | 660 | 1546 | 702 |
| Arrive On Green | | | | | | | 0.25 | 1.00 | 1.00 | 0.32 | 1.00 | 1.00 |
| Sat Flow, veh/h | | | | | | | 3456 | 5106 | 1546 | 3456 | 2356 | 1070 |
| Grp Volume(v), veh/h | | | | | | | 320 | 1378 | 154 | 692 | 535 | 496 |
| Grp Sat Flow(s),veh/h/ln | | | | | | | 1728 | 1702 | 1546 | 1728 | 1777 | 1649 |
| Q Serve(g_s), s | | | | | | | 4.7 | 0.0 | 0.0 | 10.5 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | | | | | | | 4.7 | 0.0 | 0.0 | 10.5 | 0.0 | 0.0 |
| Prop In Lane | | | | | | | 1.00 | | 1.00 | 1.00 | | 0.65 |
| Lane Grp Cap(c), veh/h | | | | | | | 428 | 3008 | 911 | 660 | 1166 | 1082 |
| V/C Ratio(X) | | | | | | | 0.75 | 0.46 | 0.17 | 1.05 | 0.46 | 0.46 |
| Avail Cap(c_a), veh/h | | | | | | | 565 | 3008 | 911 | 660 | 1166 | 1082 |
| HCM Platoon Ratio | | | | | | | 2.00 | 2.00 | 2.00 | 1.67 | 1.67 | 1.67 |
| Upstream Filter(I) | | | | | | | 0.54 | 0.54 | 0.54 | 0.16 | 0.16 | 0.16 |
| Uniform Delay (d), s/veh | | | | | | | 19.9 | 0.0 | 0.0 | 18.7 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | | | | | | | 1.3 | 0.3 | 0.2 | 29.1 | 0.2 | 0.2 |
| Initial Q Delay(d3),s/veh | | | | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | | | | | 1.6 | 0.1 | 0.1 | 5.6 | 0.1 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | | | | 21.2 | 0.3 | 0.2 | 47.8 | 0.2 | 0.2 |
| LnGrp LOS | | | | | | | C | A | A | F | A | A |
| Approach Vol, veh/h | | | | | | | | 1852 | | | 1723 | |
| Approach Delay, s/veh | | | | | | | | 3.9 | | | 19.3 | |
| Approach LOS | | | | | | | | A | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 5 | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 16.2 | 38.8 | | 12.5 | 42.5 |
| Change Period (Y+Rc), s | * 5.7 | 6.4 | | * 5.7 | 6.4 |
| Max Green Setting (Gmax), s | * 11 | 32.4 | | * 9 | 33.9 |
| Max Q Clear Time (g_c+I1), s | 12.5 | 2.0 | | 6.7 | 2.0 |
| Green Ext Time (p_c), s | 0.0 | 13.4 | | 0.2 | 7.3 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 11.3 | |
| HCM 6th LOS | B | |

Notes

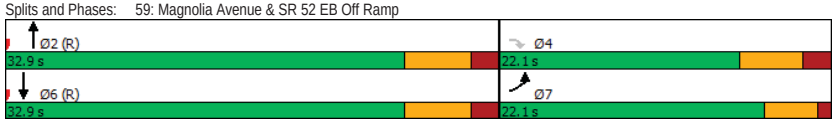
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\7 Existing + Cuml + Proj AM.syn

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 225 | 216 | 0 | 1487 | 645 | 0 |
| Future Volume (vph) | 225 | 216 | 0 | 1487 | 645 | 0 |
| Confl. Peds. (#/hr) | | | | | | |
| Confl. Bikes (#/hr) | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | | NA | NA | |
| Protected Phases | 7 | | | 2 | 6 | |
| Permitted Phases | | 4 | | | | |
| Detector Phase | 7 | 4 | | 2 | 6 | |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 5.0 | | 5.0 | 5.0 | |
| Minimum Split (s) | 8.5 | 22.1 | | 22.4 | 27.4 | |
| Total Split (s) | 22.1 | 22.1 | | 32.9 | 32.9 | |
| Total Split (%) | 40.2% | 40.2% | | 59.8% | 59.8% | |
| Yellow Time (s) | 3.5 | 4.1 | | 4.4 | 4.4 | |
| All-Red Time (s) | 1.0 | 2.0 | | 2.0 | 2.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 6.1 | | 6.4 | 6.4 | |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | None | None | | C-Max | C-Max | |

| Intersection Summary |
|---|
| Cycle Length: 55 |
| Actuated Cycle Length: 55 |
| Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green |
| Natural Cycle: 60 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 59: Magnolia Avenue & SR 52 EB Off Ramp






Existing + Cuml + Proj AM
59: Magnolia Avenue & SR 52 EB Off Ramp
Fanita Ranch
06/06/2019

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 225 | 216 | 0 | 1487 | 645 | 0 |
| Future Volume (veh/h) | 225 | 216 | 0 | 1487 | 645 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 0 | 1870 | 1870 | 0 |
| Adj Flow Rate, veh/h | 245 | 235 | 0 | 1616 | 701 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 0 | 2 | 2 | 0 |
| Cap, veh/h | 348 | 310 | 0 | 2155 | 2155 | 0 |
| Arrive On Green | 0.20 | 0.20 | 0.00 | 0.61 | 1.00 | 0.00 |
| Sat Flow, veh/h | 1781 | 1585 | 0 | 3741 | 3741 | 0 |
| Grp Volume(v), veh/h | 245 | 235 | 0 | 1616 | 701 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 0 | 1777 | 1777 | 0 |
| Q Serve(g_s), s | 7.1 | 7.7 | 0.0 | 18.0 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 7.1 | 7.7 | 0.0 | 18.0 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | 1.00 | 0.00 | | | 0.00 |
| Lane Grp Cap(c), veh/h | 348 | 310 | 0 | 2155 | 2155 | 0 |
| V/C Ratio(X) | 0.70 | 0.76 | 0.00 | 0.75 | 0.33 | 0.00 |
| Avail Cap(c_a), veh/h | 570 | 507 | 0 | 2155 | 2155 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 2.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.63 | 0.87 | 0.00 |
| Uniform Delay (d), s/veh | 20.6 | 20.9 | 0.0 | 7.8 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 2.6 | 3.8 | 0.0 | 1.6 | 0.3 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.9 | 2.9 | 0.0 | 4.1 | 0.1 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 23.3 | 24.7 | 0.0 | 9.4 | 0.3 | 0.0 |
| LnGrp LOS | C | C | A | A | A | A |
| Approach Vol, veh/h | 480 | | | 1616 | 701 | |
| Approach Delay, s/veh | 24.0 | | | 9.4 | 0.3 | |
| Approach LOS | C | | | A | A | |

| Timer - Assigned Phs | 2 | 4 | 6 |
|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 39.8 | 15.2 | 39.8 |
| Change Period (Y+Rc), s | 6.4 | 4.5 | 6.4 |
| Max Green Setting (Gmax), s | 26.5 | 17.6 | 26.5 |
| Max Q Clear Time (g_c+I1), s | 20.0 | 9.7 | 2.0 |
| Green Ext Time (p_c), s | 4.9 | 1.0 | 4.5 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 9.6 | |
| HCM 6th LOS | A | |

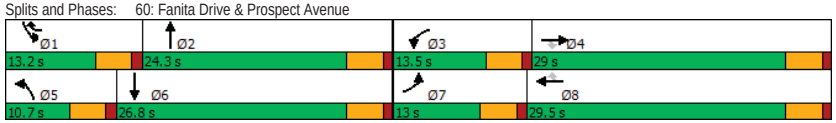
Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\7 Existing + Cuml + Proj AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 149 | 58 | 53 | 74 | 170 | 270 | 71 | 330 | 63 | 158 | 162 | 95 |
| Future Volume (vph) | 149 | 58 | 53 | 74 | 170 | 270 | 71 | 330 | 63 | 158 | 162 | 95 |
| Confl. Peds. (#/hr) | | | 5 | | | 3 | | | 4 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | 1 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | pm+ov | Prot | NA | | Prot | NA | |
| Protected Phases | 7 | 4 | | 3 | 8 | 1 | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | | | | |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | 1 | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | 8.5 | 24.5 | 24.5 | 8.5 | 29.5 | 8.5 | 8.5 | 22.5 | | 8.5 | 24.5 | |
| Total Split (s) | 13.0 | 29.0 | 29.0 | 13.5 | 29.5 | 13.2 | 10.7 | 24.3 | | 13.2 | 26.8 | |
| Total Split (%) | 16.3% | 36.3% | 36.3% | 16.9% | 36.9% | 16.5% | 13.4% | 30.4% | | 16.5% | 33.5% | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | None | None | None | None | None | Min | | None | Min | |

**Intersection Summary**

Cycle Length: 80
Actuated Cycle Length: 68
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 60: Fanita Drive & Prospect Avenue






Existing + Cuml + Proj AM
60: Fanita Drive & Prospect Avenue
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 149 | 58 | 53 | 74 | 170 | 270 | 71 | 330 | 63 | 158 | 162 | 95 |
| Future Volume (veh/h) | 149 | 58 | 53 | 74 | 170 | 270 | 71 | 330 | 63 | 158 | 162 | 95 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 162 | 63 | 58 | 80 | 185 | 293 | 77 | 359 | 68 | 172 | 176 | 103 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 202 | 519 | 437 | 103 | 415 | 535 | 99 | 408 | 77 | 213 | 732 | 407 |
| Arrive On Green | 0.11 | 0.28 | 0.28 | 0.06 | 0.22 | 0.22 | 0.06 | 0.27 | 0.27 | 0.12 | 0.33 | 0.33 |
| Sat Flow, veh/h | 1781 | 1870 | 1576 | 1781 | 1870 | 1558 | 1781 | 1520 | 288 | 1781 | 2199 | 1223 |
| Grp Volume(v), veh/h | 162 | 63 | 58 | 80 | 185 | 293 | 77 | 0 | 427 | 172 | 140 | 139 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1576 | 1781 | 1870 | 1558 | 1781 | 0 | 1808 | 1781 | 1777 | 1646 |
| Q Serve(g_s), s | 5.8 | 1.6 | 1.8 | 2.9 | 5.6 | 9.9 | 2.8 | 0.0 | 14.7 | 6.1 | 3.7 | 4.0 |
| Cycle Q Clear(g_c), s | 5.8 | 1.6 | 1.8 | 2.9 | 5.6 | 9.9 | 2.8 | 0.0 | 14.7 | 6.1 | 3.7 | 4.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.16 | 1.00 | | 0.74 |
| Lane Grp Cap(c), veh/h | 202 | 519 | 437 | 103 | 415 | 535 | 99 | 0 | 486 | 213 | 591 | 548 |
| V/C Ratio(X) | 0.80 | 0.12 | 0.13 | 0.78 | 0.45 | 0.55 | 0.78 | 0.00 | 0.88 | 0.81 | 0.24 | 0.25 |
| Avail Cap(c_a), veh/h | 233 | 704 | 593 | 246 | 718 | 788 | 170 | 0 | 550 | 238 | 609 | 564 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 28.1 | 17.6 | 17.6 | 30.3 | 21.9 | 17.4 | 30.4 | 0.0 | 22.8 | 27.9 | 15.7 | 15.8 |
| Incr Delay (d2), s/veh | 16.0 | 0.1 | 0.1 | 11.6 | 0.8 | 0.9 | 12.5 | 0.0 | 13.9 | 16.8 | 0.2 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 3.2 | 0.7 | 0.6 | 1.5 | 2.3 | 3.3 | 1.4 | 0.0 | 7.4 | 3.4 | 1.4 | 1.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 44.1 | 17.7 | 17.8 | 41.9 | 22.6 | 18.3 | 42.8 | 0.0 | 36.7 | 44.7 | 15.9 | 16.1 |
| LnGrp LOS | D | B | B | D | C | B | D | A | D | D | B | B |
| Approach Vol, veh/h | | 283 | | | 558 | | | 504 | | | 451 | |
| Approach Delay, s/veh | | 32.9 | | | 23.1 | | | 37.7 | | | 26.9 | |
| Approach LOS | | C | | | C | | | D | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 12.3 | 22.0 | 8.3 | 22.6 | 8.1 | 26.2 | 11.9 | 18.9 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 8.7 | 19.8 | 9.0 | 24.5 | 6.2 | 22.3 | 8.5 | 25.0 |
| Max Q Clear Time (g_c+I1), s | 8.1 | 16.7 | 4.9 | 3.8 | 4.8 | 6.0 | 7.8 | 11.9 |
| Green Ext Time (p_c), s | 0.0 | 0.7 | 0.0 | 0.4 | 0.0 | 1.3 | 0.0 | 1.7 |

**Intersection Summary**

| | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 29.7 | |
| HCM 6th LOS | | C | |

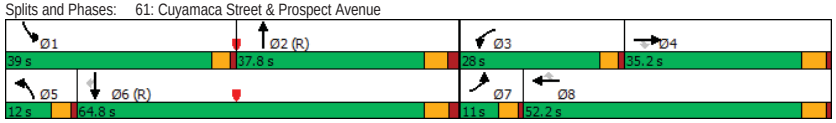
Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\7 Existing + Cuml + Proj AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 28 | 54 | 51 | 171 | 55 | 301 | 32 | 592 | 67 | 240 | 960 | 95 |
| Future Volume (vph) | 28 | 54 | 51 | 171 | 55 | 301 | 32 | 592 | 67 | 240 | 960 | 95 |
| Confl. Peds. (#/hr) | | | 20 | | | 8 | | | 8 | | | 4 |
| Confl. Bikes (#/hr) | | | 1 | | | 4 | | | 4 | | | 7 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | | | | 6 |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | 8 | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 7.0 | 7.0 | 4.0 | 7.0 | 7.0 | 4.0 | 10.0 | | 4.0 | 10.0 | 10.0 |
| Minimum Split (s) | 8.2 | 35.2 | 35.2 | 8.2 | 36.2 | 36.2 | 8.2 | 33.0 | | 8.2 | 31.0 | 31.0 |
| Total Split (s) | 11.0 | 35.2 | 35.2 | 28.0 | 52.2 | 52.2 | 12.0 | 37.8 | | 39.0 | 64.8 | 64.8 |
| Total Split (%) | 7.9% | 25.1% | 25.1% | 20.0% | 37.3% | 37.3% | 8.6% | 27.0% | | 27.9% | 46.3% | 46.3% |
| Yellow Time (s) | 3.2 | 4.2 | 4.2 | 3.2 | 4.2 | 4.2 | 3.2 | 4.0 | | 3.2 | 4.1 | 4.1 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 2.0 | | 1.0 | 1.9 | 1.9 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.2 | 5.2 | 4.2 | 5.2 | 5.2 | 4.2 | 6.0 | | 4.2 | 6.0 | 6.0 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | None | None | C-Min | | None | C-Min | C-Min |

**Intersection Summary**

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 26 (19%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 61: Cuyamaca Street & Prospect Avenue






Existing + Cuml + Proj AM
61: Cuyamaca Street & Prospect Avenue
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 28 | 54 | 51 | 171 | 55 | 301 | 32 | 592 | 67 | 240 | 960 | 95 |
| Future Volume (veh/h) | 28 | 54 | 51 | 171 | 55 | 301 | 32 | 592 | 67 | 240 | 960 | 95 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.94 | 1.00 | | 0.97 | 1.00 | | 0.97 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 30 | 59 | 55 | 186 | 60 | 327 | 35 | 643 | 73 | 261 | 1043 | 103 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 38 | 246 | 196 | 210 | 811 | 352 | 45 | 2098 | 235 | 282 | 2079 | 912 |
| Arrive On Green | 0.02 | 0.13 | 0.13 | 0.12 | 0.23 | 0.23 | 0.03 | 0.45 | 0.45 | 0.32 | 1.00 | 1.00 |
| Sat Flow, veh/h | 1781 | 1870 | 1493 | 1781 | 3554 | 1544 | 1781 | 4640 | 521 | 1781 | 3554 | 1559 |
| Grp Volume(v), veh/h | 30 | 59 | 55 | 186 | 60 | 327 | 35 | 470 | 246 | 261 | 1043 | 103 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1493 | 1781 | 1777 | 1544 | 1781 | 1702 | 1756 | 1781 | 1777 | 1559 |
| Q Serve(g_s), s | 2.3 | 4.0 | 4.7 | 14.4 | 1.9 | 29.0 | 2.7 | 12.3 | 12.5 | 19.8 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 2.3 | 4.0 | 4.7 | 14.4 | 1.9 | 29.0 | 2.7 | 12.3 | 12.5 | 19.8 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.30 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 38 | 246 | 196 | 210 | 811 | 352 | 45 | 1539 | 794 | 282 | 2079 | 912 |
| V/C Ratio(X) | 0.79 | 0.24 | 0.28 | 0.88 | 0.07 | 0.93 | 0.78 | 0.31 | 0.31 | 0.93 | 0.50 | 0.11 |
| Avail Cap(c_a), veh/h | 87 | 401 | 320 | 303 | 1193 | 518 | 99 | 1539 | 794 | 443 | 2079 | 912 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 2.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 0.92 | 0.92 | 0.92 | 1.00 | 1.00 | 1.00 | 0.72 | 0.72 | 0.72 |
| Uniform Delay (d), s/veh | 68.2 | 54.5 | 54.8 | 60.8 | 42.4 | 52.9 | 67.9 | 24.4 | 24.4 | 47.1 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 12.4 | 0.5 | 0.8 | 13.8 | 0.0 | 14.9 | 10.4 | 0.5 | 1.0 | 10.7 | 0.6 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.2 | 1.9 | 1.8 | 7.3 | 0.8 | 12.6 | 1.4 | 5.1 | 5.4 | 8.4 | 0.2 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 80.6 | 55.0 | 55.6 | 74.6 | 42.4 | 67.8 | 78.2 | 24.9 | 25.4 | 57.8 | 0.6 | 0.2 |
| LnGrp LOS | F | E | E | E | D | E | E | C | C | E | A | A |
| Approach Vol, veh/h | | 144 | | | 573 | | | 751 | | | 1407 | |
| Approach Delay, s/veh | | 60.6 | | | 67.4 | | | 27.6 | | | 11.2 | |
| Approach LOS | | E | | | E | | | C | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 26.3 | 69.3 | 20.7 | 23.6 | 7.7 | 87.9 | 7.2 | 37.2 |
| Change Period (Y+Rc), s | * 4.2 | 6.0 | * 4.2 | 5.2 | * 4.2 | * 6 | * 4.2 | 5.2 |
| Max Green Setting (Gmax), s | * 35 | 31.8 | * 24 | 30.0 | * 7.8 | * 59 | * 6.8 | 47.0 |
| Max Q Clear Time (g_c+I1), s | 21.8 | 14.5 | 16.4 | 6.7 | 4.7 | 2.0 | 4.3 | 31.0 |
| Green Ext Time (p_c), s | 0.3 | 5.9 | 0.1 | 0.5 | 0.0 | 15.6 | 0.0 | 0.9 |

**Intersection Summary**

| | |
|---|---|
| HCM 6th Ctrl Delay | 29.1 |
| HCM 6th LOS | C |

**Notes**

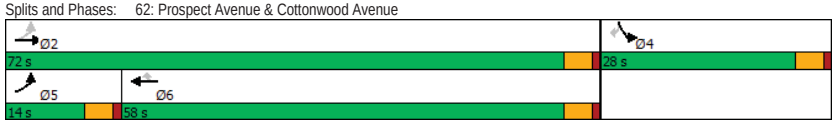
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\7 Existing + Cuml + Proj AM.syn

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 60 | 175 | 410 | 104 | 63 | 116 |
| Future Volume (vph) | 60 | 175 | 410 | 104 | 63 | 116 |
| Confl. Peds. (#/hr) | | | | 3 | | 6 |
| Confl. Bikes (#/hr) | | | | 1 | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | pm+pt | NA | NA | Perm | Prot | Perm |
| Protected Phases | 5 | 2 | 6 | | 4 | |
| Permitted Phases | 2 | | | 6 | | 4 |
| Detector Phase | 5 | 2 | 6 | 6 | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 |
| Total Split (s) | 14.0 | 72.0 | 58.0 | 58.0 | 28.0 | 28.0 |
| Total Split (%) | 14.0% | 72.0% | 58.0% | 58.0% | 28.0% | 28.0% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | | Lag | Lag | | |
| Lead-Lag Optimize? | Yes | | Yes | Yes | | |
| Recall Mode | None | Min | Min | Min | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 44.9 |
| Natural Cycle: 55 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 62: Prospect Avenue & Cottonwood Avenue








| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 60 | 175 | 410 | 104 | 63 | 116 |
| Future Volume (veh/h) | 60 | 175 | 410 | 104 | 63 | 116 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 0.98 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 65 | 190 | 446 | 113 | 68 | 126 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 487 | 1081 | 702 | 580 | 227 | 202 |
| Arrive On Green | 0.06 | 0.58 | 0.38 | 0.38 | 0.13 | 0.13 |
| Sat Flow, veh/h | 1781 | 1870 | 1870 | 1546 | 1781 | 1585 |
| Grp Volume(v), veh/h | 65 | 190 | 446 | 113 | 68 | 126 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1870 | 1546 | 1781 | 1585 |
| Q Serve(g_s), s | 0.6 | 1.5 | 6.0 | 1.5 | 1.1 | 2.3 |
| Cycle Q Clear(g_c), s | 0.6 | 1.5 | 6.0 | 1.5 | 1.1 | 2.3 |
| Prop In Lane | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 487 | 1081 | 702 | 580 | 227 | 202 |
| V/C Ratio(X) | 0.13 | 0.18 | 0.64 | 0.19 | 0.30 | 0.62 |
| Avail Cap(c_a), veh/h | 942 | 4131 | 3274 | 2706 | 1370 | 1219 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 5.2 | 3.0 | 7.8 | 6.4 | 12.1 | 12.6 |
| Incr Delay (d2), s/veh | 0.1 | 0.1 | 1.0 | 0.2 | 0.7 | 3.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.1 | 0.1 | 1.5 | 0.3 | 0.4 | 2.2 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 5.3 | 3.1 | 8.8 | 6.6 | 12.8 | 15.7 |
| LnGrp LOS | A | A | A | A | B | B |
| Approach Vol, veh/h | | 255 | 559 | | 194 | |
| Approach Delay, s/veh | | 3.7 | 8.4 | | 14.7 | |
| Approach LOS | | A | A | | B | |

| Timer - Assigned Phs | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 22.2 | | 8.4 | 6.2 | 16.0 |
| Change Period (Y+Rc), s | 4.5 | | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 67.5 | | 23.5 | 9.5 | 53.5 |
| Max Q Clear Time (g_c+I1), s | 3.5 | | 4.3 | 2.6 | 8.0 |
| Green Ext Time (p_c), s | 1.1 | | 0.5 | 0.1 | 3.4 |

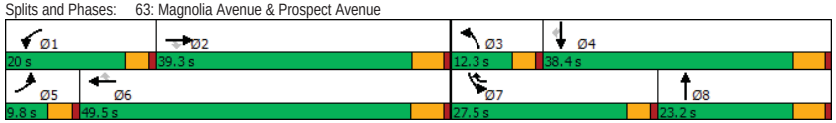
| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 8.4 |
| HCM 6th LOS | A |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 66 | 96 | 70 | 150 | 417 | 1235 | 29 | 186 | 42 | 360 | 387 | 113 |
| Future Volume (vph) | 66 | 96 | 70 | 150 | 417 | 1235 | 29 | 186 | 42 | 360 | 387 | 113 |
| Confl. Peds. (#/hr) | | | 1 | | | 1 | | | 2 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | pm+ov | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | 4.0 | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 39.3 | 39.3 | 8.2 | 37.4 | 8.2 | 8.2 | 23.2 | | 8.2 | 36.2 | 36.2 |
| Total Split (s) | 9.8 | 39.3 | 39.3 | 20.0 | 49.5 | 27.5 | 12.3 | 23.2 | | 27.5 | 38.4 | 38.4 |
| Total Split (%) | 8.9% | 35.7% | 35.7% | 18.2% | 45.0% | 25.0% | 11.2% | 21.1% | | 25.0% | 34.9% | 34.9% |
| Yellow Time (s) | 3.2 | 4.3 | 4.3 | 3.2 | 4.4 | 3.2 | 3.2 | 4.2 | | 3.2 | 4.2 | 4.2 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | 5.3 | 4.2 | 5.4 | 4.2 | 4.2 | 5.2 | | 4.2 | 5.2 | 5.2 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | Min | Min | None | Min | None | None | None | | None | None | None |

**Intersection Summary**

Cycle Length: 110
Actuated Cycle Length: 76.6
Natural Cycle: 95
Control Type: Actuated-Uncoordinated

Splits and Phases: 63: Magnolia Avenue & Prospect Avenue








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 66 | 96 | 70 | 150 | 417 | 1235 | 29 | 186 | 42 | 360 | 387 | 113 |
| Future Volume (veh/h) | 66 | 96 | 70 | 150 | 417 | 1235 | 29 | 186 | 42 | 360 | 387 | 113 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.98 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 72 | 104 | 76 | 163 | 453 | 1342 | 32 | 202 | 46 | 391 | 421 | 123 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 137 | 748 | 633 | 202 | 1684 | 1732 | 45 | 304 | 68 | 509 | 809 | 356 |
| Arrive On Green | 0.04 | 0.40 | 0.40 | 0.11 | 0.47 | 0.47 | 0.03 | 0.11 | 0.11 | 0.15 | 0.23 | 0.23 |
| Sat Flow, veh/h | 3456 | 1870 | 1584 | 1781 | 3554 | 2787 | 1781 | 2877 | 640 | 3456 | 3554 | 1563 |
| Grp Volume(v), veh/h | 72 | 104 | 76 | 163 | 453 | 1342 | 32 | 123 | 125 | 391 | 421 | 123 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1870 | 1584 | 1781 | 1777 | 1393 | 1781 | 1777 | 1740 | 1728 | 1777 | 1563 |
| Q Serve(g_s), s | 1.7 | 2.9 | 2.5 | 7.3 | 6.3 | 28.6 | 1.5 | 5.4 | 5.6 | 8.8 | 8.4 | 5.4 |
| Cycle Q Clear(g_c), s | 1.7 | 2.9 | 2.5 | 7.3 | 6.3 | 28.6 | 1.5 | 5.4 | 5.6 | 8.8 | 8.4 | 5.4 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.37 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 137 | 748 | 633 | 202 | 1684 | 1732 | 45 | 188 | 184 | 509 | 809 | 356 |
| V/C Ratio(X) | 0.53 | 0.14 | 0.12 | 0.81 | 0.27 | 0.77 | 0.71 | 0.65 | 0.68 | 0.77 | 0.52 | 0.35 |
| Avail Cap(c_a), veh/h | 238 | 782 | 662 | 346 | 1927 | 1922 | 177 | 393 | 385 | 990 | 1451 | 638 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 38.3 | 15.5 | 15.4 | 35.2 | 12.9 | 11.3 | 39.3 | 34.9 | 35.1 | 33.3 | 27.5 | 26.3 |
| Incr Delay (d2), s/veh | 3.1 | 0.1 | 0.1 | 7.3 | 0.1 | 1.9 | 18.5 | 3.8 | 4.4 | 2.5 | 0.5 | 0.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.8 | 1.2 | 0.9 | 3.5 | 2.4 | 7.8 | 0.9 | 2.5 | 2.6 | 3.8 | 3.5 | 2.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 41.4 | 15.6 | 15.5 | 42.5 | 13.0 | 13.1 | 57.8 | 38.8 | 39.4 | 35.8 | 28.0 | 26.9 |
| LnGrp LOS | D | B | B | D | B | B | E | D | D | D | C | C |
| Approach Vol, veh/h | | 252 | | | 1958 | | | 280 | | | 935 | |
| Approach Delay, s/veh | | 22.9 | | | 15.5 | | | 41.2 | | | 31.1 | |
| Approach LOS | | C | | | B | | | D | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 13.4 | 37.9 | 6.3 | 23.7 | 7.4 | 43.9 | 16.2 | 13.8 |
| Change Period (Y+Rc), s | * 4.2 | * 5.4 | * 4.2 | 5.2 | * 4.2 | 5.4 | * 4.2 | 5.2 |
| Max Green Setting (Gmax), s | * 16 | * 34 | * 8.1 | 33.2 | * 5.6 | 44.1 | * 23 | 18.0 |
| Max Q Clear Time (g_c+I1), s | 9.3 | 4.9 | 3.5 | 10.4 | 3.7 | 30.6 | 10.8 | 7.6 |
| Green Ext Time (p_c), s | 0.2 | 0.8 | 0.0 | 3.2 | 0.0 | 7.9 | 1.1 | 1.0 |

**Intersection Summary**

| | | |
|---|---|---|
| HCM 6th Ctrl Delay | 22.4 | |
| HCM 6th LOS | C | |

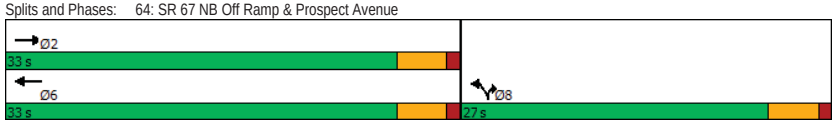
**Notes**

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 498 | 0 | 0 | 1001 | 800 | 47 |
| Future Volume (vph) | 498 | 0 | 0 | 1001 | 800 | 47 |
| Confl. Peds. (#/hr) | | | | | | |
| Confl. Bikes (#/hr) | | 1 | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | NA | | | NA | Prot | Prot |
| Protected Phases | 2 | | | 6 | 8 | 8 |
| Permitted Phases | | | | | | |
| Detector Phase | 2 | | | 6 | 8 | 8 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 5.0 | | | 10.0 | 5.0 | 5.0 |
| Minimum Split (s) | 20.6 | | | 20.6 | 20.6 | 20.6 |
| Total Split (s) | 33.0 | | | 33.0 | 27.0 | 27.0 |
| Total Split (%) | 55.0% | | | 55.0% | 45.0% | 45.0% |
| Yellow Time (s) | 3.6 | | | 3.6 | 3.6 | 3.6 |
| All-Red Time (s) | 1.0 | | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.6 | | | 4.6 | 4.6 | 4.6 |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | Min | | | Min | None | None |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 48.8 |
| Natural Cycle: 45 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 64: SR 67 NB Off Ramp & Prospect Avenue






Existing + Cuml + Proj AM
64: SR 67 NB Off Ramp & Prospect Avenue
Fanita Ranch
06/06/2019

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 498 | 0 | 0 | 1001 | 800 | 47 |
| Future Volume (veh/h) | 498 | 0 | 0 | 1001 | 800 | 47 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | 1.00 | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 0 | 0 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 541 | 0 | 0 | 1088 | 870 | 51 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 0 | 0 | 2 | 2 | 2 |
| Cap, veh/h | 1629 | 0 | 0 | 1629 | 1100 | 505 |
| Arrive On Green | 0.46 | 0.00 | 0.00 | 0.46 | 0.32 | 0.32 |
| Sat Flow, veh/h | 3741 | 0 | 0 | 3741 | 3456 | 1585 |
| Grp Volume(v), veh/h | 541 | 0 | 0 | 1088 | 870 | 51 |
| Grp Sat Flow(s),veh/h/ln | 1777 | 0 | 0 | 1777 | 1728 | 1585 |
| Q Serve(g_s), s | 4.0 | 0.0 | 0.0 | 9.9 | 9.5 | 0.9 |
| Cycle Q Clear(g_c), s | 4.0 | 0.0 | 0.0 | 9.9 | 9.5 | 0.9 |
| Prop In Lane | | 0.00 | 0.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 1629 | 0 | 0 | 1629 | 1100 | 505 |
| V/C Ratio(X) | 0.33 | 0.00 | 0.00 | 0.67 | 0.79 | 0.10 |
| Avail Cap(c_a), veh/h | 2448 | 0 | 0 | 2448 | 1877 | 861 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 7.1 | 0.0 | 0.0 | 8.7 | 12.8 | 9.9 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 0.0 | 0.5 | 0.5 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.0 | 0.0 | 0.0 | 2.5 | 2.9 | 0.3 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 7.2 | 0.0 | 0.0 | 9.2 | 13.3 | 9.9 |
| LnGrp LOS | A | A | A | A | B | A |
| Approach Vol, veh/h | 541 | | | 1088 | 921 | |
| Approach Delay, s/veh | 7.2 | | | 9.2 | 13.1 | |
| Approach LOS | A | | | A | B | |

| Timer - Assigned Phs | 2 | | | 6 | 8 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 23.5 | | | 23.5 | 17.7 |
| Change Period (Y+Rc), s | 4.6 | | | 4.6 | 4.6 |
| Max Green Setting (Gmax), s | 28.4 | | | 28.4 | 22.4 |
| Max Q Clear Time (g_c+I1), s | 6.0 | | | 11.9 | 11.5 |
| Green Ext Time (p_c), s | 2.3 | | | 7.1 | 1.7 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 10.2 | |
| HCM 6th LOS | B | |

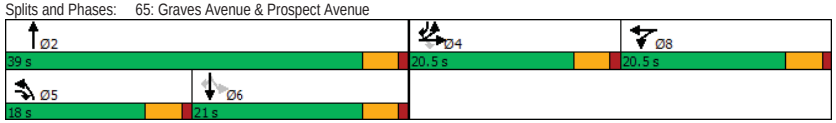
Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\7 Existing + Cuml + Proj AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 149 | 16 | 379 | 3 | 10 | 1 | 633 | 21 | 6 | 1 | 67 | 357 |
| Future Volume (vph) | 149 | 16 | 379 | 3 | 10 | 1 | 633 | 21 | 6 | 1 | 67 | 357 |
| Confl. Peds. (#/hr) | | | 1 | | | 1 | | | 12 | | | |
| Confl. Bikes (#/hr) | | | 3 | | | | | | 1 | | | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | 45% | | | | | | | | | | | |
| Turn Type | Split | NA | pm+ov | Split | NA | | Prot | NA | | Perm | NA | pm+ov |
| Protected Phases | 4 | 4 | 5 | 8 | 8 | | 5 | 2 | | | 6 | 4 |
| Permitted Phases | | | 4 | | | | | | | 6 | | 6 |
| Detector Phase | 4 | 4 | 5 | 8 | 8 | | 5 | 2 | | 6 | 6 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 20.5 | 20.5 | 8.5 | 20.5 | 20.5 | | 8.5 | 20.5 | | 20.5 | 20.5 | 20.5 |
| Total Split (s) | 20.5 | 20.5 | 18.0 | 20.5 | 20.5 | | 18.0 | 39.0 | | 21.0 | 21.0 | 20.5 |
| Total Split (%) | 25.6% | 25.6% | 22.5% | 25.6% | 25.6% | | 22.5% | 48.8% | | 26.3% | 26.3% | 25.6% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | | | 4.5 | 4.5 |
| Lead/Lag | | | Lead | | | | Lead | | | Lag | Lag | |
| Lead-Lag Optimize? | | | Yes | | | | Yes | | | Yes | Yes | |
| Recall Mode | None | None | None | None | None | | None | Min | | Min | Min | None |

**Intersection Summary**

Cycle Length: 80
Actuated Cycle Length: 46.1
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

Splits and Phases: 65: Graves Avenue & Prospect Avenue






Existing + Cuml + Proj AM
65: Graves Avenue & Prospect Avenue
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 149 | 16 | 379 | 3 | 10 | 1 | 633 | 21 | 6 | 1 | 67 | 357 |
| Future Volume (veh/h) | 149 | 16 | 379 | 3 | 10 | 1 | 633 | 21 | 6 | 1 | 67 | 357 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 1.00 | 1.00 | | 0.97 | 0.97 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 174 | 0 | 412 | 3 | 11 | 1 | 688 | 23 | 7 | 1 | 73 | 388 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 850 | 0 | 720 | 30 | 28 | 3 | 768 | 713 | 217 | 61 | 421 | 731 |
| Arrive On Green | 0.24 | 0.00 | 0.24 | 0.02 | 0.02 | 0.02 | 0.22 | 0.52 | 0.52 | 0.23 | 0.23 | 0.23 |
| Sat Flow, veh/h | 3563 | 0 | 1543 | 1781 | 1688 | 153 | 3456 | 1364 | 415 | 5 | 1864 | 1561 |
| Grp Volume(v), veh/h | 174 | 0 | 412 | 3 | 0 | 12 | 688 | 0 | 30 | 74 | 0 | 388 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1543 | 1781 | 0 | 1842 | 1728 | 0 | 1779 | 1868 | 0 | 1561 |
| Q Serve(g_s), s | 2.4 | 0.0 | 11.9 | 0.1 | 0.0 | 0.4 | 11.7 | 0.0 | 0.5 | 0.0 | 0.0 | 10.8 |
| Cycle Q Clear(g_c), s | 2.4 | 0.0 | 11.9 | 0.1 | 0.0 | 0.4 | 11.7 | 0.0 | 0.5 | 1.9 | 0.0 | 10.8 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.08 | 1.00 | | 0.23 | 0.01 | | 1.00 |
| Lane Grp Cap(c), veh/h | 850 | 0 | 720 | 30 | 0 | 31 | 768 | 0 | 929 | 482 | 0 | 731 |
| V/C Ratio(X) | 0.20 | 0.00 | 0.57 | 0.10 | 0.00 | 0.39 | 0.90 | 0.00 | 0.03 | 0.15 | 0.00 | 0.53 |
| Avail Cap(c_a), veh/h | 939 | 0 | 759 | 469 | 0 | 485 | 768 | 0 | 1011 | 567 | 0 | 802 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 18.5 | 0.0 | 12.0 | 29.4 | 0.0 | 29.5 | 22.9 | 0.0 | 7.0 | 18.9 | 0.0 | 11.6 |
| Incr Delay (d2), s/veh | 0.1 | 0.0 | 0.9 | 1.4 | 0.0 | 7.7 | 13.1 | 0.0 | 0.0 | 0.1 | 0.0 | 0.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.9 | 0.0 | 3.7 | 0.1 | 0.0 | 0.2 | 5.8 | 0.0 | 0.2 | 0.8 | 0.0 | 5.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 18.6 | 0.0 | 13.0 | 30.8 | 0.0 | 37.2 | 36.0 | 0.0 | 7.1 | 19.1 | 0.0 | 12.2 |
| LnGrp LOS | B | A | B | C | A | D | D | A | A | B | A | B |
| Approach Vol, veh/h | | 586 | | | 15 | | | 718 | | | 462 | |
| Approach Delay, s/veh | | 14.7 | | | 35.9 | | | 34.8 | | | 13.3 | |
| Approach LOS | | B | | | D | | | C | | | B | |

| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 36.2 | | 19.0 | 18.0 | 18.2 | | 5.5 | | | | |
| Change Period (Y+Rc), s | | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | | 34.5 | | 16.0 | 13.5 | 16.5 | | 16.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 2.5 | | 13.9 | 13.7 | 12.8 | | 2.4 | | | | |
| Green Ext Time (p_c), s | | 0.1 | | 0.5 | 0.0 | 0.7 | | 0.0 | | | | |

**Intersection Summary**

| | | |
|---|---|---|
| HCM 6th Ctrl Delay | 22.6 | |
| HCM 6th LOS | C | |

**Notes**

User approved volume balancing among the lanes for turning movement.

Fanita Ranch
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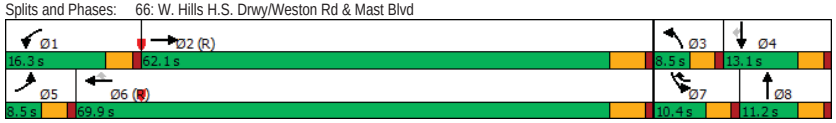
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 44 | 687 | 45 | 90 | 2189 | 23 | 16 | 2 | 80 | 94 | 8 | 173 |
| Future Volume (vph) | 44 | 687 | 45 | 90 | 2189 | 23 | 16 | 2 | 80 | 94 | 8 | 173 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | 4.0 | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.5 | 22.5 | | 8.5 | 27.3 | 8.5 | 8.5 | 11.2 | | 8.5 | 11.2 | 11.2 |
| Total Split (s) | 8.5 | 62.1 | | 16.3 | 69.9 | 10.4 | 8.5 | 11.2 | | 10.4 | 13.1 | 13.1 |
| Total Split (%) | 8.5% | 62.1% | | 16.3% | 69.9% | 10.4% | 8.5% | 11.2% | | 10.4% | 13.1% | 13.1% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | 3.2 | 3.2 | 3.2 | | 3.2 | 3.2 | 3.2 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | 4.2 | 4.2 | 4.2 | | 4.2 | 4.2 | 4.2 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | C-Min | | None | C-Min | None | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 84 (84%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 110 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 66: W. Hills H.S. Drwy/Weston Rd & Mast Blvd






Existing + Cuml + Proj AM
66: W. Hills H.S. Drwy/Weston Rd & Mast Blvd
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 44 | 687 | 45 | 90 | 2189 | 23 | 16 | 2 | 80 | 94 | 8 | 173 |
| Future Volume (veh/h) | 44 | 687 | 45 | 90 | 2189 | 23 | 16 | 2 | 80 | 94 | 8 | 173 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 48 | 747 | 49 | 98 | 2379 | 25 | 17 | 2 | 87 | 102 | 9 | 170 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 61 | 2096 | 137 | 125 | 2327 | 1136 | 27 | 3 | 109 | 110 | 219 | 185 |
| Arrive On Green | 0.07 | 1.00 | 1.00 | 0.07 | 0.65 | 0.65 | 0.02 | 0.07 | 0.07 | 0.06 | 0.12 | 0.12 |
| Sat Flow, veh/h | 1781 | 3385 | 222 | 1781 | 3554 | 1585 | 1781 | 36 | 1555 | 1781 | 1870 | 1585 |
| Grp Volume(v), veh/h | 48 | 392 | 404 | 98 | 2379 | 25 | 17 | 0 | 89 | 102 | 9 | 170 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1830 | 1781 | 1777 | 1585 | 1781 | 0 | 1591 | 1781 | 1870 | 1585 |
| Q Serve(g_s), s | 2.7 | 0.0 | 0.0 | 5.4 | 65.5 | 0.5 | 0.9 | 0.0 | 5.5 | 5.7 | 0.4 | 10.6 |
| Cycle Q Clear(g_c), s | 2.7 | 0.0 | 0.0 | 5.4 | 65.5 | 0.5 | 0.9 | 0.0 | 5.5 | 5.7 | 0.4 | 10.6 |
| Prop In Lane | 1.00 | | 0.12 | 1.00 | | 1.00 | 1.00 | | 0.98 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 61 | 1100 | 1133 | 125 | 2327 | 1136 | 27 | 0 | 111 | 110 | 219 | 185 |
| V/C Ratio(X) | 0.79 | 0.36 | 0.36 | 0.79 | 1.02 | 0.02 | 0.63 | 0.00 | 0.80 | 0.92 | 0.04 | 0.92 |
| Avail Cap(c_a), veh/h | 77 | 1100 | 1133 | 216 | 2327 | 1136 | 77 | 0 | 111 | 110 | 219 | 185 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.97 | 0.97 | 0.97 | 0.64 | 0.64 | 0.64 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 46.2 | 0.0 | 0.0 | 45.8 | 17.3 | 4.1 | 49.0 | 0.0 | 45.8 | 46.7 | 39.2 | 43.7 |
| Incr Delay (d2), s/veh | 32.6 | 0.9 | 0.9 | 6.9 | 21.0 | 0.0 | 22.1 | 0.0 | 32.5 | 61.9 | 0.1 | 43.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.7 | 0.3 | 0.3 | 2.6 | 27.9 | 0.1 | 0.6 | 0.0 | 3.2 | 4.4 | 0.2 | 6.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 78.8 | 0.9 | 0.9 | 52.6 | 38.2 | 4.1 | 71.1 | 0.0 | 78.3 | 108.6 | 39.3 | 86.9 |
| LnGrp LOS | E | A | A | D | F | A | E | A | E | F | D | F |
| Approach Vol, veh/h | | 844 | | | 2502 | | | 106 | | | 281 | |
| Approach Delay, s/veh | | 5.3 | | | 38.5 | | | 77.1 | | | 93.3 | |
| Approach LOS | | A | | | D | | | E | | | F | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 11.2 | 67.2 | 5.7 | 15.9 | 7.6 | 70.8 | 10.4 | 11.2 |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | * 4.2 | * 4.2 | * 4.2 | 5.3 | * 4.2 | * 4.2 |
| Max Green Setting (Gmax), s | * 12 | 56.8 | * 4.3 | * 8.9 | * 4.3 | 64.6 | * 6.2 | * 7 |
| Max Q Clear Time (g_c+I1), s | 7.4 | 2.0 | 2.9 | 12.6 | 4.7 | 67.5 | 7.7 | 7.5 |
| Green Ext Time (p_c), s | 0.1 | 5.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 36.2 | |
| HCM 6th LOS | D | |

| Notes |
|---|
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. |

Fanita Ranch
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| Intersection | |
|---|---|
| Int Delay, s/veh | 0.2 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 11 | 0 | 484 | 22 | 0 | 243 |
| Future Vol, veh/h | 11 | 0 | 484 | 22 | 0 | 243 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | 150 | 50 | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 12 | 0 | 526 | 24 | 0 | 264 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 790 | 526 | 0 | 0 | 550 | 0 |
| Stage 1 | 526 | - | - | - | - | - |
| Stage 2 | 264 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | - | - | 4.12 | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | - | - | 2.218 | - |
| Pot Cap-1 Maneuver | 359 | 552 | - | - | 1020 | - |
| Stage 1 | 593 | - | - | - | - | - |
| Stage 2 | 780 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | |
| Mov Cap-1 Maneuver | 359 | 552 | - | - | 1020 | - |
| Mov Cap-2 Maneuver | 359 | - | - | - | - | - |
| Stage 1 | 593 | - | - | - | - | - |
| Stage 2 | 780 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 15.4 | 0 | 0 |
| HCM LOS | C | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | SBL | SBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 359 | 1020 | - |
| HCM Lane V/C Ratio | - | - | 0.033 | - | - |
| HCM Control Delay (s) | - | - | 15.4 | 0 | - |
| HCM Lane LOS | - | - | C | A | - |
| HCM 95th %tile Q(veh) | - | - | 0.1 | 0 | - |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 12.4 |
| Intersection LOS | B |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 1 | 3 | 24 | 20 | 8 | 3 | 61 | 404 | 35 | 0 | 212 | 2 |
| Future Vol, veh/h | 1 | 3 | 24 | 20 | 8 | 3 | 61 | 404 | 35 | 0 | 212 | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 1 | 3 | 26 | 22 | 9 | 3 | 66 | 439 | 38 | 0 | 230 | 2 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 3 | 3 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 3 | 3 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 3 | 3 | 1 | 1 |
| HCM Control Delay | 8.8 | 9.8 | 13.5 | 10.5 |
| HCM LOS | A | A | B | B |

| Lane | NBLn1 | NBLn2 | NBLn3 | EBLn1 | WBLn1 | SBLn1 | SBLn2 | SBLn3 |
|---|---|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 4% | 65% | 0% | 0% | 0% |
| Vol Thru, % | 0% | 100% | 0% | 11% | 26% | 100% | 100% | 0% |
| Vol Right, % | 0% | 0% | 100% | 86% | 10% | 0% | 0% | 100% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 61 | 404 | 35 | 28 | 31 | 0 | 212 | 2 |
| LT Vol | 61 | 0 | 0 | 1 | 20 | 0 | 0 | 0 |
| Through Vol | 0 | 404 | 0 | 3 | 8 | 0 | 212 | 0 |
| RT Vol | 0 | 0 | 35 | 24 | 3 | 0 | 0 | 2 |
| Lane Flow Rate | 66 | 439 | 38 | 30 | 34 | 0 | 230 | 2 |
| Geometry Grp | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| Degree of Util (X) | 0.1 | 0.6 | 0.045 | 0.049 | 0.061 | 0 | 0.332 | 0.003 |
| Departure Headway (Hd) | 5.424 | 4.922 | 4.219 | 5.738 | 6.565 | 5.186 | 5.186 | 4.484 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 661 | 733 | 848 | 621 | 544 | 0 | 691 | 796 |
| Service Time | 3.156 | 2.654 | 1.951 | 3.504 | 4.331 | 2.927 | 2.927 | 2.224 |
| HCM Lane V/C Ratio | 0.1 | 0.599 | 0.045 | 0.048 | 0.063 | 0 | 0.333 | 0.003 |
| HCM Control Delay | 8.8 | 14.8 | 7.2 | 8.8 | 9.8 | 7.9 | 10.5 | 7.2 |
| HCM Lane LOS | A | B | A | A | A | N | B | A |
| HCM 95th-tile Q | 0.3 | 4 | 0.1 | 0.2 | 0.2 | 0 | 1.5 | 0 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 4 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 15 | 63 | 0 | 1 | 23 | 785 | 103 | 1 | 395 | 0 |
| Future Vol, veh/h | 0 | 0 | 15 | 63 | 0 | 1 | 23 | 785 | 103 | 1 | 395 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 16 | 68 | 0 | 1 | 25 | 853 | 112 | 1 | 429 | 0 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1391 | 1447 | 429 | 1399 | 1391 | 910 | 429 | 0 | 0 | 966 | 0 | 0 |
| Stage 1 | 431 | 431 | - | 960 | 960 | - | - | - | - | - | - | - |
| Stage 2 | 960 | 1016 | - | 439 | 431 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | 4.12 | - | - | 4.12 | - | - |
| Critical Hdwy Stg 1 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | 2.218 | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 120 | 131 | 626 | 118 | 142 | 333 | 1130 | - | - | 713 | - | - |
| Stage 1 | 603 | 583 | - | 308 | 335 | - | - | - | - | - | - | - |
| Stage 2 | 308 | 315 | - | 597 | 583 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 115 | 124 | 626 | 110 | 135 | 333 | 1130 | - | - | 712 | - | - |
| Mov Cap-2 Maneuver | 115 | 124 | - | 110 | 135 | - | - | - | - | - | - | - |
| Stage 1 | 573 | 582 | - | 293 | 318 | - | - | - | - | - | - | - |
| Stage 2 | 292 | 299 | - | 580 | 582 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 10.9 | 80.7 | 0.2 | 0 |
| HCM LOS | B | F | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1130 | - | - | 626 | 111 | 712 | - | - |
| HCM Lane V/C Ratio | 0.022 | - | - | 0.026 | 0.627 | 0.002 | - | - |
| HCM Control Delay (s) | 8.3 | 0 | - | 10.9 | 80.7 | 10.1 | 0 | - |
| HCM Lane LOS | A | A | - | B | F | B | A | - |
| HCM 95th %tile Q(veh) | 0.1 | - | - | 0.1 | 3.1 | 0 | - | - |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 82.9 |
| Intersection LOS | F |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 1 | 7 | 111 | 2 | 11 | 7 | 540 | 238 | 3 | 268 | 2 |
| Future Vol, veh/h | 0 | 1 | 7 | 111 | 2 | 11 | 7 | 540 | 238 | 3 | 268 | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 1 | 8 | 121 | 2 | 12 | 8 | 587 | 259 | 3 | 291 | 2 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |

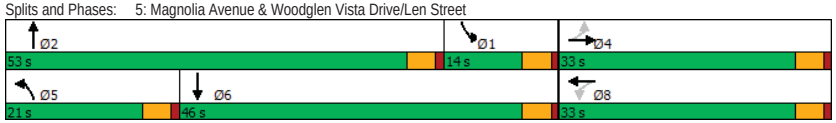
| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay | 9.8 | 12.1 | 118.9 | 13.5 |
| HCM LOS | A | B | F | B |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 90% | 100% | 0% |
| Vol Thru, % | 0% | 69% | 12% | 2% | 0% | 99% |
| Vol Right, % | 0% | 31% | 88% | 9% | 0% | 1% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 7 | 778 | 8 | 124 | 3 | 270 |
| LT Vol | 7 | 0 | 0 | 111 | 3 | 0 |
| Through Vol | 0 | 540 | 1 | 2 | 0 | 268 |
| RT Vol | 0 | 238 | 7 | 11 | 0 | 2 |
| Lane Flow Rate | 8 | 846 | 9 | 135 | 3 | 293 |
| Geometry Grp | 7 | 7 | 2 | 2 | 7 | 7 |
| Degree of Util (X) | 0.012 | 1.194 | 0.015 | 0.243 | 0.006 | 0.46 |
| Departure Headway (Hd) | 5.805 | 5.085 | 6.736 | 6.921 | 6.422 | 5.909 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 612 | 710 | 535 | 522 | 561 | 613 |
| Service Time | 3.584 | 2.864 | 4.736 | 4.921 | 4.122 | 3.609 |
| HCM Lane V/C Ratio | 0.013 | 1.192 | 0.017 | 0.259 | 0.005 | 0.478 |
| HCM Control Delay | 8.7 | 119.9 | 9.8 | 12.1 | 9.2 | 13.5 |
| HCM Lane LOS | A | F | A | B | A | B |
| HCM 95th-tile Q | 0 | 28 | 0 | 0.9 | 0 | 2.4 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 13 | 33 | 81 | 32 | 7 | 7 | 81 | 741 | 45 | 3 | 430 | 8 |
| Future Volume (vph) | 13 | 33 | 81 | 32 | 7 | 7 | 81 | 741 | 45 | 3 | 430 | 8 |
| Confl. Peds. (#/hr) | 4 | | 6 | 6 | | 4 | 8 | | | | | 8 |
| Confl. Bikes (#/hr) | | | 5 | | | 4 | | | 4 | | | 5 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Perm | NA | | Perm | NA | | Prot | NA | | Prot | NA | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 26.5 | 26.5 | | 26.5 | 26.5 | | 11.5 | 22.5 | | 11.5 | 22.5 | |
| Total Split (s) | 33.0 | 33.0 | | 33.0 | 33.0 | | 21.0 | 53.0 | | 14.0 | 46.0 | |
| Total Split (%) | 33.0% | 33.0% | | 33.0% | 33.0% | | 21.0% | 53.0% | | 14.0% | 46.0% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | | | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lead | | Lag | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 42.7 |
| Natural Cycle: 65 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 5: Magnolia Avenue & Woodglen Vista Drive/Len Street








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 13 | 33 | 81 | 32 | 7 | 7 | 81 | 741 | 45 | 3 | 430 | 8 |
| Future Volume (veh/h) | 13 | 33 | 81 | 32 | 7 | 7 | 81 | 741 | 45 | 3 | 430 | 8 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 0.99 | | 0.97 | 0.99 | | 0.97 | 1.00 | | 0.97 | 1.00 | | 0.96 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 14 | 36 | 88 | 35 | 8 | 8 | 88 | 805 | 49 | 3 | 467 | 9 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 502 | 92 | 225 | 294 | 67 | 35 | 205 | 1405 | 86 | 10 | 1085 | 21 |
| Arrive On Green | 0.19 | 0.19 | 0.19 | 0.19 | 0.19 | 0.19 | 0.11 | 0.41 | 0.41 | 0.01 | 0.30 | 0.30 |
| Sat Flow, veh/h | 1387 | 472 | 1154 | 619 | 342 | 179 | 1781 | 3395 | 207 | 1781 | 3563 | 69 |
| Grp Volume(v), veh/h | 14 | 0 | 124 | 51 | 0 | 0 | 88 | 421 | 433 | 3 | 233 | 243 |
| Grp Sat Flow(s),veh/h/ln | 1387 | 0 | 1626 | 1140 | 0 | 0 | 1781 | 1777 | 1825 | 1781 | 1777 | 1855 |
| Q Serve(g_s), s | 0.0 | 0.0 | 2.3 | 0.1 | 0.0 | 0.0 | 1.6 | 6.4 | 6.4 | 0.1 | 3.7 | 3.7 |
| Cycle Q Clear(g_c), s | 0.2 | 0.0 | 2.3 | 2.4 | 0.0 | 0.0 | 1.6 | 6.4 | 6.4 | 0.1 | 3.7 | 3.7 |
| Prop In Lane | 1.00 | | 0.71 | 0.69 | | 0.16 | 1.00 | | 0.11 | 1.00 | | 0.04 |
| Lane Grp Cap(c), veh/h | 502 | 0 | 317 | 395 | 0 | 0 | 205 | 735 | 755 | 10 | 541 | 565 |
| V/C Ratio(X) | 0.03 | 0.00 | 0.39 | 0.13 | 0.00 | 0.00 | 0.43 | 0.57 | 0.57 | 0.29 | 0.43 | 0.43 |
| Avail Cap(c_a), veh/h | 1361 | 0 | 1324 | 1243 | 0 | 0 | 840 | 2462 | 2529 | 483 | 2107 | 2199 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 11.4 | 0.0 | 12.3 | 11.7 | 0.0 | 0.0 | 14.4 | 7.9 | 7.9 | 17.3 | 9.7 | 9.7 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 0.8 | 0.1 | 0.0 | 0.0 | 1.4 | 0.7 | 0.7 | 15.0 | 0.5 | 0.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.1 | 0.0 | 0.8 | 0.3 | 0.0 | 0.0 | 0.6 | 1.4 | 1.5 | 0.1 | 1.0 | 1.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 11.5 | 0.0 | 13.1 | 11.9 | 0.0 | 0.0 | 15.8 | 8.6 | 8.6 | 32.4 | 10.3 | 10.3 |
| LnGrp LOS | B | A | B | B | A | A | B | A | A | C | B | B |
| Approach Vol, veh/h | | 138 | | | 51 | | | 942 | | | 479 | |
| Approach Delay, s/veh | | 12.9 | | | 11.9 | | | 9.3 | | | 10.4 | |
| Approach LOS | | B | | | B | | | A | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 4.7 | 19.0 | | 11.3 | 8.5 | 15.2 | | 11.3 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 9.5 | 48.5 | | 28.5 | 16.5 | 41.5 | | 28.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.1 | 8.4 | | 4.3 | 3.6 | 5.7 | | 4.4 | | | | |
| Green Ext Time (p_c), s | 0.0 | 5.8 | | 0.8 | 0.1 | 2.8 | | 0.2 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 10.0 | |
| HCM 6th LOS | A | |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 48.7 |
| Intersection LOS | F |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 1 | 1 | 5 | 102 | 8 | 3 | 13 | 789 | 109 | 3 | 392 | 0 |
| Future Vol, veh/h | 1 | 1 | 5 | 102 | 8 | 3 | 13 | 789 | 109 | 3 | 392 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 1 | 1 | 5 | 111 | 9 | 3 | 14 | 858 | 118 | 3 | 426 | 0 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay | 10.7 | 12.8 | 222.4 | 20 |
| HCM LOS | B | B | F | C |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 14% | 90% | 100% | 0% |
| Vol Thru, % | 0% | 88% | 14% | 7% | 0% | 100% |
| Vol Right, % | 0% | 12% | 71% | 3% | 0% | 0% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 13 | 898 | 7 | 113 | 3 | 392 |
| LT Vol | 13 | 0 | 1 | 102 | 3 | 0 |
| Through Vol | 0 | 789 | 1 | 8 | 0 | 392 |
| RT Vol | 0 | 109 | 5 | 3 | 0 | 0 |
| Lane Flow Rate | 14 | 976 | 8 | 123 | 3 | 426 |
| Geometry Grp | 7 | 7 | 2 | 2 | 7 | 7 |
| Degree of Util (X) | 0.023 | 1.447 | 0.014 | 0.231 | 0.006 | 0.667 |
| Departure Headway (Hd) | 5.929 | 5.338 | 7.584 | 7.581 | 6.578 | 6.069 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 600 | 683 | 475 | 477 | 547 | 601 |
| Service Time | 3.702 | 3.111 | 5.584 | 5.581 | 4.278 | 3.769 |
| HCM Lane V/C Ratio | 0.023 | 1.429 | 0.017 | 0.258 | 0.005 | 0.709 |
| HCM Control Delay | 8.8 | 225.5 | 10.7 | 12.8 | 9.3 | 20.1 |
| HCM Lane LOS | A | F | B | B | A | C |
| HCM 95th-tile Q | 0.1 | 45.2 | 0 | 0.9 | 0 | 5 |

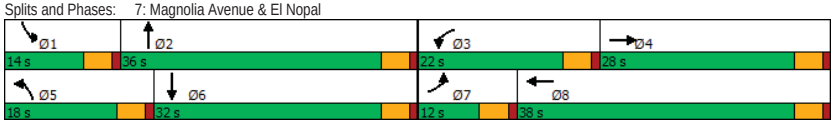




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 6 | 72 | 63 | 146 | 109 | 236 | 95 | 631 | 204 | 142 | 406 | 9 |
| Future Volume (vph) | 6 | 72 | 63 | 146 | 109 | 236 | 95 | 631 | 204 | 142 | 406 | 9 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | 1 | | | 1 | | | 3 | | | 5 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | | Prot | NA | |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 11.5 | 26.5 | | 11.5 | 25.5 | | 11.5 | 22.5 | | 11.5 | 22.5 | |
| Total Split (s) | 12.0 | 28.0 | | 22.0 | 38.0 | | 18.0 | 36.0 | | 14.0 | 32.0 | |
| Total Split (%) | 12.0% | 28.0% | | 22.0% | 38.0% | | 18.0% | 36.0% | | 14.0% | 32.0% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 78.4 |
| Natural Cycle: 80 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 7: Magnolia Avenue & El Nopal



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 6 | 72 | 63 | 146 | 109 | 236 | 95 | 631 | 204 | 142 | 406 | 9 |
| Future Volume (veh/h) | 6 | 72 | 63 | 146 | 109 | 236 | 95 | 631 | 204 | 142 | 406 | 9 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 7 | 78 | 68 | 159 | 118 | 257 | 103 | 686 | 222 | 154 | 441 | 10 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 23 | 161 | 140 | 204 | 144 | 314 | 158 | 878 | 284 | 193 | 1259 | 29 |
| Arrive On Green | 0.01 | 0.18 | 0.18 | 0.11 | 0.28 | 0.28 | 0.09 | 0.33 | 0.33 | 0.11 | 0.35 | 0.35 |
| Sat Flow, veh/h | 1781 | 916 | 798 | 1781 | 519 | 1131 | 1781 | 2622 | 848 | 1781 | 3550 | 80 |
| Grp Volume(v), veh/h | 7 | 0 | 146 | 159 | 0 | 375 | 103 | 465 | 443 | 154 | 220 | 231 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1714 | 1781 | 0 | 1650 | 1781 | 1777 | 1694 | 1781 | 1777 | 1853 |
| Q Serve(g_s), s | 0.3 | 0.0 | 5.2 | 5.9 | 0.0 | 14.4 | 3.8 | 15.9 | 15.9 | 5.7 | 6.2 | 6.2 |
| Cycle Q Clear(g_c), s | 0.3 | 0.0 | 5.2 | 5.9 | 0.0 | 14.4 | 3.8 | 15.9 | 15.9 | 5.7 | 6.2 | 6.2 |
| Prop In Lane | 1.00 | | 0.47 | 1.00 | | 0.69 | 1.00 | | 0.50 | 1.00 | | 0.04 |
| Lane Grp Cap(c), veh/h | 23 | 0 | 302 | 204 | 0 | 458 | 158 | 595 | 567 | 193 | 630 | 657 |
| V/C Ratio(X) | 0.31 | 0.00 | 0.48 | 0.78 | 0.00 | 0.82 | 0.65 | 0.78 | 0.78 | 0.80 | 0.35 | 0.35 |
| Avail Cap(c_a), veh/h | 198 | 0 | 596 | 461 | 0 | 818 | 356 | 828 | 789 | 250 | 723 | 754 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 33.1 | 0.0 | 25.1 | 29.1 | 0.0 | 22.8 | 29.8 | 20.3 | 20.3 | 29.4 | 16.1 | 16.1 |
| Incr Delay (d2), s/veh | 7.4 | 0.0 | 1.2 | 6.4 | 0.0 | 3.7 | 4.5 | 3.3 | 3.4 | 12.7 | 0.3 | 0.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.2 | 0.0 | 2.1 | 2.8 | 0.0 | 5.8 | 1.7 | 6.3 | 6.0 | 2.9 | 2.3 | 2.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 40.5 | 0.0 | 26.3 | 35.5 | 0.0 | 26.5 | 34.3 | 23.5 | 23.7 | 42.1 | 16.4 | 16.4 |
| LnGrp LOS | D | A | C | D | A | C | C | C | C | D | B | B |
| Approach Vol, veh/h | | 153 | | | 534 | | | 1011 | | | 605 | |
| Approach Delay, s/veh | | 26.9 | | | 29.2 | | | 24.7 | | | 22.9 | |
| Approach LOS | | C | | | C | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 11.8 | 27.1 | 12.2 | 16.4 | 10.5 | 28.5 | 5.4 | 23.3 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 9.5 | 31.5 | 17.5 | 23.5 | 13.5 | 27.5 | 7.5 | 33.5 |
| Max Q Clear Time (g_c+I1), s | 7.7 | 17.9 | 7.9 | 7.2 | 5.8 | 8.2 | 2.3 | 16.4 |
| Green Ext Time (p_c), s | 0.1 | 4.7 | 0.3 | 0.7 | 0.1 | 2.3 | 0.0 | 2.4 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 25.4 |
| HCM 6th LOS | C |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 38 |
| Intersection LOS | E |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 332 | 15 | 154 | 460 | 11 | 198 |
| Future Vol, veh/h | 332 | 15 | 154 | 460 | 11 | 198 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 361 | 16 | 167 | 500 | 12 | 215 |
| Number of Lanes | 1 | 1 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB |
|---|---|---|---|
| Opposing Approach | WB | EB | |
| Opposing Lanes | 1 | 2 | 0 |
| Conflicting Approach Left | | NB | EB |
| Conflicting Lanes Left | 0 | 1 | 2 |
| Conflicting Approach Right | NB | | WB |
| Conflicting Lanes Right | 1 | 0 | 1 |
| HCM Control Delay | 17.3 | 58.2 | 12.8 |
| HCM LOS | C | F | B |

| Lane | NBLn1 | EBLn1 | EBLn2 | WBLn1 |
|---|---|---|---|---|
| Vol Left, % | 5% | 0% | 0% | 25% |
| Vol Thru, % | 0% | 100% | 0% | 75% |
| Vol Right, % | 95% | 0% | 100% | 0% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 209 | 332 | 15 | 614 |
| LT Vol | 11 | 0 | 0 | 154 |
| Through Vol | 0 | 332 | 0 | 460 |
| RT Vol | 198 | 0 | 15 | 0 |
| Lane Flow Rate | 227 | 361 | 16 | 667 |
| Geometry Grp | 2 | 7 | 7 | 5 |
| Degree of Util (X) | 0.38 | 0.606 | 0.024 | 1.001 |
| Departure Headway (Hd) | 6.02 | 6.045 | 5.333 | 5.401 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 595 | 595 | 668 | 667 |
| Service Time | 4.091 | 3.804 | 3.092 | 3.45 |
| HCM Lane V/C Ratio | 0.382 | 0.607 | 0.024 | 1 |
| HCM Control Delay | 12.8 | 17.7 | 8.2 | 58.2 |
| HCM Lane LOS | B | C | A | F |
| HCM 95th-tile Q | 1.8 | 4 | 0.1 | 15.8 |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 53.4 |
| Intersection LOS | F |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 53 | 87 | 868 | 93 | 41 | 458 |
| Future Vol, veh/h | 53 | 87 | 868 | 93 | 41 | 458 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 58 | 95 | 943 | 101 | 45 | 498 |
| Number of Lanes | 1 | 0 | 1 | 0 | 0 | 1 |

| Approach | WB | NB | SB |
|---|---|---|---|
| Opposing Approach | | SB | NB |
| Opposing Lanes | 0 | 1 | 1 |
| Conflicting Approach Left | NB | | WB |
| Conflicting Lanes Left | 1 | 0 | 1 |
| Conflicting Approach Right | SB | WB | |
| Conflicting Lanes Right | 1 | 1 | 0 |
| HCM Control Delay | 13 | 238.7 | 28.6 |
| HCM LOS | B | F | D |

| Lane | NBLn1 | WBLn1 | SBLn1 |
|---|---|---|---|
| Vol Left, % | 0% | 38% | 8% |
| Vol Thru, % | 90% | 0% | 92% |
| Vol Right, % | 10% | 62% | 0% |
| Sign Control | Stop | Stop | Stop |
| Traffic Vol by Lane | 961 | 140 | 499 |
| LT Vol | 0 | 53 | 41 |
| Through Vol | 868 | 0 | 458 |
| RT Vol | 93 | 87 | 0 |
| Lane Flow Rate | 1045 | 152 | 542 |
| Geometry Grp | 1 | 1 | 1 |
| Degree of Util (X) | 1.479 | 0.273 | 0.804 |
| Departure Headway (Hd) | 5.098 | 7.273 | 5.893 |
| Convergence, Y/N | Yes | Yes | Yes |
| Cap | 710 | 498 | 618 |
| Service Time | 3.177 | 5.273 | 3.893 |
| HCM Lane V/C Ratio | 1.472 | 0.305 | 0.877 |
| HCM Control Delay | 238.7 | 13 | 28.6 |
| HCM Lane LOS | F | B | D |
| HCM 95th-tile Q | 49.4 | 1.1 | 8 |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 10.5 |
| Intersection LOS | B |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 3 | 15 | 197 | 11 | 6 | 5 | 221 | 49 | 24 | 3 | 34 | 3 |
| Future Vol, veh/h | 3 | 15 | 197 | 11 | 6 | 5 | 221 | 49 | 24 | 3 | 34 | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 3 | 16 | 214 | 12 | 7 | 5 | 240 | 53 | 26 | 3 | 37 | 3 |
| Number of Lanes | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 2 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 2 | 2 | 3 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 3 | 2 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 3 | 2 | 1 | 2 |
| HCM Control Delay | 9.7 | 9.2 | 11.4 | 9.1 |
| HCM LOS | A | A | B | A |

| Lane | NBLn1 | NBLn2 | NBLn3 | EBLn1 | EBLn2 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 17% | 0% | 50% | 100% | 0% |
| Vol Thru, % | 0% | 100% | 40% | 83% | 0% | 27% | 0% | 92% |
| Vol Right, % | 0% | 0% | 60% | 0% | 100% | 23% | 0% | 8% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 221 | 33 | 40 | 18 | 197 | 22 | 3 | 37 |
| LT Vol | 221 | 0 | 0 | 3 | 0 | 11 | 3 | 0 |
| Through Vol | 0 | 33 | 16 | 15 | 0 | 6 | 0 | 34 |
| RT Vol | 0 | 0 | 24 | 0 | 197 | 5 | 0 | 3 |
| Lane Flow Rate | 240 | 36 | 44 | 20 | 214 | 24 | 3 | 40 |
| Geometry Grp | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| Degree of Util (X) | 0.39 | 0.053 | 0.06 | 0.031 | 0.294 | 0.041 | 0.006 | 0.067 |
| Departure Headway (Hd) | 5.841 | 5.338 | 4.919 | 5.723 | 4.938 | 6.237 | 6.55 | 5.988 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 613 | 665 | 721 | 622 | 724 | 578 | 550 | 602 |
| Service Time | 3.62 | 3.117 | 2.697 | 3.487 | 2.702 | 3.937 | 4.25 | 3.688 |
| HCM Lane V/C Ratio | 0.392 | 0.054 | 0.061 | 0.032 | 0.296 | 0.042 | 0.005 | 0.066 |
| HCM Control Delay | 12.4 | 8.4 | 8 | 8.7 | 9.8 | 9.2 | 9.3 | 9.1 |
| HCM Lane LOS | B | A | A | A | A | A | A | A |
| HCM 95th-tile Q | 1.8 | 0.2 | 0.2 | 0.1 | 1.2 | 0.1 | 0 | 0.2 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 5.1 |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 9 | 34 | 36 | 32 | 0 | 15 |
| Future Vol, veh/h | 9 | 34 | 36 | 32 | 0 | 15 |
| Conflicting Peds, #/hr | 4 | 1 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | 150 | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 10 | 37 | 39 | 35 | 0 | 16 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 125 | 9 | 16 | 0 | - | 0 |
| Stage 1 | 8 | - | - | - | - | - |
| Stage 2 | 117 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | 4.12 | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | 2.218 | - | - | - |
| Pot Cap-1 Maneuver | 870 | 1073 | 1602 | - | - | - |
| Stage 1 | 1015 | - | - | - | - | - |
| Stage 2 | 908 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 849 | 1072 | 1602 | - | - | - |
| Mov Cap-2 Maneuver | 849 | - | - | - | - | - |
| Stage 1 | 991 | - | - | - | - | - |
| Stage 2 | 908 | - | - | - | - | - |

| Approach | EB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 8.7 | 3.9 | 0 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1602 | - | 1016 | - | - |
| HCM Lane V/C Ratio | 0.024 | - | 0.046 | - | - |
| HCM Control Delay (s) | 7.3 | - | 8.7 | - | - |
| HCM Lane LOS | A | - | A | - | - |
| HCM 95th %tile Q(veh) | 0.1 | - | 0.1 | - | - |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 165.2 |
| Intersection LOS | F |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 6 | 57 | 2 | 2 | 9 | 923 | 65 | 2 | 478 | 3 |
| Future Vol, veh/h | 0 | 0 | 6 | 57 | 2 | 2 | 9 | 923 | 65 | 2 | 478 | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 7 | 62 | 2 | 2 | 10 | 1003 | 71 | 2 | 520 | 3 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 3 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 3 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 3 | 2 | 1 | 1 |
| HCM Control Delay | 10.7 | 13 | 231 | 50.4 |
| HCM LOS | B | B | F | F |

| Lane | NBLn1 | NBLn2 | NBLn3 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 0% | 93% | 100% | 0% |
| Vol Thru, % | 0% | 100% | 0% | 0% | 3% | 0% | 99% |
| Vol Right, % | 0% | 0% | 100% | 100% | 3% | 0% | 1% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 9 | 923 | 65 | 6 | 61 | 2 | 481 |
| LT Vol | 9 | 0 | 0 | 0 | 57 | 2 | 0 |
| Through Vol | 0 | 923 | 0 | 0 | 2 | 0 | 478 |
| RT Vol | 0 | 0 | 65 | 6 | 2 | 0 | 3 |
| Lane Flow Rate | 10 | 1003 | 71 | 7 | 66 | 2 | 523 |
| Geometry Grp | 7 | 7 | 7 | 7 | 7 | 8 | 8 |
| Degree of Util (X) | 0.016 | 1.501 | 0.092 | 0.013 | 0.146 | 0.004 | 0.927 |
| Departure Headway (Hd) | 5.89 | 5.385 | 4.678 | 7.939 | 8.788 | 7.685 | 7.176 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 605 | 672 | 760 | 454 | 410 | 468 | 507 |
| Service Time | 3.654 | 3.149 | 2.442 | 5.639 | 6.488 | 5.385 | 4.876 |
| HCM Lane V/C Ratio | 0.017 | 1.493 | 0.093 | 0.015 | 0.161 | 0.004 | 1.032 |
| HCM Control Delay | 8.8 | 248.9 | 7.9 | 10.7 | 13 | 10.4 | 50.6 |
| HCM Lane LOS | A | F | A | B | B | B | F |
| HCM 95th-tile Q | 0 | 49 | 0.3 | 0 | 0.5 | 0 | 11.1 |

| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 87 | 20 | 997 | 161 | 29 | 654 |
| Future Volume (vph) | 87 | 20 | 997 | 161 | 29 | 654 |
| Confl. Peds. (#/hr) | | 8 | | 6 | | |
| Confl. Bikes (#/hr) | | | | 5 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | 0% | | | 0% |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | NA | | Prot | NA |
| Protected Phases | 8 | | 2 | | 1 | 6 |
| Permitted Phases | | 8 | | | | |
| Detector Phase | 8 | 8 | 2 | | 1 | 6 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | | 8.5 | 20.5 |
| Total Split (s) | 22.6 | 22.6 | 28.4 | | 9.0 | 37.4 |
| Total Split (%) | 37.7% | 37.7% | 47.3% | | 15.0% | 62.3% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Lead/Lag | | | Lag | | Lead | |
| Lead-Lag Optimize? | | | Yes | | Yes | |
| Recall Mode | None | None | Min | | None | Min |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 45.5 |
| Natural Cycle: 60 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 13: Magnolia Avenue & 2nd Street

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 87 | 20 | 997 | 161 | 29 | 654 |
| Future Volume (veh/h) | 87 | 20 | 997 | 161 | 29 | 654 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | | 0.97 | 1.00 | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | No | | | No |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 95 | 22 | 1084 | 175 | 32 | 711 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 140 | 124 | 1550 | 250 | 54 | 2368 |
| Arrive On Green | 0.08 | 0.08 | 0.51 | 0.51 | 0.03 | 0.67 |
| Sat Flow, veh/h | 1781 | 1585 | 3144 | 491 | 1781 | 3647 |
| Grp Volume(v), veh/h | 95 | 22 | 630 | 629 | 32 | 711 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 1777 | 1764 | 1781 | 1777 |
| Q Serve(g_s), s | 1.8 | 0.5 | 9.5 | 9.6 | 0.6 | 2.9 |
| Cycle Q Clear(g_c), s | 1.8 | 0.5 | 9.5 | 9.6 | 0.6 | 2.9 |
| Prop In Lane | 1.00 | 1.00 | | 0.28 | 1.00 | |
| Lane Grp Cap(c), veh/h | 140 | 124 | 903 | 897 | 54 | 2368 |
| V/C Ratio(X) | 0.68 | 0.18 | 0.70 | 0.70 | 0.59 | 0.30 |
| Avail Cap(c_a), veh/h | 914 | 813 | 1204 | 1195 | 227 | 3314 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 15.8 | 15.2 | 6.6 | 6.6 | 16.9 | 2.5 |
| Incr Delay (d2), s/veh | 5.7 | 0.7 | 1.2 | 1.2 | 9.7 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.8 | 0.2 | 1.7 | 1.7 | 0.3 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 21.5 | 15.9 | 7.8 | 7.8 | 26.6 | 2.5 |
| LnGrp LOS | C | B | A | A | C | A |
| Approach Vol, veh/h | 117 | | 1259 | | | 743 |
| Approach Delay, s/veh | 20.4 | | 7.8 | | | 3.6 |
| Approach LOS | C | | A | | | A |

| Timer - Assigned Phs | 1 | 2 | | | 6 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.6 | 22.4 | | | 28.0 | 7.3 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 4.5 | 23.9 | | | 32.9 | 18.1 |
| Max Q Clear Time (g_c+I1), s | 2.6 | 11.6 | | | 4.9 | 3.8 |
| Green Ext Time (p_c), s | 0.0 | 6.3 | | | 5.0 | 0.2 |

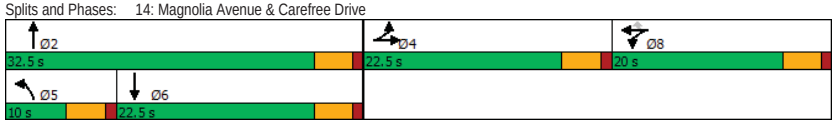
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 7.0 |
| HCM 6th LOS | | A |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 23 | 0 | 52 | 4 | 0 | 0 | 78 | 1130 | 0 | 0 | 704 | 16 |
| Future Volume (vph) | 23 | 0 | 52 | 4 | 0 | 0 | 78 | 1130 | 0 | 0 | 704 | 16 |
| Confl. Peds. (#/hr) | | | 22 | | | | | | 8 | | | 12 |
| Confl. Bikes (#/hr) | | | 4 | | | | | | | | | 6 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | 50% | | | | | | | | |
| Turn Type | Split | NA | | Split | NA | Perm | Prot | NA | | | NA | |
| Protected Phases | 4 | 4 | | 8 | 8 | | 5 | 2 | | | 6 | |
| Permitted Phases | | | | | | 8 | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | 8 | 5 | 2 | | | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | | 4.0 | |
| Minimum Split (s) | 22.5 | 22.5 | | 20.0 | 20.0 | 20.0 | 8.5 | 22.5 | | | 22.5 | |
| Total Split (s) | 22.5 | 22.5 | | 20.0 | 20.0 | 20.0 | 10.0 | 32.5 | | | 22.5 | |
| Total Split (%) | 30.0% | 30.0% | | 26.7% | 26.7% | 26.7% | 13.3% | 43.3% | | | 30.0% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | 0.0 | |
| Total Lost Time (s) | | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | | 4.5 | |
| Lead/Lag | | | | | | | Lead | | | | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | | | | Yes | |
| Recall Mode | None | None | | None | None | None | None | Min | | | Min | |

**Intersection Summary**

Cycle Length: 75
Actuated Cycle Length: 44.9
Natural Cycle: 75
Control Type: Semi Act-Uncoord

Splits and Phases: 14: Magnolia Avenue & Carefree Drive








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 23 | 0 | 52 | 4 | 0 | 0 | 78 | 1130 | 0 | 0 | 704 | 16 |
| Future Volume (veh/h) | 23 | 0 | 52 | 4 | 0 | 0 | 78 | 1130 | 0 | 0 | 704 | 16 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.92 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.96 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 0 | 0 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 25 | 0 | 57 | 4 | 0 | 0 | 85 | 1228 | 0 | 0 | 765 | 17 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 0 | 0 | 2 | 2 |
| Cap, veh/h | 52 | 0 | 118 | 16 | 0 | 7 | 112 | 1848 | 0 | 0 | 1189 | 26 |
| Arrive On Green | 0.11 | 0.00 | 0.11 | 0.00 | 0.00 | 0.00 | 0.06 | 0.52 | 0.00 | 0.00 | 0.34 | 0.34 |
| Sat Flow, veh/h | 471 | 0 | 1075 | 3563 | 0 | 1585 | 1781 | 3647 | 0 | 0 | 3643 | 79 |
| Grp Volume(v), veh/h | 82 | 0 | 0 | 4 | 0 | 0 | 85 | 1228 | 0 | 0 | 383 | 399 |
| Grp Sat Flow(s),veh/h/ln | 1546 | 0 | 0 | 1781 | 0 | 1585 | 1781 | 1777 | 0 | 0 | 1777 | 1852 |
| Q Serve(g_s), s | 1.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.7 | 9.4 | 0.0 | 0.0 | 6.7 | 6.7 |
| Cycle Q Clear(g_c), s | 1.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.7 | 9.4 | 0.0 | 0.0 | 6.7 | 6.7 |
| Prop In Lane | 0.30 | | 0.70 | 1.00 | | 1.00 | 1.00 | | 0.00 | 0.00 | | 0.04 |
| Lane Grp Cap(c), veh/h | 170 | 0 | 0 | 16 | 0 | 7 | 112 | 1848 | 0 | 0 | 595 | 621 |
| V/C Ratio(X) | 0.48 | 0.00 | 0.00 | 0.26 | 0.00 | 0.00 | 0.76 | 0.66 | 0.00 | 0.00 | 0.64 | 0.64 |
| Avail Cap(c_a), veh/h | 754 | 0 | 0 | 1496 | 0 | 666 | 265 | 2696 | 0 | 0 | 866 | 903 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 15.4 | 0.0 | 0.0 | 18.3 | 0.0 | 0.0 | 17.0 | 6.5 | 0.0 | 0.0 | 10.4 | 10.4 |
| Incr Delay (d2), s/veh | 2.1 | 0.0 | 0.0 | 8.5 | 0.0 | 0.0 | 9.9 | 0.4 | 0.0 | 0.0 | 1.2 | 1.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.9 | 1.6 | 0.0 | 0.0 | 1.9 | 2.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 17.6 | 0.0 | 0.0 | 26.8 | 0.0 | 0.0 | 26.9 | 6.9 | 0.0 | 0.0 | 11.6 | 11.5 |
| LnGrp LOS | B | A | A | C | A | A | C | A | A | A | B | B |
| Approach Vol, veh/h | | 82 | | | 4 | | | 1313 | | | 782 | |
| Approach Delay, s/veh | | 17.6 | | | 26.8 | | | 8.2 | | | 11.5 | |
| Approach LOS | | B | | | C | | | A | | | B | |

| Timer - Assigned Phs | 2 | 4 | 5 | 6 | 8 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 23.7 | 8.6 | 6.8 | 16.9 | 4.7 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 28.0 | 18.0 | 5.5 | 18.0 | 15.5 |
| Max Q Clear Time (g_c+I1), s | 11.4 | 3.8 | 3.7 | 8.7 | 2.0 |
| Green Ext Time (p_c), s | 7.8 | 0.3 | 0.0 | 3.1 | 0.0 |

**Intersection Summary**

| | |
|---|---|
| HCM 6th Ctrl Delay | 9.8 |
| HCM 6th LOS | A |

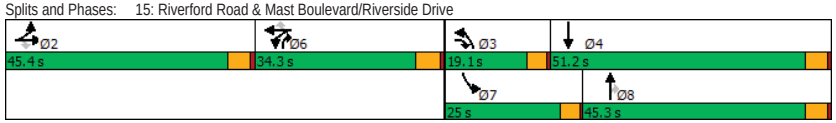
**Notes**

User approved volume balancing among the lanes for turning movement.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 15 | 8 | 35 | 519 | 41 | 373 | 72 | 328 | 462 | 238 | 226 | 22 |
| Future Volume (vph) | 15 | 8 | 35 | 519 | 41 | 373 | 72 | 328 | 462 | 238 | 226 | 22 |
| Confl. Peds. (#/hr) | | | | | | | | | 4 | | | |
| Confl. Bikes (#/hr) | | | 3 | | | 1 | | | 3 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Split | NA | pm+ov | Split | NA | Perm | Prot | NA | pm+ov | Prot | NA | |
| Protected Phases | 2 | 2 | 3 | 6 | 6 | | 3 | 8 | 6 | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | 8 | | | |
| Detector Phase | 2 | 2 | 3 | 6 | 6 | 6 | 3 | 8 | 6 | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 6.0 | 6.0 | 5.0 | 4.0 | 4.0 | 4.0 | 5.0 | 6.0 | 4.0 | 4.0 | 6.0 | |
| Minimum Split (s) | 45.3 | 45.3 | 9.1 | 34.3 | 34.3 | 34.3 | 9.1 | 45.3 | 34.3 | 8.6 | 49.9 | |
| Total Split (s) | 45.4 | 45.4 | 19.1 | 34.3 | 34.3 | 34.3 | 19.1 | 45.3 | 34.3 | 25.0 | 51.2 | |
| Total Split (%) | 30.3% | 30.3% | 12.7% | 22.9% | 22.9% | 22.9% | 12.7% | 30.2% | 22.9% | 16.7% | 34.1% | |
| Yellow Time (s) | 4.3 | 4.3 | 3.6 | 4.3 | 4.3 | 4.3 | 3.6 | 3.9 | 4.3 | 3.6 | 3.9 | |
| All-Red Time (s) | 1.0 | 1.0 | 0.5 | 1.0 | 1.0 | 1.0 | 0.5 | 1.0 | 1.0 | 0.5 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 5.3 | 5.3 | 4.1 | 5.3 | 5.3 | 5.3 | 4.1 | 4.9 | 5.3 | 4.1 | 4.9 | |
| Lead/Lag | | | Lead | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | Yes | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | None | None | None | None | None | Min | None | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 150 |
| Actuated Cycle Length: 99.9 |
| Natural Cycle: 150 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 15: Riverford Road & Mast Boulevard/Riverside Drive








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 15 | 8 | 35 | 519 | 41 | 373 | 72 | 328 | 462 | 238 | 226 | 22 |
| Future Volume (veh/h) | 15 | 8 | 35 | 519 | 41 | 373 | 72 | 328 | 462 | 238 | 226 | 22 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.96 | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 16 | 9 | 38 | 564 | 45 | 405 | 78 | 357 | 502 | 259 | 246 | 24 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 93 | 185 | 299 | 1000 | 1029 | 449 | 101 | 523 | 893 | 298 | 653 | 64 |
| Arrive On Green | 0.05 | 0.05 | 0.05 | 0.29 | 0.29 | 0.29 | 0.06 | 0.28 | 0.28 | 0.17 | 0.39 | 0.39 |
| Sat Flow, veh/h | 1781 | 3554 | 2686 | 3456 | 3554 | 1551 | 1781 | 1870 | 1556 | 1781 | 1675 | 163 |
| Grp Volume(v), veh/h | 16 | 9 | 38 | 564 | 45 | 405 | 78 | 357 | 502 | 259 | 0 | 270 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1343 | 1728 | 1777 | 1551 | 1781 | 1870 | 1556 | 1781 | 0 | 1838 |
| Q Serve(g_s), s | 0.8 | 0.2 | 1.2 | 12.8 | 0.8 | 23.2 | 4.0 | 15.7 | 19.0 | 13.1 | 0.0 | 9.7 |
| Cycle Q Clear(g_c), s | 0.8 | 0.2 | 1.2 | 12.8 | 0.8 | 23.2 | 4.0 | 15.7 | 19.0 | 13.1 | 0.0 | 9.7 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.09 |
| Lane Grp Cap(c), veh/h | 93 | 185 | 299 | 1000 | 1029 | 449 | 101 | 523 | 893 | 298 | 0 | 716 |
| V/C Ratio(X) | 0.17 | 0.05 | 0.13 | 0.56 | 0.04 | 0.90 | 0.77 | 0.68 | 0.56 | 0.87 | 0.00 | 0.38 |
| Avail Cap(c_a), veh/h | 772 | 1541 | 1323 | 1084 | 1114 | 486 | 289 | 817 | 1138 | 403 | 0 | 920 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 41.9 | 41.7 | 37.2 | 27.9 | 23.6 | 31.6 | 43.0 | 29.7 | 12.7 | 37.5 | 0.0 | 20.2 |
| Incr Delay (d2), s/veh | 0.9 | 0.1 | 0.2 | 0.6 | 0.0 | 19.0 | 11.5 | 1.6 | 0.6 | 14.3 | 0.0 | 0.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.4 | 0.1 | 0.4 | 5.1 | 0.3 | 10.8 | 2.1 | 7.1 | 11.6 | 6.8 | 0.0 | 4.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 42.8 | 41.8 | 37.4 | 28.5 | 23.7 | 50.6 | 54.5 | 31.3 | 13.2 | 51.8 | 0.0 | 20.5 |
| LnGrp LOS | D | D | D | C | C | D | D | C | B | D | A | C |
| Approach Vol, veh/h | | 63 | | | 1014 | | | 937 | | | 529 | |
| Approach Delay, s/veh | | 39.4 | | | 37.1 | | | 23.5 | | | 35.8 | |
| Approach LOS | | D | | | D | | | C | | | D | |

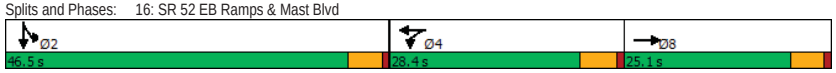
| Timer - Assigned Phs | 2 | 3 | 4 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 10.1 | 9.4 | 40.9 | 32.1 | 19.6 | 30.7 |
| Change Period (Y+Rc), s | 5.3 | 4.1 | 4.9 | 5.3 | 4.1 | 4.9 |
| Max Green Setting (Gmax), s | 40.1 | 15.0 | 46.3 | 29.0 | 20.9 | 40.4 |
| Max Q Clear Time (g_c+I1), s | 3.2 | 6.0 | 11.7 | 25.2 | 15.1 | 21.0 |
| Green Ext Time (p_c), s | 0.2 | 0.1 | 1.7 | 1.6 | 0.4 | 4.1 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 31.9 | |
| HCM 6th LOS | C | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 5 | 8 | 260 | 0 | 0 | 0 | 0 | 0 | 1682 | 1 | 6 |
| Future Volume (vph) | 0 | 5 | 8 | 260 | 0 | 0 | 0 | 0 | 0 | 1682 | 1 | 6 |
| Confl. Peds. (#/hr) | | | 5 | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | 50% | | |
| Turn Type | | NA | | Split | | | | | | Split | NA | |
| Protected Phases | | 8 | | 4 | 4 | | | | | 2 | 2 | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | | 8 | | 4 | 4 | | | | | 2 | 2 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | 7.0 | | 8.0 | 8.0 | | | | | 5.0 | 5.0 | |
| Minimum Split (s) | | 25.1 | | 28.4 | 28.4 | | | | | 32.3 | 32.3 | |
| Total Split (s) | | 25.1 | | 28.4 | 28.4 | | | | | 46.5 | 46.5 | |
| Total Split (%) | | 25.1% | | 28.4% | 28.4% | | | | | 46.5% | 46.5% | |
| Yellow Time (s) | | 4.1 | | 4.4 | 4.4 | | | | | 4.1 | 4.1 | |
| All-Red Time (s) | | 1.0 | | 1.0 | 1.0 | | | | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | | 0.0 | 0.0 | | | | | 0.0 | 0.0 | |
| Total Lost Time (s) | | 5.1 | | 5.4 | 5.4 | | | | | 5.1 | 5.1 | |
| Lead/Lag | | | | | | | | | | | | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Recall Mode | | None | | None | None | | | | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 76.2 |
| Natural Cycle: 130 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 16: SR 52 EB Ramps & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 5 | 8 | 260 | 0 | 0 | 0 | 0 | 0 | 1682 | 1 | 6 |
| Future Volume (veh/h) | 0 | 5 | 8 | 260 | 0 | 0 | 0 | 0 | 0 | 1682 | 1 | 6 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | | | | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 1.00 | | | | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | | | | No | |
| Adj Sat Flow, veh/h/ln | 0 | 1870 | 1870 | 1870 | 1870 | 0 | | | | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 5 | 9 | 283 | 0 | 0 | | | | 1835 | 0 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 0 | 2 | 2 | 2 | 2 | 0 | | | | 2 | 2 | 2 |
| Cap, veh/h | 0 | 22 | 39 | 336 | 353 | 0 | | | | 1980 | 1039 | 0 |
| Arrive On Green | 0.00 | 0.04 | 0.04 | 0.19 | 0.00 | 0.00 | | | | 0.56 | 0.00 | 0.00 |
| Sat Flow, veh/h | 0 | 592 | 1066 | 1781 | 1870 | 0 | | | | 3563 | 1870 | 0 |
| Grp Volume(v), veh/h | 0 | 0 | 14 | 283 | 0 | 0 | | | | 1835 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 0 | 0 | 1659 | 1781 | 1870 | 0 | | | | 1781 | 1870 | 0 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.6 | 10.9 | 0.0 | 0.0 | | | | 33.6 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 0.0 | 0.0 | 0.6 | 10.9 | 0.0 | 0.0 | | | | 33.6 | 0.0 | 0.0 |
| Prop In Lane | 0.00 | | 0.64 | 1.00 | | 0.00 | | | | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 0 | 0 | 60 | 336 | 353 | 0 | | | | 1980 | 1039 | 0 |
| V/C Ratio(X) | 0.00 | 0.00 | 0.23 | 0.84 | 0.00 | 0.00 | | | | 0.93 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 0 | 0 | 466 | 575 | 604 | 0 | | | | 2070 | 1087 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | | | | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 0.0 | 0.0 | 33.4 | 27.9 | 0.0 | 0.0 | | | | 14.5 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 0.7 | 5.7 | 0.0 | 0.0 | | | | 7.7 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.0 | 0.2 | 4.9 | 0.0 | 0.0 | | | | 13.3 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 0.0 | 34.1 | 33.5 | 0.0 | 0.0 | | | | 22.2 | 0.0 | 0.0 |
| LnGrp LOS | A | A | C | C | A | A | | | | C | A | A |
| Approach Vol, veh/h | | 14 | | | 283 | | | | | | 1835 | |
| Approach Delay, s/veh | | 34.1 | | | 33.5 | | | | | | 22.2 | |
| Approach LOS | | C | | | C | | | | | | C | |

| Timer - Assigned Phs | 2 | 4 | 8 |
|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 44.7 | 18.9 | 7.7 |
| Change Period (Y+Rc), s | 5.1 | 5.4 | 5.1 |
| Max Green Setting (Gmax), s | 41.4 | 23.0 | 20.0 |
| Max Q Clear Time (g_c+I1), s | 35.6 | 12.9 | 2.6 |
| Green Ext Time (p_c), s | 4.0 | 0.6 | 0.0 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 23.8 | |
| HCM 6th LOS | C | |

Notes

User approved volume balancing among the lanes for turning movement.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 5 | 1682 | 0 | 0 | 260 | 605 | 0 | 3 | 598 | 0 | 0 | 0 |
| Future Volume (vph) | 5 | 1682 | 0 | 0 | 260 | 605 | 0 | 3 | 598 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | | | 6 | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | 4 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | 32% | | | 50% | | | |
| Turn Type | Prot | NA | | | NA | Perm | | NA | Perm | | | |
| Protected Phases | 5 | 2 | | | 6 | | | 8 | | | | |
| Permitted Phases | | | | | | 6 | 8 | | 8 | | | |
| Detector Phase | 5 | 2 | | | 6 | 6 | 8 | 8 | 8 | | | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 10.0 | | | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | | | |
| Minimum Split (s) | 11.7 | 38.6 | | | 28.4 | 28.4 | 43.1 | 43.1 | 43.1 | | | |
| Total Split (s) | 11.7 | 56.9 | | | 45.2 | 45.2 | 43.1 | 43.1 | 43.1 | | | |
| Total Split (%) | 11.7% | 56.9% | | | 45.2% | 45.2% | 43.1% | 43.1% | 43.1% | | | |
| Yellow Time (s) | 3.7 | 4.1 | | | 4.4 | 4.4 | 4.1 | 4.1 | 4.1 | | | |
| All-Red Time (s) | 1.0 | 1.0 | | | 1.0 | 1.0 | 2.0 | 2.0 | 2.0 | | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | 0.0 | | | |
| Total Lost Time (s) | 4.7 | 5.1 | | | 5.4 | 5.4 | | 6.1 | 6.1 | | | |
| Lead/Lag | Lead | | | | Lag | Lag | | | | | | |
| Lead-Lag Optimize? | Yes | | | | Yes | Yes | | | | | | |
| Recall Mode | None | Min | | | Min | Min | None | None | None | | | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 86.7 |
| Natural Cycle: 95 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 17: SR-52 WB Ramps & Mast Blvd

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 5 | 1682 | 0 | 0 | 260 | 605 | 0 | 3 | 598 | 0 | 0 | 0 |
| Future Volume (veh/h) | 5 | 1682 | 0 | 0 | 260 | 605 | 0 | 3 | 598 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.99 | 1.00 | | 1.00 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.99 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 0 | 0 | 1870 | 1945 | 1870 | 1870 | 1870 | | | |
| Adj Flow Rate, veh/h | 5 | 1828 | 0 | 0 | 564 | 470 | 0 | 0 | 652 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | |
| Percent Heavy Veh, % | 2 | 2 | 0 | 0 | 2 | 2 | 2 | 2 | 2 | | | |
| Cap, veh/h | 16 | 2161 | 0 | 0 | 1006 | 874 | 0 | 448 | 768 | | | |
| Arrive On Green | 0.01 | 0.61 | 0.00 | 0.00 | 0.54 | 0.54 | 0.00 | 0.00 | 0.24 | | | |
| Sat Flow, veh/h | 1781 | 3647 | 0 | 0 | 1870 | 1626 | 0 | 1848 | 3170 | | | |
| Grp Volume(v), veh/h | 5 | 1828 | 0 | 0 | 564 | 470 | 0 | 0 | 652 | | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 0 | 0 | 1870 | 1626 | 0 | 1848 | 1585 | | | |
| Q Serve(g_s), s | 0.2 | 31.9 | 0.0 | 0.0 | 15.3 | 14.4 | 0.0 | 0.0 | 15.1 | | | |
| Cycle Q Clear(g_c), s | 0.2 | 31.9 | 0.0 | 0.0 | 15.3 | 14.4 | 0.0 | 0.0 | 15.1 | | | |
| Prop In Lane | 1.00 | | 0.00 | 0.00 | | 1.00 | 0.00 | | 1.00 | | | |
| Lane Grp Cap(c), veh/h | 16 | 2161 | 0 | 0 | 1006 | 874 | 0 | 448 | 768 | | | |
| V/C Ratio(X) | 0.30 | 0.85 | 0.00 | 0.00 | 0.56 | 0.54 | 0.00 | 0.00 | 0.85 | | | |
| Avail Cap(c_a), veh/h | 162 | 2396 | 0 | 0 | 1006 | 874 | 0 | 890 | 1527 | | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | | | |
| Uniform Delay (d), s/veh | 37.8 | 12.1 | 0.0 | 0.0 | 11.8 | 11.5 | 0.0 | 0.0 | 27.8 | | | |
| Incr Delay (d2), s/veh | 3.8 | 2.8 | 0.0 | 0.0 | 0.7 | 0.7 | 0.0 | 0.0 | 1.0 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ln | 0.1 | 10.8 | 0.0 | 0.0 | 5.7 | 4.6 | 0.0 | 0.0 | 5.6 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 41.6 | 14.9 | 0.0 | 0.0 | 12.5 | 12.2 | 0.0 | 0.0 | 28.8 | | | |
| LnGrp LOS | D | B | A | A | B | B | A | A | C | | | |
| Approach Vol, veh/h | | 1833 | | | 1034 | | | 652 | | | | |
| Approach Delay, s/veh | | 15.0 | | | 12.3 | | | 28.8 | | | | |
| Approach LOS | | B | | | B | | | C | | | | |

| Timer - Assigned Phs | 2 | 5 | 6 | 8 |
|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 52.1 | 5.4 | 46.7 | 24.7 |
| Change Period (Y+Rc), s | * 5.4 | * 4.7 | 5.4 | 6.1 |
| Max Green Setting (Gmax), s | * 52 | * 7 | 39.8 | 37.0 |
| Max Q Clear Time (g_c+I1), s | 33.9 | 2.2 | 17.3 | 17.1 |
| Green Ext Time (p_c), s | 12.8 | 0.0 | 5.6 | 1.5 |

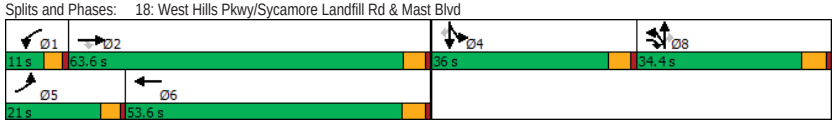
| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 16.8 |
| HCM 6th LOS | B |

| Notes |
|---|
| User approved volume balancing among the lanes for turning movement. |
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 36 | 1713 | 524 | 209 | 588 | 4 | 222 | 2 | 508 | 11 | 3 | 66 |
| Future Volume (vph) | 36 | 1713 | 524 | 209 | 588 | 4 | 222 | 2 | 508 | 11 | 3 | 66 |
| Confl. Peds. (#/hr) | | | 12 | | | | | | | | | 4 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | 50% | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | | Split | NA | Perm | Split | NA | Perm |
| Protected Phases | 5 | 2 | 8 | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Permitted Phases | | | 2 | | | | | | 8 | | | 4 |
| Detector Phase | 5 | 2 | 8 | 1 | 6 | | 8 | 8 | 8 | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 10.0 | 10.0 | 4.0 | 10.0 | | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| Minimum Split (s) | 20.0 | 34.9 | 33.4 | 8.4 | 35.2 | | 33.4 | 33.4 | 33.4 | 34.9 | 34.9 | 34.9 |
| Total Split (s) | 21.0 | 63.6 | 34.4 | 11.0 | 53.6 | | 34.4 | 34.4 | 34.4 | 36.0 | 36.0 | 36.0 |
| Total Split (%) | 14.5% | 43.9% | 23.7% | 7.6% | 37.0% | | 23.7% | 23.7% | 23.7% | 24.8% | 24.8% | 24.8% |
| Yellow Time (s) | 3.4 | 3.9 | 4.4 | 3.4 | 4.2 | | 4.4 | 4.4 | 4.4 | 3.9 | 3.9 | 3.9 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.4 | 4.9 | 5.4 | 4.4 | 5.2 | | 5.4 | 5.4 | 5.4 | | 4.9 | 4.9 |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | Min | None | None | Min | | None | None | None | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 145 |
| Actuated Cycle Length: 116 |
| Natural Cycle: 145 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 18: West Hills Pkwy/Sycamore Landfill Rd & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 36 | 1713 | 524 | 209 | 588 | 4 | 222 | 2 | 508 | 11 | 3 | 66 |
| Future Volume (veh/h) | 36 | 1713 | 524 | 209 | 588 | 4 | 222 | 2 | 508 | 11 | 3 | 66 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 39 | 1862 | 570 | 227 | 639 | 4 | 242 | 0 | 499 | 12 | 3 | 72 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 100 | 1668 | 1106 | 182 | 1688 | 11 | 826 | 0 | 368 | 125 | 31 | 136 |
| Arrive On Green | 0.06 | 0.47 | 0.47 | 0.05 | 0.47 | 0.47 | 0.23 | 0.00 | 0.23 | 0.09 | 0.09 | 0.09 |
| Sat Flow, veh/h | 1781 | 3554 | 1573 | 3456 | 3620 | 23 | 3563 | 0 | 1585 | 1439 | 360 | 1563 |
| Grp Volume(v), veh/h | 39 | 1862 | 570 | 227 | 314 | 329 | 242 | 0 | 499 | 15 | 0 | 72 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1573 | 1728 | 1777 | 1866 | 1781 | 0 | 1585 | 1798 | 0 | 1563 |
| Q Serve(g_s), s | 2.6 | 58.7 | 21.2 | 6.6 | 14.3 | 14.3 | 7.0 | 0.0 | 29.0 | 1.0 | 0.0 | 5.5 |
| Cycle Q Clear(g_c), s | 2.6 | 58.7 | 21.2 | 6.6 | 14.3 | 14.3 | 7.0 | 0.0 | 29.0 | 1.0 | 0.0 | 5.5 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.01 | 1.00 | | 1.00 | 0.80 | | 1.00 |
| Lane Grp Cap(c), veh/h | 100 | 1668 | 1106 | 182 | 828 | 870 | 826 | 0 | 368 | 156 | 0 | 136 |
| V/C Ratio(X) | 0.39 | 1.12 | 0.52 | 1.24 | 0.38 | 0.38 | 0.29 | 0.00 | 1.36 | 0.10 | 0.00 | 0.53 |
| Avail Cap(c_a), veh/h | 236 | 1668 | 1106 | 182 | 828 | 870 | 826 | 0 | 368 | 447 | 0 | 389 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 57.0 | 33.2 | 8.7 | 59.2 | 21.6 | 21.6 | 39.6 | 0.0 | 48.0 | 52.6 | 0.0 | 54.7 |
| Incr Delay (d2), s/veh | 0.9 | 61.1 | 0.5 | 147.5 | 0.6 | 0.6 | 0.3 | 0.0 | 177.7 | 0.3 | 0.0 | 3.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.2 | 37.9 | 13.6 | 6.6 | 5.9 | 6.2 | 3.0 | 0.0 | 29.2 | 0.4 | 0.0 | 2.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 57.9 | 94.3 | 9.3 | 206.7 | 22.2 | 22.2 | 39.9 | 0.0 | 225.7 | 52.9 | 0.0 | 57.9 |
| LnGrp LOS | E | F | A | F | C | C | D | A | F | D | A | E |
| Approach Vol, veh/h | | 2471 | | | 870 | | | 741 | | | 87 | |
| Approach Delay, s/veh | | 74.1 | | | 70.4 | | | 165.0 | | | 57.0 | |
| Approach LOS | | E | | | E | | | F | | | E | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 11.0 | 63.9 | | 15.7 | 11.4 | 63.5 | | 34.4 | | | | |
| Change Period (Y+Rc), s | 4.4 | * 5.2 | | 4.9 | 4.4 | 5.2 | | 5.4 | | | | |
| Max Green Setting (Gmax), s | 6.6 | * 59 | | 31.1 | 16.6 | 48.4 | | 29.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 8.6 | 60.7 | | 7.5 | 4.6 | 16.3 | | 31.0 | | | | |
| Green Ext Time (p_c), s | 0.0 | 0.0 | | 0.2 | 0.0 | 8.0 | | 0.0 | | | | |

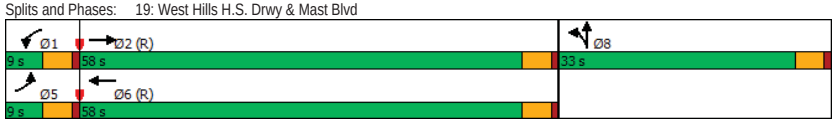
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 89.1 | |
| HCM 6th LOS | F | |

| Notes |
|---|
| User approved volume balancing among the lanes for turning movement. |
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 6 | 1903 | 21 | 42 | 758 | 0 | 49 | 0 | 114 | 0 | 0 | 0 |
| Future Volume (vph) | 6 | 1903 | 21 | 42 | 758 | 0 | 49 | 0 | 114 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | 4 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Split | NA | | | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | | | | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | | | | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | | | | |
| Minimum Split (s) | 8.5 | 22.5 | | 8.5 | 20.5 | | 31.5 | 31.5 | | | | |
| Total Split (s) | 9.0 | 58.0 | | 9.0 | 58.0 | | 33.0 | 33.0 | | | | |
| Total Split (%) | 9.0% | 58.0% | | 9.0% | 58.0% | | 33.0% | 33.0% | | | | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | | | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | | |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | | 4.5 | | | | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | | | | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 110 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 19: West Hills H.S. Drwy & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 6 | 1903 | 21 | 42 | 758 | 0 | 49 | 0 | 114 | 0 | 0 | 0 |
| Future Volume (veh/h) | 6 | 1903 | 21 | 42 | 758 | 0 | 49 | 0 | 114 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 0 | 1900 | 1870 | 1900 | | | |
| Adj Flow Rate, veh/h | 7 | 2068 | 23 | 46 | 824 | 0 | 53 | 0 | 124 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 0 | 0 | 2 | 0 | | | |
| Cap, veh/h | 13 | 2517 | 28 | 59 | 2577 | 0 | 65 | 0 | 152 | | | |
| Arrive On Green | 0.01 | 0.70 | 0.70 | 0.01 | 0.24 | 0.00 | 0.13 | 0.00 | 0.13 | | | |
| Sat Flow, veh/h | 1781 | 3600 | 40 | 1781 | 3647 | 0 | 491 | 0 | 1148 | | | |
| Grp Volume(v), veh/h | 7 | 1019 | 1072 | 46 | 824 | 0 | 177 | 0 | 0 | | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1863 | 1781 | 1777 | 0 | 1639 | 0 | 0 | | | |
| Q Serve(g_s), s | 0.4 | 40.4 | 40.8 | 2.6 | 19.1 | 0.0 | 10.5 | 0.0 | 0.0 | | | |
| Cycle Q Clear(g_c), s | 0.4 | 40.4 | 40.8 | 2.6 | 19.1 | 0.0 | 10.5 | 0.0 | 0.0 | | | |
| Prop In Lane | 1.00 | | 0.02 | 1.00 | | 0.00 | 0.30 | | 0.70 | | | |
| Lane Grp Cap(c), veh/h | 13 | 1242 | 1303 | 59 | 2577 | 0 | 218 | 0 | 0 | | | |
| V/C Ratio(X) | 0.56 | 0.82 | 0.82 | 0.78 | 0.32 | 0.00 | 0.81 | 0.00 | 0.00 | | | |
| Avail Cap(c_a), veh/h | 80 | 1242 | 1303 | 80 | 2577 | 0 | 467 | 0 | 0 | | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 0.12 | 0.12 | 0.12 | 0.91 | 0.91 | 0.00 | 1.00 | 0.00 | 0.00 | | | |
| Uniform Delay (d), s/veh | 49.5 | 10.6 | 10.7 | 49.1 | 17.7 | 0.0 | 42.2 | 0.0 | 0.0 | | | |
| Incr Delay (d2), s/veh | 4.5 | 0.8 | 0.8 | 26.2 | 0.3 | 0.0 | 7.2 | 0.0 | 0.0 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ln | 0.2 | 12.3 | 13.0 | 1.6 | 9.0 | 0.0 | 4.6 | 0.0 | 0.0 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 54.0 | 11.4 | 11.4 | 75.3 | 18.0 | 0.0 | 49.3 | 0.0 | 0.0 | | | |
| LnGrp LOS | D | B | B | E | B | A | D | A | A | | | |
| Approach Vol, veh/h | | 2098 | | | 870 | | | 177 | | | | |
| Approach Delay, s/veh | | 11.5 | | | 21.0 | | | 49.3 | | | | |
| Approach LOS | | B | | | C | | | D | | | | |

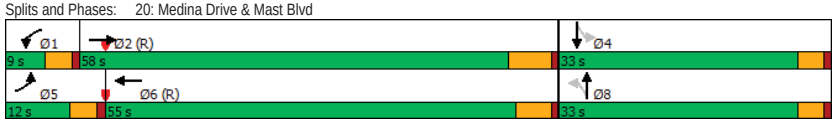
| Timer - Assigned Phs | 1 | 2 | | | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.8 | 74.4 | | | 5.2 | 77.0 | | 17.8 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 4.5 | 53.5 | | | 4.5 | 53.5 | | 28.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 4.6 | 42.8 | | | 2.4 | 21.1 | | 12.5 | | | | |
| Green Ext Time (p_c), s | 0.0 | 9.0 | | | 0.0 | 6.1 | | 0.9 | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 16.3 | |
| HCM 6th LOS | | B | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 36 | 1739 | 33 | 5 | 770 | 26 | 12 | 3 | 14 | 18 | 4 | 28 |
| Future Volume (vph) | 36 | 1739 | 33 | 5 | 770 | 26 | 12 | 3 | 14 | 18 | 4 | 28 |
| Confl. Peds. (#/hr) | | | 2 | | | | | | 2 | | | |
| Confl. Bikes (#/hr) | | | 2 | | | 5 | | | 2 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Perm | NA | | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | | 4 | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 22.0 | | 8.2 | 22.0 | | 32.2 | 32.2 | | 32.2 | 32.2 | |
| Total Split (s) | 12.0 | 58.0 | | 9.0 | 55.0 | | 33.0 | 33.0 | | 33.0 | 33.0 | |
| Total Split (%) | 12.0% | 58.0% | | 9.0% | 55.0% | | 33.0% | 33.0% | | 33.0% | 33.0% | |
| Yellow Time (s) | 3.2 | 5.1 | | 3.2 | 4.3 | | 3.2 | 3.2 | | 3.2 | 3.2 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | 0.0 | |
| Total Lost Time (s) | 4.2 | 6.1 | | 4.2 | 5.3 | | | 4.2 | | | 4.2 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 100 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 20: Medina Drive & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 36 | 1739 | 33 | 5 | 770 | 26 | 12 | 3 | 14 | 18 | 4 | 28 |
| Future Volume (veh/h) | 36 | 1739 | 33 | 5 | 770 | 26 | 12 | 3 | 14 | 18 | 4 | 28 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.97 | 0.99 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 39 | 1890 | 36 | 5 | 837 | 28 | 13 | 3 | 15 | 20 | 4 | 30 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 49 | 2782 | 53 | 9 | 2657 | 89 | 81 | 27 | 54 | 78 | 20 | 60 |
| Arrive On Green | 0.06 | 1.00 | 1.00 | 0.01 | 1.00 | 1.00 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 |
| Sat Flow, veh/h | 1781 | 3566 | 68 | 1781 | 3506 | 117 | 431 | 396 | 775 | 414 | 282 | 871 |
| Grp Volume(v), veh/h | 39 | 938 | 988 | 5 | 424 | 441 | 31 | 0 | 0 | 54 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1856 | 1781 | 1777 | 1846 | 1603 | 0 | 0 | 1568 | 0 | 0 |
| Q Serve(g_s), s | 2.2 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.4 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 2.2 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 | 1.7 | 0.0 | 0.0 | 3.2 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | | 0.04 | 1.00 | | 0.06 | 0.42 | | 0.48 | 0.37 | | 0.56 |
| Lane Grp Cap(c), veh/h | 49 | 1387 | 1449 | 9 | 1347 | 1399 | 162 | 0 | 0 | 158 | 0 | 0 |
| V/C Ratio(X) | 0.79 | 0.68 | 0.68 | 0.54 | 0.31 | 0.32 | 0.19 | 0.00 | 0.00 | 0.34 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 139 | 1387 | 1449 | 86 | 1347 | 1399 | 488 | 0 | 0 | 491 | 0 | 0 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.34 | 0.34 | 0.34 | 0.96 | 0.96 | 0.96 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 47.0 | 0.0 | 0.0 | 49.4 | 0.0 | 0.0 | 44.1 | 0.0 | 0.0 | 44.7 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 9.3 | 0.9 | 0.9 | 16.4 | 0.6 | 0.6 | 0.2 | 0.0 | 0.0 | 0.5 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.0 | 0.4 | 0.4 | 0.2 | 0.2 | 0.2 | 0.7 | 0.0 | 0.0 | 1.3 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 56.3 | 0.9 | 0.9 | 65.8 | 0.6 | 0.6 | 44.3 | 0.0 | 0.0 | 45.2 | 0.0 | 0.0 |
| LnGrp LOS | E | A | A | E | A | A | D | A | A | D | A | A |
| Approach Vol, veh/h | | 1965 | | | 870 | | | 31 | | | 54 | |
| Approach Delay, s/veh | | 2.0 | | | 1.0 | | | 44.3 | | | 45.2 | |
| Approach LOS | | A | | | A | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 4.7 | 84.1 | | 11.1 | 7.0 | 81.9 | | 11.1 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 6.1 | | * 4.2 | * 4.2 | * 6.1 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | * 4.8 | 51.9 | | * 29 | * 7.8 | * 50 | | * 29 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.3 | 2.0 | | 5.2 | 4.2 | 2.0 | | 3.7 | | | | |
| Green Ext Time (p_c), s | 0.0 | 37.6 | | 0.2 | 0.0 | 10.8 | | 0.1 | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 2.9 | |
| HCM 6th LOS | | A | |

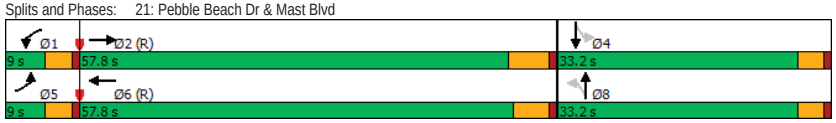
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 10 | 1707 | 17 | 6 | 751 | 48 | 16 | 3 | 13 | 50 | 0 | 21 |
| Future Volume (vph) | 10 | 1707 | 17 | 6 | 751 | 48 | 16 | 3 | 13 | 50 | 0 | 21 |
| Confl. Peds. (#/hr) | | | 9 | | | | | | 1 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Perm | NA | | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | | 4 | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 23.9 | | 8.2 | 23.3 | | 33.2 | 33.2 | | 32.2 | 32.2 | |
| Total Split (s) | 9.0 | 57.8 | | 9.0 | 57.8 | | 33.2 | 33.2 | | 33.2 | 33.2 | |
| Total Split (%) | 9.0% | 57.8% | | 9.0% | 57.8% | | 33.2% | 33.2% | | 33.2% | 33.2% | |
| Yellow Time (s) | 3.2 | 4.9 | | 3.2 | 4.3 | | 3.2 | 3.2 | | 3.2 | 3.2 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | 0.0 | |
| Total Lost Time (s) | 4.2 | 5.9 | | 4.2 | 5.3 | | | 4.2 | | | 4.2 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Max | | None | C-Max | | None | None | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 100 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 21: Pebble Beach Dr & Mast Blvd






Existing + Cuml + Proj PM
21: Pebble Beach Dr & Mast Blvd
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 10 | 1707 | 17 | 6 | 751 | 48 | 16 | 3 | 13 | 50 | 0 | 21 |
| Future Volume (veh/h) | 10 | 1707 | 17 | 6 | 751 | 48 | 16 | 3 | 13 | 50 | 0 | 21 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 11 | 1855 | 18 | 7 | 816 | 52 | 17 | 3 | 14 | 54 | 0 | 23 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 19 | 2812 | 27 | 13 | 2634 | 168 | 98 | 26 | 49 | 133 | 4 | 32 |
| Arrive On Green | 0.02 | 1.00 | 1.00 | 0.01 | 1.00 | 1.00 | 0.07 | 0.07 | 0.07 | 0.07 | 0.00 | 0.07 |
| Sat Flow, veh/h | 1781 | 3606 | 35 | 1781 | 3392 | 216 | 622 | 376 | 699 | 1024 | 54 | 459 |
| Grp Volume(v), veh/h | 11 | 913 | 960 | 7 | 427 | 441 | 34 | 0 | 0 | 77 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1864 | 1781 | 1777 | 1831 | 1697 | 0 | 0 | 1538 | 0 | 0 |
| Q Serve(g_s), s | 0.6 | 0.0 | 0.0 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.9 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 0.6 | 0.0 | 0.0 | 0.4 | 0.0 | 0.0 | 1.9 | 0.0 | 0.0 | 4.8 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | | 0.02 | 1.00 | | 0.12 | 0.50 | | 0.41 | 0.70 | | 0.30 |
| Lane Grp Cap(c), veh/h | 19 | 1386 | 1454 | 13 | 1380 | 1422 | 173 | 0 | 0 | 169 | 0 | 0 |
| V/C Ratio(X) | 0.59 | 0.66 | 0.66 | 0.56 | 0.31 | 0.31 | 0.20 | 0.00 | 0.00 | 0.46 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 86 | 1386 | 1454 | 86 | 1380 | 1422 | 502 | 0 | 0 | 486 | 0 | 0 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.67 | 0.67 | 0.67 | 0.66 | 0.66 | 0.66 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 48.7 | 0.0 | 0.0 | 49.1 | 0.0 | 0.0 | 44.1 | 0.0 | 0.0 | 45.3 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 7.0 | 1.7 | 1.6 | 9.1 | 0.4 | 0.4 | 0.2 | 0.0 | 0.0 | 0.7 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.3 | 0.6 | 0.6 | 0.2 | 0.1 | 0.1 | 0.8 | 0.0 | 0.0 | 1.9 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 55.8 | 1.7 | 1.6 | 58.2 | 0.4 | 0.4 | 44.3 | 0.0 | 0.0 | 46.1 | 0.0 | 0.0 |
| LnGrp LOS | E | A | A | E | A | A | D | A | A | D | A | A |
| Approach Vol, veh/h | | 1884 | | | 875 | | | 34 | | | 77 | |
| Approach Delay, s/veh | | 1.9 | | | 0.8 | | | 44.3 | | | 46.1 | |
| Approach LOS | | A | | | A | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 4.9 | 83.9 | | 11.2 | 5.3 | 83.6 | | 11.2 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 5.9 | | * 4.2 | * 4.2 | * 5.9 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | * 4.8 | 51.9 | | * 29 | * 4.8 | * 53 | | * 29 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.4 | 2.0 | | 6.8 | 2.6 | 2.0 | | 3.9 | | | | |
| Green Ext Time (p_c), s | 0.0 | 39.7 | | 0.2 | 0.0 | 15.2 | | 0.1 | | | | |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 3.3 |
| HCM 6th LOS | A |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 628 | 1117 | 58 | 29 | 504 | 93 | 57 | 268 | 30 | 71 | 146 | 310 |
| Future Volume (vph) | 628 | 1117 | 58 | 29 | 504 | 93 | 57 | 268 | 30 | 71 | 146 | 310 |
| Confl. Peds. (#/hr) | | | 12 | | | 1 | | | 3 | | | 5 |
| Confl. Bikes (#/hr) | | | | | | 5 | | | 1 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | | | | | | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 27.5 | 27.5 | 8.2 | 28.1 | | 8.2 | 35.1 | | 8.2 | 28.1 | 28.1 |
| Total Split (s) | 28.0 | 48.5 | 48.5 | 8.2 | 28.7 | | 10.5 | 35.1 | | 8.2 | 32.8 | 32.8 |
| Total Split (%) | 28.0% | 48.5% | 48.5% | 8.2% | 28.7% | | 10.5% | 35.1% | | 8.2% | 32.8% | 32.8% |
| Yellow Time (s) | 3.2 | 4.5 | 4.5 | 3.2 | 4.1 | | 3.2 | 4.1 | | 3.2 | 4.1 | 4.1 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.5 | 5.5 | 4.2 | 5.1 | | 4.2 | 5.1 | | 4.2 | 5.1 | 5.1 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | C-Max | C-Max | None | C-Max | | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 14.1 (14%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 130 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 22: Fanita Parkway & Mast Blvd

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 628 | 1117 | 58 | 29 | 504 | 93 | 57 | 268 | 30 | 71 | 146 | 310 |
| Future Volume (veh/h) | 628 | 1117 | 58 | 29 | 504 | 93 | 57 | 268 | 30 | 71 | 146 | 310 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.97 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 683 | 1214 | 63 | 32 | 548 | 101 | 62 | 291 | 33 | 77 | 159 | 337 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 424 | 1755 | 773 | 42 | 834 | 153 | 80 | 416 | 47 | 71 | 463 | 385 |
| Arrive On Green | 0.24 | 0.49 | 0.49 | 0.02 | 0.19 | 0.19 | 0.04 | 0.25 | 0.25 | 0.04 | 0.25 | 0.25 |
| Sat Flow, veh/h | 1781 | 3554 | 1566 | 1781 | 2982 | 547 | 1781 | 1646 | 187 | 1781 | 1870 | 1555 |
| Grp Volume(v), veh/h | 683 | 1214 | 63 | 32 | 326 | 323 | 62 | 0 | 324 | 77 | 159 | 337 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1566 | 1781 | 1777 | 1753 | 1781 | 0 | 1833 | 1781 | 1870 | 1555 |
| Q Serve(g_s), s | 23.8 | 26.3 | 2.1 | 1.8 | 17.0 | 17.1 | 3.4 | 0.0 | 16.0 | 4.0 | 7.0 | 20.8 |
| Cycle Q Clear(g_c), s | 23.8 | 26.3 | 2.1 | 1.8 | 17.0 | 17.1 | 3.4 | 0.0 | 16.0 | 4.0 | 7.0 | 20.8 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.31 | 1.00 | | 0.10 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 424 | 1755 | 773 | 42 | 497 | 490 | 80 | 0 | 463 | 71 | 463 | 385 |
| V/C Ratio(X) | 1.61 | 0.69 | 0.08 | 0.76 | 0.66 | 0.66 | 0.78 | 0.00 | 0.70 | 1.08 | 0.34 | 0.87 |
| Avail Cap(c_a), veh/h | 424 | 1755 | 773 | 71 | 497 | 490 | 112 | 0 | 550 | 71 | 518 | 431 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 0.67 | 0.67 | 0.67 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.70 | 0.70 | 0.70 | 0.87 | 0.87 | 0.87 | 0.96 | 0.00 | 0.96 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 38.1 | 19.4 | 13.3 | 48.9 | 36.2 | 36.2 | 47.3 | 0.0 | 33.9 | 48.0 | 30.9 | 36.1 |
| Incr Delay (d2), s/veh | 282.6 | 1.6 | 0.1 | 16.6 | 5.8 | 6.0 | 16.2 | 0.0 | 6.8 | 130.5 | 1.4 | 20.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 43.2 | 10.3 | 0.7 | 1.0 | 8.4 | 8.4 | 1.8 | 0.0 | 7.7 | 4.3 | 3.2 | 9.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 320.7 | 21.0 | 13.5 | 65.6 | 42.0 | 42.2 | 63.5 | 0.0 | 40.8 | 178.5 | 32.3 | 56.9 |
| LnGrp LOS | F | C | B | E | D | D | E | A | D | F | C | E |
| Approach Vol, veh/h | | 1960 | | | 681 | | | 386 | | | 573 | |
| Approach Delay, s/veh | | 125.2 | | | 43.2 | | | 44.4 | | | 66.4 | |
| Approach LOS | | F | | | D | | | D | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 6.6 | 54.9 | 8.7 | 29.9 | 28.0 | 33.4 | 8.2 | 30.4 |
| Change Period (Y+Rc), s | * 4.2 | 5.5 | * 4.2 | 5.1 | * 4.2 | * 5.5 | * 4.2 | 5.1 |
| Max Green Setting (Gmax), s | * 4 | 43.0 | * 6.3 | 27.7 | * 24 | * 24 | * 4 | 30.0 |
| Max Q Clear Time (g_c+I1), s | 3.8 | 28.3 | 5.4 | 22.8 | 25.8 | 19.1 | 6.0 | 18.0 |
| Green Ext Time (p_c), s | 0.0 | 11.9 | 0.0 | 2.0 | 0.0 | 2.8 | 0.0 | 3.0 |

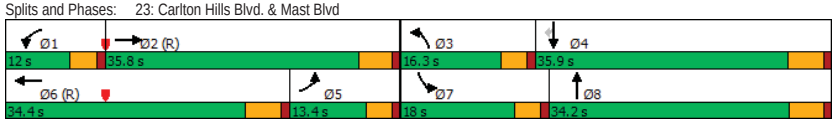
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 91.7 | |
| HCM 6th LOS | F | |

| Notes |
|---|
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 65 | 994 | 91 | 100 | 412 | 100 | 130 | 298 | 181 | 191 | 215 | 44 |
| Future Volume (vph) | 65 | 994 | 91 | 100 | 412 | 100 | 130 | 298 | 181 | 191 | 215 | 44 |
| Confl. Peds. (#/hr) | | | 3 | | | 7 | | | 11 | | | 8 |
| Confl. Bikes (#/hr) | | | 4 | | | 2 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 33.1 | | 8.2 | 32.4 | | 8.2 | 34.2 | | 8.2 | 32.4 | 32.4 |
| Total Split (s) | 13.4 | 35.8 | | 12.0 | 34.4 | | 16.3 | 34.2 | | 18.0 | 35.9 | 35.9 |
| Total Split (%) | 13.4% | 35.8% | | 12.0% | 34.4% | | 16.3% | 34.2% | | 18.0% | 35.9% | 35.9% |
| Yellow Time (s) | 3.2 | 4.1 | | 3.2 | 4.4 | | 3.2 | 4.2 | | 3.2 | 4.4 | 4.4 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.1 | | 4.2 | 5.4 | | 4.2 | 5.2 | | 4.2 | 5.4 | 5.4 |
| Lead/Lag | Lag | Lag | | Lead | Lead | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | C-Min | | None | C-Min | | None | Min | | None | Min | Min |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 95 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 23: Carlton Hills Blvd. & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 65 | 994 | 91 | 100 | 412 | 100 | 130 | 298 | 181 | 191 | 215 | 44 |
| Future Volume (veh/h) | 65 | 994 | 91 | 100 | 412 | 100 | 130 | 298 | 181 | 191 | 215 | 44 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.99 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 71 | 1080 | 99 | 109 | 448 | 109 | 141 | 324 | 197 | 208 | 234 | 48 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 363 | 1217 | 112 | 137 | 654 | 158 | 171 | 489 | 290 | 239 | 950 | 420 |
| Arrive On Green | 0.07 | 0.12 | 0.12 | 0.03 | 0.08 | 0.08 | 0.10 | 0.23 | 0.23 | 0.13 | 0.27 | 0.27 |
| Sat Flow, veh/h | 1781 | 3286 | 301 | 1781 | 2825 | 681 | 1781 | 2132 | 1265 | 1781 | 3554 | 1571 |
| Grp Volume(v), veh/h | 71 | 584 | 595 | 109 | 280 | 277 | 141 | 269 | 252 | 208 | 234 | 48 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1810 | 1781 | 1777 | 1729 | 1781 | 1777 | 1621 | 1781 | 1777 | 1571 |
| Q Serve(g_s), s | 3.8 | 32.3 | 32.4 | 6.1 | 15.4 | 15.6 | 7.8 | 13.7 | 14.2 | 11.4 | 5.2 | 1.3 |
| Cycle Q Clear(g_c), s | 3.8 | 32.3 | 32.4 | 6.1 | 15.4 | 15.6 | 7.8 | 13.7 | 14.2 | 11.4 | 5.2 | 1.3 |
| Prop In Lane | 1.00 | | 0.17 | 1.00 | | 0.39 | 1.00 | | 0.78 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 363 | 658 | 671 | 137 | 412 | 400 | 171 | 408 | 372 | 239 | 950 | 420 |
| V/C Ratio(X) | 0.20 | 0.89 | 0.89 | 0.80 | 0.68 | 0.69 | 0.82 | 0.66 | 0.68 | 0.87 | 0.25 | 0.11 |
| Avail Cap(c_a), veh/h | 363 | 658 | 671 | 139 | 515 | 501 | 216 | 515 | 470 | 246 | 1084 | 479 |
| HCM Platoon Ratio | 0.33 | 0.33 | 0.33 | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.65 | 0.65 | 0.65 | 0.97 | 0.97 | 0.97 | 0.69 | 0.69 | 0.69 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 38.9 | 41.8 | 41.8 | 47.9 | 42.6 | 42.7 | 44.4 | 35.0 | 35.2 | 42.4 | 28.7 | 9.3 |
| Incr Delay (d2), s/veh | 0.1 | 11.4 | 11.3 | 23.7 | 8.6 | 9.1 | 10.8 | 3.7 | 4.5 | 25.3 | 0.6 | 0.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.6 | 17.3 | 17.7 | 3.6 | 8.2 | 8.2 | 3.9 | 6.2 | 5.9 | 6.6 | 2.2 | 0.9 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 38.9 | 53.2 | 53.1 | 71.7 | 51.1 | 51.8 | 55.2 | 38.7 | 39.7 | 67.7 | 29.3 | 9.8 |
| LnGrp LOS | D | D | D | E | D | D | E | D | D | E | C | A |
| Approach Vol, veh/h | | 1250 | | | 666 | | | 662 | | | 490 | |
| Approach Delay, s/veh | | 52.3 | | | 54.8 | | | 42.6 | | | 43.7 | |
| Approach LOS | | D | | | D | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 11.9 | 42.2 | 13.8 | 32.1 | 25.5 | 28.6 | 17.6 | 28.3 |
| Change Period (Y+Rc), s | * 4.2 | 5.1 | * 4.2 | 5.4 | 5.1 | * 5.4 | * 4.2 | * 5.4 |
| Max Green Setting (Gmax), s | * 7.8 | 30.7 | * 12 | 30.5 | 9.2 | * 29 | * 14 | * 29 |
| Max Q Clear Time (g_c+I1), s | 8.1 | 34.4 | 9.8 | 7.2 | 5.8 | 17.6 | 13.4 | 16.2 |
| Green Ext Time (p_c), s | 0.0 | 0.0 | 0.0 | 3.9 | 0.0 | 5.0 | 0.0 | 4.9 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 49.4 |
| HCM 6th LOS | D |

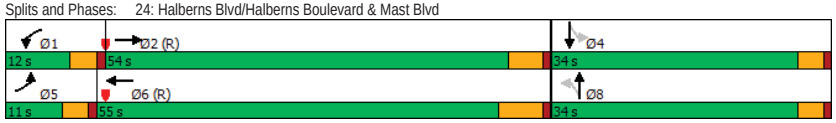
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 24 | 1170 | 46 | 41 | 596 | 45 | 30 | 57 | 128 | 46 | 38 | 18 |
| Future Volume (vph) | 24 | 1170 | 46 | 41 | 596 | 45 | 30 | 57 | 128 | 46 | 38 | 18 |
| Confl. Peds. (#/hr) | | | 1 | | | 5 | | | 1 | | | 2 |
| Confl. Bikes (#/hr) | | | 1 | | | 1 | | | 1 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Perm | NA | | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | | 4 | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 29.2 | | 8.2 | 28.3 | | 32.2 | 32.2 | | 32.2 | 32.2 | |
| Total Split (s) | 11.0 | 54.0 | | 12.0 | 55.0 | | 34.0 | 34.0 | | 34.0 | 34.0 | |
| Total Split (%) | 11.0% | 54.0% | | 12.0% | 55.0% | | 34.0% | 34.0% | | 34.0% | 34.0% | |
| Yellow Time (s) | 3.2 | 4.2 | | 3.2 | 5.3 | | 3.2 | 3.2 | | 3.2 | 3.2 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.2 | 5.2 | | 4.2 | 6.3 | | 4.2 | 4.2 | | 4.2 | 4.2 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Max | | None | C-Max | | None | None | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 75 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 24: Halberns Blvd/Halberns Boulevard & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 24 | 1170 | 46 | 41 | 596 | 45 | 30 | 57 | 128 | 46 | 38 | 18 |
| Future Volume (veh/h) | 24 | 1170 | 46 | 41 | 596 | 45 | 30 | 57 | 128 | 46 | 38 | 18 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.99 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 26 | 1272 | 50 | 45 | 648 | 49 | 33 | 62 | 139 | 50 | 41 | 20 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 37 | 2227 | 87 | 58 | 2176 | 164 | 275 | 92 | 206 | 152 | 215 | 105 |
| Arrive On Green | 0.04 | 1.00 | 1.00 | 0.01 | 0.21 | 0.21 | 0.18 | 0.18 | 0.18 | 0.18 | 0.18 | 0.18 |
| Sat Flow, veh/h | 1781 | 3484 | 137 | 1781 | 3342 | 252 | 1338 | 508 | 1138 | 1180 | 1186 | 578 |
| Grp Volume(v), veh/h | 26 | 648 | 674 | 45 | 344 | 353 | 33 | 0 | 201 | 50 | 0 | 61 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1844 | 1781 | 1777 | 1818 | 1338 | 0 | 1645 | 1180 | 0 | 1764 |
| Q Serve(g_s), s | 1.4 | 0.0 | 0.0 | 2.5 | 16.2 | 16.3 | 2.1 | 0.0 | 11.4 | 4.1 | 0.0 | 2.9 |
| Cycle Q Clear(g_c), s | 1.4 | 0.0 | 0.0 | 2.5 | 16.2 | 16.3 | 5.1 | 0.0 | 11.4 | 15.5 | 0.0 | 2.9 |
| Prop In Lane | 1.00 | | 0.07 | 1.00 | | 0.14 | 1.00 | | 0.69 | 1.00 | | 0.33 |
| Lane Grp Cap(c), veh/h | 37 | 1136 | 1179 | 58 | 1157 | 1183 | 275 | 0 | 298 | 152 | 0 | 320 |
| V/C Ratio(X) | 0.71 | 0.57 | 0.57 | 0.78 | 0.30 | 0.30 | 0.12 | 0.00 | 0.67 | 0.33 | 0.00 | 0.19 |
| Avail Cap(c_a), veh/h | 121 | 1136 | 1179 | 139 | 1157 | 1183 | 431 | 0 | 490 | 289 | 0 | 526 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.27 | 0.27 | 0.27 | 0.83 | 0.83 | 0.83 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 47.6 | 0.0 | 0.0 | 49.1 | 20.1 | 20.1 | 36.9 | 0.0 | 38.2 | 45.4 | 0.0 | 34.7 |
| Incr Delay (d2), s/veh | 2.5 | 0.6 | 0.5 | 7.0 | 0.5 | 0.5 | 0.1 | 0.0 | 1.0 | 0.5 | 0.0 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.6 | 0.2 | 0.2 | 1.2 | 7.8 | 8.0 | 0.7 | 0.0 | 4.6 | 1.2 | 0.0 | 1.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 50.2 | 0.6 | 0.5 | 56.1 | 20.6 | 20.6 | 36.9 | 0.0 | 39.2 | 45.9 | 0.0 | 34.8 |
| LnGrp LOS | D | A | A | E | C | C | D | A | D | D | A | C |
| Approach Vol, veh/h | | 1348 | | | 742 | | | 234 | | | 111 | |
| Approach Delay, s/veh | | 1.5 | | | 22.8 | | | 38.9 | | | 39.8 | |
| Approach LOS | | A | | | C | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.4 | 70.2 | | 22.3 | 6.3 | 71.4 | | 22.3 | | | | |
| Change Period (Y+Rc), s | * 4.2 | * 6.3 | | * 4.2 | * 4.2 | 6.3 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | * 7.8 | * 49 | | * 30 | * 6.8 | 48.7 | | * 30 | | | | |
| Max Q Clear Time (g_c+I1), s | 4.5 | 2.0 | | 17.5 | 3.4 | 18.3 | | 13.4 | | | | |
| Green Ext Time (p_c), s | 0.0 | 25.9 | | 0.2 | 0.0 | 9.2 | | 0.7 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 13.3 | |
| HCM 6th LOS | B | |

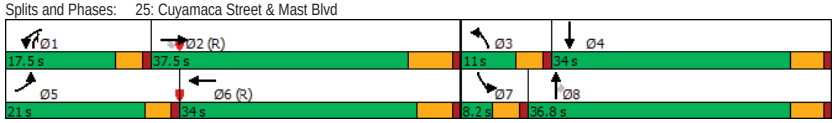
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 356 | 663 | 273 | 326 | 306 | 18 | 258 | 639 | 455 | 14 | 373 | 201 |
| Future Volume (vph) | 356 | 663 | 273 | 326 | 306 | 18 | 258 | 639 | 455 | 14 | 373 | 201 |
| Confl. Peds. (#/hr) | | | 11 | | | 3 | | | | | | 3 |
| Confl. Bikes (#/hr) | | | 2 | | | 2 | | | | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | | Prot | NA | pm+ov | Prot | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | 1 | 7 | 4 | |
| Permitted Phases | | | 2 | | | | | | 8 | | | |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | | 3 | 8 | 1 | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | | 4.0 | 7.0 | 4.0 | 4.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 34.3 | 34.3 | 8.2 | 32.3 | | 8.2 | 33.1 | 8.2 | 8.2 | 34.0 | |
| Total Split (s) | 21.0 | 37.5 | 37.5 | 17.5 | 34.0 | | 11.0 | 36.8 | 17.5 | 8.2 | 34.0 | |
| Total Split (%) | 21.0% | 37.5% | 37.5% | 17.5% | 34.0% | | 11.0% | 36.8% | 17.5% | 8.2% | 34.0% | |
| Yellow Time (s) | 3.2 | 5.3 | 5.3 | 3.2 | 4.3 | | 3.2 | 4.1 | 3.2 | 3.2 | 4.0 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.2 | 6.3 | 6.3 | 4.2 | 5.3 | | 4.2 | 5.1 | 4.2 | 4.2 | 5.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | |
| Recall Mode | None | C-Min | C-Min | None | C-Min | | None | None | None | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 21 (21%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 105 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 25: Cuyamaca Street & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 356 | 663 | 273 | 326 | 306 | 18 | 258 | 639 | 455 | 14 | 373 | 201 |
| Future Volume (veh/h) | 356 | 663 | 273 | 326 | 306 | 18 | 258 | 639 | 455 | 14 | 373 | 201 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 1.00 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 387 | 721 | 297 | 354 | 333 | 20 | 280 | 695 | 495 | 15 | 405 | 218 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 299 | 1283 | 560 | 419 | 1070 | 64 | 235 | 1087 | 677 | 24 | 560 | 298 |
| Arrive On Green | 0.06 | 0.12 | 0.12 | 0.12 | 0.31 | 0.31 | 0.07 | 0.31 | 0.31 | 0.01 | 0.25 | 0.25 |
| Sat Flow, veh/h | 1781 | 3554 | 1550 | 3456 | 3403 | 203 | 3456 | 3554 | 1585 | 1781 | 2228 | 1183 |
| Grp Volume(v), veh/h | 387 | 721 | 297 | 354 | 173 | 180 | 280 | 695 | 495 | 15 | 322 | 301 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1550 | 1728 | 1777 | 1830 | 1728 | 1777 | 1585 | 1781 | 1777 | 1634 |
| Q Serve(g_s), s | 16.8 | 19.2 | 18.0 | 10.0 | 7.4 | 7.5 | 6.8 | 16.9 | 26.0 | 0.8 | 16.6 | 16.9 |
| Cycle Q Clear(g_c), s | 16.8 | 19.2 | 18.0 | 10.0 | 7.4 | 7.5 | 6.8 | 16.9 | 26.0 | 0.8 | 16.6 | 16.9 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.11 | 1.00 | | 1.00 | 1.00 | | 0.72 |
| Lane Grp Cap(c), veh/h | 299 | 1283 | 560 | 419 | 559 | 575 | 235 | 1087 | 677 | 24 | 447 | 411 |
| V/C Ratio(X) | 1.29 | 0.56 | 0.53 | 0.84 | 0.31 | 0.31 | 1.19 | 0.64 | 0.73 | 0.62 | 0.72 | 0.73 |
| Avail Cap(c_a), veh/h | 299 | 1283 | 560 | 460 | 559 | 575 | 235 | 1127 | 695 | 71 | 515 | 474 |
| HCM Platoon Ratio | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.82 | 0.82 | 0.82 | 0.97 | 0.97 | 0.97 | 0.22 | 0.22 | 0.22 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 47.2 | 36.6 | 36.1 | 43.0 | 26.0 | 26.1 | 46.6 | 29.9 | 23.9 | 49.1 | 34.2 | 34.3 |
| Incr Delay (d2), s/veh | 151.0 | 1.5 | 2.9 | 11.2 | 1.4 | 1.4 | 95.6 | 0.3 | 0.9 | 9.1 | 5.1 | 5.9 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 20.5 | 9.3 | 7.9 | 4.8 | 3.2 | 3.4 | 6.0 | 7.0 | 9.4 | 0.4 | 7.6 | 7.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 198.2 | 38.0 | 39.0 | 54.2 | 27.4 | 27.4 | 142.2 | 30.3 | 24.8 | 58.2 | 39.3 | 40.3 |
| LnGrp LOS | F | D | D | D | C | C | F | C | C | E | D | D |
| Approach Vol, veh/h | | 1405 | | | 707 | | | 1470 | | | 638 | |
| Approach Delay, s/veh | | 82.4 | | | 40.8 | | | 49.7 | | | 40.2 | |
| Approach LOS | | F | | | D | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 16.3 | 42.4 | 11.0 | 30.2 | 21.0 | 37.8 | 5.6 | 35.7 |
| Change Period (Y+Rc), s | * 4.2 | 6.3 | * 4.2 | * 5.1 | * 4.2 | * 6.3 | * 4.2 | 5.1 |
| Max Green Setting (Gmax), s | * 13 | 31.2 | * 6.8 | * 29 | * 17 | * 29 | * 4 | 31.7 |
| Max Q Clear Time (g_c+I1), s | 12.0 | 21.2 | 8.8 | 18.9 | 18.8 | 9.5 | 2.8 | 28.0 |
| Green Ext Time (p_c), s | 0.1 | 5.4 | 0.0 | 3.8 | 0.0 | 2.3 | 0.0 | 2.6 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 57.7 | |
| HCM 6th LOS | E | |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 1013 | 29 | 105 | 642 | 16 | 119 |
| Future Volume (vph) | 1013 | 29 | 105 | 642 | 16 | 119 |
| Confl. Peds. (#/hr) | | 12 | | | | 20 |
| Confl. Bikes (#/hr) | | 4 | | | | 8 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | NA | | Prot | NA | Prot | Perm |
| Protected Phases | 2 | | 1 | 6 | 8 | |
| Permitted Phases | | | | | | 8 |
| Detector Phase | 2 | | 1 | 6 | 8 | 8 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 22.5 | | 8.5 | 20.5 | 22.5 | 22.5 |
| Total Split (s) | 55.0 | | 20.0 | 75.0 | 25.0 | 25.0 |
| Total Split (%) | 55.0% | | 20.0% | 75.0% | 25.0% | 25.0% |
| Yellow Time (s) | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lag | | Lead | | | |
| Lead-Lag Optimize? | Yes | | Yes | | | |
| Recall Mode | Min | | None | Min | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 60.8 |
| Natural Cycle: 60 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 26: Park Center Drive & Mast Blvd

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 1013 | 29 | 105 | 642 | 16 | 119 |
| Future Volume (veh/h) | 1013 | 29 | 105 | 642 | 16 | 119 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | 0.96 | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 1101 | 32 | 114 | 698 | 17 | 129 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 1712 | 50 | 150 | 2405 | 196 | 175 |
| Arrive On Green | 0.49 | 0.49 | 0.08 | 0.68 | 0.11 | 0.11 |
| Sat Flow, veh/h | 3616 | 102 | 1781 | 3647 | 1781 | 1585 |
| Grp Volume(v), veh/h | 555 | 578 | 114 | 698 | 17 | 129 |
| Grp Sat Flow(s),veh/h/ln | 1777 | 1848 | 1781 | 1777 | 1781 | 1585 |
| Q Serve(g_s), s | 9.9 | 9.9 | 2.6 | 3.3 | 0.4 | 3.3 |
| Cycle Q Clear(g_c), s | 9.9 | 9.9 | 2.6 | 3.3 | 0.4 | 3.3 |
| Prop In Lane | | 0.06 | 1.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 864 | 898 | 150 | 2405 | 196 | 175 |
| V/C Ratio(X) | 0.64 | 0.64 | 0.76 | 0.29 | 0.09 | 0.74 |
| Avail Cap(c_a), veh/h | 2123 | 2208 | 653 | 5929 | 864 | 769 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 8.1 | 8.1 | 18.9 | 2.7 | 16.9 | 18.2 |
| Incr Delay (d2), s/veh | 0.8 | 0.8 | 7.7 | 0.1 | 0.2 | 6.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.4 | 2.5 | 1.2 | 0.2 | 0.1 | 1.4 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 8.9 | 8.9 | 26.6 | 2.8 | 17.1 | 24.2 |
| LnGrp LOS | A | A | C | A | B | C |
| Approach Vol, veh/h | 1133 | | | 812 | 146 | |
| Approach Delay, s/veh | 8.9 | | | 6.2 | 23.4 | |
| Approach LOS | A | | | A | C | |

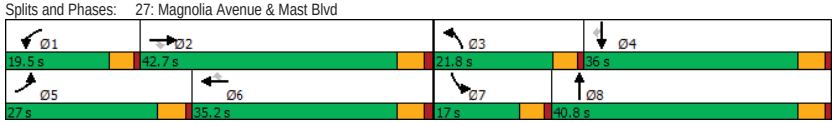
| Timer - Assigned Phs | 1 | 2 | | | 6 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 8.1 | 25.0 | | | 33.1 | 9.2 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 15.5 | 50.5 | | | 70.5 | 20.5 |
| Max Q Clear Time (g_c+I1), s | 4.6 | 11.9 | | | 5.3 | 5.3 |
| Green Ext Time (p_c), s | 0.2 | 8.7 | | | 5.2 | 0.4 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 8.8 | |
| HCM 6th LOS | A | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 409 | 292 | 258 | 116 | 158 | 31 | 296 | 726 | 126 | 88 | 517 | 222 |
| Future Volume (vph) | 409 | 292 | 258 | 116 | 158 | 31 | 296 | 726 | 126 | 88 | 517 | 222 |
| Confl. Peds. (#/hr) | | | 14 | | | 20 | | | 3 | | | 24 |
| Confl. Bikes (#/hr) | | | 1 | | | 4 | | | 2 | | | 6 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 11.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 9.0 | | 7.0 | 9.0 | 9.0 |
| Minimum Split (s) | 16.0 | 34.5 | 34.5 | 11.5 | 34.5 | 34.5 | 11.5 | 35.0 | | 11.5 | 36.0 | 36.0 |
| Total Split (s) | 27.0 | 42.7 | 42.7 | 19.5 | 35.2 | 35.2 | 21.8 | 40.8 | | 17.0 | 36.0 | 36.0 |
| Total Split (%) | 22.5% | 35.6% | 35.6% | 16.3% | 29.3% | 29.3% | 18.2% | 34.0% | | 14.2% | 30.0% | 30.0% |
| Yellow Time (s) | 4.0 | 4.0 | 4.0 | 3.5 | 4.0 | 4.0 | 3.5 | 4.0 | | 3.5 | 4.0 | 4.0 |
| All-Red Time (s) | 1.0 | 1.5 | 1.5 | 1.0 | 1.5 | 1.5 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 5.0 | 5.5 | 5.5 | 4.5 | 5.5 | 5.5 | 4.5 | 5.0 | | 4.5 | 5.0 | 5.0 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | Min | Min | None | Min | Min | None | Min | | None | Min | Min |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 89.2 |
| Natural Cycle: 100 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 27: Magnolia Avenue & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 409 | 292 | 258 | 116 | 158 | 31 | 296 | 726 | 126 | 88 | 517 | 222 |
| Future Volume (veh/h) | 409 | 292 | 258 | 116 | 158 | 31 | 296 | 726 | 126 | 88 | 517 | 222 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.95 | 1.00 | | 0.98 | 1.00 | | 0.96 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 445 | 317 | 280 | 126 | 172 | 34 | 322 | 789 | 137 | 96 | 562 | 241 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 570 | 956 | 414 | 159 | 666 | 283 | 412 | 999 | 173 | 134 | 1020 | 436 |
| Arrive On Green | 0.16 | 0.27 | 0.27 | 0.09 | 0.19 | 0.19 | 0.12 | 0.33 | 0.33 | 0.08 | 0.29 | 0.29 |
| Sat Flow, veh/h | 3456 | 3554 | 1541 | 1781 | 3554 | 1509 | 3456 | 3019 | 524 | 1781 | 3554 | 1520 |
| Grp Volume(v), veh/h | 445 | 317 | 280 | 126 | 172 | 34 | 322 | 464 | 462 | 96 | 562 | 241 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1541 | 1781 | 1777 | 1509 | 1728 | 1777 | 1766 | 1781 | 1777 | 1520 |
| Q Serve(g_s), s | 10.2 | 5.9 | 13.4 | 5.7 | 3.4 | 1.6 | 7.5 | 19.6 | 19.6 | 4.4 | 11.1 | 11.1 |
| Cycle Q Clear(g_c), s | 10.2 | 5.9 | 13.4 | 5.7 | 3.4 | 1.6 | 7.5 | 19.6 | 19.6 | 4.4 | 11.1 | 11.1 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.30 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 570 | 956 | 414 | 159 | 666 | 283 | 412 | 588 | 585 | 134 | 1020 | 436 |
| V/C Ratio(X) | 0.78 | 0.33 | 0.68 | 0.79 | 0.26 | 0.12 | 0.78 | 0.79 | 0.79 | 0.72 | 0.55 | 0.55 |
| Avail Cap(c_a), veh/h | 918 | 1596 | 692 | 323 | 1274 | 541 | 722 | 768 | 763 | 269 | 1330 | 569 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 33.2 | 24.3 | 27.0 | 37.0 | 28.7 | 28.0 | 35.4 | 25.1 | 25.1 | 37.4 | 25.0 | 25.0 |
| Incr Delay (d2), s/veh | 2.9 | 0.2 | 2.3 | 3.3 | 0.2 | 0.2 | 1.2 | 4.2 | 4.2 | 2.7 | 0.5 | 1.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 4.3 | 2.4 | 4.9 | 2.6 | 1.4 | 0.6 | 3.1 | 8.3 | 8.2 | 1.9 | 4.4 | 3.9 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 36.0 | 24.5 | 29.4 | 40.3 | 29.0 | 28.2 | 36.7 | 29.3 | 29.3 | 40.1 | 25.5 | 26.1 |
| LnGrp LOS | D | C | C | D | C | C | D | C | C | D | C | C |
| Approach Vol, veh/h | | 1042 | | | 332 | | | 1248 | | | 899 | |
| Approach Delay, s/veh | | 30.7 | | | 33.2 | | | 31.2 | | | 27.2 | |
| Approach LOS | | C | | | C | | | C | | | C | |

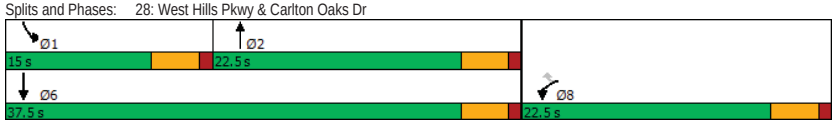
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 11.9 | 27.8 | 14.4 | 28.8 | 18.7 | 21.0 | 10.7 | 32.4 |
| Change Period (Y+Rc), s | 4.5 | 5.5 | 4.5 | 5.0 | 5.0 | 5.5 | 4.5 | 5.0 |
| Max Green Setting (Gmax), s | 15.0 | 37.2 | 17.3 | 31.0 | 22.0 | 29.7 | 12.5 | 35.8 |
| Max Q Clear Time (g_c+I1), s | 7.7 | 15.4 | 9.5 | 13.1 | 12.2 | 5.4 | 6.4 | 21.6 |
| Green Ext Time (p_c), s | 0.1 | 3.5 | 0.4 | 4.2 | 1.4 | 1.3 | 0.0 | 4.8 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 30.2 |
| HCM 6th LOS | | C |

| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 100 | 129 | 598 | 214 | 286 | 596 |
| Future Volume (vph) | 100 | 129 | 598 | 214 | 286 | 596 |
| Confl. Peds. (#/hr) | | | | 1 | | |
| Confl. Bikes (#/hr) | | 1 | | 5 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | 0% | | | 0% |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | NA | | Prot | NA |
| Protected Phases | 8 | | 2 | | 1 | 6 |
| Permitted Phases | | 8 | | | | |
| Detector Phase | 8 | 8 | 2 | | 1 | 6 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | | 8.5 | 20.5 |
| Total Split (s) | 22.5 | 22.5 | 22.5 | | 15.0 | 37.5 |
| Total Split (%) | 37.5% | 37.5% | 37.5% | | 25.0% | 62.5% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Lead/Lag | | | Lag | | Lead | |
| Lead-Lag Optimize? | | | Yes | | Yes | |
| Recall Mode | None | None | Min | | None | Min |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 49 |
| Natural Cycle: 65 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 28: West Hills Pkwy & Carlton Oaks Dr








| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 100 | 129 | 598 | 214 | 286 | 596 |
| Future Volume (veh/h) | 100 | 129 | 598 | 214 | 286 | 596 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | | 0.97 | 1.00 | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | No | | | No |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 109 | 140 | 650 | 233 | 311 | 648 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 206 | 322 | 874 | 313 | 379 | 2366 |
| Arrive On Green | 0.12 | 0.12 | 0.34 | 0.34 | 0.21 | 0.67 |
| Sat Flow, veh/h | 1781 | 2790 | 2636 | 911 | 1781 | 3647 |
| Grp Volume(v), veh/h | 109 | 140 | 454 | 429 | 311 | 648 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1395 | 1777 | 1677 | 1781 | 1777 |
| Q Serve(g_s), s | 2.4 | 1.9 | 9.3 | 9.3 | 6.9 | 3.1 |
| Cycle Q Clear(g_c), s | 2.4 | 1.9 | 9.3 | 9.3 | 6.9 | 3.1 |
| Prop In Lane | 1.00 | 1.00 | | 0.54 | 1.00 | |
| Lane Grp Cap(c), veh/h | 206 | 322 | 611 | 576 | 379 | 2366 |
| V/C Ratio(X) | 0.53 | 0.43 | 0.74 | 0.74 | 0.82 | 0.27 |
| Avail Cap(c_a), veh/h | 779 | 1219 | 777 | 733 | 454 | 2848 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 17.2 | 17.0 | 11.9 | 11.9 | 15.5 | 2.8 |
| Incr Delay (d2), s/veh | 2.1 | 0.9 | 2.9 | 3.1 | 9.8 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.0 | 0.6 | 2.9 | 2.8 | 3.1 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 19.3 | 17.9 | 14.8 | 15.0 | 25.2 | 2.9 |
| LnGrp LOS | B | B | B | B | C | A |
| Approach Vol, veh/h | 249 | | 883 | | | 959 |
| Approach Delay, s/veh | 18.5 | | 14.9 | | | 10.1 |
| Approach LOS | B | | B | | | B |

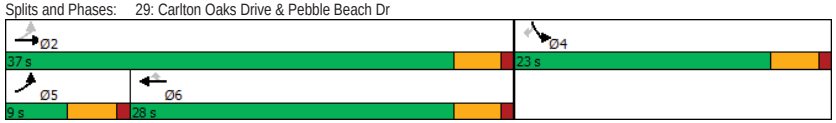
| Timer - Assigned Phs | 1 | 2 | | | 6 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 13.3 | 18.7 | | | 31.9 | 9.3 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 10.5 | 18.0 | | | 33.0 | 18.0 |
| Max Q Clear Time (g_c+I1), s | 8.9 | 11.3 | | | 5.1 | 4.4 |
| Green Ext Time (p_c), s | 0.2 | 2.8 | | | 4.3 | 0.7 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 13.1 | |
| HCM 6th LOS | B | |

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 10 | 402 | 353 | 36 | 24 | 7 |
| Future Volume (vph) | 10 | 402 | 353 | 36 | 24 | 7 |
| Confl. Peds. (#/hr) | | | | 8 | | |
| Confl. Bikes (#/hr) | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | pm+pt | NA | NA | Perm | Prot | Perm |
| Protected Phases | 5 | 2 | 6 | | 4 | |
| Permitted Phases | 2 | | | 6 | | 4 |
| Detector Phase | 5 | 2 | 6 | 6 | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 |
| Total Split (s) | 9.0 | 37.0 | 28.0 | 28.0 | 23.0 | 23.0 |
| Total Split (%) | 15.0% | 61.7% | 46.7% | 46.7% | 38.3% | 38.3% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | | Lag | Lag | | |
| Lead-Lag Optimize? | Yes | | Yes | Yes | | |
| Recall Mode | None | Min | Min | Min | None | None |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 36.9 |
| Natural Cycle: 55 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 29: Carlton Oaks Drive & Pebble Beach Dr








| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 10 | 402 | 353 | 36 | 24 | 7 |
| Future Volume (veh/h) | 10 | 402 | 353 | 36 | 24 | 7 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 0.99 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 11 | 437 | 384 | 39 | 26 | 8 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 528 | 1071 | 681 | 570 | 61 | 54 |
| Arrive On Green | 0.01 | 0.57 | 0.36 | 0.36 | 0.03 | 0.03 |
| Sat Flow, veh/h | 1781 | 1870 | 1870 | 1568 | 1781 | 1585 |
| Grp Volume(v), veh/h | 11 | 437 | 384 | 39 | 26 | 8 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1870 | 1568 | 1781 | 1585 |
| Q Serve(g_s), s | 0.1 | 3.0 | 3.8 | 0.4 | 0.3 | 0.1 |
| Cycle Q Clear(g_c), s | 0.1 | 3.0 | 3.8 | 0.4 | 0.3 | 0.1 |
| Prop In Lane | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 528 | 1071 | 681 | 570 | 61 | 54 |
| V/C Ratio(X) | 0.02 | 0.41 | 0.56 | 0.07 | 0.43 | 0.15 |
| Avail Cap(c_a), veh/h | 857 | 2658 | 1922 | 1611 | 1441 | 1282 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 4.0 | 2.7 | 5.8 | 4.7 | 10.8 | 10.7 |
| Incr Delay (d2), s/veh | 0.0 | 0.3 | 0.7 | 0.1 | 4.8 | 1.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.1 | 0.7 | 0.1 | 0.2 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 4.1 | 3.0 | 6.6 | 4.8 | 15.6 | 12.0 |
| LnGrp LOS | A | A | A | A | B | B |
| Approach Vol, veh/h | | 448 | 423 | | 34 | |
| Approach Delay, s/veh | | 3.0 | 6.4 | | 14.7 | |
| Approach LOS | | A | A | | B | |

| Timer - Assigned Phs | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 17.6 | | 5.3 | 4.8 | 12.8 |
| Change Period (Y+Rc), s | 4.5 | | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 32.5 | | 18.5 | 4.5 | 23.5 |
| Max Q Clear Time (g_c+I1), s | 5.0 | | 2.3 | 2.1 | 5.8 |
| Green Ext Time (p_c), s | 2.8 | | 0.0 | 0.0 | 2.3 |

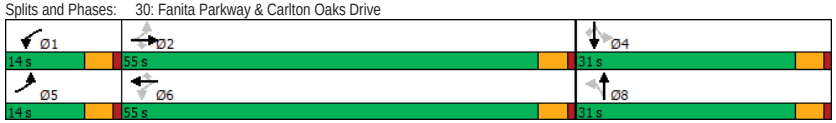
| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 5.0 |
| HCM 6th LOS | A |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 73 | 343 | 2 | 9 | 321 | 268 | 2 | 0 | 8 | 191 | 1 | 47 |
| Future Volume (vph) | 73 | 343 | 2 | 9 | 321 | 268 | 2 | 0 | 8 | 191 | 1 | 47 |
| Confl. Peds. (#/hr) | | | 7 | | | 9 | | | 9 | | | 7 |
| Confl. Bikes (#/hr) | | | 3 | | | 1 | | | 1 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | pm+pt | NA | Perm | pm+pt | NA | Perm | Perm | NA | | Perm | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | 2 | | 2 | 6 | | 6 | 8 | | | 4 | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 8 | 8 | | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | | 7.0 | 7.0 | 7.0 |
| Minimum Split (s) | 11.5 | 26.5 | 26.5 | 11.5 | 20.5 | 20.5 | 22.5 | 22.5 | | 22.5 | 22.5 | 22.5 |
| Total Split (s) | 14.0 | 55.0 | 55.0 | 14.0 | 55.0 | 55.0 | 31.0 | 31.0 | | 31.0 | 31.0 | 31.0 |
| Total Split (%) | 14.0% | 55.0% | 55.0% | 14.0% | 55.0% | 55.0% | 31.0% | 31.0% | | 31.0% | 31.0% | 31.0% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | | | | | | |
| Recall Mode | None | Min | Min | None | Min | Min | None | None | | None | None | None |

**Intersection Summary**

Cycle Length: 100
Actuated Cycle Length: 49.7
Natural Cycle: 65
Control Type: Actuated-Uncoordinated

Splits and Phases: 30: Fanita Parkway & Carlton Oaks Drive








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 73 | 343 | 2 | 9 | 321 | 268 | 2 | 0 | 8 | 191 | 1 | 47 |
| Future Volume (veh/h) | 73 | 343 | 2 | 9 | 321 | 268 | 2 | 0 | 8 | 191 | 1 | 47 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 0.99 | | 0.96 | 0.99 | | 0.96 | 0.98 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 79 | 373 | 2 | 10 | 349 | 291 | 2 | 0 | 9 | 208 | 1 | 51 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 500 | 739 | 606 | 473 | 576 | 471 | 138 | 39 | 277 | 501 | 412 | 344 |
| Arrive On Green | 0.11 | 0.39 | 0.39 | 0.02 | 0.31 | 0.31 | 0.22 | 0.00 | 0.22 | 0.22 | 0.22 | 0.22 |
| Sat Flow, veh/h | 1781 | 1870 | 1535 | 1781 | 1870 | 1529 | 103 | 177 | 1258 | 1378 | 1870 | 1560 |
| Grp Volume(v), veh/h | 79 | 373 | 2 | 10 | 349 | 291 | 11 | 0 | 0 | 208 | 1 | 51 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1535 | 1781 | 1870 | 1529 | 1538 | 0 | 0 | 1378 | 1870 | 1560 |
| Q Serve(g_s), s | 1.0 | 5.6 | 0.0 | 0.1 | 5.9 | 6.0 | 0.0 | 0.0 | 0.0 | 4.8 | 0.0 | 1.0 |
| Cycle Q Clear(g_c), s | 1.0 | 5.6 | 0.0 | 0.1 | 5.9 | 6.0 | 0.2 | 0.0 | 0.0 | 5.0 | 0.0 | 1.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 0.18 | | 0.82 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 500 | 739 | 606 | 473 | 576 | 471 | 454 | 0 | 0 | 501 | 412 | 344 |
| V/C Ratio(X) | 0.16 | 0.51 | 0.00 | 0.02 | 0.61 | 0.62 | 0.02 | 0.00 | 0.00 | 0.42 | 0.00 | 0.15 |
| Avail Cap(c_a), veh/h | 771 | 2561 | 2102 | 899 | 2561 | 2094 | 1192 | 0 | 0 | 1188 | 1344 | 1121 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 6.9 | 8.4 | 6.8 | 8.5 | 10.9 | 10.9 | 11.3 | 0.0 | 0.0 | 13.1 | 11.2 | 11.6 |
| Incr Delay (d2), s/veh | 0.1 | 0.5 | 0.0 | 0.0 | 1.0 | 1.3 | 0.0 | 0.0 | 0.0 | 0.5 | 0.0 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.2 | 1.6 | 0.0 | 0.0 | 1.9 | 1.6 | 0.1 | 0.0 | 0.0 | 1.3 | 0.0 | 0.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 7.0 | 9.0 | 6.8 | 8.5 | 11.9 | 12.2 | 11.3 | 0.0 | 0.0 | 13.7 | 11.2 | 11.8 |
| LnGrp LOS | A | A | A | A | B | B | B | A | A | B | B | B |
| Approach Vol, veh/h | | 454 | | | 650 | | | 11 | | | 260 | |
| Approach Delay, s/veh | | 8.6 | | | 12.0 | | | 11.3 | | | 13.3 | |
| Approach LOS | | A | | | B | | | B | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.2 | 19.1 | | 12.6 | 8.4 | 15.9 | | 12.6 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 9.5 | 50.5 | | 26.5 | 9.5 | 50.5 | | 26.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.1 | 7.6 | | 7.0 | 3.0 | 8.0 | | 2.2 | | | | |
| Green Ext Time (p_c), s | 0.0 | 2.4 | | 0.7 | 0.1 | 3.4 | | 0.0 | | | | |

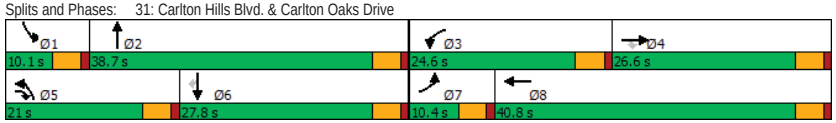
**Intersection Summary**

| | | |
|---|---|---|
| HCM 6th Ctrl Delay | 11.1 | |
| HCM 6th LOS | B | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 29 | 192 | 386 | 188 | 96 | 14 | 577 | 688 | 243 | 23 | 397 | 15 |
| Future Volume (vph) | 29 | 192 | 386 | 188 | 96 | 14 | 577 | 688 | 243 | 23 | 397 | 15 |
| Confl. Peds. (#/hr) | | | 9 | | | 1 | | | 6 | | | 4 |
| Confl. Bikes (#/hr) | | | 5 | | | 3 | | | 1 | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 7 | 4 | 5 | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | | | | 6 |
| Detector Phase | 7 | 4 | 5 | 3 | 8 | | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 26.5 | 8.5 | 8.5 | 26.5 | | 8.5 | 22.5 | | 8.5 | 22.5 | 22.5 |
| Total Split (s) | 10.4 | 26.6 | 21.0 | 24.6 | 40.8 | | 21.0 | 38.7 | | 10.1 | 27.8 | 27.8 |
| Total Split (%) | 10.4% | 26.6% | 21.0% | 24.6% | 40.8% | | 21.0% | 38.7% | | 10.1% | 27.8% | 27.8% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | | None | Min | | None | Min | Min |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 81.1 |
| Natural Cycle: 90 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 31: Carlton Hills Blvd. & Carlton Oaks Drive








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 29 | 192 | 386 | 188 | 96 | 14 | 577 | 688 | 243 | 23 | 397 | 15 |
| Future Volume (veh/h) | 29 | 192 | 386 | 188 | 96 | 14 | 577 | 688 | 243 | 23 | 397 | 15 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 32 | 209 | 420 | 204 | 104 | 15 | 627 | 748 | 264 | 25 | 432 | 16 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 46 | 466 | 709 | 249 | 1134 | 160 | 708 | 918 | 324 | 38 | 621 | 271 |
| Arrive On Green | 0.03 | 0.25 | 0.25 | 0.14 | 0.36 | 0.36 | 0.20 | 0.36 | 0.36 | 0.02 | 0.17 | 0.17 |
| Sat Flow, veh/h | 1781 | 1870 | 1542 | 1781 | 3119 | 441 | 3456 | 2561 | 904 | 1781 | 3554 | 1551 |
| Grp Volume(v), veh/h | 32 | 209 | 420 | 204 | 58 | 61 | 627 | 519 | 493 | 25 | 432 | 16 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1542 | 1781 | 1777 | 1783 | 1728 | 1777 | 1689 | 1781 | 1777 | 1551 |
| Q Serve(g_s), s | 1.4 | 7.4 | 15.9 | 8.7 | 1.7 | 1.7 | 13.7 | 20.6 | 20.6 | 1.1 | 8.9 | 0.7 |
| Cycle Q Clear(g_c), s | 1.4 | 7.4 | 15.9 | 8.7 | 1.7 | 1.7 | 13.7 | 20.6 | 20.6 | 1.1 | 8.9 | 0.7 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.25 | 1.00 | | 0.54 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 46 | 466 | 709 | 249 | 646 | 648 | 708 | 637 | 605 | 38 | 621 | 271 |
| V/C Ratio(X) | 0.70 | 0.45 | 0.59 | 0.82 | 0.09 | 0.09 | 0.89 | 0.82 | 0.82 | 0.65 | 0.70 | 0.06 |
| Avail Cap(c_a), veh/h | 135 | 531 | 762 | 460 | 828 | 831 | 732 | 780 | 742 | 128 | 1063 | 464 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 37.6 | 24.7 | 15.9 | 32.5 | 16.3 | 16.3 | 30.1 | 22.7 | 22.7 | 37.8 | 30.2 | 26.8 |
| Incr Delay (d2), s/veh | 17.6 | 0.7 | 1.1 | 6.5 | 0.1 | 0.1 | 12.3 | 5.5 | 5.8 | 17.3 | 1.4 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.8 | 3.2 | 5.4 | 4.1 | 0.7 | 0.7 | 6.6 | 8.9 | 8.5 | 0.6 | 3.7 | 0.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 55.2 | 25.4 | 17.0 | 39.0 | 16.4 | 16.4 | 42.4 | 28.2 | 28.5 | 55.1 | 31.6 | 26.9 |
| LnGrp LOS | E | C | B | D | B | B | D | C | C | E | C | C |
| Approach Vol, veh/h | | 661 | | | 323 | | | 1639 | | | 473 | |
| Approach Delay, s/veh | | 21.5 | | | 30.7 | | | 33.7 | | | 32.7 | |
| Approach LOS | | C | | | C | | | C | | | C | |

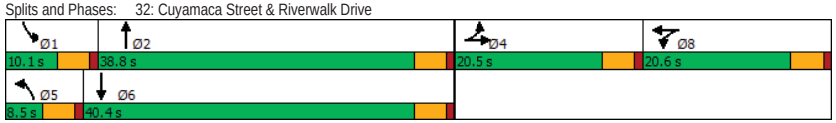
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 6.2 | 32.4 | 15.4 | 23.9 | 20.5 | 18.1 | 6.5 | 32.8 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 5.6 | 34.2 | 20.1 | 22.1 | 16.5 | 23.3 | 5.9 | 36.3 |
| Max Q Clear Time (g_c+I1), s | 3.1 | 22.6 | 10.7 | 17.9 | 15.7 | 10.9 | 3.4 | 3.7 |
| Green Ext Time (p_c), s | 0.0 | 5.0 | 0.4 | 1.2 | 0.2 | 2.2 | 0.0 | 0.6 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 30.6 |
| HCM 6th LOS | C |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 17 | 6 | 15 | 120 | 0 | 33 | 13 | 1343 | 177 | 80 | 1090 | 1 |
| Future Volume (vph) | 17 | 6 | 15 | 120 | 0 | 33 | 13 | 1343 | 177 | 80 | 1090 | 1 |
| Confl. Peds. (#/hr) | | | 7 | | | 5 | | | 15 | | | 5 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | 3 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Split | NA | | Split | NA | | Prot | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | 20.5 | 20.5 | | 20.5 | 20.5 | | 8.5 | 20.5 | | 8.5 | 20.5 | |
| Total Split (s) | 20.5 | 20.5 | | 20.6 | 20.6 | | 8.5 | 38.8 | | 10.1 | 40.4 | |
| Total Split (%) | 22.8% | 22.8% | | 22.9% | 22.9% | | 9.4% | 43.1% | | 11.2% | 44.9% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 90 |
| Actuated Cycle Length: 75.9 |
| Natural Cycle: 100 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 32: Cuyamaca Street & Riverwalk Drive






Existing + Cuml + Proj PM
32: Cuyamaca Street & Riverwalk Drive
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 17 | 6 | 15 | 120 | 0 | 33 | 13 | 1343 | 177 | 80 | 1090 | 1 |
| Future Volume (veh/h) | 17 | 6 | 15 | 120 | 0 | 33 | 13 | 1343 | 177 | 80 | 1090 | 1 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.97 | 1.00 | | 0.96 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 18 | 7 | 16 | 130 | 0 | 36 | 14 | 1460 | 192 | 87 | 1185 | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 81 | 22 | 51 | 191 | 0 | 165 | 24 | 1608 | 209 | 112 | 2040 | 2 |
| Arrive On Green | 0.05 | 0.05 | 0.05 | 0.11 | 0.00 | 0.11 | 0.01 | 0.51 | 0.51 | 0.06 | 0.56 | 0.56 |
| Sat Flow, veh/h | 1781 | 493 | 1127 | 1781 | 0 | 1541 | 1781 | 3147 | 408 | 1781 | 3644 | 3 |
| Grp Volume(v), veh/h | 18 | 0 | 23 | 130 | 0 | 36 | 14 | 816 | 836 | 87 | 578 | 608 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1620 | 1781 | 0 | 1541 | 1781 | 1777 | 1779 | 1781 | 1777 | 1870 |
| Q Serve(g_s), s | 0.6 | 0.0 | 0.9 | 4.6 | 0.0 | 1.4 | 0.5 | 27.3 | 28.5 | 3.2 | 14.0 | 14.0 |
| Cycle Q Clear(g_c), s | 0.6 | 0.0 | 0.9 | 4.6 | 0.0 | 1.4 | 0.5 | 27.3 | 28.5 | 3.2 | 14.0 | 14.0 |
| Prop In Lane | 1.00 | | 0.70 | 1.00 | | 1.00 | 1.00 | | 0.23 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 81 | 0 | 74 | 191 | 0 | 165 | 24 | 908 | 909 | 112 | 995 | 1047 |
| V/C Ratio(X) | 0.22 | 0.00 | 0.31 | 0.68 | 0.00 | 0.22 | 0.57 | 0.90 | 0.92 | 0.78 | 0.58 | 0.58 |
| Avail Cap(c_a), veh/h | 433 | 0 | 394 | 436 | 0 | 377 | 108 | 927 | 927 | 152 | 995 | 1047 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 30.3 | 0.0 | 30.4 | 28.3 | 0.0 | 26.8 | 32.2 | 14.5 | 14.8 | 30.4 | 9.4 | 9.4 |
| Incr Delay (d2), s/veh | 1.4 | 0.0 | 2.4 | 4.2 | 0.0 | 0.7 | 19.4 | 11.4 | 13.9 | 16.3 | 0.9 | 0.8 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.3 | 0.0 | 0.4 | 2.1 | 0.0 | 0.5 | 0.3 | 11.7 | 12.7 | 1.8 | 4.5 | 4.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 31.6 | 0.0 | 32.8 | 32.5 | 0.0 | 27.5 | 51.6 | 25.9 | 28.8 | 46.7 | 10.3 | 10.3 |
| LnGrp LOS | C | A | C | C | A | C | D | C | C | D | B | B |
| Approach Vol, veh/h | | 41 | | | 166 | | | 1666 | | | 1273 | |
| Approach Delay, s/veh | | 32.3 | | | 31.4 | | | 27.6 | | | 12.8 | |
| Approach LOS | | C | | | C | | | C | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 8.6 | 38.1 | | 7.5 | 5.4 | 41.3 | | 11.6 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 5.6 | 34.3 | | 16.0 | 4.0 | 35.9 | | 16.1 | | | | |
| Max Q Clear Time (g_c+I1), s | 5.2 | 30.5 | | 2.9 | 2.5 | 16.0 | | 6.6 | | | | |
| Green Ext Time (p_c), s | 0.0 | 3.1 | | 0.1 | 0.0 | 7.9 | | 0.3 | | | | |

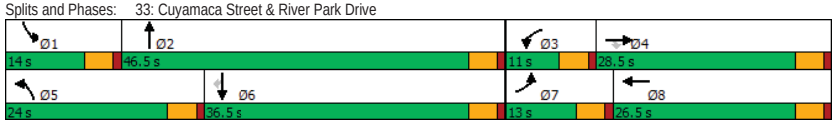
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 21.8 | |
| HCM 6th LOS | C | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 102 | 21 | 108 | 60 | 11 | 34 | 248 | 1339 | 84 | 98 | 1068 | 57 |
| Future Volume (vph) | 102 | 21 | 108 | 60 | 11 | 34 | 248 | 1339 | 84 | 98 | 1068 | 57 |
| Confl. Peds. (#/hr) | | | 3 | | | 5 | | | 6 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | | | | 6 |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 26.5 | 26.5 | 8.5 | 26.5 | | 8.5 | 22.5 | | 8.5 | 26.5 | 26.5 |
| Total Split (s) | 13.0 | 28.5 | 28.5 | 11.0 | 26.5 | | 24.0 | 46.5 | | 14.0 | 36.5 | 36.5 |
| Total Split (%) | 13.0% | 28.5% | 28.5% | 11.0% | 26.5% | | 24.0% | 46.5% | | 14.0% | 36.5% | 36.5% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | | None | Min | | None | Min | Min |

**Intersection Summary**

Cycle Length: 100
Actuated Cycle Length: 83
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 33: Cuyamaca Street & River Park Drive






Existing + Cuml + Proj PM
33: Cuyamaca Street & River Park Drive
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 102 | 21 | 108 | 60 | 11 | 34 | 248 | 1339 | 84 | 98 | 1068 | 57 |
| Future Volume (veh/h) | 102 | 21 | 108 | 60 | 11 | 34 | 248 | 1339 | 84 | 98 | 1068 | 57 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 111 | 23 | 117 | 65 | 12 | 37 | 270 | 1455 | 91 | 107 | 1161 | 62 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 142 | 223 | 187 | 83 | 34 | 105 | 319 | 1733 | 108 | 138 | 1453 | 647 |
| Arrive On Green | 0.08 | 0.12 | 0.12 | 0.05 | 0.09 | 0.09 | 0.18 | 0.51 | 0.51 | 0.08 | 0.41 | 0.41 |
| Sat Flow, veh/h | 1781 | 1870 | 1573 | 1781 | 398 | 1226 | 1781 | 3391 | 211 | 1781 | 3554 | 1581 |
| Grp Volume(v), veh/h | 111 | 23 | 117 | 65 | 0 | 49 | 270 | 759 | 787 | 107 | 1161 | 62 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1573 | 1781 | 0 | 1624 | 1781 | 1777 | 1826 | 1781 | 1777 | 1581 |
| Q Serve(g_s), s | 4.5 | 0.8 | 5.2 | 2.6 | 0.0 | 2.1 | 10.7 | 26.7 | 27.1 | 4.3 | 21.0 | 1.8 |
| Cycle Q Clear(g_c), s | 4.5 | 0.8 | 5.2 | 2.6 | 0.0 | 2.1 | 10.7 | 26.7 | 27.1 | 4.3 | 21.0 | 1.8 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.76 | 1.00 | | 0.12 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 142 | 223 | 187 | 83 | 0 | 139 | 319 | 908 | 933 | 138 | 1453 | 647 |
| V/C Ratio(X) | 0.78 | 0.10 | 0.63 | 0.78 | 0.00 | 0.35 | 0.85 | 0.84 | 0.84 | 0.78 | 0.80 | 0.10 |
| Avail Cap(c_a), veh/h | 207 | 614 | 516 | 158 | 0 | 488 | 475 | 1020 | 1048 | 231 | 1555 | 692 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 33.0 | 28.7 | 30.7 | 34.5 | 0.0 | 31.5 | 29.0 | 15.3 | 15.4 | 33.1 | 19.0 | 13.3 |
| Incr Delay (d2), s/veh | 11.1 | 0.2 | 3.4 | 14.6 | 0.0 | 1.5 | 8.9 | 5.6 | 5.8 | 9.1 | 2.9 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.3 | 0.4 | 2.1 | 1.4 | 0.0 | 0.9 | 5.1 | 10.5 | 11.0 | 2.1 | 8.3 | 0.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 44.1 | 28.9 | 34.1 | 49.1 | 0.0 | 33.0 | 37.9 | 20.9 | 21.2 | 42.2 | 21.8 | 13.4 |
| LnGrp LOS | D | C | C | D | A | C | D | C | C | D | C | B |
| Approach Vol, veh/h | | 251 | | | 114 | | | 1816 | | | 1330 | |
| Approach Delay, s/veh | | 38.0 | | | 42.2 | | | 23.6 | | | 23.1 | |
| Approach LOS | | D | | | D | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 10.2 | 41.9 | 7.9 | 13.2 | 17.6 | 34.4 | 10.3 | 10.8 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 9.5 | 42.0 | 6.5 | 24.0 | 19.5 | 32.0 | 8.5 | 22.0 |
| Max Q Clear Time (g_c+I1), s | 6.3 | 29.1 | 4.6 | 7.2 | 12.7 | 23.0 | 6.5 | 4.1 |
| Green Ext Time (p_c), s | 0.1 | 8.3 | 0.0 | 0.4 | 0.4 | 5.2 | 0.0 | 0.2 |

**Intersection Summary**

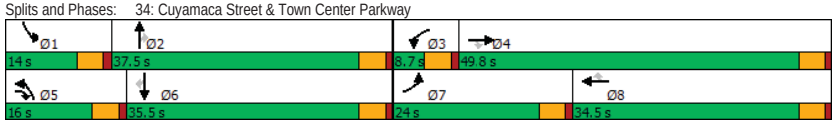
| | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 25.0 | |
| HCM 6th LOS | | C | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 671 | 86 | 138 | 63 | 82 | 107 | 379 | 1276 | 49 | 178 | 1023 | 299 |
| Future Volume (vph) | 671 | 86 | 138 | 63 | 82 | 107 | 379 | 1276 | 49 | 178 | 1023 | 299 |
| Confl. Peds. (#/hr) | | | 12 | | | 9 | | | 17 | | | 4 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | 2 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 7 | 4 | 5 | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | 2 | | | 6 |
| Detector Phase | 7 | 4 | 5 | 3 | 8 | 8 | 5 | 2 | 2 | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 34.5 | 8.5 | 8.5 | 34.5 | 34.5 | 8.5 | 34.5 | 34.5 | 8.5 | 34.5 | 34.5 |
| Total Split (s) | 24.0 | 49.8 | 16.0 | 8.7 | 34.5 | 34.5 | 16.0 | 37.5 | 37.5 | 14.0 | 35.5 | 35.5 |
| Total Split (%) | 21.8% | 45.3% | 14.5% | 7.9% | 31.4% | 31.4% | 14.5% | 34.1% | 34.1% | 12.7% | 32.3% | 32.3% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lead | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | None | None | Min | Min | None | Min | Min |

**Intersection Summary**

Cycle Length: 110
Actuated Cycle Length: 90.4
Natural Cycle: 120
Control Type: Actuated-Uncoordinated

Splits and Phases: 34: Cuyamaca Street & Town Center Parkway








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 671 | 86 | 138 | 63 | 82 | 107 | 379 | 1276 | 49 | 178 | 1023 | 299 |
| Future Volume (veh/h) | 671 | 86 | 138 | 63 | 82 | 107 | 379 | 1276 | 49 | 178 | 1023 | 299 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.97 | 1.00 | | 0.95 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 729 | 93 | 150 | 68 | 89 | 116 | 412 | 1387 | 53 | 193 | 1112 | 325 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 737 | 621 | 720 | 124 | 549 | 238 | 435 | 1691 | 500 | 185 | 1579 | 482 |
| Arrive On Green | 0.21 | 0.33 | 0.33 | 0.04 | 0.15 | 0.15 | 0.13 | 0.33 | 0.33 | 0.10 | 0.31 | 0.31 |
| Sat Flow, veh/h | 3456 | 1870 | 1568 | 3456 | 3554 | 1537 | 3456 | 5106 | 1510 | 1781 | 5106 | 1559 |
| Grp Volume(v), veh/h | 729 | 93 | 150 | 68 | 89 | 116 | 412 | 1387 | 53 | 193 | 1112 | 325 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1870 | 1568 | 1728 | 1777 | 1537 | 1728 | 1702 | 1510 | 1781 | 1702 | 1559 |
| Q Serve(g_s), s | 19.2 | 3.2 | 5.2 | 1.8 | 2.0 | 6.3 | 10.8 | 22.8 | 2.2 | 9.5 | 17.6 | 16.6 |
| Cycle Q Clear(g_c), s | 19.2 | 3.2 | 5.2 | 1.8 | 2.0 | 6.3 | 10.8 | 22.8 | 2.2 | 9.5 | 17.6 | 16.6 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 737 | 621 | 720 | 124 | 549 | 238 | 435 | 1691 | 500 | 185 | 1579 | 482 |
| V/C Ratio(X) | 0.99 | 0.15 | 0.21 | 0.55 | 0.16 | 0.49 | 0.95 | 0.82 | 0.11 | 1.04 | 0.70 | 0.67 |
| Avail Cap(c_a), veh/h | 737 | 927 | 977 | 159 | 1166 | 504 | 435 | 1844 | 545 | 185 | 1732 | 529 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 35.8 | 21.5 | 14.9 | 43.3 | 33.5 | 35.3 | 39.6 | 28.1 | 21.2 | 40.9 | 27.9 | 27.5 |
| Incr Delay (d2), s/veh | 30.2 | 0.1 | 0.1 | 3.7 | 0.1 | 1.6 | 30.1 | 2.9 | 0.1 | 77.7 | 1.2 | 3.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 11.0 | 1.4 | 1.8 | 0.8 | 0.9 | 2.4 | 6.3 | 9.3 | 0.8 | 8.1 | 7.0 | 6.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 66.1 | 21.6 | 15.0 | 47.0 | 33.6 | 36.9 | 69.8 | 30.9 | 21.3 | 118.7 | 29.1 | 30.5 |
| LnGrp LOS | E | C | B | D | C | D | E | C | C | F | C | C |
| Approach Vol, veh/h | | 972 | | | 273 | | | 1852 | | | 1630 | |
| Approach Delay, s/veh | | 53.9 | | | 38.3 | | | 39.3 | | | 40.0 | |
| Approach LOS | | D | | | D | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 14.0 | 34.8 | 7.8 | 34.8 | 16.0 | 32.8 | 24.0 | 18.6 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 9.5 | 33.0 | 4.2 | 45.3 | 11.5 | 31.0 | 19.5 | 30.0 |
| Max Q Clear Time (g_c+I1), s | 11.5 | 24.8 | 3.8 | 7.2 | 12.8 | 19.6 | 21.2 | 8.3 |
| Green Ext Time (p_c), s | 0.0 | 5.5 | 0.0 | 1.1 | 0.0 | 6.5 | 0.0 | 0.9 |

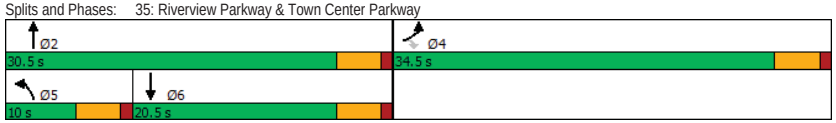
**Intersection Summary**

| | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 42.5 | |
| HCM 6th LOS | | D | |

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 5 | 189 | 153 | 54 | 32 | 2 |
| Future Volume (vph) | 5 | 189 | 153 | 54 | 32 | 2 |
| Confl. Peds. (#/hr) | | | | | | |
| Confl. Bikes (#/hr) | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | Prot | NA | NA | |
| Protected Phases | 4 | | 5 | 2 | 6 | |
| Permitted Phases | | 4 | | | | |
| Detector Phase | 4 | 4 | 5 | 2 | 6 | |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Minimum Split (s) | 34.5 | 34.5 | 8.5 | 25.5 | 20.5 | |
| Total Split (s) | 34.5 | 34.5 | 10.0 | 30.5 | 20.5 | |
| Total Split (%) | 53.1% | 53.1% | 15.4% | 46.9% | 31.5% | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lead/Lag | | | Lead | | Lag | |
| Lead-Lag Optimize? | | | Yes | | Yes | |
| Recall Mode | None | None | None | Min | Min | |

| Intersection Summary |
|---|
| Cycle Length: 65 |
| Actuated Cycle Length: 36.3 |
| Natural Cycle: 65 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 35: Riverview Parkway & Town Center Parkway






Existing + Cuml + Proj PM
35: Riverview Parkway & Town Center Parkway
Fanita Ranch
06/06/2019

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 5 | 189 | 153 | 54 | 32 | 2 |
| Future Volume (veh/h) | 5 | 189 | 153 | 54 | 32 | 2 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 5 | 205 | 166 | 59 | 35 | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 313 | 279 | 210 | 1638 | 552 | 31 |
| Arrive On Green | 0.18 | 0.18 | 0.12 | 0.46 | 0.16 | 0.16 |
| Sat Flow, veh/h | 1781 | 1585 | 1781 | 3647 | 3512 | 194 |
| Grp Volume(v), veh/h | 5 | 205 | 166 | 59 | 18 | 19 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 1781 | 1777 | 1777 | 1836 |
| Q Serve(g_s), s | 0.1 | 3.0 | 2.2 | 0.2 | 0.2 | 0.2 |
| Cycle Q Clear(g_c), s | 0.1 | 3.0 | 2.2 | 0.2 | 0.2 | 0.2 |
| Prop In Lane | 1.00 | 1.00 | 1.00 | | | 0.11 |
| Lane Grp Cap(c), veh/h | 313 | 279 | 210 | 1638 | 287 | 296 |
| V/C Ratio(X) | 0.02 | 0.73 | 0.79 | 0.04 | 0.06 | 0.06 |
| Avail Cap(c_a), veh/h | 2155 | 1918 | 395 | 3727 | 1147 | 1185 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 8.4 | 9.7 | 10.6 | 3.7 | 8.8 | 8.8 |
| Incr Delay (d2), s/veh | 0.0 | 3.7 | 6.5 | 0.0 | 0.1 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 2.9 | 1.0 | 0.0 | 0.1 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 8.5 | 13.4 | 17.1 | 3.7 | 8.9 | 8.9 |
| LnGrp LOS | A | B | B | A | A | A |
| Approach Vol, veh/h | 210 | | | 225 | 37 | |
| Approach Delay, s/veh | 13.3 | | | 13.6 | 8.9 | |
| Approach LOS | B | | | B | A | |

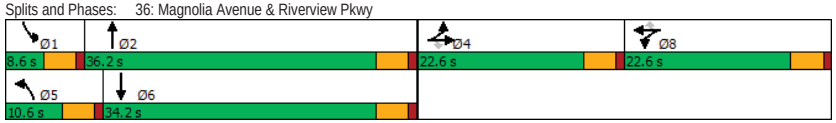
| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 15.9 | | 8.9 | 7.4 | 8.5 |
| Change Period (Y+Rc), s | | 4.5 | | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | | 26.0 | | 30.0 | 5.5 | 16.0 |
| Max Q Clear Time (g_c+I1), s | | 2.2 | | 5.0 | 4.2 | 2.2 |
| Green Ext Time (p_c), s | | 0.3 | | 0.7 | 0.1 | 0.1 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 13.1 | |
| HCM 6th LOS | B | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 1 | 0 | 29 | 50 | 0 | 13 | 58 | 1425 | 46 | 13 | 884 | 7 |
| Future Volume (vph) | 1 | 0 | 29 | 50 | 0 | 13 | 58 | 1425 | 46 | 13 | 884 | 7 |
| Confl. Peds. (#/hr) | | | 8 | | | | | | | | | 1 |
| Confl. Bikes (#/hr) | | | | | | 6 | | | 4 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Split | NA | Perm | Split | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | | | | |
| Detector Phase | 4 | 4 | 4 | 8 | 8 | 8 | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 8.5 | 22.5 | | 8.5 | 22.5 | |
| Total Split (s) | 22.6 | 22.6 | 22.6 | 22.6 | 22.6 | 22.6 | 10.6 | 36.2 | | 8.6 | 34.2 | |
| Total Split (%) | 25.1% | 25.1% | 25.1% | 25.1% | 25.1% | 25.1% | 11.8% | 40.2% | | 9.6% | 38.0% | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | None | None | None | None | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 90 |
| Actuated Cycle Length: 57.1 |
| Natural Cycle: 100 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 36: Magnolia Avenue & Riverview Pkwy








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 1 | 0 | 29 | 50 | 0 | 13 | 58 | 1425 | 46 | 13 | 884 | 7 |
| Future Volume (veh/h) | 1 | 0 | 29 | 50 | 0 | 13 | 58 | 1425 | 46 | 13 | 884 | 7 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.97 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 1 | 0 | 32 | 54 | 0 | 14 | 63 | 1549 | 50 | 14 | 961 | 8 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 84 | 0 | 73 | 86 | 0 | 74 | 82 | 1906 | 61 | 25 | 1845 | 15 |
| Arrive On Green | 0.05 | 0.00 | 0.05 | 0.05 | 0.00 | 0.05 | 0.05 | 0.54 | 0.54 | 0.01 | 0.51 | 0.51 |
| Sat Flow, veh/h | 1781 | 0 | 1536 | 1781 | 0 | 1539 | 1781 | 3511 | 113 | 1781 | 3611 | 30 |
| Grp Volume(v), veh/h | 1 | 0 | 32 | 54 | 0 | 14 | 63 | 782 | 817 | 14 | 473 | 496 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1536 | 1781 | 0 | 1539 | 1781 | 1777 | 1847 | 1781 | 1777 | 1864 |
| Q Serve(g_s), s | 0.0 | 0.0 | 1.1 | 1.5 | 0.0 | 0.5 | 1.8 | 18.6 | 18.8 | 0.4 | 9.2 | 9.2 |
| Cycle Q Clear(g_c), s | 0.0 | 0.0 | 1.1 | 1.5 | 0.0 | 0.5 | 1.8 | 18.6 | 18.8 | 0.4 | 9.2 | 9.2 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.06 | 1.00 | | 0.02 |
| Lane Grp Cap(c), veh/h | 84 | 0 | 73 | 86 | 0 | 74 | 82 | 965 | 1003 | 25 | 908 | 953 |
| V/C Ratio(X) | 0.01 | 0.00 | 0.44 | 0.63 | 0.00 | 0.19 | 0.77 | 0.81 | 0.81 | 0.56 | 0.52 | 0.52 |
| Avail Cap(c_a), veh/h | 622 | 0 | 537 | 622 | 0 | 538 | 210 | 1087 | 1130 | 141 | 1019 | 1069 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 23.5 | 0.0 | 24.0 | 24.2 | 0.0 | 23.7 | 24.4 | 9.7 | 9.7 | 25.4 | 8.4 | 8.4 |
| Incr Delay (d2), s/veh | 0.1 | 0.0 | 4.1 | 7.4 | 0.0 | 1.2 | 13.9 | 4.3 | 4.3 | 17.9 | 0.5 | 0.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.0 | 0.4 | 0.8 | 0.0 | 0.2 | 1.0 | 5.6 | 5.9 | 0.3 | 2.4 | 2.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 23.6 | 0.0 | 28.1 | 31.6 | 0.0 | 24.9 | 38.3 | 13.9 | 14.0 | 43.3 | 8.9 | 8.9 |
| LnGrp LOS | C | A | C | C | A | C | D | B | B | D | A | A |
| Approach Vol, veh/h | | 33 | | | 68 | | | 1662 | | | 983 | |
| Approach Delay, s/veh | | 28.0 | | | 30.2 | | | 14.9 | | | 9.4 | |
| Approach LOS | | C | | | C | | | B | | | A | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.2 | 32.6 | | 7.0 | 6.9 | 31.0 | | 7.0 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 4.1 | 31.7 | | 18.1 | 6.1 | 29.7 | | 18.1 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.4 | 20.8 | | 3.1 | 3.8 | 11.2 | | 3.5 | | | | |
| Green Ext Time (p_c), s | 0.0 | 7.3 | | 0.0 | 0.0 | 5.4 | | 0.2 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 13.4 | |
| HCM 6th LOS | B | |

| Intersection | |
|---|---|
| Int Delay, s/veh | 7.9 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 0 | 14 | 0 | 142 | 287 | 686 | 0 | 0 | 298 | 670 |
| Future Vol, veh/h | 0 | 0 | 0 | 14 | 0 | 142 | 287 | 686 | 0 | 0 | 298 | 670 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| Sign Control | Free | Free | Free | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | 190 | - | - | - | - | - |
| Veh in Median Storage, # | - | 2 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 0 | 15 | 0 | 154 | 312 | 746 | 0 | 0 | 324 | 728 |

| Major/Minor | Minor1 | | | Major1 | | | Major2 | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 2058 | 2422 | 746 | 1052 | 0 | - | - | - | 0 |
| Stage 1 | 1370 | 1370 | - | - | - | - | - | - | - |
| Stage 2 | 688 | 1052 | - | - | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.52 | 6.22 | 4.12 | - | - | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 2.218 | - | - | - | - | - |
| Pot Cap-1 Maneuver | 61 | 32 | 413 | 662 | - | 0 | 0 | - | - |
| Stage 1 | 236 | 214 | - | - | - | 0 | 0 | - | - |
| Stage 2 | 499 | 303 | - | - | - | 0 | 0 | - | - |
| Platoon blocked, % | | | | | - | | | - | - |
| Mov Cap-1 Maneuver | 32 | 0 | 413 | 662 | - | - | - | - | - |
| Mov Cap-2 Maneuver | 32 | 0 | - | - | - | - | - | - | - |
| Stage 1 | 125 | 0 | - | - | - | - | - | - | - |
| Stage 2 | 499 | 0 | - | - | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 78.4 | 4.5 | 0 |
| HCM LOS | F | | |

| Minor Lane/Major Mvmt | NBL | NBT | WBLn1 | SBT | SBR |
|---|---|---|---|---|---|
| Capacity (veh/h) | 662 | - | 200 | - | - |
| HCM Lane V/C Ratio | 0.471 | - | 0.848 | - | - |
| HCM Control Delay (s) | 15.2 | - | 78.4 | - | - |
| HCM Lane LOS | C | - | F | - | - |
| HCM 95th %tile Q(veh) | 2.5 | - | 6.3 | - | - |

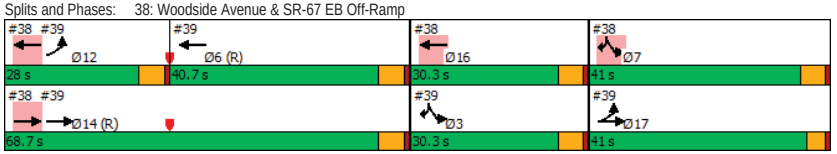




| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR | Ø3 | Ø6 | Ø12 | Ø16 | Ø17 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 602 | 137 | 0 | 775 | 116 | | | | | |
| Future Volume (vph) | 0 | 602 | 137 | 0 | 775 | 116 | | | | | |
| Confl. Peds. (#/hr) | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | | | |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | | | | | |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| Parking (#/hr) | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | | | | | | |
| Shared Lane Traffic (%) | | | | | | | | | | | |
| Turn Type | | NA | NA | | Prot | Prot | | | | | |
| Protected Phases | | 14 | 12 16 | | 7 | 7 | 3 | 6 | 12 | 16 | 17 |
| Permitted Phases | | | | | | | | | | | |
| Detector Phase | | 14 | 12 16 | | 7 | 7 | | | | | |
| Switch Phase | | | | | | | | | | | |
| Minimum Initial (s) | | 4.0 | | | 8.0 | 8.0 | 5.0 | 5.0 | 5.0 | 2.0 | 5.0 |
| Minimum Split (s) | | 20.0 | | | 27.3 | 27.3 | 30.3 | 29.3 | 24.3 | 20.0 | 9.2 |
| Total Split (s) | | 68.7 | | | 41.0 | 41.0 | 30.3 | 40.7 | 28.0 | 30.3 | 41.0 |
| Total Split (%) | | 49.1% | | | 29.3% | 29.3% | 22% | 29% | 20% | 22% | 29% |
| Yellow Time (s) | | 4.3 | | | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 3.2 |
| All-Red Time (s) | | 1.0 | | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | | 0.0 | | | 0.0 | 0.0 | | | | | |
| Total Lost Time (s) | | 5.3 | | | 5.3 | 5.3 | | | | | |
| Lead/Lag | | | | | | | | Lag | Lead | | |
| Lead-Lag Optimize? | | | | | | | | Yes | Yes | | |
| Recall Mode | | C-Max | | | Max | Max | None | C-Max | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 140 |
| Actuated Cycle Length: 140 |
| Offset: 0 (0%), Referenced to phase 6:WBT and 14:EBT, Start of Green |
| Natural Cycle: 125 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 38: Woodside Avenue & SR-67 EB Off-Ramp



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 602 | 137 | 0 | 775 | 116 |
| Future Volume (vph) | 0 | 602 | 137 | 0 | 775 | 116 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 5.3 | 5.3 | | 5.3 | 5.3 |
| Lane Util. Factor | | 0.95 | 1.00 | | 0.97 | 1.00 |
| Frt | | 1.00 | 1.00 | | 1.00 | 0.85 |
| Flt Protected | | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | | 3539 | 1863 | | 3433 | 1583 |
| Flt Permitted | | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (perm) | | 3539 | 1863 | | 3433 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 654 | 149 | 0 | 842 | 126 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 22 |
| Lane Group Flow (vph) | 0 | 654 | 149 | 0 | 842 | 104 |
| Turn Type | | NA | NA | | Prot | Prot |
| Protected Phases | | 14 | 12 16 | | 7 | 7 |
| Permitted Phases | | | | | | |
| Actuated Green, G (s) | | 63.4 | 43.1 | | 37.3 | 37.3 |
| Effective Green, g (s) | | 63.4 | 43.1 | | 37.3 | 37.3 |
| Actuated g/C Ratio | | 0.45 | 0.31 | | 0.27 | 0.27 |
| Clearance Time (s) | | 5.3 | | | 5.3 | 5.3 |
| Vehicle Extension (s) | | 1.0 | | | 3.0 | 3.0 |
| Lane Grp Cap (vph) | | 1602 | 573 | | 914 | 421 |
| v/s Ratio Prot | | c0.18 | c0.08 | | c0.25 | 0.07 |
| v/s Ratio Perm | | | | | | |
| v/c Ratio | | 0.41 | 0.26 | | 0.92 | 0.25 |
| Uniform Delay, d1 | | 25.7 | 36.5 | | 49.9 | 40.3 |
| Progression Factor | | 1.00 | 1.18 | | 1.00 | 1.00 |
| Incremental Delay, d2 | | 0.8 | 0.2 | | 15.9 | 1.4 |
| Delay (s) | | 26.5 | 43.1 | | 65.8 | 41.7 |
| Level of Service | | C | D | | E | D |
| Approach Delay (s) | | 26.5 | 43.1 | | 62.7 | |
| Approach LOS | | C | D | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 47.7 | HCM 2000 Level of Service | D |
| HCM 2000 Volume to Capacity ratio | 0.56 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 21.2 |
| Intersection Capacity Utilization | 47.6% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

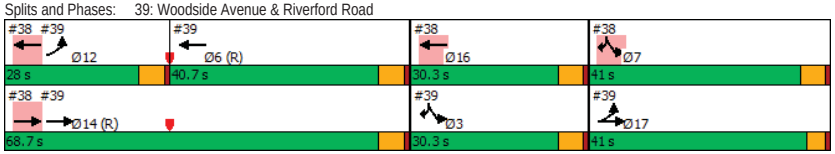




| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR | Ø7 | Ø12 | Ø14 | Ø16 | Ø17 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | |
| Traffic Volume (vph) | 652 | 727 | 106 | 330 | 239 | 36 | | | | | |
| Future Volume (vph) | 652 | 727 | 106 | 330 | 239 | 36 | | | | | |
| Confl. Peds. (#/hr) | | | | | | 2 | | | | | |
| Confl. Bikes (#/hr) | | | | 2 | | 1 | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | | | |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | | | | | |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| Parking (#/hr) | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | | | | | | |
| Shared Lane Traffic (%) | | | | | | | | | | | |
| Turn Type | Prot | NA | NA | | Prot | Prot | | | | | |
| Protected Phases | 12 17 | 14 17 | 6 | | 3 | 3 | 7 | 12 | 14 | 16 | 17 |
| Permitted Phases | | | | | | | | | | | |
| Detector Phase | 12 17 | 14 17 | 6 | | 3 | 3 | | | | | |
| Switch Phase | | | | | | | | | | | |
| Minimum Initial (s) | | | 5.0 | | 5.0 | 5.0 | 8.0 | 5.0 | 4.0 | 2.0 | 5.0 |
| Minimum Split (s) | | | 29.3 | | 30.3 | 30.3 | 27.3 | 24.3 | 20.0 | 20.0 | 9.2 |
| Total Split (s) | | | 40.7 | | 30.3 | 30.3 | 41.0 | 28.0 | 68.7 | 30.3 | 41.0 |
| Total Split (%) | | | 29.1% | | 21.6% | 21.6% | 29% | 20% | 49% | 22% | 29% |
| Yellow Time (s) | | | 4.3 | | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 3.2 |
| All-Red Time (s) | | | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | | | 0.0 | | 0.0 | 0.0 | | | | | |
| Total Lost Time (s) | | | 5.3 | | 5.3 | 5.3 | | | | | |
| Lead/Lag | | | Lag | | | | | Lead | | | |
| Lead-Lag Optimize? | | | Yes | | | | | Yes | | | |
| Recall Mode | | | C-Max | | None | None | Max | None | C-Max | None | None |

| Intersection Summary |
|---|
| Cycle Length: 140 |
| Actuated Cycle Length: 140 |
| Offset: 0 (0%), Referenced to phase 6:WBT and 14:EBT, Start of Green |
| Natural Cycle: 125 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 39: Woodside Avenue & Riverford Road



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 652 | 727 | 106 | 330 | 239 | 36 |
| Future Volume (vph) | 652 | 727 | 106 | 330 | 239 | 36 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.3 | 5.3 | 5.3 | | 5.3 | 5.3 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.98 | | 1.00 | 1.00 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.90 | | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | 1770 | 1863 | 1644 | | 1770 | 1583 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (perm) | 1770 | 1863 | 1644 | | 1770 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 709 | 790 | 115 | 359 | 260 | 39 |
| RTOR Reduction (vph) | 0 | 0 | 78 | 0 | 0 | 24 |
| Lane Group Flow (vph) | 709 | 790 | 396 | 0 | 260 | 15 |
| Confl. Peds. (#/hr) | | | | | | 2 |
| Confl. Bikes (#/hr) | | | | 2 | | 1 |
| Turn Type | Prot | NA | NA | | Prot | Prot |
| Protected Phases | 12 17 | 14 17 | 6 | | 3 | 3 |
| Permitted Phases | | | | | | |
| Actuated Green, G (s) | 62.3 | 106.0 | 38.4 | | 23.4 | 23.4 |
| Effective Green, g (s) | 58.1 | 101.8 | 38.4 | | 23.4 | 23.4 |
| Actuated g/C Ratio | 0.42 | 0.73 | 0.27 | | 0.17 | 0.17 |
| Clearance Time (s) | | | 5.3 | | 5.3 | 5.3 |
| Vehicle Extension (s) | | | 3.0 | | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 734 | 1354 | 450 | | 295 | 264 |
| v/s Ratio Prot | c0.40 | 0.42 | c0.24 | | c0.15 | 0.01 |
| v/s Ratio Perm | | | | | | |
| v/c Ratio | 0.97 | 0.58 | 0.88 | | 0.88 | 0.06 |
| Uniform Delay, d1 | 40.0 | 9.1 | 48.6 | | 56.9 | 49.0 |
| Progression Factor | 0.42 | 0.13 | 1.00 | | 1.00 | 1.00 |
| Incremental Delay, d2 | 20.0 | 0.5 | 21.2 | | 25.0 | 0.1 |
| Delay (s) | 36.8 | 1.7 | 69.8 | | 81.9 | 49.1 |
| Level of Service | D | A | E | | F | D |
| Approach Delay (s) | | 18.3 | 69.8 | | 77.6 | |
| Approach LOS | | B | E | | E | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| HCM 2000 Control Delay | 36.8 | HCM 2000 Level of Service | D |
| HCM 2000 Volume to Capacity ratio | 0.93 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 21.2 |
| Intersection Capacity Utilization | 89.0% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

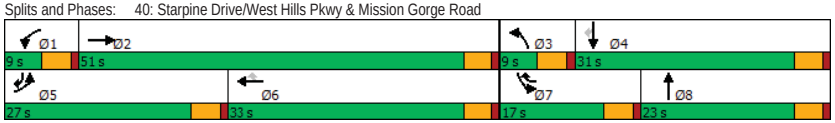




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 631 | 807 | 24 | 44 | 336 | 148 | 23 | 38 | 59 | 211 | 43 | 398 |
| Future Volume (vph) | 631 | 807 | 24 | 44 | 336 | 148 | 23 | 38 | 59 | 211 | 43 | 398 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | 1 |
| Confl. Bikes (#/hr) | | | 5 | | | 6 | | | | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Prot | NA | | Prot | NA | pm+ov |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 5 |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 5 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 29.5 | | 8.5 | 29.5 | 8.5 | 8.5 | 22.5 | | 8.5 | 29.5 | 8.5 |
| Total Split (s) | 27.0 | 51.0 | | 9.0 | 33.0 | 17.0 | 9.0 | 23.0 | | 17.0 | 31.0 | 27.0 |
| Total Split (%) | 27.0% | 51.0% | | 9.0% | 33.0% | 17.0% | 9.0% | 23.0% | | 17.0% | 31.0% | 27.0% |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | Lead |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | Min | | None | Min | None | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 69.1 |
| Natural Cycle: 90 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 40: Starpine Drive/West Hills Pkwy & Mission Gorge Road



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 631 | 807 | 24 | 44 | 336 | 148 | 23 | 38 | 59 | 211 | 43 | 398 |
| Future Volume (veh/h) | 631 | 807 | 24 | 44 | 336 | 148 | 23 | 38 | 59 | 211 | 43 | 398 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 1.00 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 686 | 877 | 26 | 48 | 365 | 161 | 25 | 41 | 64 | 229 | 47 | 433 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 896 | 1415 | 42 | 69 | 644 | 449 | 42 | 70 | 110 | 366 | 354 | 1236 |
| Arrive On Green | 0.26 | 0.40 | 0.40 | 0.04 | 0.18 | 0.18 | 0.02 | 0.11 | 0.11 | 0.11 | 0.19 | 0.19 |
| Sat Flow, veh/h | 3456 | 3521 | 104 | 1781 | 3554 | 1554 | 1781 | 658 | 1027 | 3456 | 1870 | 2705 |
| Grp Volume(v), veh/h | 686 | 443 | 460 | 48 | 365 | 161 | 25 | 0 | 105 | 229 | 47 | 433 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1848 | 1781 | 1777 | 1554 | 1781 | 0 | 1685 | 1728 | 1870 | 1352 |
| Q Serve(g_s), s | 9.5 | 10.3 | 10.3 | 1.4 | 4.9 | 4.3 | 0.7 | 0.0 | 3.1 | 3.3 | 1.1 | 5.5 |
| Cycle Q Clear(g_c), s | 9.5 | 10.3 | 10.3 | 1.4 | 4.9 | 4.3 | 0.7 | 0.0 | 3.1 | 3.3 | 1.1 | 5.5 |
| Prop In Lane | 1.00 | | 0.06 | 1.00 | | 1.00 | 1.00 | | 0.61 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 896 | 714 | 743 | 69 | 644 | 449 | 42 | 0 | 180 | 366 | 354 | 1236 |
| V/C Ratio(X) | 0.77 | 0.62 | 0.62 | 0.70 | 0.57 | 0.36 | 0.60 | 0.00 | 0.58 | 0.63 | 0.13 | 0.35 |
| Avail Cap(c_a), veh/h | 1497 | 1591 | 1655 | 154 | 1951 | 1021 | 154 | 0 | 600 | 832 | 955 | 2104 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 17.8 | 12.4 | 12.4 | 24.7 | 19.4 | 14.7 | 25.1 | 0.0 | 22.1 | 22.2 | 17.5 | 9.4 |
| Incr Delay (d2), s/veh | 1.4 | 0.9 | 0.8 | 12.2 | 0.8 | 0.5 | 13.2 | 0.0 | 3.0 | 1.8 | 0.2 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 3.0 | 2.9 | 3.0 | 0.7 | 1.7 | 1.4 | 0.4 | 0.0 | 1.3 | 1.2 | 0.4 | 1.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 19.2 | 13.2 | 13.2 | 36.8 | 20.2 | 15.2 | 38.3 | 0.0 | 25.0 | 24.0 | 17.7 | 9.6 |
| LnGrp LOS | B | B | B | D | C | B | D | A | C | C | B | A |
| Approach Vol, veh/h | | 1589 | | | 574 | | | 130 | | | 709 | |
| Approach Delay, s/veh | | 15.8 | | | 20.2 | | | 27.6 | | | 14.8 | |
| Approach LOS | | B | | | C | | | C | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 6.5 | 25.4 | 5.7 | 14.3 | 18.0 | 13.9 | 10.0 | 10.1 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 4.5 | 46.5 | 4.5 | 26.5 | 22.5 | 28.5 | 12.5 | 18.5 |
| Max Q Clear Time (g_c+I1), s | 3.4 | 12.3 | 2.7 | 7.5 | 11.5 | 6.9 | 5.3 | 5.1 |
| Green Ext Time (p_c), s | 0.0 | 5.4 | 0.0 | 1.9 | 1.9 | 2.5 | 0.4 | 0.4 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 16.9 |
| HCM 6th LOS | B |

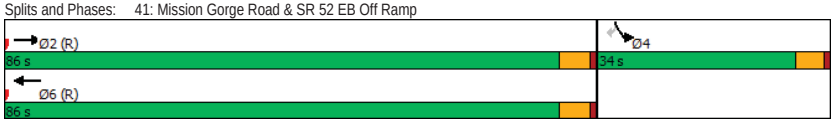




| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 1108 | 657 | 0 | 332 | 42 |
| Future Volume (vph) | 0 | 1108 | 657 | 0 | 332 | 42 |
| Confl. Peds. (#/hr) | | | | | | |
| Confl. Bikes (#/hr) | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | | NA | NA | | Prot | Perm |
| Protected Phases | | 2 | 6 | | 4 | |
| Permitted Phases | | | | | | 4 |
| Detector Phase | | 2 | 6 | | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | | 6.0 | 11.0 | | 10.0 | 10.0 |
| Minimum Split (s) | | 20.0 | 20.0 | | 20.0 | 20.0 |
| Total Split (s) | | 86.0 | 86.0 | | 34.0 | 34.0 |
| Total Split (%) | | 71.7% | 71.7% | | 28.3% | 28.3% |
| Yellow Time (s) | | 4.4 | 4.4 | | 4.1 | 4.1 |
| All-Red Time (s) | | 1.0 | 1.0 | | 1.0 | 1.0 |
| Lost Time Adjust (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | | 5.4 | 5.4 | | 5.1 | 5.1 |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | | C-Min | C-Min | | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green, Master Intersection |
| Natural Cycle: 45 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 41: Mission Gorge Road & SR 52 EB Off Ramp



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 1108 | 657 | 0 | 332 | 42 |
| Future Volume (veh/h) | 0 | 1108 | 657 | 0 | 332 | 42 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 0 | 1870 | 1870 | 0 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 1204 | 714 | 0 | 361 | 46 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 0 | 2 | 2 | 0 | 2 | 2 |
| Cap, veh/h | 0 | 2785 | 2785 | 0 | 445 | 204 |
| Arrive On Green | 0.00 | 0.78 | 1.00 | 0.00 | 0.13 | 0.13 |
| Sat Flow, veh/h | 0 | 3741 | 3741 | 0 | 3456 | 1585 |
| Grp Volume(v), veh/h | 0 | 1204 | 714 | 0 | 361 | 46 |
| Grp Sat Flow(s),veh/h/ln | 0 | 1777 | 1777 | 0 | 1728 | 1585 |
| Q Serve(g_s), s | 0.0 | 13.3 | 0.0 | 0.0 | 12.2 | 3.1 |
| Cycle Q Clear(g_c), s | 0.0 | 13.3 | 0.0 | 0.0 | 12.2 | 3.1 |
| Prop In Lane | 0.00 | | | 0.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 0 | 2785 | 2785 | 0 | 445 | 204 |
| V/C Ratio(X) | 0.00 | 0.43 | 0.26 | 0.00 | 0.81 | 0.23 |
| Avail Cap(c_a), veh/h | 0 | 2785 | 2785 | 0 | 832 | 382 |
| HCM Platoon Ratio | 1.00 | 1.00 | 2.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.00 | 1.00 | 0.98 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 0.0 | 4.2 | 0.0 | 0.0 | 50.9 | 46.9 |
| Incr Delay (d2), s/veh | 0.0 | 0.5 | 0.2 | 0.0 | 3.6 | 0.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 4.1 | 0.1 | 0.0 | 5.5 | 1.3 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 4.7 | 0.2 | 0.0 | 54.4 | 47.5 |
| LnGrp LOS | A | A | A | A | D | D |
| Approach Vol, veh/h | | 1204 | 714 | | 407 | |
| Approach Delay, s/veh | | 4.7 | 0.2 | | 53.7 | |
| Approach LOS | | A | A | | D | |

| Timer - Assigned Phs | 2 | 4 | 6 |
|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 99.4 | 20.6 | 99.4 |
| Change Period (Y+Rc), s | 5.4 | 5.1 | 5.4 |
| Max Green Setting (Gmax), s | 80.6 | 28.9 | 80.6 |
| Max Q Clear Time (g_c+I1), s | 15.3 | 14.2 | 2.0 |
| Green Ext Time (p_c), s | 12.9 | 1.3 | 5.4 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 11.9 |
| HCM 6th LOS | B |

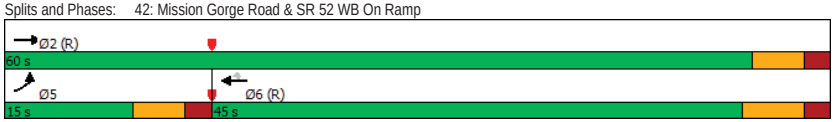




| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 16 | 1360 | 649 | 182 | 0 | 0 |
| Future Volume (vph) | 16 | 1360 | 649 | 182 | 0 | 0 |
| Confl. Peds. (#/hr) | | | | | | |
| Confl. Bikes (#/hr) | | | | 1 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | |
| Shared Lane Traffic (%) | | | | 10% | | |
| Turn Type | Prot | NA | NA | Perm | | |
| Protected Phases | 5 | 2 | 6 | | | |
| Permitted Phases | | | | 6 | | |
| Detector Phase | 5 | 2 | 6 | 6 | | |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 10.0 | 10.0 | | |
| Minimum Split (s) | 10.7 | 21.0 | 22.4 | 22.4 | | |
| Total Split (s) | 15.0 | 60.0 | 45.0 | 45.0 | | |
| Total Split (%) | 25.0% | 100.0% | 75.0% | 75.0% | | |
| Yellow Time (s) | 3.7 | 3.7 | 4.4 | 4.4 | | |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | | |
| Total Lost Time (s) | 5.7 | 5.7 | 6.4 | 6.4 | | |
| Lead/Lag | Lead | | Lag | Lag | | |
| Lead-Lag Optimize? | Yes | | Yes | Yes | | |
| Recall Mode | None | C-Min | C-Min | C-Min | | |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 60 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 40 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 42: Mission Gorge Road & SR 52 WB On Ramp



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 16 | 1360 | 649 | 182 | 0 | 0 |
| Future Volume (veh/h) | 16 | 1360 | 649 | 182 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 0.98 | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Work Zone On Approach | | No | No | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | | |
| Adj Flow Rate, veh/h | 17 | 1478 | 705 | 198 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | | |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | | |
| Cap, veh/h | 37 | 3175 | 2909 | 1208 | | |
| Arrive On Green | 0.04 | 1.00 | 1.00 | 1.00 | | |
| Sat Flow, veh/h | 1781 | 3647 | 3741 | 1553 | | |
| Grp Volume(v), veh/h | 17 | 1478 | 705 | 198 | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1870 | 1553 | | |
| Q Serve(g_s), s | 0.6 | 0.0 | 0.0 | 0.0 | | |
| Cycle Q Clear(g_c), s | 0.6 | 0.0 | 0.0 | 0.0 | | |
| Prop In Lane | 1.00 | | | 1.00 | | |
| Lane Grp Cap(c), veh/h | 37 | 3175 | 2909 | 1208 | | |
| V/C Ratio(X) | 0.46 | 0.47 | 0.24 | 0.16 | | |
| Avail Cap(c_a), veh/h | 276 | 3216 | 2909 | 1208 | | |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 2.00 | | |
| Upstream Filter(I) | 0.85 | 0.85 | 0.97 | 0.97 | | |
| Uniform Delay (d), s/veh | 28.4 | 0.0 | 0.0 | 0.0 | | |
| Incr Delay (d2), s/veh | 7.6 | 0.4 | 0.2 | 0.3 | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | | |
| %ile BackOfQ(50%),veh/ln | 0.3 | 0.2 | 0.1 | 0.1 | | |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 36.0 | 0.4 | 0.2 | 0.3 | | |
| LnGrp LOS | D | A | A | A | | |
| Approach Vol, veh/h | | 1495 | 903 | | | |
| Approach Delay, s/veh | | 0.8 | 0.2 | | | |
| Approach LOS | | A | A | | | |

| Timer - Assigned Phs | 2 | | | 5 | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 60.0 | | | 6.9 | 53.1 |
| Change Period (Y+Rc), s | * 6.4 | | | * 5.7 | 6.4 |
| Max Green Setting (Gmax), s | * 54 | | | * 9.3 | 38.6 |
| Max Q Clear Time (g_c+I1), s | 2.0 | | | 2.6 | 2.0 |
| Green Ext Time (p_c), s | 4.1 | | | 0.0 | 5.9 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 0.6 |
| HCM 6th LOS | A |

**Notes**

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

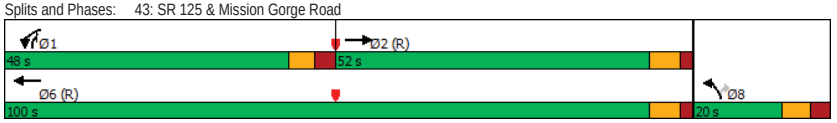




| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 1134 | 193 | 936 | 739 | 173 | 1237 |
| Future Volume (vph) | 1134 | 193 | 936 | 739 | 173 | 1237 |
| Confl. Peds. (#/hr) | | 5 | | | | |
| Confl. Bikes (#/hr) | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | NA | | Prot | NA | Prot | pm+ov |
| Protected Phases | 2 | | 1 | 6 | 8 | 1 |
| Permitted Phases | | | | | | 8 |
| Detector Phase | 2 | | 1 | 6 | 8 | 1 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 11.0 | | 5.0 | 10.0 | 5.0 | 5.0 |
| Minimum Split (s) | 17.4 | | 11.7 | 20.0 | 20.0 | 11.7 |
| Total Split (s) | 52.0 | | 48.0 | 100.0 | 20.0 | 48.0 |
| Total Split (%) | 43.3% | | 40.0% | 83.3% | 16.7% | 40.0% |
| Yellow Time (s) | 4.4 | | 3.7 | 4.4 | 4.1 | 3.7 |
| All-Red Time (s) | 2.0 | | 3.0 | 2.0 | 3.0 | 3.0 |
| Lost Time Adjust (s) | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.4 | | 6.7 | 6.4 | 7.1 | 6.7 |
| Lead/Lag | Lag | | Lead | | | Lead |
| Lead-Lag Optimize? | Yes | | Yes | | | Yes |
| Recall Mode | C-Max | | None | C-Max | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 107 (89%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 90 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 43: SR 125 & Mission Gorge Road



| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 1134 | 193 | 936 | 739 | 173 | 1237 |
| Future Volume (veh/h) | 1134 | 193 | 936 | 739 | 173 | 1237 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | 0.99 | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 1233 | 210 | 1017 | 803 | 188 | 1345 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 1761 | 300 | 1115 | 3983 | 371 | 1200 |
| Arrive On Green | 0.80 | 0.80 | 0.11 | 0.26 | 0.11 | 0.11 |
| Sat Flow, veh/h | 4556 | 747 | 3456 | 5274 | 3456 | 2790 |
| Grp Volume(v), veh/h | 957 | 486 | 1017 | 803 | 188 | 1345 |
| Grp Sat Flow(s),veh/h/ln | 1702 | 1730 | 1728 | 1702 | 1728 | 1395 |
| Q Serve(g_s), s | 15.2 | 15.2 | 34.9 | 14.8 | 6.2 | 12.9 |
| Cycle Q Clear(g_c), s | 15.2 | 15.2 | 34.9 | 14.8 | 6.2 | 12.9 |
| Prop In Lane | | 0.43 | 1.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 1366 | 695 | 1115 | 3983 | 371 | 1200 |
| V/C Ratio(X) | 0.70 | 0.70 | 0.91 | 0.20 | 0.51 | 1.12 |
| Avail Cap(c_a), veh/h | 1366 | 695 | 1189 | 3983 | 371 | 1200 |
| HCM Platoon Ratio | 2.00 | 2.00 | 0.33 | 0.33 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.91 | 0.91 | 0.91 | 0.91 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 8.6 | 8.6 | 51.9 | 15.3 | 50.5 | 34.2 |
| Incr Delay (d2), s/veh | 2.7 | 5.3 | 9.5 | 0.1 | 1.1 | 65.8 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 3.4 | 4.0 | 17.6 | 6.7 | 2.7 | 27.9 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 11.3 | 13.9 | 61.4 | 15.4 | 51.7 | 100.0 |
| LnGrp LOS | B | B | E | B | D | F |
| Approach Vol, veh/h | 1443 | | | 1820 | 1533 | |
| Approach Delay, s/veh | 12.2 | | | 41.1 | 94.0 | |
| Approach LOS | B | | | D | F | |

| Timer - Assigned Phs | 1 | 2 | | | | 6 | 8 |
|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 45.4 | 54.6 | | | | 100.0 | 20.0 |
| Change Period (Y+Rc), s | * 6.7 | 6.4 | | | | 6.4 | 7.1 |
| Max Green Setting (Gmax), s | * 41 | 45.6 | | | | 93.6 | 12.9 |
| Max Q Clear Time (g_c+I1), s | 36.9 | 17.2 | | | | 16.8 | 14.9 |
| Green Ext Time (p_c), s | 1.8 | 11.4 | | | | 6.3 | 0.0 |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 49.3 | |
| HCM 6th LOS | | D | |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

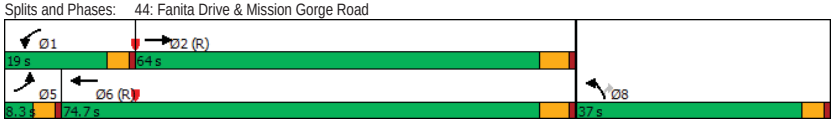




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 5 | 1941 | 430 | 315 | 1302 | 0 | 348 | 0 | 419 | 0 | 0 | 0 |
| Future Volume (vph) | 5 | 1941 | 430 | 315 | 1302 | 0 | 348 | 0 | 419 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | | | 6 | | | | | | | | | |
| Confl. Bikes (#/hr) | | | 4 | | | 3 | | | 3 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | | Perm | | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | | | | | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | | 8 | | | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 7.0 | | 7.0 | | | |
| Minimum Split (s) | 8.2 | 33.3 | | 8.2 | 20.0 | | 34.2 | | 34.2 | | | |
| Total Split (s) | 8.3 | 64.0 | | 19.0 | 74.7 | | 37.0 | | 37.0 | | | |
| Total Split (%) | 6.9% | 53.3% | | 15.8% | 62.3% | | 30.8% | | 30.8% | | | |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | | 3.2 | | 3.2 | | | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | | 1.0 | | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | | 0.0 | | | |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | | 4.2 | | 4.2 | | | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | | None | | | |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 9 (8%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 110 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 44: Fanita Drive & Mission Gorge Road



Existing + Cuml + Proj PM
44: Fanita Drive & Mission Gorge Road

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 5 | 1941 | 430 | 315 | 1302 | 0 | 348 | 0 | 419 | 0 | 0 | 0 |
| Future Volume (veh/h) | 5 | 1941 | 430 | 315 | 1302 | 0 | 348 | 0 | 419 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 1.00 | 1.00 | | 1.00 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 0 | 1870 | 0 | 1870 | | | |
| Adj Flow Rate, veh/h | 5 | 2110 | 467 | 342 | 1415 | 0 | 378 | 0 | 455 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 0 | 2 | 0 | 2 | | | |
| Cap, veh/h | 9 | 2091 | 440 | 396 | 3101 | 0 | 945 | 0 | 433 | | | |
| Arrive On Green | 0.00 | 0.33 | 0.33 | 0.11 | 0.61 | 0.00 | 0.27 | 0.00 | 0.27 | | | |
| Sat Flow, veh/h | 1781 | 4200 | 885 | 3456 | 5274 | 0 | 3456 | 0 | 1585 | | | |
| Grp Volume(v), veh/h | 5 | 1690 | 887 | 342 | 1415 | 0 | 378 | 0 | 455 | | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1702 | 1680 | 1728 | 1702 | 0 | 1728 | 0 | 1585 | | | |
| Q Serve(g_s), s | 0.3 | 59.5 | 59.7 | 11.7 | 18.1 | 0.0 | 10.7 | 0.0 | 32.8 | | | |
| Cycle Q Clear(g_c), s | 0.3 | 59.5 | 59.7 | 11.7 | 18.1 | 0.0 | 10.7 | 0.0 | 32.8 | | | |
| Prop In Lane | 1.00 | | 0.53 | 1.00 | | 0.00 | 1.00 | | 1.00 | | | |
| Lane Grp Cap(c), veh/h | 9 | 1695 | 836 | 396 | 3101 | 0 | 945 | 0 | 433 | | | |
| V/C Ratio(X) | 0.55 | 1.00 | 1.06 | 0.86 | 0.46 | 0.00 | 0.40 | 0.00 | 1.05 | | | |
| Avail Cap(c_a), veh/h | 61 | 1695 | 836 | 426 | 3101 | 0 | 945 | 0 | 433 | | | |
| HCM Platoon Ratio | 0.67 | 0.67 | 0.67 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 0.42 | 0.42 | 0.42 | 0.71 | 0.71 | 0.00 | 1.00 | 0.00 | 1.00 | | | |
| Uniform Delay (d), s/veh | 59.7 | 39.9 | 40.0 | 52.2 | 12.8 | 0.0 | 35.6 | 0.0 | 43.6 | | | |
| Incr Delay (d2), s/veh | 19.8 | 13.6 | 38.5 | 11.0 | 0.3 | 0.0 | 0.3 | 0.0 | 57.0 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ln | 0.2 | 28.5 | 34.0 | 5.6 | 6.5 | 0.0 | 4.5 | 0.0 | 19.3 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 79.5 | 53.5 | 78.4 | 63.2 | 13.1 | 0.0 | 35.9 | 0.0 | 100.6 | | | |
| LnGrp LOS | E | D | F | E | B | A | D | A | F | | | |
| Approach Vol, veh/h | | 2582 | | | 1757 | | | 833 | | | | |
| Approach Delay, s/veh | | 62.1 | | | 22.9 | | | 71.3 | | | | |
| Approach LOS | | E | | | C | | | E | | | | |

| Timer - Assigned Phs | 1 | 2 | | | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 18.0 | 65.0 | | | 4.8 | 78.2 | | 37.0 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | | | * 4.2 | 5.3 | | 4.2 | | | | |
| Max Green Setting (Gmax), s | * 15 | 58.7 | | | * 4.1 | 69.4 | | 32.8 | | | | |
| Max Q Clear Time (g_c+I1), s | 13.7 | 61.7 | | | 2.3 | 20.1 | | 34.8 | | | | |
| Green Ext Time (p_c), s | 0.1 | 0.0 | | | 0.0 | 16.4 | | 0.0 | | | | |

| Intersection Summary | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HCM 6th Ctrl Delay | | | 50.2 | | | | | | | | | |
| HCM 6th LOS | | | D | | | | | | | | | |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



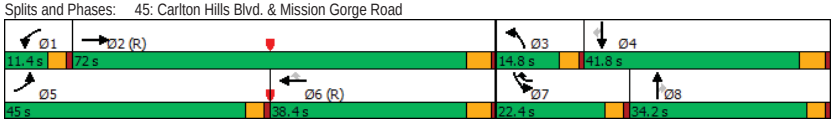
Existing + Cuml + Proj PM
45: Carlton Hills Blvd. & Mission Gorge Road

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 926 | 1351 | 68 | 34 | 962 | 532 | 59 | 84 | 22 | 375 | 33 | 647 |
| Future Volume (vph) | 926 | 1351 | 68 | 34 | 962 | 532 | 59 | 84 | 22 | 375 | 33 | 647 |
| Confl. Peds. (#/hr) | | | 8 | | | | | | 8 | | | 2 |
| Confl. Bikes (#/hr) | | | 1 | | | 2 | | | 1 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | 48% |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | 6 | | | 8 | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | 8 | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 23.3 | | 8.2 | 34.3 | 8.2 | 8.2 | 34.2 | 34.2 | 8.2 | 32.4 | 32.4 |
| Total Split (s) | 45.0 | 72.0 | | 11.4 | 38.4 | 22.4 | 14.8 | 34.2 | 34.2 | 22.4 | 41.8 | 41.8 |
| Total Split (%) | 32.1% | 51.4% | | 8.1% | 27.4% | 16.0% | 10.6% | 24.4% | 24.4% | 16.0% | 29.9% | 29.9% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | 3.2 | 3.2 | 3.2 | 3.2 | 3.2 | 4.4 | 4.4 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | 4.2 | 4.2 | 4.2 | 4.2 | 4.2 | 5.4 | 5.4 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | C-Min | | None | C-Min | None | None | None | None | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 140 |
| Actuated Cycle Length: 140 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 125 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 45: Carlton Hills Blvd. & Mission Gorge Road



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 926 | 1351 | 68 | 34 | 962 | 532 | 59 | 84 | 22 | 375 | 33 | 647 |
| Future Volume (veh/h) | 926 | 1351 | 68 | 34 | 962 | 532 | 59 | 84 | 22 | 375 | 33 | 647 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.99 | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 1007 | 1468 | 74 | 37 | 1046 | 578 | 64 | 91 | 24 | 408 | 0 | 659 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 1007 | 2796 | 141 | 48 | 1521 | 668 | 82 | 275 | 226 | 454 | 0 | 722 |
| Arrive On Green | 0.29 | 0.56 | 0.56 | 0.03 | 0.30 | 0.30 | 0.05 | 0.15 | 0.15 | 0.13 | 0.00 | 0.23 |
| Sat Flow, veh/h | 3456 | 4970 | 251 | 1781 | 5106 | 1564 | 1781 | 1870 | 1538 | 3563 | 0 | 3162 |
| Grp Volume(v), veh/h | 1007 | 1005 | 537 | 37 | 1046 | 578 | 64 | 91 | 24 | 408 | 0 | 659 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1702 | 1817 | 1781 | 1702 | 1564 | 1781 | 1870 | 1538 | 1781 | 0 | 1581 |
| Q Serve(g_s), s | 40.8 | 25.7 | 25.7 | 2.9 | 25.3 | 41.7 | 5.0 | 6.1 | 1.9 | 15.8 | 0.0 | 28.4 |
| Cycle Q Clear(g_c), s | 40.8 | 25.7 | 25.7 | 2.9 | 25.3 | 41.7 | 5.0 | 6.1 | 1.9 | 15.8 | 0.0 | 28.4 |
| Prop In Lane | 1.00 | | 0.14 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 1007 | 1915 | 1022 | 48 | 1521 | 668 | 82 | 275 | 226 | 454 | 0 | 722 |
| V/C Ratio(X) | 1.00 | 0.52 | 0.53 | 0.78 | 0.69 | 0.87 | 0.78 | 0.33 | 0.11 | 0.90 | 0.00 | 0.91 |
| Avail Cap(c_a), veh/h | 1007 | 1915 | 1022 | 92 | 1521 | 668 | 135 | 401 | 330 | 463 | 0 | 822 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.16 | 0.16 | 0.16 | 0.78 | 0.78 | 0.78 | 1.00 | 1.00 | 1.00 | 0.76 | 0.00 | 0.76 |
| Uniform Delay (d), s/veh | 49.6 | 19.0 | 19.0 | 67.7 | 43.4 | 36.7 | 66.1 | 53.6 | 51.8 | 60.2 | 0.0 | 52.6 |
| Incr Delay (d2), s/veh | 11.3 | 0.2 | 0.3 | 7.7 | 2.0 | 11.4 | 14.9 | 0.3 | 0.1 | 15.5 | 0.0 | 10.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 18.8 | 9.8 | 10.5 | 1.4 | 10.8 | 19.9 | 2.6 | 2.9 | 0.7 | 8.1 | 0.0 | 12.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 60.9 | 19.2 | 19.3 | 75.5 | 45.4 | 48.1 | 81.0 | 53.8 | 51.8 | 75.7 | 0.0 | 63.3 |
| LnGrp LOS | E | B | B | E | D | D | F | D | D | E | A | E |
| Approach Vol, veh/h | | 2549 | | | 1661 | | | 179 | | | 1067 | |
| Approach Delay, s/veh | | 35.7 | | | 47.0 | | | 63.3 | | | 68.1 | |
| Approach LOS | | D | | | D | | | E | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.9 | 84.1 | 10.6 | 37.4 | 45.0 | 47.0 | 22.0 | 26.0 |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | * 4.2 | 5.4 | * 4.2 | 5.3 | * 4.2 | * 5.4 |
| Max Green Setting (Gmax), s | * 7.2 | 66.7 | * 11 | 36.4 | * 41 | 33.1 | * 18 | * 30 |
| Max Q Clear Time (g_c+I1), s | 4.9 | 27.7 | 7.0 | 30.4 | 42.8 | 43.7 | 17.8 | 8.1 |
| Green Ext Time (p_c), s | 0.0 | 15.7 | 0.0 | 1.5 | 0.0 | 0.0 | 0.0 | 0.3 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 46.4 |
| HCM 6th LOS | D |

Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

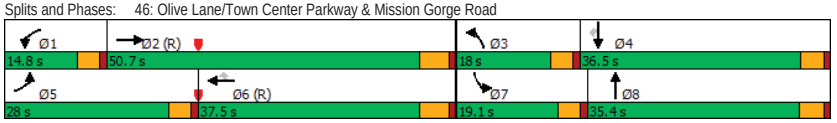




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 616 | 1156 | 105 | 69 | 673 | 341 | 326 | 219 | 49 | 336 | 183 | 534 |
| Future Volume (vph) | 616 | 1156 | 105 | 69 | 673 | 341 | 326 | 219 | 49 | 336 | 183 | 534 |
| Confl. Peds. (#/hr) | | | 9 | | | 16 | | | 3 | | | 6 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | Perm | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | 10.0 | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 26.3 | | 8.2 | 36.3 | 36.3 | 8.2 | 34.6 | | 8.2 | 36.5 | 36.5 |
| Total Split (s) | 28.0 | 50.7 | | 14.8 | 37.5 | 37.5 | 18.0 | 35.4 | | 19.1 | 36.5 | 36.5 |
| Total Split (%) | 23.3% | 42.3% | | 12.3% | 31.3% | 31.3% | 15.0% | 29.5% | | 15.9% | 30.4% | 30.4% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | 4.3 | 3.2 | 3.6 | | 3.2 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | 5.3 | 4.2 | 4.6 | | 4.2 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | C-Min | | None | C-Min | C-Min | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 61 (51%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 110 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 46: Olive Lane/Town Center Parkway & Mission Gorge Road



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 616 | 1156 | 105 | 69 | 673 | 341 | 326 | 219 | 49 | 336 | 183 | 534 |
| Future Volume (veh/h) | 616 | 1156 | 105 | 69 | 673 | 341 | 326 | 219 | 49 | 336 | 183 | 534 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 1.00 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 670 | 1257 | 114 | 75 | 732 | 371 | 354 | 238 | 53 | 365 | 199 | 580 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 685 | 2064 | 187 | 96 | 1475 | 450 | 397 | 354 | 79 | 418 | 459 | 679 |
| Arrive On Green | 0.20 | 0.43 | 0.43 | 0.05 | 0.29 | 0.29 | 0.12 | 0.24 | 0.24 | 0.12 | 0.25 | 0.25 |
| Sat Flow, veh/h | 3456 | 4760 | 432 | 1781 | 5106 | 1559 | 3456 | 1480 | 330 | 3456 | 1870 | 2769 |
| Grp Volume(v), veh/h | 670 | 899 | 472 | 75 | 732 | 371 | 354 | 0 | 291 | 365 | 199 | 580 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1702 | 1787 | 1781 | 1702 | 1559 | 1728 | 0 | 1810 | 1728 | 1870 | 1385 |
| Q Serve(g_s), s | 23.1 | 24.4 | 24.4 | 5.0 | 14.3 | 26.7 | 12.1 | 0.0 | 17.5 | 12.5 | 10.8 | 24.0 |
| Cycle Q Clear(g_c), s | 23.1 | 24.4 | 24.4 | 5.0 | 14.3 | 26.7 | 12.1 | 0.0 | 17.5 | 12.5 | 10.8 | 24.0 |
| Prop In Lane | 1.00 | | 0.24 | 1.00 | | 1.00 | 1.00 | | 0.18 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 685 | 1476 | 775 | 96 | 1475 | 450 | 397 | 0 | 433 | 418 | 459 | 679 |
| V/C Ratio(X) | 0.98 | 0.61 | 0.61 | 0.79 | 0.50 | 0.82 | 0.89 | 0.00 | 0.67 | 0.87 | 0.43 | 0.85 |
| Avail Cap(c_a), veh/h | 685 | 1476 | 775 | 157 | 1475 | 450 | 397 | 0 | 464 | 429 | 499 | 738 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.79 | 0.79 | 0.79 | 0.69 | 0.69 | 0.69 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 47.8 | 26.2 | 26.2 | 56.1 | 35.4 | 39.8 | 52.4 | 0.0 | 41.4 | 51.9 | 38.2 | 43.2 |
| Incr Delay (d2), s/veh | 25.0 | 1.5 | 2.8 | 3.7 | 0.8 | 11.3 | 20.8 | 0.0 | 4.0 | 16.7 | 1.2 | 10.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 12.1 | 9.8 | 10.6 | 2.3 | 5.9 | 11.5 | 6.4 | 0.0 | 8.3 | 6.4 | 5.1 | 9.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 72.8 | 27.6 | 29.0 | 59.8 | 36.2 | 51.1 | 73.1 | 0.0 | 45.4 | 68.6 | 39.5 | 53.2 |
| LnGrp LOS | E | C | C | E | D | D | E | A | D | E | D | D |
| Approach Vol, veh/h | | 2041 | | | 1178 | | | 645 | | | 1144 | |
| Approach Delay, s/veh | | 42.8 | | | 42.4 | | | 60.6 | | | 55.7 | |
| Approach LOS | | D | | | D | | | E | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 10.6 | 57.3 | 18.0 | 34.0 | 28.0 | 40.0 | 18.7 | 33.3 |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | * 4.2 | * 4.6 | * 4.2 | 5.3 | * 4.2 | 4.6 |
| Max Green Setting (Gmax), s | * 11 | 45.4 | * 14 | * 32 | * 24 | 32.2 | * 15 | 30.8 |
| Max Q Clear Time (g_c+I1), s | 7.0 | 26.4 | 14.1 | 26.0 | 25.1 | 28.7 | 14.5 | 19.5 |
| Green Ext Time (p_c), s | 0.0 | 9.9 | 0.0 | 3.0 | 0.0 | 2.4 | 0.0 | 1.7 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 47.9 |
| HCM 6th LOS | D |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

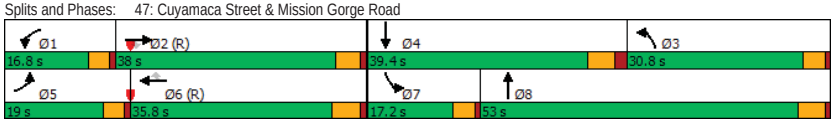




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 395 | 695 | 322 | 291 | 532 | 199 | 584 | 974 | 212 | 313 | 914 | 206 |
| Future Volume (vph) | 395 | 695 | 322 | 291 | 532 | 199 | 584 | 974 | 212 | 313 | 914 | 206 |
| Confl. Peds. (#/hr) | | | 31 | | | 31 | | | 34 | | | 23 |
| Confl. Bikes (#/hr) | | | 4 | | | 2 | | | 3 | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | 10.0 | 4.0 | 7.0 | | 4.0 | 15.0 | |
| Minimum Split (s) | 19.0 | 34.8 | 34.8 | 8.2 | 34.3 | 34.3 | 8.2 | 38.0 | | 8.2 | 37.0 | |
| Total Split (s) | 19.0 | 38.0 | 38.0 | 16.8 | 35.8 | 35.8 | 30.8 | 53.0 | | 17.2 | 39.4 | |
| Total Split (%) | 15.2% | 30.4% | 30.4% | 13.4% | 28.6% | 28.6% | 24.6% | 42.4% | | 13.8% | 31.5% | |
| Yellow Time (s) | 3.2 | 3.8 | 3.8 | 3.2 | 4.3 | 4.3 | 3.2 | 4.0 | | 3.2 | 4.0 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 2.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.2 | 4.8 | 4.8 | 4.2 | 5.3 | 5.3 | 4.2 | 5.0 | | 4.2 | 6.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lag | Lag | | Lead | Lead | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | C-Min | C-Min | None | C-Min | C-Min | None | None | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 125 |
| Actuated Cycle Length: 125 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green, Master Intersection |
| Natural Cycle: 130 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 47: Cuyamaca Street & Mission Gorge Road



Existing + Cuml + Proj PM — Fanita Ranch
47: Cuyamaca Street & Mission Gorge Road — 06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 395 | 695 | 322 | 291 | 532 | 199 | 584 | 974 | 212 | 313 | 914 | 206 |
| Future Volume (veh/h) | 395 | 695 | 322 | 291 | 532 | 199 | 584 | 974 | 212 | 313 | 914 | 206 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.96 | 1.00 | | 0.96 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1683 | 1683 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 429 | 755 | 350 | 316 | 578 | 216 | 635 | 1059 | 230 | 340 | 993 | 224 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 409 | 1336 | 394 | 348 | 1246 | 367 | 721 | 996 | 215 | 359 | 1095 | 246 |
| Arrive On Green | 0.12 | 0.26 | 0.26 | 0.10 | 0.24 | 0.24 | 0.21 | 0.38 | 0.38 | 0.10 | 0.26 | 0.26 |
| Sat Flow, veh/h | 3456 | 5106 | 1506 | 3456 | 5106 | 1504 | 3456 | 2594 | 561 | 3456 | 4131 | 929 |
| Grp Volume(v), veh/h | 429 | 755 | 350 | 316 | 578 | 216 | 635 | 651 | 638 | 340 | 818 | 399 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1702 | 1506 | 1728 | 1702 | 1504 | 1728 | 1599 | 1555 | 1728 | 1702 | 1656 |
| Q Serve(g_s), s | 14.8 | 16.0 | 16.9 | 11.3 | 12.1 | 15.8 | 22.3 | 48.0 | 48.0 | 12.2 | 29.1 | 29.2 |
| Cycle Q Clear(g_c), s | 14.8 | 16.0 | 16.9 | 11.3 | 12.1 | 15.8 | 22.3 | 48.0 | 48.0 | 12.2 | 29.1 | 29.2 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.36 | 1.00 | | 0.56 |
| Lane Grp Cap(c), veh/h | 409 | 1336 | 394 | 348 | 1246 | 367 | 721 | 614 | 597 | 359 | 902 | 439 |
| V/C Ratio(X) | 1.05 | 0.57 | 0.89 | 0.91 | 0.46 | 0.59 | 0.88 | 1.06 | 1.07 | 0.95 | 0.91 | 0.91 |
| Avail Cap(c_a), veh/h | 409 | 1356 | 400 | 348 | 1246 | 367 | 735 | 614 | 597 | 359 | 910 | 443 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.72 | 0.72 | 0.72 | 0.93 | 0.93 | 0.93 | 0.09 | 0.09 | 0.09 | 0.77 | 0.77 | 0.77 |
| Uniform Delay (d), s/veh | 55.1 | 40.0 | 16.3 | 55.6 | 40.3 | 41.7 | 48.0 | 38.5 | 38.5 | 55.7 | 44.4 | 44.5 |
| Incr Delay (d2), s/veh | 51.1 | 1.3 | 19.0 | 24.5 | 1.2 | 6.3 | 1.2 | 31.0 | 34.6 | 28.2 | 11.0 | 19.8 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 9.2 | 6.7 | 7.7 | 6.0 | 5.1 | 6.5 | 9.6 | 23.5 | 23.5 | 6.7 | 13.4 | 14.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 106.2 | 41.2 | 35.3 | 80.2 | 41.4 | 48.0 | 49.2 | 69.5 | 73.1 | 83.8 | 55.4 | 64.3 |
| LnGrp LOS | F | D | D | F | D | D | D | F | F | F | E | E |
| Approach Vol, veh/h | | 1534 | | | 1110 | | | 1924 | | | 1557 | |
| Approach Delay, s/veh | | 58.1 | | | 53.7 | | | 64.0 | | | 63.9 | |
| Approach LOS | | E | | | D | | | E | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 16.8 | 38.0 | 31.1 | 39.1 | 19.0 | 35.8 | 17.2 | 53.0 |
| Change Period (Y+Rc), s | * 4.2 | * 5.3 | 5.0 | * 6 | * 4.2 | 5.3 | * 4.2 | 5.0 |
| Max Green Setting (Gmax), s | * 13 | * 33 | 26.6 | * 33 | * 15 | 30.5 | * 13 | 48.0 |
| Max Q Clear Time (g_c+I1), s | 13.3 | 18.9 | 24.3 | 31.2 | 16.8 | 17.8 | 14.2 | 50.0 |
| Green Ext Time (p_c), s | 0.0 | 9.9 | 0.4 | 1.9 | 0.0 | 5.5 | 0.0 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 60.6 |
| HCM 6th LOS | E |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

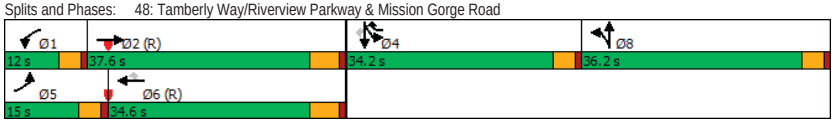


Existing + Cuml + Proj PM — Fanita Ranch
48: Tamberly Way/Riverview Parkway & Mission Gorge Road — 06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 153 | 1056 | 23 | 43 | 856 | 174 | 44 | 11 | 44 | 254 | 16 | 130 |
| Future Volume (vph) | 153 | 1056 | 23 | 43 | 856 | 174 | 44 | 11 | 44 | 254 | 16 | 130 |
| Confl. Peds. (#/hr) | | | 13 | | | 13 | | | 10 | | | 8 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | 2 | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | 47% | | |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Split | NA | | Split | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 4 | 8 | 8 | | 4 | 4 | |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 4 | 8 | 8 | | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | 7.0 | 4.0 | 4.0 | | 7.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 23.3 | | 8.2 | 34.3 | 34.2 | 36.2 | 36.2 | | 34.2 | 34.2 | 34.2 |
| Total Split (s) | 15.0 | 37.6 | | 12.0 | 34.6 | 34.2 | 36.2 | 36.2 | | 34.2 | 34.2 | 34.2 |
| Total Split (%) | 12.5% | 31.3% | | 10.0% | 28.8% | 28.5% | 30.2% | 30.2% | | 28.5% | 28.5% | 28.5% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | 3.2 | 3.2 | 3.2 | | 3.2 | 3.2 | 3.2 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | 4.2 | 4.2 | 4.2 | | 4.2 | 4.2 | 4.2 |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | None | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 34 (28%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 115 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 48: Tamberly Way/Riverview Parkway & Mission Gorge Road



Existing + Cuml + Proj PM — Fanita Ranch

48: Tamberly Way/Riverview Parkway & Mission Gorge Road — 06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 153 | 1056 | 23 | 43 | 856 | 174 | 44 | 11 | 44 | 254 | 16 | 130 |
| Future Volume (veh/h) | 153 | 1056 | 23 | 43 | 856 | 174 | 44 | 11 | 44 | 254 | 16 | 130 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.95 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 166 | 1148 | 25 | 47 | 930 | 189 | 48 | 12 | 48 | 288 | 0 | 141 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 160 | 3090 | 67 | 60 | 2782 | 1051 | 155 | 27 | 109 | 459 | 0 | 197 |
| Arrive On Green | 0.09 | 0.60 | 0.60 | 0.07 | 1.00 | 1.00 | 0.09 | 0.09 | 0.09 | 0.13 | 0.00 | 0.13 |
| Sat Flow, veh/h | 1781 | 5141 | 112 | 1781 | 5106 | 1554 | 1781 | 313 | 1253 | 3563 | 0 | 1532 |
| Grp Volume(v), veh/h | 166 | 760 | 413 | 47 | 930 | 189 | 48 | 0 | 60 | 288 | 0 | 141 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1702 | 1849 | 1781 | 1702 | 1554 | 1781 | 0 | 1566 | 1781 | 0 | 1532 |
| Q Serve(g_s), s | 10.8 | 13.8 | 13.8 | 3.1 | 0.0 | 0.0 | 3.0 | 0.0 | 4.4 | 9.2 | 0.0 | 10.6 |
| Cycle Q Clear(g_c), s | 10.8 | 13.8 | 13.8 | 3.1 | 0.0 | 0.0 | 3.0 | 0.0 | 4.4 | 9.2 | 0.0 | 10.6 |
| Prop In Lane | 1.00 | | 0.06 | 1.00 | | 1.00 | 1.00 | | 0.80 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 160 | 2046 | 1111 | 60 | 2782 | 1051 | 155 | 0 | 136 | 459 | 0 | 197 |
| V/C Ratio(X) | 1.04 | 0.37 | 0.37 | 0.78 | 0.33 | 0.18 | 0.31 | 0.00 | 0.44 | 0.63 | 0.00 | 0.71 |
| Avail Cap(c_a), veh/h | 160 | 2046 | 1111 | 116 | 2782 | 1051 | 475 | 0 | 418 | 891 | 0 | 383 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.63 | 0.63 | 0.63 | 0.98 | 0.98 | 0.98 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 54.6 | 12.3 | 12.3 | 55.5 | 0.0 | 0.0 | 51.4 | 0.0 | 52.0 | 49.5 | 0.0 | 50.1 |
| Incr Delay (d2), s/veh | 65.9 | 0.3 | 0.6 | 7.8 | 0.3 | 0.4 | 0.4 | 0.0 | 0.8 | 0.5 | 0.0 | 1.8 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 7.7 | 5.0 | 5.5 | 1.5 | 0.1 | 0.1 | 1.4 | 0.0 | 1.7 | 4.1 | 0.0 | 4.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 120.5 | 12.6 | 12.9 | 63.3 | 0.3 | 0.4 | 51.8 | 0.0 | 52.8 | 50.1 | 0.0 | 51.9 |
| LnGrp LOS | F | B | B | E | A | A | D | A | D | D | A | D |
| Approach Vol, veh/h | | 1339 | | | 1166 | | | 108 | | | 429 | |
| Approach Delay, s/veh | | 26.1 | | | 2.9 | | | 52.4 | | | 50.7 | |
| Approach LOS | | C | | | A | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 8.3 | 77.4 | | 19.7 | 15.0 | 70.7 | | 14.6 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | | * 4.2 | * 4.2 | 5.3 | | 4.2 | | | | |
| Max Green Setting (Gmax), s | * 7.8 | 32.3 | | * 30 | * 11 | 29.3 | | 32.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 5.1 | 15.8 | | 12.6 | 12.8 | 2.0 | | 6.4 | | | | |
| Green Ext Time (p_c), s | 0.0 | 10.4 | | 0.8 | 0.0 | 12.4 | | 0.3 | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | | 21.6 |
| HCM 6th LOS | | | C |

**Notes**

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

N:\2462\Analysis\Intersections\Synchro\8 Existing + Cuml + Proj PM.syn

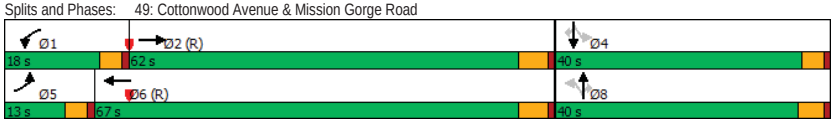
Existing + Cuml + Proj PM — Fanita Ranch

49: Cottonwood Avenue & Mission Gorge Road — 06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 17 | 1260 | 100 | 55 | 894 | 4 | 92 | 1 | 83 | 3 | 2 | 9 |
| Future Volume (vph) | 17 | 1260 | 100 | 55 | 894 | 4 | 92 | 1 | 83 | 3 | 2 | 9 |
| Confl. Peds. (#/hr) | | | 3 | | | 14 | | | 1 | | | 4 |
| Confl. Bikes (#/hr) | | | 3 | | | 1 | | | 2 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Perm | NA | Perm | Perm | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | 8 | 4 | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | 8 | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 4.0 | 4.0 | 4.0 | 7.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 23.3 | | 8.2 | 24.3 | | 33.8 | 33.8 | 33.8 | 32.2 | 32.2 | 32.2 |
| Total Split (s) | 13.0 | 62.0 | | 18.0 | 67.0 | | 40.0 | 40.0 | 40.0 | 40.0 | 40.0 | 40.0 |
| Total Split (%) | 10.8% | 51.7% | | 15.0% | 55.8% | | 33.3% | 33.3% | 33.3% | 33.3% | 33.3% | 33.3% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | | 3.8 | 3.8 | 3.8 | 3.2 | 3.2 | 3.2 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | | | 4.8 | 4.8 | | 4.2 | 4.2 |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | None | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 44 (37%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 70 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 49: Cottonwood Avenue & Mission Gorge Road




Timings

N:\2462\Analysis\Intersections\Synchro\8 Existing + Cuml + Proj PM.syn

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 17 | 1260 | 100 | 55 | 894 | 4 | 92 | 1 | 83 | 3 | 2 | 9 |
| Future Volume (veh/h) | 17 | 1260 | 100 | 55 | 894 | 4 | 92 | 1 | 83 | 3 | 2 | 9 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 0.99 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 18 | 1370 | 109 | 60 | 972 | 4 | 100 | 1 | 90 | 3 | 2 | 10 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 27 | 2595 | 206 | 77 | 2978 | 12 | 60 | 0 | 466 | 48 | 21 | 465 |
| Arrive On Green | 0.03 | 1.00 | 1.00 | 0.09 | 1.00 | 1.00 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 |
| Sat Flow, veh/h | 1781 | 4811 | 383 | 1781 | 5248 | 22 | 0 | 1 | 1562 | 0 | 70 | 1559 |
| Grp Volume(v), veh/h | 18 | 969 | 510 | 60 | 630 | 346 | 101 | 0 | 90 | 5 | 0 | 10 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1702 | 1790 | 1781 | 1702 | 1866 | 1 | 0 | 1562 | 70 | 0 | 1559 |
| Q Serve(g_s), s | 1.2 | 0.0 | 0.0 | 4.0 | 0.0 | 0.0 | 0.0 | 0.0 | 5.1 | 0.0 | 0.0 | 0.5 |
| Cycle Q Clear(g_c), s | 1.2 | 0.0 | 0.0 | 4.0 | 0.0 | 0.0 | 35.8 | 0.0 | 5.1 | 35.8 | 0.0 | 0.5 |
| Prop In Lane | 1.00 | | 0.21 | 1.00 | | 0.01 | 0.99 | | 1.00 | 0.60 | | 1.00 |
| Lane Grp Cap(c), veh/h | 27 | 1836 | 965 | 77 | 1932 | 1059 | 60 | 0 | 466 | 69 | 0 | 465 |
| V/C Ratio(X) | 0.67 | 0.53 | 0.53 | 0.78 | 0.33 | 0.33 | 1.68 | 0.00 | 0.19 | 0.07 | 0.00 | 0.02 |
| Avail Cap(c_a), veh/h | 131 | 1836 | 965 | 205 | 1932 | 1059 | 60 | 0 | 466 | 69 | 0 | 465 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.91 | 0.91 | 0.91 | 0.61 | 0.61 | 0.61 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 57.9 | 0.0 | 0.0 | 54.3 | 0.0 | 0.0 | 59.8 | 0.0 | 31.3 | 34.6 | 0.0 | 29.7 |
| Incr Delay (d2), s/veh | 9.4 | 1.0 | 1.9 | 3.9 | 0.3 | 0.5 | 367.9 | 0.0 | 0.1 | 0.2 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.6 | 0.3 | 0.5 | 1.8 | 0.1 | 0.1 | 8.0 | 0.0 | 2.0 | 0.1 | 0.0 | 0.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 67.3 | 1.0 | 1.9 | 58.2 | 0.3 | 0.5 | 427.7 | 0.0 | 31.4 | 34.7 | 0.0 | 29.7 |
| LnGrp LOS | E | A | A | E | A | A | F | A | C | C | A | C |
| Approach Vol, veh/h | | 1497 | | | 1036 | | | 191 | | | 15 | |
| Approach Delay, s/veh | | 2.1 | | | 3.7 | | | 241.0 | | | 31.4 | |
| Approach LOS | | A | | | A | | | F | | | C | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 9.4 | 70.0 | | 40.6 | 6.0 | 73.4 | | 40.6 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | | * 4.8 | * 4.2 | 5.3 | | * 4.8 | | | | |
| Max Green Setting (Gmax), s | * 14 | 56.7 | | * 36 | * 8.8 | 61.7 | | * 35 | | | | |
| Max Q Clear Time (g_c+I1), s | 6.0 | 2.0 | | 37.8 | 3.2 | 2.0 | | 37.8 | | | | |
| Green Ext Time (p_c), s | 0.0 | 11.4 | | 0.0 | 0.0 | 11.9 | | 0.0 | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 19.5 | |
| HCM 6th LOS | | B | |

**Notes**

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

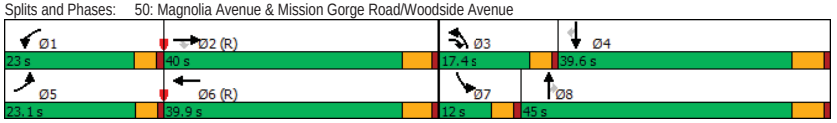




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 407 | 660 | 305 | 467 | 561 | 200 | 262 | 1003 | 446 | 170 | 600 | 223 |
| Future Volume (vph) | 407 | 660 | 305 | 467 | 561 | 200 | 262 | 1003 | 446 | 170 | 600 | 223 |
| Confl. Peds. (#/hr) | | | 2 | | | 9 | | | 13 | | | 1 |
| Confl. Bikes (#/hr) | | | 2 | | | 1 | | | 3 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | | | | 8 | | | 4 |
| Detector Phase | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | 8 | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 4.0 | 4.0 | 10.0 | | 4.0 | 7.0 | 7.0 | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 38.3 | 8.2 | 8.2 | 35.3 | | 8.2 | 34.7 | 34.7 | 8.2 | 35.7 | 35.7 |
| Total Split (s) | 23.1 | 40.0 | 17.4 | 23.0 | 39.9 | | 17.4 | 45.0 | 45.0 | 12.0 | 39.6 | 39.6 |
| Total Split (%) | 19.3% | 33.3% | 14.5% | 19.2% | 33.3% | | 14.5% | 37.5% | 37.5% | 10.0% | 33.0% | 33.0% |
| Yellow Time (s) | 3.2 | 4.3 | 3.2 | 3.2 | 4.3 | | 3.2 | 4.7 | 4.7 | 3.2 | 4.7 | 4.7 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | 4.2 | 4.2 | 5.3 | | 4.2 | 5.7 | 5.7 | 4.2 | 5.7 | 5.7 |
| Lead/Lag | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | C-Min | None | None | C-Min | | None | None | None | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 71 (59%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 105 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 50: Magnolia Avenue & Mission Gorge Road/Woodside Avenue



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 407 | 660 | 305 | 467 | 561 | 200 | 262 | 1003 | 446 | 170 | 600 | 223 |
| Future Volume (veh/h) | 407 | 660 | 305 | 467 | 561 | 200 | 262 | 1003 | 446 | 170 | 600 | 223 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 442 | 717 | 332 | 508 | 610 | 217 | 285 | 1090 | 485 | 185 | 652 | 242 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 492 | 1028 | 608 | 541 | 775 | 275 | 342 | 1164 | 506 | 225 | 1043 | 465 |
| Arrive On Green | 0.24 | 0.48 | 0.48 | 0.16 | 0.30 | 0.30 | 0.07 | 0.22 | 0.22 | 0.07 | 0.29 | 0.29 |
| Sat Flow, veh/h | 3456 | 3554 | 1560 | 3456 | 2554 | 907 | 3456 | 3554 | 1544 | 3456 | 3554 | 1583 |
| Grp Volume(v), veh/h | 442 | 717 | 332 | 508 | 424 | 403 | 285 | 1090 | 485 | 185 | 652 | 242 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1560 | 1728 | 1777 | 1684 | 1728 | 1777 | 1544 | 1728 | 1777 | 1583 |
| Q Serve(g_s), s | 14.9 | 18.9 | 17.6 | 17.4 | 26.2 | 26.3 | 9.8 | 36.2 | 37.3 | 6.3 | 19.0 | 15.3 |
| Cycle Q Clear(g_c), s | 14.9 | 18.9 | 17.6 | 17.4 | 26.2 | 26.3 | 9.8 | 36.2 | 37.3 | 6.3 | 19.0 | 15.3 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.54 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 492 | 1028 | 608 | 541 | 539 | 511 | 342 | 1164 | 506 | 225 | 1043 | 465 |
| V/C Ratio(X) | 0.90 | 0.70 | 0.55 | 0.94 | 0.79 | 0.79 | 0.83 | 0.94 | 0.96 | 0.82 | 0.62 | 0.52 |
| Avail Cap(c_a), veh/h | 544 | 1028 | 608 | 541 | 539 | 511 | 380 | 1164 | 506 | 225 | 1043 | 465 |
| HCM Platoon Ratio | 1.67 | 1.67 | 1.67 | 1.00 | 1.00 | 1.00 | 0.67 | 0.67 | 0.67 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.91 | 0.91 | 0.91 | 1.00 | 1.00 | 1.00 | 0.74 | 0.74 | 0.74 | 0.92 | 0.92 | 0.92 |
| Uniform Delay (d), s/veh | 44.9 | 26.9 | 20.3 | 50.0 | 38.2 | 38.3 | 55.1 | 45.6 | 46.0 | 55.4 | 36.7 | 35.3 |
| Incr Delay (d2), s/veh | 14.5 | 3.6 | 3.2 | 24.0 | 11.1 | 11.7 | 9.4 | 11.1 | 24.8 | 18.8 | 1.2 | 1.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 6.6 | 6.8 | 5.4 | 9.2 | 12.7 | 12.2 | 4.7 | 18.0 | 18.0 | 3.3 | 8.1 | 5.9 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 59.4 | 30.5 | 23.5 | 74.1 | 49.3 | 50.0 | 64.4 | 56.7 | 70.8 | 74.2 | 37.9 | 36.5 |
| LnGrp LOS | E | C | C | E | D | D | E | E | E | E | D | D |
| Approach Vol, veh/h | | 1491 | | | 1335 | | | 1860 | | | 1079 | |
| Approach Delay, s/veh | | 37.5 | | | 58.9 | | | 61.6 | | | 43.8 | |
| Approach LOS | | D | | | E | | | E | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 23.0 | 40.0 | 16.1 | 40.9 | 21.3 | 41.7 | 12.0 | 45.0 |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | * 4.2 | 5.7 | * 4.2 | 5.3 | * 4.2 | 5.7 |
| Max Green Setting (Gmax), s | * 19 | 34.7 | * 13 | 33.9 | * 19 | 34.6 | * 7.8 | 39.3 |
| Max Q Clear Time (g_c+I1), s | 19.4 | 20.9 | 11.8 | 21.0 | 16.9 | 28.3 | 8.3 | 39.3 |
| Green Ext Time (p_c), s | 0.0 | 5.8 | 0.1 | 5.0 | 0.2 | 3.6 | 0.0 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 51.4 |
| HCM 6th LOS | D |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 17.4 |
| Intersection LOS | C |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 31 | 245 | 220 | 1 | 0 | 183 | 0 | 0 | 10 | 527 | 7 |
| Future Vol, veh/h | 0 | 31 | 245 | 220 | 1 | 0 | 183 | 0 | 0 | 10 | 527 | 7 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 34 | 266 | 239 | 1 | 0 | 199 | 0 | 0 | 11 | 573 | 8 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 2 | 0 |

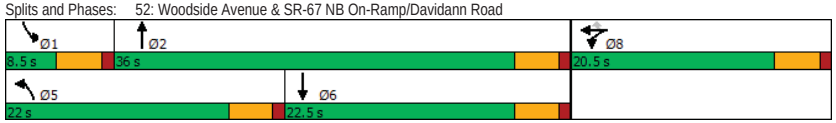
| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay | 16.4 | 16.8 | 17 | 18.3 |
| HCM LOS | C | C | C | C |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 100% | 4% | 0% |
| Vol Thru, % | 0% | 100% | 11% | 0% | 96% | 97% |
| Vol Right, % | 0% | 0% | 89% | 0% | 0% | 3% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 183 | 0 | 276 | 221 | 274 | 271 |
| LT Vol | 183 | 0 | 0 | 220 | 10 | 0 |
| Through Vol | 0 | 0 | 31 | 1 | 264 | 264 |
| RT Vol | 0 | 0 | 245 | 0 | 0 | 7 |
| Lane Flow Rate | 199 | 0 | 300 | 240 | 297 | 294 |
| Geometry Grp | 7 | 7 | 2 | 2 | 7 | 7 |
| Degree of Util (X) | 0.443 | 0 | 0.53 | 0.48 | 0.57 | 0.56 |
| Departure Headway (Hd) | 8.015 | 7.5 | 6.363 | 7.197 | 6.899 | 6.861 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 448 | 0 | 564 | 500 | 523 | 526 |
| Service Time | 5.78 | 5.265 | 4.419 | 5.258 | 4.654 | 4.617 |
| HCM Lane V/C Ratio | 0.444 | 0 | 0.532 | 0.48 | 0.568 | 0.559 |
| HCM Control Delay | 17 | 10.3 | 16.4 | 16.8 | 18.5 | 18.1 |
| HCM Lane LOS | C | N | C | C | C | C |
| HCM 95th-tile Q | 2.2 | 0 | 3.1 | 2.6 | 3.5 | 3.4 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 0 | 28 | 1 | 8 | 384 | 567 | 59 | 1 | 193 | 2 |
| Future Volume (vph) | 0 | 0 | 0 | 28 | 1 | 8 | 384 | 567 | 59 | 1 | 193 | 2 |
| Confl. Peds. (#/hr) | | | 2 | | | | | | 2 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 2 | | | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | | | | Split | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | | | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | 8 | | | | | | |
| Detector Phase | | | | 8 | 8 | 8 | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | | | | 20.5 | 20.5 | 20.5 | 8.5 | 22.5 | | 8.5 | 22.5 | |
| Total Split (s) | | | | 20.5 | 20.5 | 20.5 | 22.0 | 36.0 | | 8.5 | 22.5 | |
| Total Split (%) | | | | 31.5% | 31.5% | 31.5% | 33.8% | 55.4% | | 13.1% | 34.6% | |
| Yellow Time (s) | | | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | | | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | | | | | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | | | | | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | | | | None | None | None | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 65 |
| Actuated Cycle Length: 39.8 |
| Natural Cycle: 65 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 52: Woodside Avenue & SR-67 NB On-Ramp/Davidann Road








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 28 | 1 | 8 | 384 | 567 | 59 | 1 | 193 | 2 |
| Future Volume (veh/h) | 0 | 0 | 0 | 28 | 1 | 8 | 384 | 567 | 59 | 1 | 193 | 2 |
| Initial Q (Qb), veh | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | | | 1.00 | | 1.00 | 1.00 | | 0.98 | 1.00 | | 0.97 |
| Parking Bus, Adj | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | | | | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | | | | 30 | 1 | 9 | 417 | 616 | 64 | 1 | 210 | 2 |
| Peak Hour Factor | | | | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | | | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | | | | 65 | 2 | 60 | 537 | 855 | 89 | 6 | 396 | 4 |
| Arrive On Green | | | | 0.04 | 0.04 | 0.04 | 0.30 | 0.51 | 0.51 | 0.00 | 0.21 | 0.21 |
| Sat Flow, veh/h | | | | 1726 | 58 | 1585 | 1781 | 1662 | 173 | 1781 | 1849 | 18 |
| Grp Volume(v), veh/h | | | | 31 | 0 | 9 | 417 | 0 | 680 | 1 | 0 | 212 |
| Grp Sat Flow(s),veh/h/ln | | | | 1784 | 0 | 1585 | 1781 | 0 | 1834 | 1781 | 0 | 1867 |
| Q Serve(g_s), s | | | | 0.5 | 0.0 | 0.2 | 6.5 | 0.0 | 8.6 | 0.0 | 0.0 | 3.0 |
| Cycle Q Clear(g_c), s | | | | 0.5 | 0.0 | 0.2 | 6.5 | 0.0 | 8.6 | 0.0 | 0.0 | 3.0 |
| Prop In Lane | | | | 0.97 | | 1.00 | 1.00 | | 0.09 | 1.00 | | 0.01 |
| Lane Grp Cap(c), veh/h | | | | 67 | 0 | 60 | 537 | 0 | 944 | 6 | 0 | 400 |
| V/C Ratio(X) | | | | 0.46 | 0.00 | 0.15 | 0.78 | 0.00 | 0.72 | 0.17 | 0.00 | 0.53 |
| Avail Cap(c_a), veh/h | | | | 944 | 0 | 839 | 1031 | 0 | 1912 | 236 | 0 | 1112 |
| HCM Platoon Ratio | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | | | | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | | | | 14.2 | 0.0 | 14.1 | 9.6 | 0.0 | 5.7 | 15.1 | 0.0 | 10.5 |
| Incr Delay (d2), s/veh | | | | 4.8 | 0.0 | 1.1 | 2.5 | 0.0 | 1.1 | 13.0 | 0.0 | 1.1 |
| Initial Q Delay(d3),s/veh | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | | 0.3 | 0.0 | 0.1 | 2.0 | 0.0 | 1.6 | 0.0 | 0.0 | 1.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | 19.1 | 0.0 | 15.2 | 12.1 | 0.0 | 6.7 | 28.1 | 0.0 | 11.6 |
| LnGrp LOS | | | | B | A | B | B | A | A | C | A | B |
| Approach Vol, veh/h | | | | | 40 | | | 1097 | | | 213 | |
| Approach Delay, s/veh | | | | | 18.2 | | | 8.8 | | | 11.7 | |
| Approach LOS | | | | | B | | | A | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 5 | 6 | | 8 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 4.5 | 20.1 | | 13.6 | 11.0 | | 5.6 | | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | | | | | |
| Max Green Setting (Gmax), s | 4.0 | 31.5 | | 17.5 | 18.0 | | 16.0 | | | | | |
| Max Q Clear Time (g_c+I1), s | 2.0 | 10.6 | | 8.5 | 5.0 | | 2.5 | | | | | |
| Green Ext Time (p_c), s | 0.0 | 4.9 | | 0.9 | 0.9 | | 0.1 | | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 9.5 | |
| HCM 6th LOS | A | |

| Intersection | |
|---|---|
| Int Delay, s/veh | 5.3 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 155 | 417 | 353 | 0 | 0 | 779 |
| Future Vol, veh/h | 155 | 417 | 353 | 0 | 0 | 779 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 1 | 1 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | 300 | - | - | - | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 168 | 453 | 384 | 0 | 0 | 847 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 808 | 192 | 0 | - | - | - |
| Stage 1 | 384 | - | - | - | - | - |
| Stage 2 | 424 | - | - | - | - | - |
| Critical Hdwy | 6.84 | 6.94 | - | - | - | - |
| Critical Hdwy Stg 1 | 5.84 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.84 | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 3.32 | - | - | - | - |
| Pot Cap-1 Maneuver | 319 | 817 | - | 0 | 0 | - |
| Stage 1 | 658 | - | - | 0 | 0 | - |
| Stage 2 | 628 | - | - | 0 | 0 | - |
| Platoon blocked, % | | | - | | | - |
| Mov Cap-1 Maneuver | 319 | 817 | - | - | - | - |
| Mov Cap-2 Maneuver | 439 | - | - | - | - | - |
| Stage 1 | 658 | - | - | - | - | - |
| Stage 2 | 628 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 15.7 | 0 | 0 |
| HCM LOS | C | | |

| Minor Lane/Major Mvmt | NBT | WBLn1 | WBLn2 | SBT |
|---|---|---|---|---|
| Capacity (veh/h) | - | 439 | 817 | - |
| HCM Lane V/C Ratio | - | 0.384 | 0.555 | - |
| HCM Control Delay (s) | - | 18.2 | 14.8 | - |
| HCM Lane LOS | - | C | B | - |
| HCM 95th %tile Q(veh) | - | 1.8 | 3.5 | - |





| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 353 | 91 | 377 | 557 |
| Future Volume (Veh/h) | 0 | 0 | 353 | 91 | 377 | 557 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 0 | 384 | 99 | 410 | 605 |
| Pedestrians | 1 | | | | | |
| Lane Width (ft) | 0.0 | | | | | |
| Walking Speed (ft/s) | 4.0 | | | | | |
| Percent Blockage | 0 | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | 769 | | | 1029 |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 1557 | 242 | | | 484 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 1557 | 242 | | | 484 | |
| tC, single (s) | 6.8 | 6.9 | | | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 100 | 100 | | | 62 | |
| cM capacity (veh/h) | 64 | 758 | | | 1075 | |

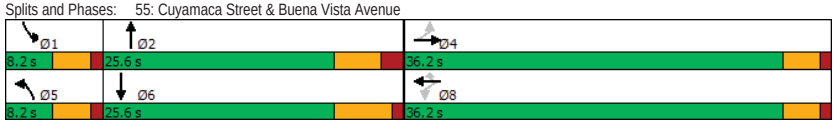
| Direction, Lane # | NB 1 | NB 2 | SB 1 | SB 2 | SB 3 |
|---|---|---|---|---|---|
| Volume Total | 256 | 227 | 410 | 302 | 302 |
| Volume Left | 0 | 0 | 410 | 0 | 0 |
| Volume Right | 0 | 99 | 0 | 0 | 0 |
| cSH | 1700 | 1700 | 1075 | 1700 | 1700 |
| Volume to Capacity | 0.15 | 0.13 | 0.38 | 0.18 | 0.18 |
| Queue Length 95th (ft) | 0 | 0 | 45 | 0 | 0 |
| Control Delay (s) | 0.0 | 0.0 | 10.4 | 0.0 | 0.0 |
| Lane LOS | | | B | | |
| Approach Delay (s) | 0.0 | | 4.2 | | |
| Approach LOS | | | | | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Average Delay | 2.8 | | | |
| Intersection Capacity Utilization | 42.4% | ICU Level of Service | | A |
| Analysis Period (min) | 15 | | | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 29 | 18 | 48 | 347 | 4 | 89 | 26 | 1843 | 234 | 74 | 1679 | 15 |
| Future Volume (vph) | 29 | 18 | 48 | 347 | 4 | 89 | 26 | 1843 | 234 | 74 | 1679 | 15 |
| Confl. Peds. (#/hr) | | | 5 | | | 11 | | | 14 | | | 3 |
| Confl. Bikes (#/hr) | | | 1 | | | 1 | | | 2 | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Perm | NA | | Perm | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | 8 | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | 8 | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 10.0 | | 4.0 | 10.0 | |
| Minimum Split (s) | 36.2 | 36.2 | | 34.2 | 34.2 | 34.2 | 8.2 | 24.0 | | 8.2 | 24.0 | |
| Total Split (s) | 36.2 | 36.2 | | 36.2 | 36.2 | 36.2 | 8.2 | 25.6 | | 8.2 | 25.6 | |
| Total Split (%) | 51.7% | 51.7% | | 51.7% | 51.7% | 51.7% | 11.7% | 36.6% | | 11.7% | 36.6% | |
| Yellow Time (s) | 3.2 | 3.2 | | 3.2 | 3.2 | 3.2 | 3.2 | 4.0 | | 3.2 | 4.9 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 2.0 | | 1.0 | 1.1 | |
| Lost Time Adjust (s) | | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | | 4.2 | | | 4.2 | 4.2 | 4.2 | 6.0 | | 4.2 | 6.0 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | None | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 70 |
| Actuated Cycle Length: 57.9 |
| Natural Cycle: 90 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 55: Cuyamaca Street & Buena Vista Avenue






Existing + Cuml + Proj PM
55: Cuyamaca Street & Buena Vista Avenue
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 29 | 18 | 48 | 347 | 4 | 89 | 26 | 1843 | 234 | 74 | 1679 | 15 |
| Future Volume (veh/h) | 29 | 18 | 48 | 347 | 4 | 89 | 26 | 1843 | 234 | 74 | 1679 | 15 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.95 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 32 | 20 | 52 | 377 | 4 | 97 | 28 | 2003 | 254 | 80 | 1825 | 16 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 67 | 55 | 55 | 374 | 3 | 710 | 43 | 1279 | 160 | 102 | 1634 | 14 |
| Arrive On Green | 0.46 | 0.46 | 0.46 | 0.46 | 0.46 | 0.46 | 0.02 | 0.28 | 0.28 | 0.06 | 0.31 | 0.31 |
| Sat Flow, veh/h | 0 | 119 | 119 | 595 | 6 | 1554 | 1781 | 4569 | 570 | 1781 | 5219 | 46 |
| Grp Volume(v), veh/h | 104 | 0 | 0 | 381 | 0 | 97 | 28 | 1484 | 773 | 80 | 1190 | 651 |
| Grp Sat Flow(s),veh/h/ln | 239 | 0 | 0 | 602 | 0 | 1554 | 1781 | 1702 | 1735 | 1781 | 1702 | 1861 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.5 | 1.1 | 19.6 | 19.6 | 3.1 | 21.9 | 21.9 |
| Cycle Q Clear(g_c), s | 32.0 | 0.0 | 0.0 | 32.0 | 0.0 | 2.5 | 1.1 | 19.6 | 19.6 | 3.1 | 21.9 | 21.9 |
| Prop In Lane | 0.31 | | 0.50 | 0.99 | | 1.00 | 1.00 | | 0.33 | 1.00 | | 0.02 |
| Lane Grp Cap(c), veh/h | 176 | 0 | 0 | 377 | 0 | 710 | 43 | 953 | 486 | 102 | 1066 | 583 |
| V/C Ratio(X) | 0.59 | 0.00 | 0.00 | 1.01 | 0.00 | 0.14 | 0.66 | 1.56 | 1.59 | 0.79 | 1.12 | 1.12 |
| Avail Cap(c_a), veh/h | 176 | 0 | 0 | 377 | 0 | 710 | 102 | 953 | 486 | 102 | 1066 | 583 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 16.4 | 0.0 | 0.0 | 23.3 | 0.0 | 11.0 | 33.9 | 25.2 | 25.2 | 32.6 | 24.0 | 24.0 |
| Incr Delay (d2), s/veh | 3.5 | 0.0 | 0.0 | 48.8 | 0.0 | 0.0 | 6.2 | 255.8 | 275.8 | 30.0 | 65.4 | 73.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.0 | 0.0 | 0.0 | 11.3 | 0.0 | 0.8 | 0.5 | 41.1 | 44.5 | 2.1 | 17.6 | 20.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 19.9 | 0.0 | 0.0 | 72.1 | 0.0 | 11.0 | 40.0 | 281.0 | 301.0 | 62.6 | 89.5 | 97.7 |
| LnGrp LOS | B | A | A | F | A | B | D | F | F | E | F | F |
| Approach Vol, veh/h | | 104 | | | 478 | | | 2285 | | | 1921 | |
| Approach Delay, s/veh | | 19.9 | | | 59.7 | | | 284.8 | | | 91.1 | |
| Approach LOS | | B | | | E | | | F | | | F | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 8.2 | 25.6 | | 36.2 | 5.9 | 27.9 | | 36.2 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 6.0 | | * 4.2 | * 4.2 | * 6 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | * 4 | 19.6 | | * 32 | * 4 | * 20 | | * 32 | | | | |
| Max Q Clear Time (g_c+I1), s | 5.1 | 21.6 | | 34.0 | 3.1 | 23.9 | | 34.0 | | | | |
| Green Ext Time (p_c), s | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | | 0.0 | | | | |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 178.9 |
| HCM 6th LOS | F |

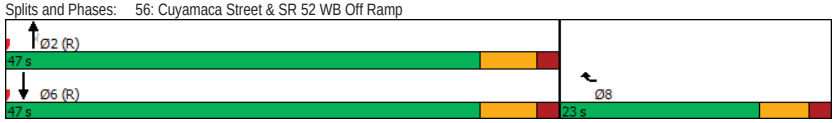
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 681 | 1330 | 336 | 0 | 1943 |
| Future Volume (vph) | 0 | 681 | 1330 | 336 | 0 | 1943 |
| Confl. Peds. (#/hr) | | | | 4 | | |
| Confl. Bikes (#/hr) | | | | 3 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | 0% | | | 0% |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | | Prot | NA | Perm | | NA |
| Protected Phases | | 8 | 2 | | | 6 |
| Permitted Phases | | | | 2 | | |
| Detector Phase | | 8 | 2 | 2 | | 6 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | | 5.0 | 14.0 | 14.0 | | 14.0 |
| Minimum Split (s) | | 20.0 | 45.8 | 45.8 | | 20.8 |
| Total Split (s) | | 23.0 | 47.0 | 47.0 | | 47.0 |
| Total Split (%) | | 32.9% | 67.1% | 67.1% | | 67.1% |
| Yellow Time (s) | | 4.1 | 4.8 | 4.8 | | 4.8 |
| All-Red Time (s) | | 2.0 | 2.0 | 2.0 | | 2.0 |
| Lost Time Adjust (s) | | 0.0 | 0.0 | 0.0 | | 0.0 |
| Total Lost Time (s) | | 6.1 | 6.8 | 6.8 | | 6.8 |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | | None | C-Max | C-Max | | C-Max |

| Intersection Summary |
|---|
| Cycle Length: 70 |
| Actuated Cycle Length: 70 |
| Offset: 22 (31%), Referenced to phase 2:NBT and 6:SBT, Start of Green |
| Natural Cycle: 70 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 56: Cuyamaca Street & SR 52 WB Off Ramp








| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 681 | 1330 | 336 | 0 | 1943 |
| Future Volume (veh/h) | 0 | 681 | 1330 | 336 | 0 | 1943 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | | 0.98 | 1.00 | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | No | | | No |
| Adj Sat Flow, veh/h/ln | 0 | 1870 | 1870 | 1870 | 0 | 1870 |
| Adj Flow Rate, veh/h | 0 | 740 | 1446 | 365 | 0 | 2112 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 0 | 2 | 2 | 2 | 0 | 2 |
| Cap, veh/h | 0 | 0 | 4610 | 1398 | 0 | 4610 |
| Arrive On Green | 0.00 | 0.00 | 0.30 | 0.30 | 0.00 | 0.90 |
| Sat Flow, veh/h | 0 | | 5274 | 1548 | 0 | 5443 |
| Grp Volume(v), veh/h | 0.0 | | 1446 | 365 | 0 | 2112 |
| Grp Sat Flow(s),veh/h/ln | | | 1702 | 1548 | 0 | 1702 |
| Q Serve(g_s), s | | | 15.4 | 12.6 | 0.0 | 4.8 |
| Cycle Q Clear(g_c), s | | | 15.4 | 12.6 | 0.0 | 4.8 |
| Prop In Lane | | | | 1.00 | 0.00 | |
| Lane Grp Cap(c), veh/h | | | 4610 | 1398 | 0 | 4610 |
| V/C Ratio(X) | | | 0.31 | 0.26 | 0.00 | 0.46 |
| Avail Cap(c_a), veh/h | | | 4610 | 1398 | 0 | 4610 |
| HCM Platoon Ratio | | | 0.33 | 0.33 | 1.00 | 1.00 |
| Upstream Filter(I) | | | 1.00 | 1.00 | 0.00 | 0.34 |
| Uniform Delay (d), s/veh | | | 7.8 | 6.8 | 0.0 | 0.6 |
| Incr Delay (d2), s/veh | | | 0.2 | 0.5 | 0.0 | 0.1 |
| Initial Q Delay(d3),s/veh | | | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | 2.6 | 0.6 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | | | 8.0 | 7.3 | 0.0 | 0.7 |
| LnGrp LOS | | | A | A | A | A |
| Approach Vol, veh/h | | | 1811 | | | 2112 |
| Approach Delay, s/veh | | | 7.8 | | | 0.7 |
| Approach LOS | | | A | | | A |

| Timer - Assigned Phs | 2 | | | | | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 70.0 | | | | | 70.0 |
| Change Period (Y+Rc), s | 6.8 | | | | | 6.8 |
| Max Green Setting (Gmax), s | 40.2 | | | | | 40.2 |
| Max Q Clear Time (g_c+I1), s | 17.4 | | | | | 6.8 |
| Green Ext Time (p_c), s | 12.8 | | | | | 22.0 |

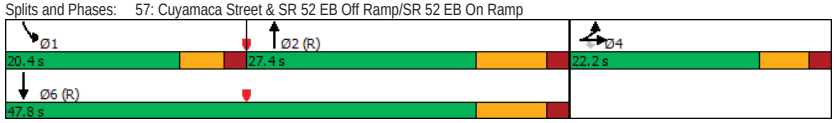
| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 4.0 |
| HCM 6th LOS | A |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 709 | 5 | 356 | 0 | 0 | 0 | 0 | 958 | 221 | 679 | 636 | 0 |
| Future Volume (vph) | 709 | 5 | 356 | 0 | 0 | 0 | 0 | 958 | 221 | 679 | 636 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | | | | 9 | | | 13 |
| Confl. Bikes (#/hr) | | | | | | | | | 2 | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | 50% | | | | | | | | | | | |
| Turn Type | Split | NA | Perm | | | | | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | | | | | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | | | | |
| Detector Phase | 4 | 4 | 4 | | | | | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | | | | | 11.0 | | 5.0 | 12.0 | |
| Minimum Split (s) | 22.1 | 22.1 | 22.1 | | | | | 27.0 | | 10.7 | 32.0 | |
| Total Split (s) | 22.2 | 22.2 | 22.2 | | | | | 27.4 | | 20.4 | 47.8 | |
| Total Split (%) | 31.7% | 31.7% | 31.7% | | | | | 39.1% | | 29.1% | 68.3% | |
| Yellow Time (s) | 4.1 | 4.1 | 4.1 | | | | | 6.0 | | 3.7 | 6.0 | |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | | | | | 2.0 | | 2.0 | 2.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | | | | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 6.1 | 6.1 | 6.1 | | | | | 8.0 | | 5.7 | 8.0 | |
| Lead/Lag | | | | | | | | Lag | | Lead | | |
| Lead-Lag Optimize? | | | | | | | | Yes | | Yes | | |
| Recall Mode | None | None | None | | | | | C-Min | | None | C-Min | |

**Intersection Summary**

Cycle Length: 70
Actuated Cycle Length: 70
Offset: 10 (14%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 57: Cuyamaca Street & SR 52 EB Off Ramp/SR 52 EB On Ramp








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 709 | 5 | 356 | 0 | 0 | 0 | 0 | 958 | 221 | 679 | 636 | 0 |
| Future Volume (veh/h) | 709 | 5 | 356 | 0 | 0 | 0 | 0 | 958 | 221 | 679 | 636 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | | | | 1.00 | | 0.98 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | | | | 0 | 1870 | 1870 | 1870 | 1870 | 0 |
| Adj Flow Rate, veh/h | 775 | 0 | 348 | | | | 0 | 1041 | 216 | 738 | 691 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | | | | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | | | | 0 | 2 | 2 | 2 | 2 | 0 |
| Cap, veh/h | 819 | 0 | 364 | | | | 0 | 1169 | 242 | 726 | 2021 | 0 |
| Arrive On Green | 0.23 | 0.00 | 0.23 | | | | 0.00 | 0.09 | 0.09 | 0.07 | 0.19 | 0.00 |
| Sat Flow, veh/h | 3563 | 0 | 1581 | | | | 0 | 4387 | 874 | 3456 | 3647 | 0 |
| Grp Volume(v), veh/h | 775 | 0 | 348 | | | | 0 | 840 | 417 | 738 | 691 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1581 | | | | 0 | 1702 | 1689 | 1728 | 1777 | 0 |
| Q Serve(g_s), s | 15.0 | 0.0 | 15.2 | | | | 0.0 | 17.1 | 17.1 | 14.7 | 11.8 | 0.0 |
| Cycle Q Clear(g_c), s | 15.0 | 0.0 | 15.2 | | | | 0.0 | 17.1 | 17.1 | 14.7 | 11.8 | 0.0 |
| Prop In Lane | 1.00 | | 1.00 | | | | 0.00 | | 0.52 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 819 | 0 | 364 | | | | 0 | 943 | 468 | 726 | 2021 | 0 |
| V/C Ratio(X) | 0.95 | 0.00 | 0.96 | | | | 0.00 | 0.89 | 0.89 | 1.02 | 0.34 | 0.00 |
| Avail Cap(c_a), veh/h | 819 | 0 | 364 | | | | 0 | 943 | 468 | 726 | 2021 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | | | | 1.00 | 0.33 | 0.33 | 0.33 | 0.33 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | | | | 0.00 | 0.88 | 0.88 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | 26.5 | 0.0 | 26.6 | | | | 0.0 | 30.7 | 30.8 | 32.6 | 17.1 | 0.0 |
| Incr Delay (d2), s/veh | 19.5 | 0.0 | 36.0 | | | | 0.0 | 11.1 | 19.8 | 37.7 | 0.5 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 8.2 | 0.0 | 9.0 | | | | 0.0 | 9.1 | 10.1 | 10.5 | 5.5 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 46.0 | 0.0 | 62.6 | | | | 0.0 | 41.8 | 50.6 | 70.3 | 17.5 | 0.0 |
| LnGrp LOS | D | A | E | | | | A | D | D | F | B | A |
| Approach Vol, veh/h | | 1123 | | | | | | 1257 | | | 1429 | |
| Approach Delay, s/veh | | 51.1 | | | | | | 44.7 | | | 44.8 | |
| Approach LOS | | D | | | | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | 4 | 6 |
|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 20.4 | 27.4 | 22.2 | 47.8 |
| Change Period (Y+Rc), s | * 5.7 | 8.0 | 6.1 | 8.0 |
| Max Green Setting (Gmax), s | * 15 | 19.4 | 16.1 | 39.8 |
| Max Q Clear Time (g_c+I1), s | 16.7 | 19.1 | 17.2 | 13.8 |
| Green Ext Time (p_c), s | 0.0 | 0.2 | 0.0 | 4.9 |

**Intersection Summary**

| | |
|---|---|
| HCM 6th Ctrl Delay | 46.6 |
| HCM 6th LOS | D |

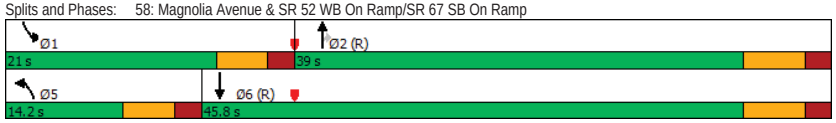
**Notes**

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 243 | 1639 | 142 | 610 | 647 | 349 |
| Future Volume (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 243 | 1639 | 142 | 610 | 647 | 349 |
| Confl. Peds. (#/hr) | | | | | | | | | 2 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | | | | | | | Prot | NA | Perm | Prot | NA | |
| Protected Phases | | | | | | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | | | 2 | | | |
| Detector Phase | | | | | | | 5 | 2 | 2 | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | | | | | | 5.0 | 6.0 | 6.0 | 5.0 | 7.0 | |
| Minimum Split (s) | | | | | | | 10.7 | 38.4 | 38.4 | 10.7 | 39.4 | |
| Total Split (s) | | | | | | | 14.2 | 39.0 | 39.0 | 21.0 | 45.8 | |
| Total Split (%) | | | | | | | 23.7% | 65.0% | 65.0% | 35.0% | 76.3% | |
| Yellow Time (s) | | | | | | | 3.7 | 4.4 | 4.4 | 3.7 | 4.4 | |
| All-Red Time (s) | | | | | | | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | |
| Lost Time Adjust (s) | | | | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | | | | | | | 5.7 | 6.4 | 6.4 | 5.7 | 6.4 | |
| Lead/Lag | | | | | | | Lead | Lag | Lag | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | Yes | Yes | Yes | |
| Recall Mode | | | | | | | None | C-Max | C-Max | None | C-Max | |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 60 |
| Offset: 17 (28%), Referenced to phase 2:NBT and 6:SBT, Start of Green |
| Natural Cycle: 60 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 58: Magnolia Avenue & SR 52 WB On Ramp/SR 67 SB On Ramp








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 0 | 0 | 0 | 243 | 1639 | 142 | 610 | 647 | 349 |
| Future Volume (veh/h) | 0 | 0 | 0 | 0 | 0 | 0 | 243 | 1639 | 142 | 610 | 647 | 349 |
| Initial Q (Qb), veh | | | | | | | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | | | | | | 1.00 | | 1.00 | 1.00 | | 0.98 |
| Parking Bus, Adj | | | | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | | | | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | | | | | | | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | | | | | | | 264 | 1782 | 154 | 663 | 703 | 379 |
| Peak Hour Factor | | | | | | | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | | | | | | | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | | | | | | | 364 | 2955 | 916 | 759 | 1532 | 825 |
| Arrive On Green | | | | | | | 0.21 | 1.00 | 1.00 | 0.37 | 1.00 | 1.00 |
| Sat Flow, veh/h | | | | | | | 3456 | 5106 | 1582 | 3456 | 2210 | 1190 |
| Grp Volume(v), veh/h | | | | | | | 264 | 1782 | 154 | 663 | 565 | 517 |
| Grp Sat Flow(s),veh/h/ln | | | | | | | 1728 | 1702 | 1582 | 1728 | 1777 | 1623 |
| Q Serve(g_s), s | | | | | | | 4.3 | 0.0 | 0.0 | 10.7 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | | | | | | | 4.3 | 0.0 | 0.0 | 10.7 | 0.0 | 0.0 |
| Prop In Lane | | | | | | | 1.00 | | 1.00 | 1.00 | | 0.73 |
| Lane Grp Cap(c), veh/h | | | | | | | 364 | 2955 | 916 | 759 | 1231 | 1125 |
| V/C Ratio(X) | | | | | | | 0.73 | 0.60 | 0.17 | 0.87 | 0.46 | 0.46 |
| Avail Cap(c_a), veh/h | | | | | | | 490 | 2955 | 916 | 881 | 1231 | 1125 |
| HCM Platoon Ratio | | | | | | | 2.00 | 2.00 | 2.00 | 1.67 | 1.67 | 1.67 |
| Upstream Filter(I) | | | | | | | 0.14 | 0.14 | 0.14 | 0.64 | 0.64 | 0.64 |
| Uniform Delay (d), s/veh | | | | | | | 22.9 | 0.0 | 0.0 | 18.2 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | | | | | | | 0.3 | 0.1 | 0.1 | 5.2 | 0.8 | 0.9 |
| Initial Q Delay(d3),s/veh | | | | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | | | | | 1.5 | 0.0 | 0.0 | 3.6 | 0.3 | 0.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | | | | 23.2 | 0.1 | 0.1 | 23.4 | 0.8 | 0.9 |
| LnGrp LOS | | | | | | | C | A | A | C | A | A |
| Approach Vol, veh/h | | | | | | | | 2200 | | | 1745 | |
| Approach Delay, s/veh | | | | | | | | 2.9 | | | 9.4 | |
| Approach LOS | | | | | | | | A | | | A | |

| Timer - Assigned Phs | 1 | 2 | | 5 | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 18.9 | 41.1 | | 12.0 | 48.0 |
| Change Period (Y+Rc), s | * 5.7 | 6.4 | | * 5.7 | 6.4 |
| Max Green Setting (Gmax), s | * 15 | 32.6 | | * 8.5 | 39.4 |
| Max Q Clear Time (g_c+I1), s | 12.7 | 2.0 | | 6.3 | 2.0 |
| Green Ext Time (p_c), s | 0.5 | 18.4 | | 0.1 | 8.1 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 5.8 | |
| HCM 6th LOS | A | |

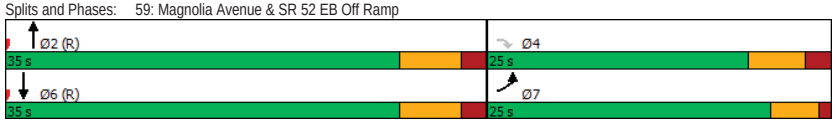
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 520 | 488 | 0 | 1544 | 588 | 0 |
| Future Volume (vph) | 520 | 488 | 0 | 1544 | 588 | 0 |
| Confl. Peds. (#/hr) | | | | | | 1 |
| Confl. Bikes (#/hr) | | | | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | | NA | NA | |
| Protected Phases | 7 | | | 2 | 6 | |
| Permitted Phases | | 4 | | | | |
| Detector Phase | 7 | 4 | | 2 | 6 | |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 5.0 | | 5.0 | 5.0 | |
| Minimum Split (s) | 8.5 | 22.1 | | 22.4 | 27.4 | |
| Total Split (s) | 25.0 | 25.0 | | 35.0 | 35.0 | |
| Total Split (%) | 41.7% | 41.7% | | 58.3% | 58.3% | |
| Yellow Time (s) | 3.5 | 4.1 | | 4.4 | 4.4 | |
| All-Red Time (s) | 1.0 | 2.0 | | 2.0 | 2.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 6.1 | | 6.4 | 6.4 | |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | None | None | | C-Max | C-Max | |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 60 |
| Offset: 2 (3%), Referenced to phase 2:NBT and 6:SBT, Start of Green |
| Natural Cycle: 80 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 59: Magnolia Avenue & SR 52 EB Off Ramp






Existing + Cuml + Proj PM
59: Magnolia Avenue & SR 52 EB Off Ramp
Fanita Ranch
06/06/2019

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 520 | 488 | 0 | 1544 | 588 | 0 |
| Future Volume (veh/h) | 520 | 488 | 0 | 1544 | 588 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 0 | 1870 | 1870 | 0 |
| Adj Flow Rate, veh/h | 565 | 530 | 0 | 1678 | 639 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 0 | 2 | 2 | 0 |
| Cap, veh/h | 609 | 542 | 0 | 1694 | 1694 | 0 |
| Arrive On Green | 0.34 | 0.34 | 0.00 | 0.48 | 0.95 | 0.00 |
| Sat Flow, veh/h | 1781 | 1585 | 0 | 3741 | 3741 | 0 |
| Grp Volume(v), veh/h | 565 | 530 | 0 | 1678 | 639 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 0 | 1777 | 1777 | 0 |
| Q Serve(g_s), s | 18.3 | 19.8 | 0.0 | 28.1 | 0.8 | 0.0 |
| Cycle Q Clear(g_c), s | 18.3 | 19.8 | 0.0 | 28.1 | 0.8 | 0.0 |
| Prop In Lane | 1.00 | 1.00 | 0.00 | | | 0.00 |
| Lane Grp Cap(c), veh/h | 609 | 542 | 0 | 1694 | 1694 | 0 |
| V/C Ratio(X) | 0.93 | 0.98 | 0.00 | 0.99 | 0.38 | 0.00 |
| Avail Cap(c_a), veh/h | 609 | 542 | 0 | 1694 | 1694 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 2.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.61 | 0.87 | 0.00 |
| Uniform Delay (d), s/veh | 19.0 | 19.5 | 0.0 | 15.6 | 0.8 | 0.0 |
| Incr Delay (d2), s/veh | 20.7 | 33.1 | 0.0 | 15.0 | 0.6 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 10.2 | 11.4 | 0.0 | 11.7 | 0.3 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 39.8 | 52.7 | 0.0 | 30.6 | 1.3 | 0.0 |
| LnGrp LOS | D | D | A | C | A | A |
| Approach Vol, veh/h | 1095 | | | 1678 | 639 | |
| Approach Delay, s/veh | 46.0 | | | 30.6 | 1.3 | |
| Approach LOS | D | | | C | A | |

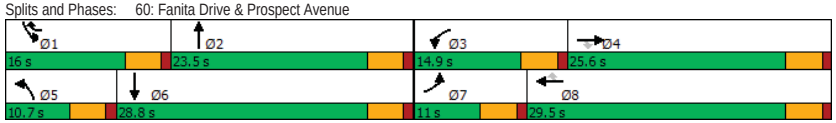
| Timer - Assigned Phs | | 2 | | 4 | | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 35.0 | | 25.0 | | 35.0 |
| Change Period (Y+Rc), s | | 6.4 | | 4.5 | | 6.4 |
| Max Green Setting (Gmax), s | | 28.6 | | 20.5 | | 28.6 |
| Max Q Clear Time (g_c+I1), s | | 30.1 | | 21.8 | | 2.8 |
| Green Ext Time (p_c), s | | 0.0 | | 0.0 | | 4.1 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 30.0 | |
| HCM 6th LOS | C | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 90 | 91 | 39 | 103 | 106 | 145 | 42 | 222 | 89 | 193 | 255 | 106 |
| Future Volume (vph) | 90 | 91 | 39 | 103 | 106 | 145 | 42 | 222 | 89 | 193 | 255 | 106 |
| Confl. Peds. (#/hr) | | | 6 | | | 4 | | | 2 | | | 1 |
| Confl. Bikes (#/hr) | | | 4 | | | 4 | | | 1 | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | pm+ov | Prot | NA | | Prot | NA | |
| Protected Phases | 7 | 4 | | 3 | 8 | 1 | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | | | | |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | 1 | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | 8.5 | 24.5 | 24.5 | 8.5 | 29.5 | 8.5 | 8.5 | 22.5 | | 8.5 | 24.5 | |
| Total Split (s) | 11.0 | 25.6 | 25.6 | 14.9 | 29.5 | 16.0 | 10.7 | 23.5 | | 16.0 | 28.8 | |
| Total Split (%) | 13.8% | 32.0% | 32.0% | 18.6% | 36.9% | 20.0% | 13.4% | 29.4% | | 20.0% | 36.0% | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | None | None | None | None | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 80 |
| Actuated Cycle Length: 59.8 |
| Natural Cycle: 80 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 60: Fanita Drive & Prospect Avenue






Existing + Cuml + Proj PM
60: Fanita Drive & Prospect Avenue
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 90 | 91 | 39 | 103 | 106 | 145 | 42 | 222 | 89 | 193 | 255 | 106 |
| Future Volume (veh/h) | 90 | 91 | 39 | 103 | 106 | 145 | 42 | 222 | 89 | 193 | 255 | 106 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 98 | 99 | 42 | 112 | 115 | 158 | 46 | 241 | 97 | 210 | 277 | 115 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 125 | 287 | 236 | 146 | 309 | 492 | 68 | 310 | 125 | 266 | 877 | 354 |
| Arrive On Green | 0.07 | 0.15 | 0.15 | 0.08 | 0.17 | 0.17 | 0.04 | 0.25 | 0.25 | 0.15 | 0.36 | 0.36 |
| Sat Flow, veh/h | 1781 | 1870 | 1539 | 1781 | 1870 | 1546 | 1781 | 1258 | 506 | 1781 | 2451 | 988 |
| Grp Volume(v), veh/h | 98 | 99 | 42 | 112 | 115 | 158 | 46 | 0 | 338 | 210 | 199 | 193 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1539 | 1781 | 1870 | 1546 | 1781 | 0 | 1764 | 1781 | 1777 | 1662 |
| Q Serve(g_s), s | 2.6 | 2.3 | 1.2 | 3.0 | 2.7 | 3.8 | 1.2 | 0.0 | 8.7 | 5.6 | 3.9 | 4.1 |
| Cycle Q Clear(g_c), s | 2.6 | 2.3 | 1.2 | 3.0 | 2.7 | 3.8 | 1.2 | 0.0 | 8.7 | 5.6 | 3.9 | 4.1 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.29 | 1.00 | | 0.59 |
| Lane Grp Cap(c), veh/h | 125 | 287 | 236 | 146 | 309 | 492 | 68 | 0 | 435 | 266 | 636 | 595 |
| V/C Ratio(X) | 0.78 | 0.34 | 0.18 | 0.77 | 0.37 | 0.32 | 0.68 | 0.00 | 0.78 | 0.79 | 0.31 | 0.33 |
| Avail Cap(c_a), veh/h | 237 | 808 | 665 | 379 | 957 | 1029 | 226 | 0 | 686 | 419 | 884 | 827 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 22.3 | 18.5 | 18.0 | 22.0 | 18.1 | 12.8 | 23.2 | 0.0 | 17.2 | 20.0 | 11.3 | 11.4 |
| Incr Delay (d2), s/veh | 10.0 | 0.7 | 0.4 | 8.2 | 0.7 | 0.4 | 11.3 | 0.0 | 3.0 | 5.2 | 0.3 | 0.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.4 | 1.0 | 0.4 | 1.4 | 1.1 | 1.1 | 0.7 | 0.0 | 3.2 | 2.3 | 1.2 | 1.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 32.4 | 19.2 | 18.3 | 30.2 | 18.9 | 13.2 | 34.5 | 0.0 | 20.2 | 25.2 | 11.6 | 11.7 |
| LnGrp LOS | C | B | B | C | B | B | C | A | C | C | B | B |
| Approach Vol, veh/h | | 239 | | | 385 | | | 384 | | | 602 | |
| Approach Delay, s/veh | | 24.4 | | | 19.8 | | | 21.9 | | | 16.4 | |
| Approach LOS | | C | | | B | | | C | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 11.8 | 16.5 | 8.5 | 12.0 | 6.4 | 22.0 | 7.9 | 12.6 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 11.5 | 19.0 | 10.4 | 21.1 | 6.2 | 24.3 | 6.5 | 25.0 |
| Max Q Clear Time (g_c+I1), s | 7.6 | 10.7 | 5.0 | 4.3 | 3.2 | 6.1 | 4.6 | 5.8 |
| Green Ext Time (p_c), s | 0.2 | 1.2 | 0.1 | 0.5 | 0.0 | 2.0 | 0.0 | 1.0 |

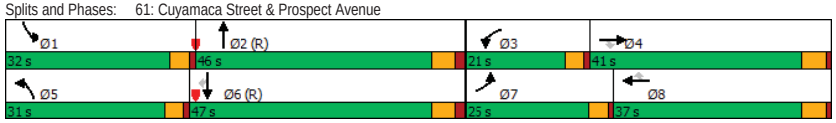
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 19.7 |
| HCM 6th LOS | | B |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 127 | 170 | 174 | 93 | 180 | 211 | 178 | 820 | 75 | 183 | 615 | 212 |
| Future Volume (vph) | 127 | 170 | 174 | 93 | 180 | 211 | 178 | 820 | 75 | 183 | 615 | 212 |
| Confl. Peds. (#/hr) | | | 4 | | | 10 | | | 7 | | | 6 |
| Confl. Bikes (#/hr) | | | 2 | | | 2 | | | 4 | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | | | | 6 |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | 8 | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 7.0 | 7.0 | 4.0 | 7.0 | 7.0 | 4.0 | 10.0 | | 4.0 | 10.0 | 10.0 |
| Minimum Split (s) | 8.2 | 35.2 | 35.2 | 8.2 | 36.2 | 36.2 | 8.2 | 33.0 | | 8.2 | 31.0 | 31.0 |
| Total Split (s) | 25.0 | 41.0 | 41.0 | 21.0 | 37.0 | 37.0 | 31.0 | 46.0 | | 32.0 | 47.0 | 47.0 |
| Total Split (%) | 17.9% | 29.3% | 29.3% | 15.0% | 26.4% | 26.4% | 22.1% | 32.9% | | 22.9% | 33.6% | 33.6% |
| Yellow Time (s) | 3.2 | 4.2 | 4.2 | 3.2 | 4.2 | 4.2 | 3.2 | 4.0 | | 3.2 | 4.1 | 4.1 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 2.0 | | 1.0 | 1.9 | 1.9 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.2 | 5.2 | 4.2 | 5.2 | 5.2 | 4.2 | 6.0 | | 4.2 | 6.0 | 6.0 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | None | None | C-Min | | None | C-Min | C-Min |

**Intersection Summary**

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 26 (19%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 61: Cuyamaca Street & Prospect Avenue








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 127 | 170 | 174 | 93 | 180 | 211 | 178 | 820 | 75 | 183 | 615 | 212 |
| Future Volume (veh/h) | 127 | 170 | 174 | 93 | 180 | 211 | 178 | 820 | 75 | 183 | 615 | 212 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 0.97 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 138 | 185 | 189 | 101 | 196 | 229 | 193 | 891 | 82 | 199 | 668 | 230 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 162 | 375 | 312 | 123 | 636 | 275 | 218 | 2212 | 203 | 221 | 1663 | 729 |
| Arrive On Green | 0.09 | 0.20 | 0.20 | 0.07 | 0.18 | 0.18 | 0.12 | 0.47 | 0.47 | 0.25 | 0.94 | 0.94 |
| Sat Flow, veh/h | 1781 | 1870 | 1553 | 1781 | 3554 | 1536 | 1781 | 4745 | 435 | 1781 | 3554 | 1559 |
| Grp Volume(v), veh/h | 138 | 185 | 189 | 101 | 196 | 229 | 193 | 638 | 335 | 199 | 668 | 230 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1553 | 1781 | 1777 | 1536 | 1781 | 1702 | 1776 | 1781 | 1777 | 1559 |
| Q Serve(g_s), s | 10.7 | 12.3 | 15.5 | 7.8 | 6.7 | 20.1 | 14.9 | 17.2 | 17.4 | 15.2 | 2.7 | 1.9 |
| Cycle Q Clear(g_c), s | 10.7 | 12.3 | 15.5 | 7.8 | 6.7 | 20.1 | 14.9 | 17.2 | 17.4 | 15.2 | 2.7 | 1.9 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.24 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 162 | 375 | 312 | 123 | 636 | 275 | 218 | 1587 | 828 | 221 | 1663 | 729 |
| V/C Ratio(X) | 0.85 | 0.49 | 0.61 | 0.82 | 0.31 | 0.83 | 0.89 | 0.40 | 0.40 | 0.90 | 0.40 | 0.32 |
| Avail Cap(c_a), veh/h | 265 | 478 | 397 | 214 | 807 | 349 | 341 | 1587 | 828 | 354 | 1663 | 729 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 2.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 0.96 | 0.96 | 0.96 | 1.00 | 1.00 | 1.00 | 0.87 | 0.87 | 0.87 |
| Uniform Delay (d), s/veh | 62.7 | 49.6 | 50.9 | 64.3 | 49.9 | 55.4 | 60.5 | 24.6 | 24.6 | 51.8 | 2.5 | 2.5 |
| Incr Delay (d2), s/veh | 6.9 | 1.1 | 2.1 | 4.8 | 0.2 | 11.0 | 10.8 | 0.8 | 1.5 | 10.3 | 0.6 | 1.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 5.1 | 5.9 | 6.2 | 3.7 | 3.0 | 8.6 | 7.4 | 7.1 | 7.6 | 6.5 | 0.9 | 0.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 69.6 | 50.7 | 53.0 | 69.1 | 50.1 | 66.4 | 71.3 | 25.3 | 26.1 | 62.2 | 3.1 | 3.4 |
| LnGrp LOS | E | D | D | E | D | E | E | C | C | E | A | A |
| Approach Vol, veh/h | | 512 | | | 526 | | | 1166 | | | 1097 | |
| Approach Delay, s/veh | | 56.7 | | | 60.8 | | | 33.1 | | | 13.9 | |
| Approach LOS | | E | | | E | | | C | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 21.5 | 71.3 | 13.9 | 33.3 | 21.3 | 71.5 | 16.9 | 30.3 |
| Change Period (Y+Rc), s | * 4.2 | 6.0 | * 4.2 | 5.2 | * 4.2 | * 6 | * 4.2 | 5.2 |
| Max Green Setting (Gmax), s | * 28 | 40.0 | * 17 | 35.8 | * 27 | * 41 | * 21 | 31.8 |
| Max Q Clear Time (g_c+I1), s | 17.2 | 19.4 | 9.8 | 17.5 | 16.9 | 4.7 | 12.7 | 22.1 |
| Green Ext Time (p_c), s | 0.2 | 8.9 | 0.1 | 1.7 | 0.2 | 9.0 | 0.1 | 1.0 |

**Intersection Summary**

| | |
|---|---|
| HCM 6th Ctrl Delay | 34.8 |
| HCM 6th LOS | C |

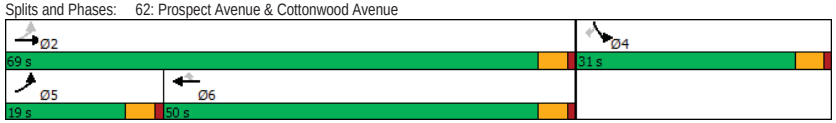
**Notes**

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 93 | 343 | 258 | 97 | 77 | 45 |
| Future Volume (vph) | 93 | 343 | 258 | 97 | 77 | 45 |
| Confl. Peds. (#/hr) | | | | 1 | | 4 |
| Confl. Bikes (#/hr) | | | | 3 | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | pm+pt | NA | NA | Perm | Prot | Perm |
| Protected Phases | 5 | 2 | 6 | | 4 | |
| Permitted Phases | 2 | | | 6 | | 4 |
| Detector Phase | 5 | 2 | 6 | 6 | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 |
| Total Split (s) | 19.0 | 69.0 | 50.0 | 50.0 | 31.0 | 31.0 |
| Total Split (%) | 19.0% | 69.0% | 50.0% | 50.0% | 31.0% | 31.0% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | | Lag | Lag | | |
| Lead-Lag Optimize? | Yes | | Yes | Yes | | |
| Recall Mode | None | Min | Min | Min | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 41.6 |
| Natural Cycle: 55 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 62: Prospect Avenue & Cottonwood Avenue








| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 93 | 343 | 258 | 97 | 77 | 45 |
| Future Volume (veh/h) | 93 | 343 | 258 | 97 | 77 | 45 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 0.97 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 101 | 373 | 280 | 105 | 84 | 49 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 591 | 1023 | 539 | 445 | 171 | 152 |
| Arrive On Green | 0.08 | 0.55 | 0.29 | 0.29 | 0.10 | 0.10 |
| Sat Flow, veh/h | 1781 | 1870 | 1870 | 1545 | 1781 | 1585 |
| Grp Volume(v), veh/h | 101 | 373 | 280 | 105 | 84 | 49 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1870 | 1545 | 1781 | 1585 |
| Q Serve(g_s), s | 0.8 | 2.8 | 3.2 | 1.3 | 1.1 | 0.7 |
| Cycle Q Clear(g_c), s | 0.8 | 2.8 | 3.2 | 1.3 | 1.1 | 0.7 |
| Prop In Lane | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 591 | 1023 | 539 | 445 | 171 | 152 |
| V/C Ratio(X) | 0.17 | 0.36 | 0.52 | 0.24 | 0.49 | 0.32 |
| Avail Cap(c_a), veh/h | 1472 | 4783 | 3374 | 2786 | 1872 | 1665 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 4.7 | 3.2 | 7.5 | 6.9 | 10.8 | 10.6 |
| Incr Delay (d2), s/veh | 0.1 | 0.2 | 0.8 | 0.3 | 2.2 | 1.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.1 | 0.1 | 0.7 | 0.2 | 0.4 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 4.8 | 3.4 | 8.3 | 7.1 | 13.0 | 11.8 |
| LnGrp LOS | A | A | A | A | B | B |
| Approach Vol, veh/h | | 474 | 385 | | 133 | |
| Approach Delay, s/veh | | 3.7 | 8.0 | | 12.6 | |
| Approach LOS | | A | A | | B | |

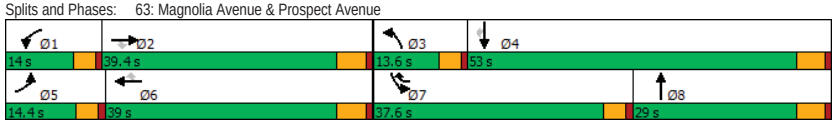
| Timer - Assigned Phs | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 18.3 | | 6.9 | 6.5 | 11.8 |
| Change Period (Y+Rc), s | 4.5 | | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 64.5 | | 26.5 | 14.5 | 45.5 |
| Max Q Clear Time (g_c+I1), s | 4.8 | | 3.1 | 2.8 | 5.2 |
| Green Ext Time (p_c), s | 2.4 | | 0.3 | 0.2 | 2.1 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 6.6 |
| HCM 6th LOS | A |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 147 | 289 | 87 | 63 | 282 | 990 | 40 | 436 | 90 | 656 | 390 | 73 |
| Future Volume (vph) | 147 | 289 | 87 | 63 | 282 | 990 | 40 | 436 | 90 | 656 | 390 | 73 |
| Confl. Peds. (#/hr) | | | 9 | | | 1 | | | 5 | | | 4 |
| Confl. Bikes (#/hr) | | | 2 | | | 1 | | | 1 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | pm+ov | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | 4.0 | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 39.3 | 39.3 | 8.2 | 37.4 | 8.2 | 8.2 | 23.2 | | 8.2 | 36.2 | 36.2 |
| Total Split (s) | 14.4 | 39.4 | 39.4 | 14.0 | 39.0 | 37.6 | 13.6 | 29.0 | | 37.6 | 53.0 | 53.0 |
| Total Split (%) | 12.0% | 32.8% | 32.8% | 11.7% | 32.5% | 31.3% | 11.3% | 24.2% | | 31.3% | 44.2% | 44.2% |
| Yellow Time (s) | 3.2 | 4.3 | 4.3 | 3.2 | 4.4 | 3.2 | 3.2 | 4.2 | | 3.2 | 4.2 | 4.2 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | 5.3 | 4.2 | 5.4 | 4.2 | 4.2 | 5.2 | | 4.2 | 5.2 | 5.2 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | Min | Min | None | Min | None | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 100.7 |
| Natural Cycle: 95 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 63: Magnolia Avenue & Prospect Avenue








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 147 | 289 | 87 | 63 | 282 | 990 | 40 | 436 | 90 | 656 | 390 | 73 |
| Future Volume (veh/h) | 147 | 289 | 87 | 63 | 282 | 990 | 40 | 436 | 90 | 656 | 390 | 73 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 160 | 314 | 95 | 68 | 307 | 1076 | 43 | 474 | 98 | 713 | 424 | 79 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 226 | 628 | 521 | 88 | 1135 | 1536 | 55 | 564 | 116 | 824 | 1424 | 625 |
| Arrive On Green | 0.07 | 0.34 | 0.34 | 0.05 | 0.32 | 0.32 | 0.03 | 0.19 | 0.19 | 0.24 | 0.40 | 0.40 |
| Sat Flow, veh/h | 3456 | 1870 | 1551 | 1781 | 3554 | 2726 | 1781 | 2924 | 600 | 3456 | 3554 | 1561 |
| Grp Volume(v), veh/h | 160 | 314 | 95 | 68 | 307 | 1076 | 43 | 287 | 285 | 713 | 424 | 79 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1870 | 1551 | 1781 | 1777 | 1363 | 1781 | 1777 | 1747 | 1728 | 1777 | 1561 |
| Q Serve(g_s), s | 4.7 | 13.9 | 4.5 | 3.9 | 6.7 | 29.8 | 2.5 | 16.1 | 16.3 | 20.5 | 8.4 | 3.3 |
| Cycle Q Clear(g_c), s | 4.7 | 13.9 | 4.5 | 3.9 | 6.7 | 29.8 | 2.5 | 16.1 | 16.3 | 20.5 | 8.4 | 3.3 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.34 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 226 | 628 | 521 | 88 | 1135 | 1536 | 55 | 343 | 337 | 824 | 1424 | 625 |
| V/C Ratio(X) | 0.71 | 0.50 | 0.18 | 0.77 | 0.27 | 0.70 | 0.78 | 0.84 | 0.85 | 0.87 | 0.30 | 0.13 |
| Avail Cap(c_a), veh/h | 341 | 628 | 521 | 169 | 1154 | 1551 | 162 | 409 | 402 | 1116 | 1642 | 721 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 47.4 | 27.4 | 24.3 | 48.6 | 26.2 | 16.7 | 49.8 | 40.2 | 40.3 | 37.8 | 21.1 | 19.6 |
| Incr Delay (d2), s/veh | 4.0 | 0.6 | 0.2 | 13.4 | 0.1 | 1.4 | 20.9 | 12.2 | 13.4 | 5.6 | 0.1 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.1 | 6.2 | 1.7 | 2.1 | 2.8 | 9.0 | 1.4 | 8.1 | 8.2 | 9.2 | 3.5 | 1.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 51.4 | 28.1 | 24.5 | 62.0 | 26.4 | 18.1 | 70.7 | 52.4 | 53.6 | 43.4 | 21.2 | 19.7 |
| LnGrp LOS | D | C | C | E | C | B | E | D | D | D | C | B |
| Approach Vol, veh/h | | 569 | | | 1451 | | | 615 | | | 1216 | |
| Approach Delay, s/veh | | 34.0 | | | 21.9 | | | 54.2 | | | 34.1 | |
| Approach LOS | | C | | | C | | | D | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 9.3 | 40.1 | 7.4 | 46.6 | 11.0 | 38.4 | 28.9 | 25.2 |
| Change Period (Y+Rc), s | * 4.2 | * 5.4 | * 4.2 | 5.2 | * 4.2 | 5.4 | * 4.2 | 5.2 |
| Max Green Setting (Gmax), s | * 9.8 | * 34 | * 9.4 | 47.8 | * 10 | 33.6 | * 33 | 23.8 |
| Max Q Clear Time (g_c+I1), s | 5.9 | 15.9 | 4.5 | 10.4 | 6.7 | 31.8 | 22.5 | 18.3 |
| Green Ext Time (p_c), s | 0.0 | 2.1 | 0.0 | 3.4 | 0.1 | 1.2 | 2.2 | 1.7 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 32.7 |
| HCM 6th LOS | C |

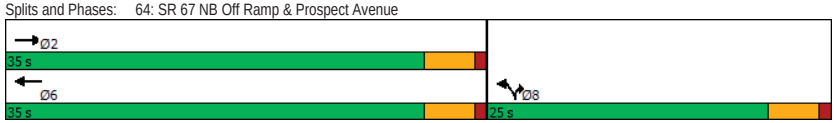
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 1093 | 0 | 0 | 662 | 735 | 150 |
| Future Volume (vph) | 1093 | 0 | 0 | 662 | 735 | 150 |
| Confl. Peds. (#/hr) | | 5 | | | | |
| Confl. Bikes (#/hr) | | 3 | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | NA | | | NA | Prot | Prot |
| Protected Phases | 2 | | | 6 | 8 | 8 |
| Permitted Phases | | | | | | |
| Detector Phase | 2 | | | 6 | 8 | 8 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 5.0 | | | 10.0 | 5.0 | 5.0 |
| Minimum Split (s) | 20.6 | | | 20.6 | 20.6 | 20.6 |
| Total Split (s) | 35.0 | | | 35.0 | 25.0 | 25.0 |
| Total Split (%) | 58.3% | | | 58.3% | 41.7% | 41.7% |
| Yellow Time (s) | 3.6 | | | 3.6 | 3.6 | 3.6 |
| All-Red Time (s) | 1.0 | | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.6 | | | 4.6 | 4.6 | 4.6 |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | Min | | | Min | None | None |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 46.7 |
| Natural Cycle: 50 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 64: SR 67 NB Off Ramp & Prospect Avenue






Existing + Cuml + Proj PM
64: SR 67 NB Off Ramp & Prospect Avenue
Fanita Ranch
06/06/2019

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 1093 | 0 | 0 | 662 | 735 | 150 |
| Future Volume (veh/h) | 1093 | 0 | 0 | 662 | 735 | 150 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | 1.00 | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 0 | 0 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 1188 | 0 | 0 | 720 | 799 | 163 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 0 | 0 | 2 | 2 | 2 |
| Cap, veh/h | 1647 | 0 | 0 | 1647 | 1047 | 480 |
| Arrive On Green | 0.46 | 0.00 | 0.00 | 0.46 | 0.30 | 0.30 |
| Sat Flow, veh/h | 3741 | 0 | 0 | 3741 | 3456 | 1585 |
| Grp Volume(v), veh/h | 1188 | 0 | 0 | 720 | 799 | 163 |
| Grp Sat Flow(s),veh/h/ln | 1777 | 0 | 0 | 1777 | 1728 | 1585 |
| Q Serve(g_s), s | 10.6 | 0.0 | 0.0 | 5.4 | 8.3 | 3.1 |
| Cycle Q Clear(g_c), s | 10.6 | 0.0 | 0.0 | 5.4 | 8.3 | 3.1 |
| Prop In Lane | | 0.00 | 0.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 1647 | 0 | 0 | 1647 | 1047 | 480 |
| V/C Ratio(X) | 0.72 | 0.00 | 0.00 | 0.44 | 0.76 | 0.34 |
| Avail Cap(c_a), veh/h | 2744 | 0 | 0 | 2744 | 1791 | 821 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 8.5 | 0.0 | 0.0 | 7.1 | 12.4 | 10.7 |
| Incr Delay (d2), s/veh | 0.2 | 0.0 | 0.0 | 0.2 | 0.4 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.5 | 0.0 | 0.0 | 1.3 | 2.5 | 0.9 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 8.7 | 0.0 | 0.0 | 7.3 | 12.9 | 10.8 |
| LnGrp LOS | A | A | A | A | B | B |
| Approach Vol, veh/h | 1188 | | | 720 | 962 | |
| Approach Delay, s/veh | 8.7 | | | 7.3 | 12.5 | |
| Approach LOS | A | | | A | B | |

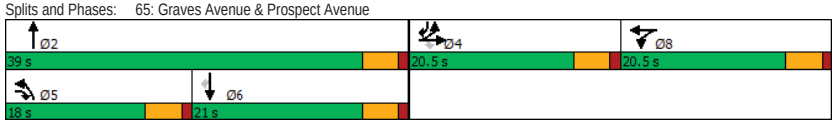
| Timer - Assigned Phs | 2 | | | 6 | 8 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 22.8 | | | 22.8 | 16.5 |
| Change Period (Y+Rc), s | 4.6 | | | 4.6 | 4.6 |
| Max Green Setting (Gmax), s | 30.4 | | | 30.4 | 20.4 |
| Max Q Clear Time (g_c+I1), s | 12.6 | | | 7.4 | 10.3 |
| Green Ext Time (p_c), s | 5.6 | | | 5.0 | 1.7 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 9.6 | |
| HCM 6th LOS | A | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 358 | 15 | 768 | 2 | 12 | 0 | 449 | 34 | 1 | 0 | 46 | 226 |
| Future Volume (vph) | 358 | 15 | 768 | 2 | 12 | 0 | 449 | 34 | 1 | 0 | 46 | 226 |
| Confl. Peds. (#/hr) | | | | | | 1 | | | 6 | | | |
| Confl. Bikes (#/hr) | | | 3 | | | 1 | | | 2 | | | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | 48% | | | | | | | | | | | |
| Turn Type | Split | NA | pm+ov | Split | NA | | Prot | NA | | | NA | pm+ov |
| Protected Phases | 4 | 4 | 5 | 8 | 8 | | 5 | 2 | | | 6 | 4 |
| Permitted Phases | | | 4 | | | | | | | | | 6 |
| Detector Phase | 4 | 4 | 5 | 8 | 8 | | 5 | 2 | | | 6 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | | 4.0 | 4.0 |
| Minimum Split (s) | 20.5 | 20.5 | 8.5 | 20.5 | 20.5 | | 8.5 | 20.5 | | | 20.5 | 20.5 |
| Total Split (s) | 20.5 | 20.5 | 18.0 | 20.5 | 20.5 | | 18.0 | 39.0 | | | 21.0 | 20.5 |
| Total Split (%) | 25.6% | 25.6% | 22.5% | 25.6% | 25.6% | | 22.5% | 48.8% | | | 26.3% | 25.6% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | | | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | | | 4.5 | 4.5 |
| Lead/Lag | | | Lead | | | | Lead | | | | Lag | |
| Lead-Lag Optimize? | | | Yes | | | | Yes | | | | Yes | |
| Recall Mode | None | None | None | None | None | | None | Min | | | Min | None |

| Intersection Summary |
|---|
| Cycle Length: 80 |
| Actuated Cycle Length: 47.6 |
| Natural Cycle: 80 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 65: Graves Avenue & Prospect Avenue








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 358 | 15 | 768 | 2 | 12 | 0 | 449 | 34 | 1 | 0 | 46 | 226 |
| Future Volume (veh/h) | 358 | 15 | 768 | 2 | 12 | 0 | 449 | 34 | 1 | 0 | 46 | 226 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 1.00 | 1.00 | | 0.97 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 0 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 400 | 0 | 835 | 2 | 13 | 0 | 488 | 37 | 1 | 0 | 50 | 246 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 0 | 2 | 2 |
| Cap, veh/h | 1077 | 0 | 764 | 30 | 32 | 0 | 645 | 770 | 21 | 0 | 288 | 719 |
| Arrive On Green | 0.30 | 0.00 | 0.30 | 0.02 | 0.02 | 0.00 | 0.19 | 0.43 | 0.43 | 0.00 | 0.15 | 0.15 |
| Sat Flow, veh/h | 3563 | 0 | 1548 | 1781 | 1870 | 0 | 3456 | 1811 | 49 | 0 | 1870 | 1559 |
| Grp Volume(v), veh/h | 400 | 0 | 835 | 2 | 13 | 0 | 488 | 0 | 38 | 0 | 50 | 246 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1548 | 1781 | 1870 | 0 | 1728 | 0 | 1860 | 0 | 1870 | 1559 |
| Q Serve(g_s), s | 4.7 | 0.0 | 16.0 | 0.1 | 0.4 | 0.0 | 7.1 | 0.0 | 0.6 | 0.0 | 1.2 | 5.4 |
| Cycle Q Clear(g_c), s | 4.7 | 0.0 | 16.0 | 0.1 | 0.4 | 0.0 | 7.1 | 0.0 | 0.6 | 0.0 | 1.2 | 5.4 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.00 | 1.00 | | 0.03 | 0.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 1077 | 0 | 764 | 30 | 32 | 0 | 645 | 0 | 791 | 0 | 288 | 719 |
| V/C Ratio(X) | 0.37 | 0.00 | 1.09 | 0.07 | 0.41 | 0.00 | 0.76 | 0.00 | 0.05 | 0.00 | 0.17 | 0.34 |
| Avail Cap(c_a), veh/h | 1077 | 0 | 764 | 539 | 565 | 0 | 882 | 0 | 1213 | 0 | 583 | 965 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 14.5 | 0.0 | 13.6 | 25.6 | 25.7 | 0.0 | 20.4 | 0.0 | 8.9 | 0.0 | 19.5 | 9.3 |
| Incr Delay (d2), s/veh | 0.2 | 0.0 | 61.0 | 0.9 | 8.1 | 0.0 | 2.5 | 0.0 | 0.0 | 0.0 | 0.3 | 0.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.7 | 0.0 | 19.9 | 0.0 | 0.2 | 0.0 | 2.8 | 0.0 | 0.2 | 0.0 | 0.5 | 2.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 14.7 | 0.0 | 74.6 | 26.5 | 33.8 | 0.0 | 22.9 | 0.0 | 8.9 | 0.0 | 19.8 | 9.6 |
| LnGrp LOS | B | A | F | C | C | A | C | A | A | A | B | A |
| Approach Vol, veh/h | | 1235 | | | 15 | | | 526 | | | 296 | |
| Approach Delay, s/veh | | 55.2 | | | 32.8 | | | 21.9 | | | 11.3 | |
| Approach LOS | | E | | | C | | | C | | | B | |

| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 27.0 | | 20.5 | 14.4 | 12.6 | | 5.4 | | | | |
| Change Period (Y+Rc), s | | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | | 34.5 | | 16.0 | 13.5 | 16.5 | | 16.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 2.6 | | 18.0 | 9.1 | 7.4 | | 2.4 | | | | |
| Green Ext Time (p_c), s | | 0.1 | | 0.0 | 0.8 | 0.7 | | 0.0 | | | | |

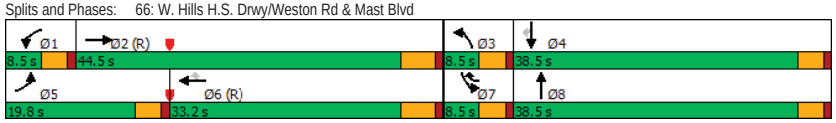
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 40.3 | |
| HCM 6th LOS | D | |

| Notes |
|---|
| User approved volume balancing among the lanes for turning movement. |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 190 | 2129 | 3 | 13 | 782 | 102 | 0 | 9 | 4 | 44 | 4 | 81 |
| Future Volume (vph) | 190 | 2129 | 3 | 13 | 782 | 102 | 0 | 9 | 4 | 44 | 4 | 81 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | 4.0 | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.5 | 22.5 | | 8.5 | 27.3 | 8.5 | 8.5 | 38.5 | | 8.5 | 33.5 | 33.5 |
| Total Split (s) | 19.8 | 44.5 | | 8.5 | 33.2 | 8.5 | 8.5 | 38.5 | | 8.5 | 38.5 | 38.5 |
| Total Split (%) | 19.8% | 44.5% | | 8.5% | 33.2% | 8.5% | 8.5% | 38.5% | | 8.5% | 38.5% | 38.5% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | 3.2 | 3.2 | 3.2 | | 3.2 | 3.2 | 3.2 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | 4.2 | 4.2 | 4.2 | | 4.2 | 4.2 | 4.2 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | C-Min | | None | C-Min | None | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 81 (81%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 145 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 66: W. Hills H.S. Drwy/Weston Rd & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 190 | 2129 | 3 | 13 | 782 | 102 | 0 | 9 | 4 | 44 | 4 | 81 |
| Future Volume (veh/h) | 190 | 2129 | 3 | 13 | 782 | 102 | 0 | 9 | 4 | 44 | 4 | 81 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 207 | 2314 | 3 | 14 | 850 | 111 | 0 | 10 | 4 | 48 | 4 | 88 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 240 | 2576 | 3 | 23 | 2081 | 983 | 2 | 84 | 34 | 61 | 267 | 226 |
| Arrive On Green | 0.13 | 0.71 | 0.71 | 0.03 | 1.00 | 1.00 | 0.00 | 0.07 | 0.07 | 0.03 | 0.14 | 0.14 |
| Sat Flow, veh/h | 1781 | 3642 | 5 | 1781 | 3554 | 1585 | 1781 | 1271 | 508 | 1781 | 1870 | 1585 |
| Grp Volume(v), veh/h | 207 | 1129 | 1188 | 14 | 850 | 111 | 0 | 0 | 14 | 48 | 4 | 88 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1870 | 1781 | 1777 | 1585 | 1781 | 0 | 1779 | 1781 | 1870 | 1585 |
| Q Serve(g_s), s | 11.4 | 51.0 | 51.0 | 0.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.7 | 2.7 | 0.2 | 5.0 |
| Cycle Q Clear(g_c), s | 11.4 | 51.0 | 51.0 | 0.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.7 | 2.7 | 0.2 | 5.0 |
| Prop In Lane | 1.00 | | 0.00 | 1.00 | | 1.00 | 1.00 | | 0.29 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 240 | 1257 | 1322 | 23 | 2081 | 983 | 2 | 0 | 118 | 61 | 267 | 226 |
| V/C Ratio(X) | 0.86 | 0.90 | 0.90 | 0.61 | 0.41 | 0.11 | 0.00 | 0.00 | 0.12 | 0.78 | 0.01 | 0.39 |
| Avail Cap(c_a), veh/h | 278 | 1257 | 1322 | 77 | 2081 | 983 | 77 | 0 | 610 | 77 | 642 | 544 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.38 | 0.38 | 0.38 | 0.95 | 0.95 | 0.95 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 42.4 | 11.7 | 11.7 | 48.5 | 0.0 | 0.0 | 0.0 | 0.0 | 43.9 | 47.9 | 36.8 | 38.9 |
| Incr Delay (d2), s/veh | 9.4 | 4.4 | 4.2 | 22.3 | 0.6 | 0.2 | 0.0 | 0.0 | 0.4 | 32.9 | 0.0 | 1.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 5.5 | 16.4 | 17.2 | 0.5 | 0.2 | 0.1 | 0.0 | 0.0 | 0.3 | 1.7 | 0.1 | 2.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 51.8 | 16.1 | 15.9 | 70.8 | 0.6 | 0.2 | 0.0 | 0.0 | 44.4 | 80.8 | 36.8 | 40.0 |
| LnGrp LOS | D | B | B | E | A | A | A | A | D | F | D | D |
| Approach Vol, veh/h | | 2524 | | | 975 | | | 14 | | | 140 | |
| Approach Delay, s/veh | | 19.0 | | | 1.5 | | | 44.4 | | | 53.9 | |
| Approach LOS | | B | | | A | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.5 | 76.0 | 0.0 | 18.5 | 17.7 | 63.9 | 7.6 | 10.8 |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | * 4.2 | * 4.2 | * 4.2 | 5.3 | * 4.2 | * 4.2 |
| Max Green Setting (Gmax), s | * 4.3 | 39.2 | * 4.3 | * 34 | * 16 | 27.9 | * 4.3 | * 34 |
| Max Q Clear Time (g_c+I1), s | 2.8 | 53.0 | 0.0 | 7.0 | 13.4 | 2.0 | 4.7 | 2.7 |
| Green Ext Time (p_c), s | 0.0 | 0.0 | 0.0 | 0.3 | 0.1 | 6.5 | 0.0 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 15.7 |
| HCM 6th LOS | B |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

# APPENDIX I-2

## EXISTING + CUMULATIVE PROJECTS + PROJECT PEAK HOUR HCS FREEWAY SHEETS

## HCS7 Basic Freeway Report

### Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Cuml + Proj |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-52 EB: Santo Rd to Mast Blvd | | |

### Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Rolling |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 0.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 73.1 |
| Right-Side Lateral Clearance, ft | 10 | | |

### Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

### Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 1884 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.951 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 703 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.29 |
| Passenger Car Equivalent ($E_T$) | 3.000 | | |

### Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 73.1 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 9.6 |
| Total Ramp Density Adjustment | 2.3 | Level of Service (LOS) | A |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 73.1 | | |

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## HCS7 Basic Freeway Report

### Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Cuml + Proj |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-52 EB: Santo Rd to Mast Blvd | | |

### Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Rolling |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 0.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 73.1 |
| Right-Side Lateral Clearance, ft | 10 | | |

### Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | Mostly Familiar | Final Speed Adjustment Factor (SAF) | 0.975 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 0.968 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

### Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 6442 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.951 |
| Peak Hour Factor (PHF) | 0.92 | Flow Rate ($v_p$), pc/h/ln | 2454 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2323 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 1.06 |
| Passenger Car Equivalent ($E_T$) | 3.000 | | |

### Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | - |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | - |
| Total Ramp Density Adjustment | 2.3 | Level of Service (LOS) | F |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 71.3 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Cuml + Proj |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-52 WB: Mast Blvd to Santo Rd | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Rolling |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 0.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 73.1 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | Mostly Familiar | Final Speed Adjustment Factor (SAF) | 0.975 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 0.968 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 6914 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.951 |
| Peak Hour Factor (PHF) | 0.92 | Flow Rate ($v_p$), pc/h/ln | 2634 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2323 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 1.13 |
| Passenger Car Equivalent ($E_T$) | 3.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | - |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | - |
| Total Ramp Density Adjustment | 2.3 | Level of Service (LOS) | F |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 71.3 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Cuml + Proj |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-52 WB: Mast Blvd to Santo Rd | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Rolling |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 0.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 73.1 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 2843 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.951 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1060 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.44 |
| Passenger Car Equivalent ($E_T$) | 3.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 73.1 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 14.5 |
| Total Ramp Density Adjustment | 2.3 | Level of Service (LOS) | B |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 73.1 | | |

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## HCS7 Basic Freeway Report

### Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Cuml + Proj |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-52 EB: Mast Blvd to SR-125 | | |

### Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 2 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.50 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.9 |
| Right-Side Lateral Clearance, ft | 10 | | |

### Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

### Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 1594 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 870 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.36 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

### Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 70.9 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 12.3 |
| Total Ramp Density Adjustment | 4.5 | Level of Service (LOS) | B |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.9 | | |

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## HCS7 Basic Freeway Report

### Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Cuml + Proj |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-52 EB: Mast Blvd to SR-125 | | |

### Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 2 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.50 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.9 |
| Right-Side Lateral Clearance, ft | 10 | | |

### Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

### Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 4989 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 2722 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 1.13 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

### Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | - |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | - |
| Total Ramp Density Adjustment | 4.5 | Level of Service (LOS) | F |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.9 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Cuml + Proj |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-52 WB: SR-125 to Mast Blvd | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 2 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.4 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 4397 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 2399 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 1.00 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 53.4 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 44.9 |
| Total Ramp Density Adjustment | 5.0 | Level of Service (LOS) | E |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.4 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Cuml + Proj |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-52 WB: SR-125 to Mast Blvd | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 2 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.4 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 2688 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1466 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.61 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 69.5 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 21.1 |
| Total Ramp Density Adjustment | 5.0 | Level of Service (LOS) | C |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.4 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Cuml + Proj |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-52 EB: SR-125 to Cuyamaca St | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.4 |
| Right-Side Lateral Clearance, ft | 8 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 1895 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 689 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.29 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 70.4 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 9.8 |
| Total Ramp Density Adjustment | 5.0 | Level of Service (LOS) | A |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.4 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Cuml + Proj |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-52 EB: SR-125 to Cuyamaca St | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.4 |
| Right-Side Lateral Clearance, ft | 8 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 4688 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1705 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.71 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 67.3 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 25.3 |
| Total Ramp Density Adjustment | 5.0 | Level of Service (LOS) | C |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.4 | | |

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# HCS7 Basic Freeway Report

## Project Information

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|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Cuml + Proj |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-52 WB: Cuyamaca St to SR-125 | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.83 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.1 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 3539 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1287 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.54 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 70.0 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 18.4 |
| Total Ramp Density Adjustment | 5.4 | Level of Service (LOS) | C |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.1 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Cuml + Proj |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-52 WB: Cuyamaca St to SR-125 | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.83 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.1 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 3104 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1129 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.47 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 70.1 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 16.1 |
| Total Ramp Density Adjustment | 5.4 | Level of Service (LOS) | B |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.1 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Cuml + Proj |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-52 EB: Cuyamaca St to SR-67 | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.33 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 71.3 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 1435 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 522 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.22 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 71.3 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 7.3 |
| Total Ramp Density Adjustment | 4.1 | Level of Service (LOS) | A |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 71.3 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Cuml + Proj |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-52 EB: Cuyamaca St to SR-67 | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.33 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 71.3 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 4308 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1567 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.65 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 69.3 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 22.6 |
| Total Ramp Density Adjustment | 4.1 | Level of Service (LOS) | C |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 71.3 | | |

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## HCS7 Basic Freeway Report

### Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Cuml + Proj |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-52 WB: SR-67 to Cuyamaca St | | |

### Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.50 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.9 |
| Right-Side Lateral Clearance, ft | 10 | | |

### Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

### Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 3460 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1258 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.52 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

### Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 70.8 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 17.8 |
| Total Ramp Density Adjustment | 4.5 | Level of Service (LOS) | B |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.9 | | |

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## HCS7 Basic Freeway Report

### Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Cuml + Proj |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-52 WB: SR-67 to Cuyamaca St | | |

### Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.50 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.9 |
| Right-Side Lateral Clearance, ft | 10 | | |

### Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

### Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 2699 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 982 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.41 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

### Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 70.9 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 13.9 |
| Total Ramp Density Adjustment | 4.5 | Level of Service (LOS) | B |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.9 | | |

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## HCS7 Basic Freeway Report

### Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Cuml + Proj |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-67 NB: SR-52 to Riverford Rd | | |

### Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 2 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.00 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 69.6 |
| Right-Side Lateral Clearance, ft | 10 | | |

### Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

### Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 2402 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.932 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1371 |
| Total Trucks, % | 7.30 | Capacity (c), pc/h/ln | 2396 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2396 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.57 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

### Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 69.3 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 19.8 |
| Total Ramp Density Adjustment | 5.8 | Level of Service (LOS) | C |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 69.6 | | |

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## HCS7 Basic Freeway Report

### Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Cuml + Proj |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-67 NB: SR-52 to Riverford Rd | | |

### Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 2 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.00 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 69.6 |
| Right-Side Lateral Clearance, ft | 10 | | |

### Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

### Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 3849 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.932 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 2196 |
| Total Trucks, % | 7.30 | Capacity (c), pc/h/ln | 2396 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2396 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.92 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

### Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 58.3 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 37.7 |
| Total Ramp Density Adjustment | 5.8 | Level of Service (LOS) | E |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 69.6 | | |

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## HCS7 Basic Freeway Report

### Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Cuml + Proj |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-67 SB: Riverford Rd to SR-52 | | |

### Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 2 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.17 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 69.2 |
| Right-Side Lateral Clearance, ft | 10 | | |

### Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

### Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 3381 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.932 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1930 |
| Total Trucks, % | 7.30 | Capacity (c), pc/h/ln | 2392 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2392 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.81 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

### Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 63.4 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 30.4 |
| Total Ramp Density Adjustment | 6.2 | Level of Service (LOS) | D |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 69.2 | | |

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## HCS7 Basic Freeway Report

### Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Cuml + Proj |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-67 SB: Riverford Rd to SR-52 | | |

### Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 2 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.17 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 69.2 |
| Right-Side Lateral Clearance, ft | 10 | | |

### Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

### Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 2852 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.932 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1628 |
| Total Trucks, % | 7.30 | Capacity (c), pc/h/ln | 2392 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2392 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.68 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

### Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 67.3 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 24.2 |
| Total Ramp Density Adjustment | 6.2 | Level of Service (LOS) | C |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 69.2 | | |

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## HCS7 Basic Freeway Report

### Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Cuml + Proj |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-67 NB: Bradley Ave to SR-52 | | |

### Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 4 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.17 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 69.2 |
| Right-Side Lateral Clearance, ft | 10 | | |

### Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

### Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 2963 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.937 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 841 |
| Total Trucks, % | 6.70 | Capacity (c), pc/h/ln | 2392 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2392 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.35 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

### Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 69.2 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 12.2 |
| Total Ramp Density Adjustment | 6.2 | Level of Service (LOS) | B |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 69.2 | | |

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## HCS7 Basic Freeway Report

### Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Cuml + Proj |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-67 NB: Bradley Ave to SR-52 | | |

### Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 4 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.17 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 69.2 |
| Right-Side Lateral Clearance, ft | 10 | | |

### Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

### Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 4796 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.937 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1361 |
| Total Trucks, % | 6.70 | Capacity (c), pc/h/ln | 2392 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2392 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.57 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

### Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 69.0 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 19.7 |
| Total Ramp Density Adjustment | 6.2 | Level of Service (LOS) | C |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 69.2 | | |

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## HCS7 Basic Freeway Report

### Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Cuml + Proj |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-67 SB: SR-52 to Bradley Ave | | |

### Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.16 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 69.3 |
| Right-Side Lateral Clearance, ft | 10 | | |

### Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

### Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 4224 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.937 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1599 |
| Total Trucks, % | 6.70 | Capacity (c), pc/h/ln | 2393 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2393 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.67 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

### Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 67.7 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 23.6 |
| Total Ramp Density Adjustment | 6.1 | Level of Service (LOS) | C |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 69.3 | | |

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## HCS7 Basic Freeway Report

### Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Cuml + Proj |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-67 SB: SR-52 to Bradley Ave | | |

### Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.16 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 69.3 |
| Right-Side Lateral Clearance, ft | 10 | | |

### Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

### Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 3509 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.937 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1328 |
| Total Trucks, % | 6.70 | Capacity (c), pc/h/ln | 2393 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2393 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.55 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

### Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 69.2 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 19.2 |
| Total Ramp Density Adjustment | 6.1 | Level of Service (LOS) | C |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 69.3 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Cuml + Proj |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-125 NB: Grossmont College Dr to SR-52 | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 5 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.4 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 3396 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.958 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 754 |
| Total Trucks, % | 4.40 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.31 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 70.4 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 10.7 |
| Total Ramp Density Adjustment | 5.0 | Level of Service (LOS) | A |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.4 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Cuml + Proj |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-125 NB: Grossmont College Dr to SR-52 | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 5 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.4 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 3183 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.958 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 707 |
| Total Trucks, % | 4.40 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.29 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 70.4 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 10.0 |
| Total Ramp Density Adjustment | 5.0 | Level of Service (LOS) | A |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.4 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Cuml + Proj |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-125 SB: SR-52 to Grossmont College Dr | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 4 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.4 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 2399 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.958 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 666 |
| Total Trucks, % | 4.40 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.28 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 70.4 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 9.5 |
| Total Ramp Density Adjustment | 5.0 | Level of Service (LOS) | A |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.4 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | Existing + Cuml + Proj |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-125 SB: SR-52 to Grossmont College Dr | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 4 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.4 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 3806 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.958 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1056 |
| Total Trucks, % | 4.40 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.44 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 70.4 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 15.0 |
| Total Ramp Density Adjustment | 5.0 | Level of Service (LOS) | B |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.4 | | |

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# APPENDIX J

## YEAR 2035 BASELINE PEAK HOUR ANALYSES

# APPENDIX J-1

## YEAR 2035 BASELINE PEAK HOUR SYNCHRO INTERSECTION SHEETS

| Intersection | |
|---|---|
| Int Delay, s/veh | 5.5 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 220 | 15 | 150 | 80 | 10 | 300 |
| Future Vol, veh/h | 220 | 15 | 150 | 80 | 10 | 300 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | 150 | 50 | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 239 | 16 | 163 | 87 | 11 | 326 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 511 | 163 | 0 | 0 | 250 | 0 |
| Stage 1 | 163 | - | - | - | - | - |
| Stage 2 | 348 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | - | - | 4.12 | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | - | - | 2.218 | - |
| Pot Cap-1 Maneuver | 523 | 882 | - | - | 1316 | - |
| Stage 1 | 866 | - | - | - | - | - |
| Stage 2 | 715 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 519 | 882 | - | - | 1316 | - |
| Mov Cap-2 Maneuver | 519 | - | - | - | - | - |
| Stage 1 | 859 | - | - | - | - | - |
| Stage 2 | 715 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 17.8 | 0 | 0.3 |
| HCM LOS | C | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | SBL | SBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 533 | 1316 | - |
| HCM Lane V/C Ratio | - | - | 0.479 | 0.008 | - |
| HCM Control Delay (s) | - | - | 17.8 | 7.8 | - |
| HCM Lane LOS | - | - | C | A | - |
| HCM 95th %tile Q(veh) | - | - | 2.6 | 0 | - |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 9.4 |
| Intersection LOS | A |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 90 | 35 | 10 | 0 | 40 | 105 | 10 | 0 | 210 | 0 |
| Future Vol, veh/h | 0 | 0 | 90 | 35 | 10 | 0 | 40 | 105 | 10 | 0 | 210 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 98 | 38 | 11 | 0 | 43 | 114 | 11 | 0 | 228 | 0 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 3 | 3 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 3 | 3 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 3 | 3 | 1 | 1 |
| HCM Control Delay | 8.4 | 9.3 | 8.8 | 10.3 |
| HCM LOS | A | A | A | B |

| Lane | NBLn1 | NBLn2 | NBLn3 | EBLn1 | WBLn1 | SBLn1 | SBLn2 | SBLn3 |
|---|---|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 0% | 78% | 0% | 0% | 0% |
| Vol Thru, % | 0% | 100% | 0% | 0% | 22% | 100% | 100% | 100% |
| Vol Right, % | 0% | 0% | 100% | 100% | 0% | 0% | 0% | 0% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 40 | 105 | 10 | 90 | 45 | 0 | 210 | 0 |
| LT Vol | 40 | 0 | 0 | 0 | 35 | 0 | 0 | 0 |
| Through Vol | 0 | 105 | 0 | 0 | 10 | 0 | 210 | 0 |
| RT Vol | 0 | 0 | 10 | 90 | 0 | 0 | 0 | 0 |
| Lane Flow Rate | 43 | 114 | 11 | 98 | 49 | 0 | 228 | 0 |
| Geometry Grp | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| Degree of Util (X) | 0.068 | 0.163 | 0.013 | 0.133 | 0.082 | 0 | 0.323 | 0 |
| Departure Headway (Hd) | 5.638 | 5.135 | 4.43 | 4.876 | 6.016 | 5.088 | 5.088 | 5.088 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 635 | 697 | 805 | 733 | 594 | 0 | 705 | 0 |
| Service Time | 3.379 | 2.876 | 2.171 | 2.621 | 3.767 | 2.827 | 2.827 | 2.827 |
| HCM Lane V/C Ratio | 0.068 | 0.164 | 0.014 | 0.134 | 0.082 | 0 | 0.323 | 0 |
| HCM Control Delay | 8.8 | 8.9 | 7.2 | 8.4 | 9.3 | 7.8 | 10.3 | 7.8 |
| HCM Lane LOS | A | A | A | A | A | N | B | N |
| HCM 95th-tile Q | 0.2 | 0.6 | 0 | 0.5 | 0.3 | 0 | 1.4 | 0 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 3.1 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 128 | 5 | 194 | 58 | 5 | 392 |
| Future Vol, veh/h | 128 | 5 | 194 | 58 | 5 | 392 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 139 | 5 | 211 | 63 | 5 | 426 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 679 | 243 | 0 | 0 | 274 | 0 |
| Stage 1 | 243 | - | - | - | - | - |
| Stage 2 | 436 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | - | - | 4.12 | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | - | - | 2.218 | - |
| Pot Cap-1 Maneuver | 417 | 796 | - | - | 1289 | - |
| Stage 1 | 797 | - | - | - | - | - |
| Stage 2 | 652 | - | - | - | - | - |
| Platoon blocked, % | | | | - | | - |
| Mov Cap-1 Maneuver | 415 | 796 | - | - | 1289 | - |
| Mov Cap-2 Maneuver | 415 | - | - | - | - | - |
| Stage 1 | 793 | - | - | - | - | - |
| Stage 2 | 652 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 17.9 | 0 | 0.1 |
| HCM LOS | C | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | SBL | SBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 423 | 1289 | - |
| HCM Lane V/C Ratio | - | - | 0.342 | 0.004 | - |
| HCM Control Delay (s) | - | - | 17.9 | 7.8 | 0 |
| HCM Lane LOS | - | - | C | A | A |
| HCM 95th %tile Q(veh) | - | - | 1.5 | 0 | - |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 26.6 |
| Intersection LOS | D |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 5 | 15 | 235 | 0 | 5 | 5 | 215 | 70 | 10 | 495 | 0 |
| Future Vol, veh/h | 0 | 5 | 15 | 235 | 0 | 5 | 5 | 215 | 70 | 10 | 495 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 5 | 16 | 255 | 0 | 5 | 5 | 234 | 76 | 11 | 538 | 0 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |

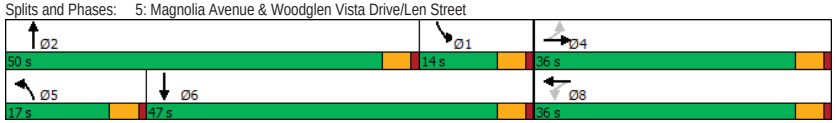
| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay | 10.1 | 15.5 | 15.5 | 38.9 |
| HCM LOS | B | C | C | E |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 98% | 100% | 0% |
| Vol Thru, % | 0% | 75% | 25% | 0% | 0% | 100% |
| Vol Right, % | 0% | 25% | 75% | 2% | 0% | 0% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 5 | 285 | 20 | 240 | 10 | 495 |
| LT Vol | 5 | 0 | 0 | 235 | 10 | 0 |
| Through Vol | 0 | 215 | 5 | 0 | 0 | 495 |
| RT Vol | 0 | 70 | 15 | 5 | 0 | 0 |
| Lane Flow Rate | 5 | 310 | 22 | 261 | 11 | 538 |
| Geometry Grp | 7 | 7 | 2 | 2 | 7 | 7 |
| Degree of Util (X) | 0.01 | 0.527 | 0.041 | 0.475 | 0.02 | 0.893 |
| Departure Headway (Hd) | 6.81 | 6.125 | 6.831 | 6.554 | 6.479 | 5.972 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 523 | 585 | 527 | 545 | 550 | 603 |
| Service Time | 4.59 | 3.904 | 4.831 | 4.637 | 4.245 | 3.737 |
| HCM Lane V/C Ratio | 0.01 | 0.53 | 0.042 | 0.479 | 0.02 | 0.892 |
| HCM Control Delay | 9.7 | 15.6 | 10.1 | 15.5 | 9.4 | 39.5 |
| HCM Lane LOS | A | C | B | C | A | E |
| HCM 95th-tile Q | 0 | 3.1 | 0.1 | 2.5 | 0.1 | 10.7 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 20 | 5 | 115 | 45 | 15 | 10 | 40 | 250 | 15 | 10 | 550 | 15 |
| Future Volume (vph) | 20 | 5 | 115 | 45 | 15 | 10 | 40 | 250 | 15 | 10 | 550 | 15 |
| Confl. Peds. (#/hr) | | | 95 | | | 4 | | | 15 | | | 95 |
| Confl. Bikes (#/hr) | | | 1 | | | 1 | | | | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Perm | NA | | Perm | NA | | Prot | NA | | Prot | NA | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 26.5 | 26.5 | | 26.5 | 26.5 | | 11.5 | 22.5 | | 11.5 | 22.5 | |
| Total Split (s) | 36.0 | 36.0 | | 36.0 | 36.0 | | 17.0 | 50.0 | | 14.0 | 47.0 | |
| Total Split (%) | 36.0% | 36.0% | | 36.0% | 36.0% | | 17.0% | 50.0% | | 14.0% | 47.0% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | | | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lead | | Lag | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 39.1 |
| Natural Cycle: 65 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 5: Magnolia Avenue & Woodglen Vista Drive/Len Street








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 20 | 5 | 115 | 45 | 15 | 10 | 40 | 250 | 15 | 10 | 550 | 15 |
| Future Volume (veh/h) | 20 | 5 | 115 | 45 | 15 | 10 | 40 | 250 | 15 | 10 | 550 | 15 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.90 | 0.93 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 0.84 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 22 | 5 | 125 | 49 | 16 | 11 | 43 | 272 | 16 | 11 | 598 | 16 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 612 | 17 | 421 | 333 | 104 | 52 | 115 | 945 | 55 | 212 | 1166 | 31 |
| Arrive On Green | 0.31 | 0.31 | 0.31 | 0.31 | 0.31 | 0.31 | 0.06 | 0.28 | 0.28 | 0.12 | 0.33 | 0.33 |
| Sat Flow, veh/h | 1379 | 55 | 1378 | 660 | 339 | 169 | 1781 | 3406 | 199 | 1781 | 3515 | 94 |
| Grp Volume(v), veh/h | 22 | 0 | 130 | 76 | 0 | 0 | 43 | 141 | 147 | 11 | 302 | 312 |
| Grp Sat Flow(s),veh/h/ln | 1379 | 0 | 1433 | 1169 | 0 | 0 | 1781 | 1777 | 1828 | 1781 | 1777 | 1832 |
| Q Serve(g_s), s | 0.0 | 0.0 | 3.1 | 0.5 | 0.0 | 0.0 | 1.0 | 2.8 | 2.9 | 0.2 | 6.2 | 6.2 |
| Cycle Q Clear(g_c), s | 0.4 | 0.0 | 3.1 | 3.6 | 0.0 | 0.0 | 1.0 | 2.8 | 2.9 | 0.2 | 6.2 | 6.2 |
| Prop In Lane | 1.00 | | 0.96 | 0.64 | | 0.14 | 1.00 | | 0.11 | 1.00 | | 0.05 |
| Lane Grp Cap(c), veh/h | 612 | 0 | 438 | 488 | 0 | 0 | 115 | 493 | 507 | 212 | 589 | 608 |
| V/C Ratio(X) | 0.04 | 0.00 | 0.30 | 0.16 | 0.00 | 0.00 | 0.37 | 0.29 | 0.29 | 0.05 | 0.51 | 0.51 |
| Avail Cap(c_a), veh/h | 1150 | 0 | 997 | 1004 | 0 | 0 | 492 | 1785 | 1836 | 374 | 1667 | 1719 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 11.1 | 0.0 | 12.0 | 11.7 | 0.0 | 0.0 | 20.3 | 12.8 | 12.9 | 17.7 | 12.2 | 12.2 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 0.4 | 0.1 | 0.0 | 0.0 | 2.0 | 0.3 | 0.3 | 0.1 | 0.7 | 0.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.1 | 0.0 | 0.9 | 0.5 | 0.0 | 0.0 | 0.4 | 0.9 | 1.0 | 0.1 | 2.0 | 2.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 11.1 | 0.0 | 12.4 | 11.9 | 0.0 | 0.0 | 22.3 | 13.2 | 13.2 | 17.8 | 12.9 | 12.9 |
| LnGrp LOS | B | A | B | B | A | A | C | B | B | B | B | B |
| Approach Vol, veh/h | | 152 | | | 76 | | | 331 | | | 625 | |
| Approach Delay, s/veh | | 12.2 | | | 11.9 | | | 14.3 | | | 13.0 | |
| Approach LOS | | B | | | B | | | B | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 9.9 | 17.1 | | 18.3 | 7.4 | 19.5 | | 18.3 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 9.5 | 45.5 | | 31.5 | 12.5 | 42.5 | | 31.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.2 | 4.9 | | 5.1 | 3.0 | 8.2 | | 5.6 | | | | |
| Green Ext Time (p_c), s | 0.0 | 1.6 | | 0.9 | 0.0 | 3.8 | | 0.4 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 13.2 | |
| HCM 6th LOS | B | |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 21.7 |
| Intersection LOS | F |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 5 | 10 | 265 | 5 | 5 | 5 | 280 | 50 | 5 | 730 | 5 |
| Future Vol, veh/h | 0 | 5 | 10 | 265 | 5 | 5 | 5 | 280 | 50 | 5 | 730 | 5 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 5 | 11 | 288 | 5 | 5 | 5 | 304 | 54 | 5 | 793 | 5 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay | 11.6 | 20 | 21.2 | 207.3 |
| HCM LOS | B | C | C | F |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 96% | 100% | 0% |
| Vol Thru, % | 0% | 85% | 33% | 2% | 0% | 99% |
| Vol Right, % | 0% | 15% | 67% | 2% | 0% | 1% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 5 | 330 | 15 | 275 | 5 | 735 |
| LT Vol | 5 | 0 | 0 | 265 | 5 | 0 |
| Through Vol | 0 | 280 | 5 | 5 | 0 | 730 |
| RT Vol | 0 | 50 | 10 | 5 | 0 | 5 |
| Lane Flow Rate | 5 | 359 | 16 | 299 | 5 | 799 |
| Geometry Grp | 7 | 7 | 2 | 2 | 7 | 7 |
| Degree of Util (X) | 0.011 | 0.644 | 0.033 | 0.566 | 0.01 | 1.399 |
| Departure Headway (Hd) | 7.602 | 6.979 | 8.358 | 7.562 | 6.818 | 6.303 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 474 | 520 | 431 | 481 | 525 | 583 |
| Service Time | 5.302 | 4.679 | 6.358 | 5.562 | 4.561 | 4.046 |
| HCM Lane V/C Ratio | 0.011 | 0.69 | 0.037 | 0.622 | 0.01 | 1.37 |
| HCM Control Delay | 10.4 | 21.4 | 11.6 | 20 | 9.6 | 208.6 |
| HCM Lane LOS | B | C | B | C | A | F |
| HCM 95th-tile Q | 0 | 4.5 | 0.1 | 3.5 | 0 | 36.5 |

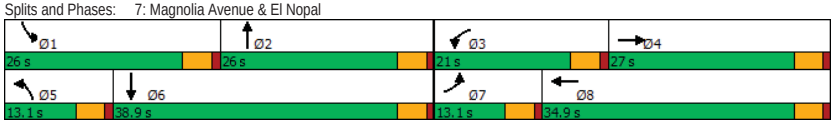




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 50 | 65 | 95 | 140 | 125 | 145 | 50 | 330 | 55 | 205 | 590 | 85 |
| Future Volume (vph) | 50 | 65 | 95 | 140 | 125 | 145 | 50 | 330 | 55 | 205 | 590 | 85 |
| Confl. Peds. (#/hr) | | | | | | 2 | | | | | | |
| Confl. Bikes (#/hr) | | | 2 | | | 2 | | | 1 | | | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | | Prot | NA | |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 11.5 | 26.5 | | 11.5 | 25.5 | | 11.5 | 22.5 | | 11.5 | 22.5 | |
| Total Split (s) | 13.1 | 27.0 | | 21.0 | 34.9 | | 13.1 | 26.0 | | 26.0 | 38.9 | |
| Total Split (%) | 13.1% | 27.0% | | 21.0% | 34.9% | | 13.1% | 26.0% | | 26.0% | 38.9% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | | None | Max | | None | Max | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 82.1 |
| Natural Cycle: 80 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 7: Magnolia Avenue & El Nopal



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 50 | 65 | 95 | 140 | 125 | 145 | 50 | 330 | 55 | 205 | 590 | 85 |
| Future Volume (veh/h) | 50 | 65 | 95 | 140 | 125 | 145 | 50 | 330 | 55 | 205 | 590 | 85 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 54 | 71 | 103 | 152 | 136 | 158 | 54 | 359 | 60 | 223 | 641 | 92 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 110 | 114 | 166 | 192 | 167 | 194 | 110 | 1053 | 174 | 269 | 1355 | 194 |
| Arrive On Green | 0.06 | 0.17 | 0.17 | 0.11 | 0.21 | 0.21 | 0.06 | 0.35 | 0.35 | 0.15 | 0.44 | 0.44 |
| Sat Flow, veh/h | 1781 | 683 | 991 | 1781 | 781 | 908 | 1781 | 3041 | 503 | 1781 | 3109 | 446 |
| Grp Volume(v), veh/h | 54 | 0 | 174 | 152 | 0 | 294 | 54 | 208 | 211 | 223 | 366 | 367 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1675 | 1781 | 0 | 1689 | 1781 | 1777 | 1767 | 1781 | 1777 | 1778 |
| Q Serve(g_s), s | 2.3 | 0.0 | 7.6 | 6.6 | 0.0 | 13.1 | 2.3 | 6.9 | 7.0 | 9.6 | 11.6 | 11.6 |
| Cycle Q Clear(g_c), s | 2.3 | 0.0 | 7.6 | 6.6 | 0.0 | 13.1 | 2.3 | 6.9 | 7.0 | 9.6 | 11.6 | 11.6 |
| Prop In Lane | 1.00 | | 0.59 | 1.00 | | 0.54 | 1.00 | | 0.28 | 1.00 | | 0.25 |
| Lane Grp Cap(c), veh/h | 110 | 0 | 280 | 192 | 0 | 360 | 110 | 615 | 612 | 269 | 774 | 775 |
| V/C Ratio(X) | 0.49 | 0.00 | 0.62 | 0.79 | 0.00 | 0.82 | 0.49 | 0.34 | 0.34 | 0.83 | 0.47 | 0.47 |
| Avail Cap(c_a), veh/h | 194 | 0 | 477 | 372 | 0 | 650 | 194 | 615 | 612 | 485 | 774 | 775 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 35.9 | 0.0 | 30.5 | 34.4 | 0.0 | 29.6 | 35.9 | 19.1 | 19.2 | 32.5 | 15.8 | 15.8 |
| Incr Delay (d2), s/veh | 3.4 | 0.0 | 2.2 | 7.2 | 0.0 | 4.5 | 3.4 | 1.5 | 1.5 | 6.5 | 2.1 | 2.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.1 | 0.0 | 3.2 | 3.2 | 0.0 | 5.6 | 1.1 | 2.8 | 2.9 | 4.4 | 4.6 | 4.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 39.3 | 0.0 | 32.8 | 41.6 | 0.0 | 34.1 | 39.3 | 20.6 | 20.7 | 39.0 | 17.9 | 17.9 |
| LnGrp LOS | D | A | C | D | A | C | D | C | C | D | B | B |
| Approach Vol, veh/h | | 228 | | | 446 | | | 473 | | | 956 | |
| Approach Delay, s/veh | | 34.3 | | | 36.7 | | | 22.8 | | | 22.8 | |
| Approach LOS | | C | | | D | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 16.4 | 31.8 | 13.0 | 17.7 | 9.4 | 38.9 | 9.4 | 21.3 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 21.5 | 21.5 | 16.5 | 22.5 | 8.6 | 34.4 | 8.6 | 30.4 |
| Max Q Clear Time (g_c+I1), s | 11.6 | 9.0 | 8.6 | 9.6 | 4.3 | 13.6 | 4.3 | 15.1 |
| Green Ext Time (p_c), s | 0.4 | 1.8 | 0.2 | 0.8 | 0.0 | 4.3 | 0.0 | 1.7 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 27.0 |
| HCM 6th LOS | C |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 19.9 |
| Intersection LOS | C |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 330 | 20 | 190 | 271 | 15 | 250 |
| Future Vol, veh/h | 330 | 20 | 190 | 271 | 15 | 250 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 359 | 22 | 207 | 295 | 16 | 272 |
| Number of Lanes | 1 | 1 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB |
|---|---|---|---|
| Opposing Approach | WB | EB | |
| Opposing Lanes | 1 | 2 | 0 |
| Conflicting Approach Left | | NB | EB |
| Conflicting Lanes Left | 0 | 1 | 2 |
| Conflicting Approach Right | NB | | WB |
| Conflicting Lanes Right | 1 | 0 | 1 |
| HCM Control Delay | 17.2 | 25.7 | 13.5 |
| HCM LOS | C | D | B |

| Lane | NBLn1 | EBLn1 | EBLn2 | WBLn1 |
|---|---|---|---|---|
| Vol Left, % | 6% | 0% | 0% | 41% |
| Vol Thru, % | 0% | 100% | 0% | 59% |
| Vol Right, % | 94% | 0% | 100% | 0% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 265 | 330 | 20 | 461 |
| LT Vol | 15 | 0 | 0 | 190 |
| Through Vol | 0 | 330 | 0 | 271 |
| RT Vol | 250 | 0 | 20 | 0 |
| Lane Flow Rate | 288 | 359 | 22 | 501 |
| Geometry Grp | 2 | 7 | 7 | 5 |
| Degree of Util (X) | 0.455 | 0.604 | 0.032 | 0.78 |
| Departure Headway (Hd) | 5.69 | 6.058 | 5.347 | 5.601 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 631 | 595 | 667 | 646 |
| Service Time | 3.758 | 3.815 | 3.103 | 3.654 |
| HCM Lane V/C Ratio | 0.456 | 0.603 | 0.033 | 0.776 |
| HCM Control Delay | 13.5 | 17.7 | 8.3 | 25.7 |
| HCM Lane LOS | B | C | A | D |
| HCM 95th-tile Q | 2.4 | 4 | 0.1 | 7.5 |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 15.8 |
| Intersection LOS | C |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 90 | 21 | 239 | 75 | 28 | 486 |
| Future Vol, veh/h | 90 | 21 | 239 | 75 | 28 | 486 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 98 | 23 | 260 | 82 | 30 | 528 |
| Number of Lanes | 1 | 0 | 1 | 0 | 0 | 1 |

| Approach | WB | NB | SB |
|---|---|---|---|
| Opposing Approach | | SB | NB |
| Opposing Lanes | 0 | 1 | 1 |
| Conflicting Approach Left | NB | | WB |
| Conflicting Lanes Left | 1 | 0 | 1 |
| Conflicting Approach Right | SB | WB | |
| Conflicting Lanes Right | 1 | 1 | 0 |
| HCM Control Delay | 10.6 | 11.8 | 19.4 |
| HCM LOS | B | B | C |

| Lane | NBLn1 | WBLn1 | SBLn1 |
|---|---|---|---|
| Vol Left, % | 0% | 81% | 5% |
| Vol Thru, % | 76% | 0% | 95% |
| Vol Right, % | 24% | 19% | 0% |
| Sign Control | Stop | Stop | Stop |
| Traffic Vol by Lane | 314 | 111 | 514 |
| LT Vol | 0 | 90 | 28 |
| Through Vol | 239 | 0 | 486 |
| RT Vol | 75 | 21 | 0 |
| Lane Flow Rate | 341 | 121 | 559 |
| Geometry Grp | 1 | 1 | 1 |
| Degree of Util (X) | 0.453 | 0.203 | 0.727 |
| Departure Headway (Hd) | 4.773 | 6.064 | 4.687 |
| Convergence, Y/N | Yes | Yes | Yes |
| Cap | 747 | 596 | 765 |
| Service Time | 2.858 | 4.064 | 2.762 |
| HCM Lane V/C Ratio | 0.456 | 0.203 | 0.731 |
| HCM Control Delay | 11.8 | 10.6 | 19.4 |
| HCM Lane LOS | B | B | C |
| HCM 95th-tile Q | 2.4 | 0.8 | 6.4 |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 11.1 |
| Intersection LOS | B |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 5 | 20 | 225 | 10 | 30 | 10 | 225 | 45 | 5 | 5 | 35 | 5 |
| Future Vol, veh/h | 5 | 20 | 225 | 10 | 30 | 10 | 225 | 45 | 5 | 5 | 35 | 5 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 5 | 22 | 245 | 11 | 33 | 11 | 245 | 49 | 5 | 5 | 38 | 5 |
| Number of Lanes | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 2 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 2 | 2 | 3 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 3 | 2 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 3 | 2 | 1 | 2 |
| HCM Control Delay | 10.3 | 9.6 | 12.4 | 9.4 |
| HCM LOS | B | A | B | A |

| Lane | NBLn1 | NBLn2 | NBLn3 | EBLn1 | EBLn2 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 20% | 0% | 20% | 100% | 0% |
| Vol Thru, % | 0% | 100% | 75% | 80% | 0% | 60% | 0% | 88% |
| Vol Right, % | 0% | 0% | 25% | 0% | 100% | 20% | 0% | 12% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 225 | 30 | 20 | 25 | 225 | 50 | 5 | 40 |
| LT Vol | 225 | 0 | 0 | 5 | 0 | 10 | 5 | 0 |
| Through Vol | 0 | 30 | 15 | 20 | 0 | 30 | 0 | 35 |
| RT Vol | 0 | 0 | 5 | 0 | 225 | 10 | 0 | 5 |
| Lane Flow Rate | 245 | 33 | 22 | 27 | 245 | 54 | 5 | 43 |
| Geometry Grp | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| Degree of Util (X) | 0.418 | 0.051 | 0.033 | 0.045 | 0.348 | 0.094 | 0.01 | 0.075 |
| Departure Headway (Hd) | 6.156 | 5.652 | 5.476 | 5.922 | 5.12 | 6.209 | 6.776 | 6.181 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 587 | 635 | 655 | 608 | 707 | 578 | 529 | 580 |
| Service Time | 3.88 | 3.375 | 3.199 | 3.622 | 2.82 | 3.941 | 4.51 | 3.914 |
| HCM Lane V/C Ratio | 0.417 | 0.052 | 0.034 | 0.044 | 0.347 | 0.093 | 0.009 | 0.074 |
| HCM Control Delay | 13.2 | 8.7 | 8.4 | 8.9 | 10.5 | 9.6 | 9.6 | 9.4 |
| HCM Lane LOS | B | A | A | A | B | A | A | A |
| HCM 95th-tile Q | 2.1 | 0.2 | 0.1 | 0.1 | 1.6 | 0.3 | 0 | 0.2 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 5 |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 10 | 45 | 25 | 20 | 0 | 35 |
| Future Vol, veh/h | 10 | 45 | 25 | 20 | 0 | 35 |
| Conflicting Peds, #/hr | 1 | 1 | 1 | 0 | 0 | 1 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | 150 | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 11 | 49 | 27 | 22 | 0 | 38 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 97 | 21 | 39 | 0 | - | 0 |
| Stage 1 | 20 | - | - | - | - | - |
| Stage 2 | 77 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | 4.12 | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | 2.218 | - | - | - |
| Pot Cap-1 Maneuver | 902 | 1056 | 1571 | - | - | - |
| Stage 1 | 1003 | - | - | - | - | - |
| Stage 2 | 946 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 885 | 1054 | 1570 | - | - | - |
| Mov Cap-2 Maneuver | 885 | - | - | - | - | - |
| Stage 1 | 985 | - | - | - | - | - |
| Stage 2 | 945 | - | - | - | - | - |

| Approach | EB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 8.8 | 4.1 | 0 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1570 | - | 1019 | - | - |
| HCM Lane V/C Ratio | 0.017 | - | 0.059 | - | - |
| HCM Control Delay (s) | 7.3 | - | 8.8 | - | - |
| HCM Lane LOS | A | - | A | - | - |
| HCM 95th %tile Q(veh) | 0.1 | - | 0.2 | - | - |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 232.7 |
| Intersection LOS | F |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 15 | 95 | 5 | 5 | 5 | 315 | 35 | 5 | 955 | 0 |
| Future Vol, veh/h | 0 | 0 | 15 | 95 | 5 | 5 | 5 | 315 | 35 | 5 | 955 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 16 | 103 | 5 | 5 | 5 | 342 | 38 | 5 | 1038 | 0 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 3 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 3 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 3 | 2 | 1 | 1 |
| HCM Control Delay | 11.1 | 14.2 | 15.4 | 340.4 |
| HCM LOS | B | B | C | F |

| Lane | NBLn1 | NBLn2 | NBLn3 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 0% | 90% | 100% | 0% |
| Vol Thru, % | 0% | 100% | 0% | 0% | 5% | 0% | 100% |
| Vol Right, % | 0% | 0% | 100% | 100% | 5% | 0% | 0% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 5 | 315 | 35 | 15 | 105 | 5 | 955 |
| LT Vol | 5 | 0 | 0 | 0 | 95 | 5 | 0 |
| Through Vol | 0 | 315 | 0 | 0 | 5 | 0 | 955 |
| RT Vol | 0 | 0 | 35 | 15 | 5 | 0 | 0 |
| Lane Flow Rate | 5 | 342 | 38 | 16 | 114 | 5 | 1038 |
| Geometry Grp | 7 | 7 | 7 | 7 | 7 | 8 | 8 |
| Degree of Util (X) | 0.009 | 0.542 | 0.053 | 0.031 | 0.238 | 0.01 | 1.71 |
| Departure Headway (Hd) | 6.829 | 6.319 | 5.605 | 8.118 | 8.761 | 6.434 | 5.93 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 527 | 575 | 643 | 444 | 413 | 552 | 612 |
| Service Time | 4.529 | 4.019 | 3.305 | 5.818 | 6.461 | 4.222 | 3.717 |
| HCM Lane V/C Ratio | 0.009 | 0.595 | 0.059 | 0.036 | 0.276 | 0.009 | 1.696 |
| HCM Control Delay | 9.6 | 16.2 | 8.6 | 11.1 | 14.2 | 9.3 | 342.1 |
| HCM Lane LOS | A | C | A | B | B | A | F |
| HCM 95th-tile Q | 0 | 3.2 | 0.2 | 0.1 | 0.9 | 0 | 59.5 |

| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 165 | 35 | 425 | 140 | 115 | 855 |
| Future Volume (vph) | 165 | 35 | 425 | 140 | 115 | 855 |
| Confl. Peds. (#/hr) | | 4 | | 11 | | |
| Confl. Bikes (#/hr) | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | 0% | | | 0% |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | NA | | Prot | NA |
| Protected Phases | 8 | | 2 | | 1 | 6 |
| Permitted Phases | | 8 | | | | |
| Detector Phase | 8 | 8 | 2 | | 1 | 6 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | | 8.5 | 20.5 |
| Total Split (s) | 22.5 | 22.5 | 22.5 | | 10.0 | 32.5 |
| Total Split (%) | 40.9% | 40.9% | 40.9% | | 18.2% | 59.1% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Lead/Lag | | | Lag | | Lead | |
| Lead-Lag Optimize? | | | Yes | | Yes | |
| Recall Mode | None | None | Min | | None | Min |

| Intersection Summary |
|---|
| Cycle Length: 55 |
| Actuated Cycle Length: 41.2 |
| Natural Cycle: 55 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 13: Magnolia Avenue & 2nd Street

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 165 | 35 | 425 | 140 | 115 | 855 |
| Future Volume (veh/h) | 165 | 35 | 425 | 140 | 115 | 855 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | | 0.98 | 1.00 | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | No | | | No |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 179 | 38 | 462 | 152 | 125 | 929 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 265 | 236 | 833 | 272 | 158 | 1971 |
| Arrive On Green | 0.15 | 0.15 | 0.32 | 0.32 | 0.09 | 0.55 |
| Sat Flow, veh/h | 1781 | 1585 | 2714 | 855 | 1781 | 3647 |
| Grp Volume(v), veh/h | 179 | 38 | 312 | 302 | 125 | 929 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 1777 | 1699 | 1781 | 1777 |
| Q Serve(g_s), s | 2.9 | 0.6 | 4.4 | 4.5 | 2.1 | 4.8 |
| Cycle Q Clear(g_c), s | 2.9 | 0.6 | 4.4 | 4.5 | 2.1 | 4.8 |
| Prop In Lane | 1.00 | 1.00 | | 0.50 | 1.00 | |
| Lane Grp Cap(c), veh/h | 265 | 236 | 565 | 540 | 158 | 1971 |
| V/C Ratio(X) | 0.68 | 0.16 | 0.55 | 0.56 | 0.79 | 0.47 |
| Avail Cap(c_a), veh/h | 1057 | 940 | 1054 | 1008 | 323 | 3280 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 12.2 | 11.3 | 8.6 | 8.6 | 13.6 | 4.1 |
| Incr Delay (d2), s/veh | 3.0 | 0.3 | 0.8 | 0.9 | 8.6 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.1 | 0.2 | 1.0 | 1.0 | 1.0 | 0.3 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 15.2 | 11.6 | 9.4 | 9.5 | 22.2 | 4.3 |
| LnGrp LOS | B | B | A | A | C | A |
| Approach Vol, veh/h | 217 | | 614 | | | 1054 |
| Approach Delay, s/veh | 14.6 | | 9.5 | | | 6.4 |
| Approach LOS | B | | A | | | A |

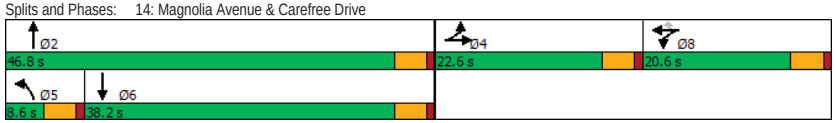
| Timer - Assigned Phs | 1 | 2 | | | 6 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.2 | 14.1 | | | 21.3 | 9.0 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 5.5 | 18.0 | | | 28.0 | 18.0 |
| Max Q Clear Time (g_c+I1), s | 4.1 | 6.5 | | | 6.8 | 4.9 |
| Green Ext Time (p_c), s | 0.0 | 2.8 | | | 6.3 | 0.5 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 8.3 | |
| HCM 6th LOS | A | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 10 | 0 | 80 | 190 | 0 | 35 | 20 | 555 | 0 | 0 | 1100 | 10 |
| Future Volume (vph) | 10 | 0 | 80 | 190 | 0 | 35 | 20 | 555 | 0 | 0 | 1100 | 10 |
| Confl. Peds. (#/hr) | | | 115 | | | | | | 13 | | | 18 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | 50% | | | | | | | | |
| Turn Type | Split | NA | | Split | NA | Perm | Prot | NA | | | NA | |
| Protected Phases | 4 | 4 | | 8 | 8 | | 5 | 2 | | | 6 | |
| Permitted Phases | | | | | | 8 | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | 8 | 5 | 2 | | | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | | 4.0 | |
| Minimum Split (s) | 22.5 | 22.5 | | 20.5 | 20.5 | 20.5 | 8.5 | 22.5 | | | 22.5 | |
| Total Split (s) | 22.6 | 22.6 | | 20.6 | 20.6 | 20.6 | 8.6 | 46.8 | | | 38.2 | |
| Total Split (%) | 25.1% | 25.1% | | 22.9% | 22.9% | 22.9% | 9.6% | 52.0% | | | 42.4% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | 0.0 | |
| Total Lost Time (s) | | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | | 4.5 | |
| Lead/Lag | | | | | | | Lead | | | | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | | | | Yes | |
| Recall Mode | None | None | | None | None | None | None | Min | | | Min | |

| Intersection Summary |
|---|
| Cycle Length: 90 |
| Actuated Cycle Length: 61.4 |
| Natural Cycle: 90 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 14: Magnolia Avenue & Carefree Drive








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 10 | 0 | 80 | 190 | 0 | 35 | 20 | 555 | 0 | 0 | 1100 | 10 |
| Future Volume (veh/h) | 10 | 0 | 80 | 190 | 0 | 35 | 20 | 555 | 0 | 0 | 1100 | 10 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.83 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.96 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 0 | 0 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 11 | 0 | 87 | 207 | 0 | 38 | 22 | 603 | 0 | 0 | 1196 | 11 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 0 | 0 | 2 | 2 |
| Cap, veh/h | 31 | 0 | 249 | 333 | 0 | 148 | 36 | 1770 | 0 | 0 | 1481 | 14 |
| Arrive On Green | 0.21 | 0.00 | 0.21 | 0.09 | 0.00 | 0.09 | 0.02 | 0.50 | 0.00 | 0.00 | 0.41 | 0.41 |
| Sat Flow, veh/h | 153 | 0 | 1207 | 3563 | 0 | 1585 | 1781 | 3647 | 0 | 0 | 3700 | 33 |
| Grp Volume(v), veh/h | 98 | 0 | 0 | 207 | 0 | 38 | 22 | 603 | 0 | 0 | 589 | 618 |
| Grp Sat Flow(s),veh/h/ln | 1359 | 0 | 0 | 1781 | 0 | 1585 | 1781 | 1777 | 0 | 0 | 1777 | 1863 |
| Q Serve(g_s), s | 4.1 | 0.0 | 0.0 | 3.7 | 0.0 | 1.5 | 0.8 | 6.9 | 0.0 | 0.0 | 19.5 | 19.5 |
| Cycle Q Clear(g_c), s | 4.1 | 0.0 | 0.0 | 3.7 | 0.0 | 1.5 | 0.8 | 6.9 | 0.0 | 0.0 | 19.5 | 19.5 |
| Prop In Lane | 0.11 | | 0.89 | 1.00 | | 1.00 | 1.00 | | 0.00 | 0.00 | | 0.02 |
| Lane Grp Cap(c), veh/h | 280 | 0 | 0 | 333 | 0 | 148 | 36 | 1770 | 0 | 0 | 730 | 765 |
| V/C Ratio(X) | 0.35 | 0.00 | 0.00 | 0.62 | 0.00 | 0.26 | 0.62 | 0.34 | 0.00 | 0.00 | 0.81 | 0.81 |
| Avail Cap(c_a), veh/h | 368 | 0 | 0 | 859 | 0 | 382 | 109 | 2250 | 0 | 0 | 896 | 940 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 22.7 | 0.0 | 0.0 | 29.1 | 0.0 | 28.1 | 32.5 | 10.1 | 0.0 | 0.0 | 17.4 | 17.4 |
| Incr Delay (d2), s/veh | 0.7 | 0.0 | 0.0 | 1.9 | 0.0 | 0.9 | 15.9 | 0.1 | 0.0 | 0.0 | 4.5 | 4.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.3 | 0.0 | 0.0 | 1.6 | 0.0 | 0.6 | 0.5 | 2.2 | 0.0 | 0.0 | 7.6 | 7.9 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 23.4 | 0.0 | 0.0 | 31.0 | 0.0 | 29.0 | 48.4 | 10.2 | 0.0 | 0.0 | 21.9 | 21.7 |
| LnGrp LOS | C | A | A | C | A | C | D | B | A | A | C | C |
| Approach Vol, veh/h | | 98 | | | 245 | | | 625 | | | 1207 | |
| Approach Delay, s/veh | | 23.4 | | | 30.7 | | | 11.6 | | | 21.8 | |
| Approach LOS | | C | | | C | | | B | | | C | |

| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 37.8 | | 18.3 | 5.8 | 31.9 | | 10.7 | | | | |
| Change Period (Y+Rc), s | | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | | 42.3 | | 18.1 | 4.1 | 33.7 | | 16.1 | | | | |
| Max Q Clear Time (g_c+I1), s | | 8.9 | | 6.1 | 2.8 | 21.5 | | 5.7 | | | | |
| Green Ext Time (p_c), s | | 4.2 | | 0.4 | 0.0 | 5.9 | | 0.6 | | | | |

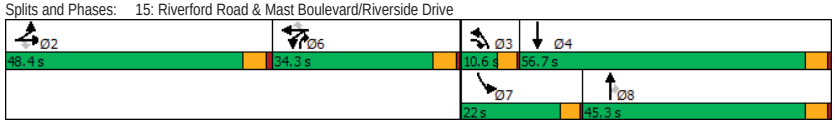
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 19.9 | |
| HCM 6th LOS | B | |

| Notes |
|---|
| User approved volume balancing among the lanes for turning movement. |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 70 | 70 | 110 | 580 | 20 | 290 | 40 | 240 | 420 | 350 | 400 | 30 |
| Future Volume (vph) | 70 | 70 | 110 | 580 | 20 | 290 | 40 | 240 | 420 | 350 | 400 | 30 |
| Confl. Peds. (#/hr) | | | 4 | | | 3 | | | 7 | | | |
| Confl. Bikes (#/hr) | | | 1 | | | 2 | | | 2 | | | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Split | NA | pm+ov | Split | NA | Perm | Prot | NA | pm+ov | Prot | NA | |
| Protected Phases | 2 | 2 | 3 | 6 | 6 | | 3 | 8 | 6 | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | 8 | | | |
| Detector Phase | 2 | 2 | 3 | 6 | 6 | 6 | 3 | 8 | 6 | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 6.0 | 6.0 | 5.0 | 4.0 | 4.0 | 4.0 | 5.0 | 6.0 | 4.0 | 4.0 | 6.0 | |
| Minimum Split (s) | 45.3 | 45.3 | 9.1 | 34.3 | 34.3 | 34.3 | 9.1 | 45.3 | 34.3 | 8.6 | 49.9 | |
| Total Split (s) | 48.4 | 48.4 | 10.6 | 34.3 | 34.3 | 34.3 | 10.6 | 45.3 | 34.3 | 22.0 | 56.7 | |
| Total Split (%) | 32.3% | 32.3% | 7.1% | 22.9% | 22.9% | 22.9% | 7.1% | 30.2% | 22.9% | 14.7% | 37.8% | |
| Yellow Time (s) | 4.3 | 4.3 | 3.6 | 4.3 | 4.3 | 4.3 | 3.6 | 3.9 | 4.3 | 3.6 | 3.9 | |
| All-Red Time (s) | 1.0 | 1.0 | 0.5 | 1.0 | 1.0 | 1.0 | 0.5 | 1.0 | 1.0 | 0.5 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 5.3 | 5.3 | 4.1 | 5.3 | 5.3 | 5.3 | 4.1 | 4.9 | 5.3 | 4.1 | 4.9 | |
| Lead/Lag | | | Lead | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | Yes | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | None | None | None | None | None | Min | None | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 150 |
| Actuated Cycle Length: 102.2 |
| Natural Cycle: 150 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 15: Riverford Road & Mast Boulevard/Riverside Drive








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 70 | 70 | 110 | 580 | 20 | 290 | 40 | 240 | 420 | 350 | 400 | 30 |
| Future Volume (veh/h) | 70 | 70 | 110 | 580 | 20 | 290 | 40 | 240 | 420 | 350 | 400 | 30 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.95 | 1.00 | | 0.97 | 1.00 | | 0.98 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 76 | 76 | 120 | 630 | 22 | 315 | 43 | 261 | 457 | 380 | 435 | 33 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 164 | 328 | 345 | 845 | 869 | 376 | 63 | 507 | 808 | 334 | 725 | 55 |
| Arrive On Green | 0.09 | 0.09 | 0.09 | 0.24 | 0.24 | 0.24 | 0.04 | 0.27 | 0.27 | 0.19 | 0.42 | 0.42 |
| Sat Flow, veh/h | 1781 | 3554 | 2664 | 3456 | 3554 | 1539 | 1781 | 1870 | 1551 | 1781 | 1715 | 130 |
| Grp Volume(v), veh/h | 76 | 76 | 120 | 630 | 22 | 315 | 43 | 261 | 457 | 380 | 0 | 468 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1332 | 1728 | 1777 | 1539 | 1781 | 1870 | 1551 | 1781 | 0 | 1845 |
| Q Serve(g_s), s | 3.9 | 1.9 | 3.9 | 16.1 | 0.4 | 18.6 | 2.3 | 11.3 | 19.3 | 17.9 | 0.0 | 18.8 |
| Cycle Q Clear(g_c), s | 3.9 | 1.9 | 3.9 | 16.1 | 0.4 | 18.6 | 2.3 | 11.3 | 19.3 | 17.9 | 0.0 | 18.8 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.07 |
| Lane Grp Cap(c), veh/h | 164 | 328 | 345 | 845 | 869 | 376 | 63 | 507 | 808 | 334 | 0 | 780 |
| V/C Ratio(X) | 0.46 | 0.23 | 0.35 | 0.75 | 0.03 | 0.84 | 0.68 | 0.52 | 0.57 | 1.14 | 0.00 | 0.60 |
| Avail Cap(c_a), veh/h | 804 | 1603 | 1301 | 1049 | 1079 | 467 | 121 | 791 | 1044 | 334 | 0 | 1000 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 41.1 | 40.2 | 38.1 | 33.3 | 27.4 | 34.3 | 45.5 | 29.5 | 15.9 | 38.8 | 0.0 | 21.3 |
| Incr Delay (d2), s/veh | 2.0 | 0.4 | 0.6 | 2.3 | 0.0 | 10.5 | 11.9 | 0.8 | 0.6 | 92.3 | 0.0 | 0.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.7 | 0.8 | 1.3 | 6.7 | 0.2 | 7.9 | 1.2 | 5.1 | 10.8 | 16.2 | 0.0 | 8.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 43.1 | 40.6 | 38.7 | 35.6 | 27.4 | 44.8 | 57.4 | 30.3 | 16.5 | 131.1 | 0.0 | 22.1 |
| LnGrp LOS | D | D | D | D | C | D | E | C | B | F | A | C |
| Approach Vol, veh/h | | 272 | | | 967 | | | 761 | | | 848 | |
| Approach Delay, s/veh | | 40.4 | | | 38.4 | | | 23.6 | | | 70.9 | |
| Approach LOS | | D | | | D | | | C | | | E | |

| Timer - Assigned Phs | 2 | 3 | 4 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 14.1 | 7.5 | 45.3 | 28.7 | 22.0 | 30.8 |
| Change Period (Y+Rc), s | 5.3 | 4.1 | 4.9 | 5.3 | 4.1 | 4.9 |
| Max Green Setting (Gmax), s | 43.1 | 6.5 | 51.8 | 29.0 | 17.9 | 40.4 |
| Max Q Clear Time (g_c+I1), s | 5.9 | 4.3 | 20.8 | 20.6 | 19.9 | 21.3 |
| Green Ext Time (p_c), s | 1.1 | 0.0 | 3.3 | 2.5 | 0.0 | 3.2 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 44.3 | |
| HCM 6th LOS | D | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 10 | 15 | 265 | 35 | 0 | 0 | 0 | 0 | 480 | 0 | 5 |
| Future Volume (vph) | 0 | 10 | 15 | 265 | 35 | 0 | 0 | 0 | 0 | 480 | 0 | 5 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | 1 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | 49% | | |
| Turn Type | | NA | | Split | NA | | | | | Split | NA | |
| Protected Phases | | 8 | | 4 | 4 | | | | | 2 | 2 | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | | 8 | | 4 | 4 | | | | | 2 | 2 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | 7.0 | | 8.0 | 8.0 | | | | | 5.0 | 5.0 | |
| Minimum Split (s) | | 25.1 | | 28.4 | 28.4 | | | | | 32.3 | 32.3 | |
| Total Split (s) | | 25.1 | | 31.0 | 31.0 | | | | | 33.9 | 33.9 | |
| Total Split (%) | | 27.9% | | 34.4% | 34.4% | | | | | 37.7% | 37.7% | |
| Yellow Time (s) | | 4.1 | | 4.4 | 4.4 | | | | | 4.1 | 4.1 | |
| All-Red Time (s) | | 1.0 | | 1.0 | 1.0 | | | | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | | 0.0 | 0.0 | | | | | 0.0 | 0.0 | |
| Total Lost Time (s) | | 5.1 | | 5.4 | 5.4 | | | | | 5.1 | 5.1 | |
| Lead/Lag | | | | | | | | | | | | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Recall Mode | | None | | None | None | | | | | None | None | |

**Intersection Summary**

Cycle Length: 90
Actuated Cycle Length: 47.5
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 16: SR 52 EB Ramps & Mast Blvd

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 10 | 15 | 265 | 35 | 0 | 0 | 0 | 0 | 480 | 0 | 5 |
| Future Volume (veh/h) | 0 | 10 | 15 | 265 | 35 | 0 | 0 | 0 | 0 | 480 | 0 | 5 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | | | | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | | | | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | | | | No | |
| Adj Sat Flow, veh/h/ln | 0 | 1870 | 1870 | 1870 | 1870 | 0 | | | | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 11 | 16 | 288 | 38 | 0 | | | | 527 | 0 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 0 | 2 | 2 | 2 | 2 | 0 | | | | 2 | 2 | 2 |
| Cap, veh/h | 0 | 32 | 47 | 410 | 431 | 0 | | | | 891 | 468 | 0 |
| Arrive On Green | 0.00 | 0.05 | 0.05 | 0.23 | 0.23 | 0.00 | | | | 0.25 | 0.00 | 0.00 |
| Sat Flow, veh/h | 0 | 689 | 1002 | 1781 | 1870 | 0 | | | | 3563 | 1870 | 0 |
| Grp Volume(v), veh/h | 0 | 0 | 27 | 288 | 38 | 0 | | | | 527 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 0 | 0 | 1690 | 1781 | 1870 | 0 | | | | 1781 | 1870 | 0 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.5 | 4.9 | 0.5 | 0.0 | | | | 4.3 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 0.0 | 0.0 | 0.5 | 4.9 | 0.5 | 0.0 | | | | 4.3 | 0.0 | 0.0 |
| Prop In Lane | 0.00 | | 0.59 | 1.00 | | 0.00 | | | | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 0 | 0 | 79 | 410 | 431 | 0 | | | | 891 | 468 | 0 |
| V/C Ratio(X) | 0.00 | 0.00 | 0.34 | 0.70 | 0.09 | 0.00 | | | | 0.59 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 0 | 0 | 1025 | 1383 | 1452 | 0 | | | | 3112 | 1634 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.00 | | | | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 0.0 | 0.0 | 15.2 | 11.6 | 10.0 | 0.0 | | | | 10.9 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 1.0 | 2.2 | 0.1 | 0.0 | | | | 0.6 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.0 | 0.2 | 1.6 | 0.2 | 0.0 | | | | 1.3 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 0.0 | 16.2 | 13.8 | 10.1 | 0.0 | | | | 11.5 | 0.0 | 0.0 |
| LnGrp LOS | A | A | B | B | B | A | | | | B | A | A |
| Approach Vol, veh/h | | 27 | | | 326 | | | | | | 527 | |
| Approach Delay, s/veh | | 16.2 | | | 13.4 | | | | | | 11.5 | |
| Approach LOS | | B | | | B | | | | | | B | |

| Timer - Assigned Phs | | 2 | | 4 | | | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 13.3 | | 13.0 | | | | 6.6 | | | | |
| Change Period (Y+Rc), s | | 5.1 | | 5.4 | | | | 5.1 | | | | |
| Max Green Setting (Gmax), s | | 28.8 | | 25.6 | | | | 20.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 6.3 | | 6.9 | | | | 2.5 | | | | |
| Green Ext Time (p_c), s | | 1.9 | | 1.0 | | | | 0.0 | | | | |

**Intersection Summary**

| | | |
|---|---|---|
| HCM 6th Ctrl Delay | 12.4 | |
| HCM 6th LOS | B | |

**Notes**

User approved volume balancing among the lanes for turning movement.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 20 | 470 | 0 | 0 | 290 | 2715 | 10 | 0 | 75 | 0 | 0 | 0 |
| Future Volume (vph) | 20 | 470 | 0 | 0 | 290 | 2715 | 10 | 0 | 75 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | 45% | | | 44% | | | |
| Turn Type | Prot | NA | | | NA | Perm | Perm | NA | Perm | | | |
| Protected Phases | 5 | 2 | | | 6 | | | 8 | | | | |
| Permitted Phases | | | | | | 6 | 8 | | 8 | | | |
| Detector Phase | 5 | 2 | | | 6 | 6 | 8 | 8 | 8 | | | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 10.0 | | | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | | | |
| Minimum Split (s) | 11.7 | 38.6 | | | 28.4 | 28.4 | 43.1 | 43.1 | 43.1 | | | |
| Total Split (s) | 11.7 | 86.9 | | | 75.2 | 75.2 | 43.1 | 43.1 | 43.1 | | | |
| Total Split (%) | 9.0% | 66.8% | | | 57.8% | 57.8% | 33.2% | 33.2% | 33.2% | | | |
| Yellow Time (s) | 3.7 | 4.1 | | | 4.4 | 4.4 | 4.1 | 4.1 | 4.1 | | | |
| All-Red Time (s) | 1.0 | 1.0 | | | 1.0 | 1.0 | 2.0 | 2.0 | 2.0 | | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | 0.0 | | | |
| Total Lost Time (s) | 4.7 | 5.1 | | | 5.4 | 5.4 | | 6.1 | 6.1 | | | |
| Lead/Lag | Lead | | | | Lag | Lag | | | | | | |
| Lead-Lag Optimize? | Yes | | | | Yes | Yes | | | | | | |
| Recall Mode | None | Min | | | Min | Min | None | None | None | | | |

| Intersection Summary |
|---|
| Cycle Length: 130 |
| Actuated Cycle Length: 105.2 |
| Natural Cycle: 145 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 17: SR-52 WB Ramps & Mast Blvd

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 20 | 470 | 0 | 0 | 290 | 2715 | 10 | 0 | 75 | 0 | 0 | 0 |
| Future Volume (veh/h) | 20 | 470 | 0 | 0 | 290 | 2715 | 10 | 0 | 75 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.98 | 1.00 | | 1.00 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.99 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 0 | 0 | 1870 | 1945 | 1870 | 1870 | 1870 | | | |
| Adj Flow Rate, veh/h | 22 | 511 | 0 | 0 | 0 | 3161 | 0 | 0 | 94 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | |
| Percent Heavy Veh, % | 2 | 2 | 0 | 0 | 2 | 2 | 2 | 2 | 2 | | | |
| Cap, veh/h | 57 | 2805 | 0 | 0 | 1327 | 2291 | 0 | 173 | 297 | | | |
| Arrive On Green | 0.03 | 0.79 | 0.00 | 0.00 | 0.00 | 0.71 | 0.00 | 0.00 | 0.09 | | | |
| Sat Flow, veh/h | 1781 | 3647 | 0 | 0 | 1870 | 3229 | 0 | 1848 | 3170 | | | |
| Grp Volume(v), veh/h | 22 | 511 | 0 | 0 | 0 | 3161 | 0 | 0 | 94 | | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 0 | 0 | 1870 | 1615 | 0 | 1848 | 1585 | | | |
| Q Serve(g_s), s | 1.2 | 3.5 | 0.0 | 0.0 | 0.0 | 69.8 | 0.0 | 0.0 | 2.7 | | | |
| Cycle Q Clear(g_c), s | 1.2 | 3.5 | 0.0 | 0.0 | 0.0 | 69.8 | 0.0 | 0.0 | 2.7 | | | |
| Prop In Lane | 1.00 | | 0.00 | 0.00 | | 1.00 | 0.00 | | 1.00 | | | |
| Lane Grp Cap(c), veh/h | 57 | 2805 | 0 | 0 | 1327 | 2291 | 0 | 173 | 297 | | | |
| V/C Ratio(X) | 0.38 | 0.18 | 0.00 | 0.00 | 0.00 | 1.38 | 0.00 | 0.00 | 0.32 | | | |
| Avail Cap(c_a), veh/h | 127 | 2954 | 0 | 0 | 1327 | 2291 | 0 | 695 | 1192 | | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | | | |
| Uniform Delay (d), s/veh | 46.7 | 2.6 | 0.0 | 0.0 | 0.0 | 14.3 | 0.0 | 0.0 | 41.6 | | | |
| Incr Delay (d2), s/veh | 1.6 | 0.0 | 0.0 | 0.0 | 0.0 | 173.8 | 0.0 | 0.0 | 0.2 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ln | 0.5 | 0.8 | 0.0 | 0.0 | 0.0 | 74.3 | 0.0 | 0.0 | 1.1 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 48.2 | 2.6 | 0.0 | 0.0 | 0.0 | 188.1 | 0.0 | 0.0 | 41.9 | | | |
| LnGrp LOS | D | A | A | A | A | F | A | A | D | | | |
| Approach Vol, veh/h | | 533 | | | 3161 | | | 94 | | | | |
| Approach Delay, s/veh | | 4.5 | | | 188.1 | | | 41.9 | | | | |
| Approach LOS | | A | | | F | | | D | | | | |

| Timer - Assigned Phs | 2 | 5 | 6 | 8 |
|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 83.1 | 7.9 | 75.2 | 15.3 |
| Change Period (Y+Rc), s | * 5.4 | * 4.7 | 5.4 | 6.1 |
| Max Green Setting (Gmax), s | * 82 | * 7 | 69.8 | 37.0 |
| Max Q Clear Time (g_c+I1), s | 5.5 | 3.2 | 71.8 | 4.7 |
| Green Ext Time (p_c), s | 3.8 | 0.0 | 0.0 | 0.2 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 158.6 | |
| HCM 6th LOS | F | |

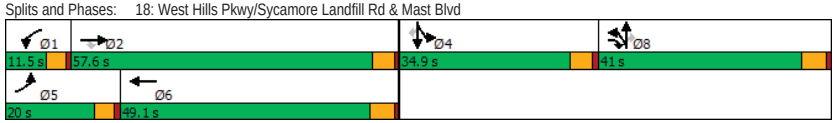
Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 120 | 315 | 110 | 140 | 1705 | 20 | 1200 | 15 | 425 | 10 | 10 | 100 |
| Future Volume (vph) | 120 | 315 | 110 | 140 | 1705 | 20 | 1200 | 15 | 425 | 10 | 10 | 100 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | 49% | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | | Split | NA | Perm | Split | NA | Perm |
| Protected Phases | 5 | 2 | 8 | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Permitted Phases | | | 2 | | | | | | 8 | | | 4 |
| Detector Phase | 5 | 2 | 8 | 1 | 6 | | 8 | 8 | 8 | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 10.0 | 10.0 | 4.0 | 10.0 | | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| Minimum Split (s) | 20.0 | 34.9 | 33.4 | 8.4 | 35.2 | | 33.4 | 33.4 | 33.4 | 34.9 | 34.9 | 34.9 |
| Total Split (s) | 20.0 | 57.6 | 41.0 | 11.5 | 49.1 | | 41.0 | 41.0 | 41.0 | 34.9 | 34.9 | 34.9 |
| Total Split (%) | 13.8% | 39.7% | 28.3% | 7.9% | 33.9% | | 28.3% | 28.3% | 28.3% | 24.1% | 24.1% | 24.1% |
| Yellow Time (s) | 3.4 | 3.9 | 4.4 | 3.4 | 4.2 | | 4.4 | 4.4 | 4.4 | 3.9 | 3.9 | 3.9 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.4 | 4.9 | 5.4 | 4.4 | 5.2 | | 5.4 | 5.4 | 5.4 | | 4.9 | 4.9 |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | Min | None | None | Min | | None | None | None | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 145 |
| Actuated Cycle Length: 122.3 |
| Natural Cycle: 145 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 18: West Hills Pkwy/Sycamore Landfill Rd & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 120 | 315 | 110 | 140 | 1705 | 20 | 1200 | 15 | 425 | 10 | 10 | 100 |
| Future Volume (veh/h) | 120 | 315 | 110 | 140 | 1705 | 20 | 1200 | 15 | 425 | 10 | 10 | 100 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.98 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 130 | 342 | 120 | 152 | 1853 | 22 | 1315 | 0 | 462 | 11 | 11 | 109 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 158 | 1401 | 1093 | 204 | 1310 | 16 | 1053 | 0 | 468 | 78 | 78 | 136 |
| Arrive On Green | 0.09 | 0.39 | 0.39 | 0.06 | 0.36 | 0.36 | 0.30 | 0.00 | 0.30 | 0.09 | 0.09 | 0.09 |
| Sat Flow, veh/h | 1781 | 3554 | 1585 | 3456 | 3596 | 43 | 3563 | 0 | 1585 | 912 | 912 | 1585 |
| Grp Volume(v), veh/h | 130 | 342 | 120 | 152 | 914 | 961 | 1315 | 0 | 462 | 22 | 0 | 109 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1585 | 1728 | 1777 | 1862 | 1781 | 0 | 1585 | 1825 | 0 | 1585 |
| Q Serve(g_s), s | 8.6 | 7.8 | 3.1 | 5.2 | 43.9 | 43.9 | 35.6 | 0.0 | 34.9 | 1.3 | 0.0 | 8.1 |
| Cycle Q Clear(g_c), s | 8.6 | 7.8 | 3.1 | 5.2 | 43.9 | 43.9 | 35.6 | 0.0 | 34.9 | 1.3 | 0.0 | 8.1 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.02 | 1.00 | | 1.00 | 0.50 | | 1.00 |
| Lane Grp Cap(c), veh/h | 158 | 1401 | 1093 | 204 | 648 | 678 | 1053 | 0 | 468 | 157 | 0 | 136 |
| V/C Ratio(X) | 0.82 | 0.24 | 0.11 | 0.75 | 1.41 | 1.42 | 1.25 | 0.00 | 0.99 | 0.14 | 0.00 | 0.80 |
| Avail Cap(c_a), veh/h | 231 | 1555 | 1162 | 204 | 648 | 678 | 1053 | 0 | 468 | 454 | 0 | 395 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 53.9 | 24.4 | 6.3 | 55.8 | 38.3 | 38.3 | 42.4 | 0.0 | 42.2 | 50.9 | 0.0 | 54.0 |
| Incr Delay (d2), s/veh | 9.2 | 0.1 | 0.1 | 12.5 | 194.1 | 196.2 | 120.1 | 0.0 | 37.9 | 0.4 | 0.0 | 10.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 4.2 | 3.2 | 2.2 | 2.6 | 53.2 | 56.1 | 32.5 | 0.0 | 18.0 | 0.6 | 0.0 | 3.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 63.2 | 24.6 | 6.3 | 68.3 | 232.4 | 234.5 | 162.5 | 0.0 | 80.1 | 51.3 | 0.0 | 64.3 |
| LnGrp LOS | E | C | A | E | F | F | F | A | F | D | A | E |
| Approach Vol, veh/h | | 592 | | | 2027 | | | 1777 | | | 131 | |
| Approach Delay, s/veh | | 29.3 | | | 221.1 | | | 141.1 | | | 62.1 | |
| Approach LOS | | C | | | F | | | F | | | E | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 11.5 | 52.7 | | 15.3 | 15.1 | 49.1 | | 41.0 | | | | |
| Change Period (Y+Rc), s | 4.4 | * 5.2 | | 4.9 | 4.4 | 5.2 | | 5.4 | | | | |
| Max Green Setting (Gmax), s | 7.1 | * 53 | | 30.0 | 15.6 | 43.9 | | 35.6 | | | | |
| Max Q Clear Time (g_c+I1), s | 7.2 | 9.8 | | 10.1 | 10.6 | 45.9 | | 37.6 | | | | |
| Green Ext Time (p_c), s | 0.0 | 3.5 | | 0.4 | 0.1 | 0.0 | | 0.0 | | | | |

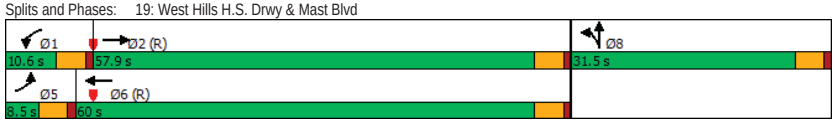
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 160.0 | |
| HCM 6th LOS | F | |

| Notes |
|---|
| User approved volume balancing among the lanes for turning movement. |
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 5 | 600 | 50 | 60 | 1700 | 0 | 30 | 0 | 30 | 0 | 0 | 0 |
| Future Volume (vph) | 5 | 600 | 50 | 60 | 1700 | 0 | 30 | 0 | 30 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | 9 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Split | NA | | | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | | | | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | | | | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | | | | |
| Minimum Split (s) | 8.5 | 22.5 | | 8.5 | 20.5 | | 31.5 | 31.5 | | | | |
| Total Split (s) | 8.5 | 57.9 | | 10.6 | 60.0 | | 31.5 | 31.5 | | | | |
| Total Split (%) | 8.5% | 57.9% | | 10.6% | 60.0% | | 31.5% | 31.5% | | | | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | | | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | | |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | | 4.5 | | | | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | | | | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 90 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 19: West Hills H.S. Drwy & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 5 | 600 | 50 | 60 | 1700 | 0 | 30 | 0 | 30 | 0 | 0 | 0 |
| Future Volume (veh/h) | 5 | 600 | 50 | 60 | 1700 | 0 | 30 | 0 | 30 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 0 | 1900 | 1870 | 1900 | | | |
| Adj Flow Rate, veh/h | 5 | 652 | 54 | 65 | 1848 | 0 | 33 | 0 | 33 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 0 | 0 | 2 | 0 | | | |
| Cap, veh/h | 9 | 2547 | 211 | 83 | 2872 | 0 | 43 | 0 | 43 | | | |
| Arrive On Green | 0.01 | 0.77 | 0.77 | 0.06 | 1.00 | 0.00 | 0.05 | 0.00 | 0.05 | | | |
| Sat Flow, veh/h | 1781 | 3323 | 275 | 1781 | 3647 | 0 | 839 | 0 | 839 | | | |
| Grp Volume(v), veh/h | 5 | 348 | 358 | 65 | 1848 | 0 | 66 | 0 | 0 | | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1821 | 1781 | 1777 | 0 | 1677 | 0 | 0 | | | |
| Q Serve(g_s), s | 0.3 | 5.7 | 5.7 | 3.6 | 0.0 | 0.0 | 3.9 | 0.0 | 0.0 | | | |
| Cycle Q Clear(g_c), s | 0.3 | 5.7 | 5.7 | 3.6 | 0.0 | 0.0 | 3.9 | 0.0 | 0.0 | | | |
| Prop In Lane | 1.00 | | 0.15 | 1.00 | | 0.00 | 0.50 | | 0.50 | | | |
| Lane Grp Cap(c), veh/h | 9 | 1362 | 1396 | 83 | 2872 | 0 | 87 | 0 | 0 | | | |
| V/C Ratio(X) | 0.54 | 0.26 | 0.26 | 0.78 | 0.64 | 0.00 | 0.76 | 0.00 | 0.00 | | | |
| Avail Cap(c_a), veh/h | 71 | 1362 | 1396 | 109 | 2872 | 0 | 453 | 0 | 0 | | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.33 | 1.33 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 0.85 | 0.85 | 0.85 | 0.35 | 0.35 | 0.00 | 1.00 | 0.00 | 0.00 | | | |
| Uniform Delay (d), s/veh | 49.6 | 3.4 | 3.4 | 46.4 | 0.0 | 0.0 | 46.8 | 0.0 | 0.0 | | | |
| Incr Delay (d2), s/veh | 35.9 | 0.4 | 0.4 | 9.1 | 0.4 | 0.0 | 12.8 | 0.0 | 0.0 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ln | 0.2 | 1.5 | 1.5 | 1.7 | 0.2 | 0.0 | 1.9 | 0.0 | 0.0 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 85.6 | 3.8 | 3.8 | 55.4 | 0.4 | 0.0 | 59.6 | 0.0 | 0.0 | | | |
| LnGrp LOS | F | A | A | E | A | A | E | A | A | | | |
| Approach Vol, veh/h | | 711 | | | 1913 | | | 66 | | | | |
| Approach Delay, s/veh | | 4.3 | | | 2.3 | | | 59.6 | | | | |
| Approach LOS | | A | | | A | | | E | | | | |

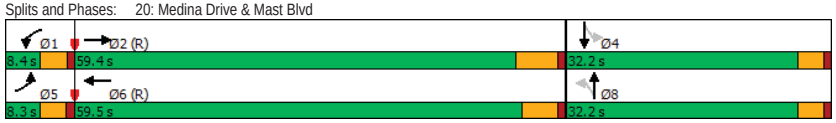
| Timer - Assigned Phs | 1 | 2 | | | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 9.2 | 81.1 | | | 5.0 | 85.3 | | 9.7 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 6.1 | 53.4 | | | 4.0 | 55.5 | | 27.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 5.6 | 7.7 | | | 2.3 | 2.0 | | 5.9 | | | | |
| Green Ext Time (p_c), s | 0.0 | 4.6 | | | 0.0 | 24.3 | | 0.3 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 4.2 | |
| HCM 6th LOS | A | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 10 | 740 | 40 | 15 | 1700 | 10 | 40 | 5 | 10 | 25 | 15 | 30 |
| Future Volume (vph) | 10 | 740 | 40 | 15 | 1700 | 10 | 40 | 5 | 10 | 25 | 15 | 30 |
| Confl. Peds. (#/hr) | | | 2 | | | | | | 1 | | | 10 |
| Confl. Bikes (#/hr) | | | 1 | | | 1 | | | 2 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Perm | NA | | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | | 4 | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 22.0 | | 8.2 | 22.0 | | 32.2 | 32.2 | | 32.2 | 32.2 | |
| Total Split (s) | 8.3 | 59.4 | | 8.4 | 59.5 | | 32.2 | 32.2 | | 32.2 | 32.2 | |
| Total Split (%) | 8.3% | 59.4% | | 8.4% | 59.5% | | 32.2% | 32.2% | | 32.2% | 32.2% | |
| Yellow Time (s) | 3.2 | 5.1 | | 3.2 | 4.3 | | 3.2 | 3.2 | | 3.2 | 3.2 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | 0.0 | |
| Total Lost Time (s) | 4.2 | 6.1 | | 4.2 | 5.3 | | | 4.2 | | | 4.2 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 90 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 20: Medina Drive & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 10 | 740 | 40 | 15 | 1700 | 10 | 40 | 5 | 10 | 25 | 15 | 30 |
| Future Volume (veh/h) | 10 | 740 | 40 | 15 | 1700 | 10 | 40 | 5 | 10 | 25 | 15 | 30 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 0.98 | | 0.98 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 11 | 804 | 43 | 16 | 1848 | 11 | 43 | 5 | 11 | 27 | 16 | 33 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 19 | 2541 | 136 | 26 | 2700 | 16 | 165 | 23 | 29 | 88 | 50 | 68 |
| Arrive On Green | 0.00 | 0.24 | 0.24 | 0.03 | 1.00 | 1.00 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 |
| Sat Flow, veh/h | 1781 | 3426 | 183 | 1781 | 3621 | 22 | 1041 | 231 | 292 | 393 | 509 | 693 |
| Grp Volume(v), veh/h | 11 | 417 | 430 | 16 | 906 | 953 | 59 | 0 | 0 | 76 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1833 | 1781 | 1777 | 1866 | 1564 | 0 | 0 | 1595 | 0 | 0 |
| Q Serve(g_s), s | 0.6 | 19.2 | 19.2 | 0.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.2 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 0.6 | 19.2 | 19.2 | 0.9 | 0.0 | 0.0 | 3.1 | 0.0 | 0.0 | 4.3 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | | 0.10 | 1.00 | | 0.01 | 0.73 | | 0.19 | 0.36 | | 0.43 |
| Lane Grp Cap(c), veh/h | 19 | 1318 | 1359 | 26 | 1325 | 1391 | 217 | 0 | 0 | 207 | 0 | 0 |
| V/C Ratio(X) | 0.59 | 0.32 | 0.32 | 0.63 | 0.68 | 0.69 | 0.27 | 0.00 | 0.00 | 0.37 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 73 | 1318 | 1359 | 75 | 1325 | 1391 | 470 | 0 | 0 | 485 | 0 | 0 |
| HCM Platoon Ratio | 0.33 | 0.33 | 0.33 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.93 | 0.93 | 0.93 | 0.54 | 0.54 | 0.54 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 49.6 | 17.0 | 17.0 | 48.3 | 0.0 | 0.0 | 42.0 | 0.0 | 0.0 | 42.5 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 24.2 | 0.6 | 0.6 | 5.0 | 1.6 | 1.5 | 0.2 | 0.0 | 0.0 | 0.4 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.4 | 9.2 | 9.5 | 0.4 | 0.6 | 0.6 | 1.4 | 0.0 | 0.0 | 1.8 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 73.8 | 17.6 | 17.6 | 53.3 | 1.6 | 1.5 | 42.2 | 0.0 | 0.0 | 42.9 | 0.0 | 0.0 |
| LnGrp LOS | E | B | B | D | A | A | D | A | A | D | A | A |
| Approach Vol, veh/h | | 858 | | | 1875 | | | 59 | | | 76 | |
| Approach Delay, s/veh | | 18.3 | | | 2.0 | | | 42.2 | | | 42.9 | |
| Approach LOS | | B | | | A | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.6 | 80.3 | | 14.1 | 5.3 | 80.7 | | 14.1 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 6.1 | | * 4.2 | * 4.2 | * 6.1 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | * 4.2 | 53.3 | | * 28 | * 4.1 | * 54 | | * 28 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.9 | 21.2 | | 6.3 | 2.6 | 2.0 | | 5.1 | | | | |
| Green Ext Time (p_c), s | 0.0 | 9.5 | | 0.2 | 0.0 | 37.1 | | 0.2 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 8.8 | |
| HCM 6th LOS | A | |

Notes

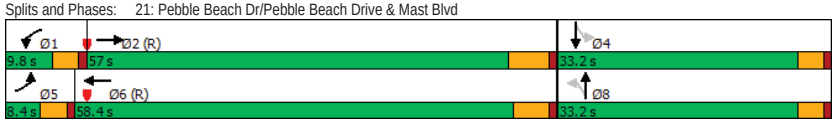
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 20 | 730 | 30 | 20 | 1720 | 30 | 20 | 10 | 40 | 100 | 30 | 30 |
| Future Volume (vph) | 20 | 730 | 30 | 20 | 1720 | 30 | 20 | 10 | 40 | 100 | 30 | 30 |
| Confl. Peds. (#/hr) | | | 8 | | | 1 | | | 2 | | | 11 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Perm | NA | | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | | 4 | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 23.9 | | 8.2 | 23.3 | | 33.2 | 33.2 | | 32.2 | 32.2 | |
| Total Split (s) | 8.4 | 57.0 | | 9.8 | 58.4 | | 33.2 | 33.2 | | 33.2 | 33.2 | |
| Total Split (%) | 8.4% | 57.0% | | 9.8% | 58.4% | | 33.2% | 33.2% | | 33.2% | 33.2% | |
| Yellow Time (s) | 3.2 | 4.9 | | 3.2 | 4.3 | | 3.2 | 3.2 | | 3.2 | 3.2 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | 0.0 | |
| Total Lost Time (s) | 4.2 | 5.9 | | 4.2 | 5.3 | | | 4.2 | | | 4.2 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | | None | None | |

**Intersection Summary**

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 21: Pebble Beach Dr/Pebble Beach Drive & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 20 | 730 | 30 | 20 | 1720 | 30 | 20 | 10 | 40 | 100 | 30 | 30 |
| Future Volume (veh/h) | 20 | 730 | 30 | 20 | 1720 | 30 | 20 | 10 | 40 | 100 | 30 | 30 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 1.00 | 0.99 | | 1.00 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 22 | 793 | 33 | 22 | 1870 | 33 | 22 | 11 | 43 | 109 | 33 | 33 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 33 | 2375 | 99 | 33 | 2442 | 43 | 98 | 59 | 145 | 200 | 54 | 45 |
| Arrive On Green | 0.04 | 1.00 | 1.00 | 0.02 | 0.68 | 0.68 | 0.16 | 0.16 | 0.16 | 0.16 | 0.16 | 0.16 |
| Sat Flow, veh/h | 1781 | 3476 | 145 | 1781 | 3573 | 63 | 334 | 383 | 933 | 909 | 347 | 292 |
| Grp Volume(v), veh/h | 22 | 405 | 421 | 22 | 927 | 976 | 76 | 0 | 0 | 175 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1843 | 1781 | 1777 | 1859 | 1650 | 0 | 0 | 1549 | 0 | 0 |
| Q Serve(g_s), s | 1.2 | 0.0 | 0.0 | 1.2 | 34.6 | 35.0 | 0.0 | 0.0 | 0.0 | 6.5 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 1.2 | 0.0 | 0.0 | 1.2 | 34.6 | 35.0 | 4.0 | 0.0 | 0.0 | 10.4 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | | 0.08 | 1.00 | | 0.03 | 0.29 | | 0.57 | 0.62 | | 0.19 |
| Lane Grp Cap(c), veh/h | 33 | 1214 | 1260 | 33 | 1214 | 1270 | 303 | 0 | 0 | 299 | 0 | 0 |
| V/C Ratio(X) | 0.68 | 0.33 | 0.33 | 0.68 | 0.76 | 0.77 | 0.25 | 0.00 | 0.00 | 0.59 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 75 | 1214 | 1260 | 100 | 1214 | 1270 | 508 | 0 | 0 | 496 | 0 | 0 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.96 | 0.96 | 0.96 | 0.09 | 0.09 | 0.09 | 0.99 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 47.9 | 0.0 | 0.0 | 48.8 | 10.5 | 10.5 | 37.3 | 0.0 | 0.0 | 39.8 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 8.4 | 0.7 | 0.7 | 0.8 | 0.4 | 0.4 | 0.2 | 0.0 | 0.0 | 0.7 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.6 | 0.2 | 0.2 | 0.5 | 10.8 | 11.4 | 1.7 | 0.0 | 0.0 | 4.1 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 56.2 | 0.7 | 0.7 | 49.6 | 10.9 | 11.0 | 37.5 | 0.0 | 0.0 | 40.5 | 0.0 | 0.0 |
| LnGrp LOS | E | A | A | D | B | B | D | A | A | D | A | A |
| Approach Vol, veh/h | | 848 | | | 1925 | | | 76 | | | 175 | |
| Approach Delay, s/veh | | 2.1 | | | 11.4 | | | 37.5 | | | 40.5 | |
| Approach LOS | | A | | | B | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 6.0 | 74.2 | | 19.7 | 6.0 | 74.2 | | 19.7 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 5.9 | | * 4.2 | * 4.2 | * 5.9 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | * 5.6 | 51.1 | | * 29 | * 4.2 | * 53 | | * 29 | | | | |
| Max Q Clear Time (g_c+I1), s | 3.2 | 2.0 | | 12.4 | 3.2 | 37.0 | | 6.0 | | | | |
| Green Ext Time (p_c), s | 0.0 | 12.0 | | 0.6 | 0.0 | 15.2 | | 0.2 | | | | |

**Intersection Summary**

| | | |
|---|---|---|
| HCM 6th Ctrl Delay | 11.1 | |
| HCM 6th LOS | B | |

**Notes**

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 190 | 540 | 180 | 120 | 1460 | 80 | 70 | 90 | 50 | 60 | 170 | 350 |
| Future Volume (vph) | 190 | 540 | 180 | 120 | 1460 | 80 | 70 | 90 | 50 | 60 | 170 | 350 |
| Confl. Peds. (#/hr) | | | 8 | | | | | | 6 | | | 2 |
| Confl. Bikes (#/hr) | | | 2 | | | 2 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | | | | | | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 27.5 | 27.5 | 8.2 | 28.1 | | 8.2 | 35.1 | | 8.2 | 28.1 | 28.1 |
| Total Split (s) | 13.0 | 37.7 | 37.7 | 19.0 | 43.7 | | 11.4 | 35.1 | | 8.2 | 31.9 | 31.9 |
| Total Split (%) | 13.0% | 37.7% | 37.7% | 19.0% | 43.7% | | 11.4% | 35.1% | | 8.2% | 31.9% | 31.9% |
| Yellow Time (s) | 3.2 | 4.5 | 4.5 | 3.2 | 4.1 | | 3.2 | 4.1 | | 3.2 | 4.1 | 4.1 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.5 | 5.5 | 4.2 | 5.1 | | 4.2 | 5.1 | | 4.2 | 5.1 | 5.1 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | C-Max | C-Max | None | C-Max | | None | None | | None | None | None |

**Intersection Summary**

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 14.1 (14%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated

Splits and Phases: 22: Fanita Parkway & Mast Blvd

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 190 | 540 | 180 | 120 | 1460 | 80 | 70 | 90 | 50 | 60 | 170 | 350 |
| Future Volume (veh/h) | 190 | 540 | 180 | 120 | 1460 | 80 | 70 | 90 | 50 | 60 | 170 | 350 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.98 | 1.00 | | 0.99 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 207 | 587 | 196 | 130 | 1587 | 87 | 76 | 98 | 54 | 65 | 185 | 380 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 157 | 1436 | 620 | 161 | 1391 | 76 | 97 | 312 | 172 | 71 | 488 | 413 |
| Arrive On Green | 0.18 | 0.81 | 0.81 | 0.09 | 0.41 | 0.41 | 0.05 | 0.28 | 0.28 | 0.04 | 0.26 | 0.26 |
| Sat Flow, veh/h | 1781 | 3554 | 1535 | 1781 | 3422 | 187 | 1781 | 1130 | 623 | 1781 | 1870 | 1581 |
| Grp Volume(v), veh/h | 207 | 587 | 196 | 130 | 820 | 854 | 76 | 0 | 152 | 65 | 185 | 380 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1535 | 1781 | 1777 | 1832 | 1781 | 0 | 1753 | 1781 | 1870 | 1581 |
| Q Serve(g_s), s | 8.8 | 4.7 | 3.3 | 7.2 | 40.6 | 40.6 | 4.2 | 0.0 | 6.9 | 3.6 | 8.1 | 23.4 |
| Cycle Q Clear(g_c), s | 8.8 | 4.7 | 3.3 | 7.2 | 40.6 | 40.6 | 4.2 | 0.0 | 6.9 | 3.6 | 8.1 | 23.4 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.10 | 1.00 | | 0.36 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 157 | 1436 | 620 | 161 | 722 | 744 | 97 | 0 | 483 | 71 | 488 | 413 |
| V/C Ratio(X) | 1.32 | 0.41 | 0.32 | 0.81 | 1.14 | 1.15 | 0.78 | 0.00 | 0.31 | 0.91 | 0.38 | 0.92 |
| Avail Cap(c_a), veh/h | 157 | 1436 | 620 | 264 | 722 | 744 | 128 | 0 | 526 | 71 | 501 | 424 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.95 | 0.95 | 0.95 | 0.26 | 0.26 | 0.26 | 0.99 | 0.00 | 0.99 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 41.2 | 6.2 | 6.0 | 44.7 | 29.7 | 29.7 | 46.7 | 0.0 | 28.7 | 47.8 | 30.3 | 35.9 |
| Incr Delay (d2), s/veh | 180.2 | 0.8 | 1.3 | 1.9 | 66.0 | 71.0 | 17.4 | 0.0 | 1.3 | 76.3 | 1.6 | 27.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 11.2 | 1.5 | 1.1 | 3.2 | 29.5 | 31.5 | 2.3 | 0.0 | 3.0 | 3.1 | 3.7 | 11.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 221.4 | 7.0 | 7.3 | 46.6 | 95.6 | 100.7 | 64.1 | 0.0 | 30.0 | 124.2 | 31.9 | 63.0 |
| LnGrp LOS | F | A | A | D | F | F | E | A | C | F | C | E |
| Approach Vol, veh/h | | 990 | | | 1804 | | | 228 | | | 630 | |
| Approach Delay, s/veh | | 51.9 | | | 94.5 | | | 41.4 | | | 60.2 | |
| Approach LOS | | D | | | F | | | D | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 13.2 | 45.9 | 9.7 | 31.2 | 13.0 | 46.1 | 8.2 | 32.7 |
| Change Period (Y+Rc), s | * 4.2 | 5.5 | * 4.2 | 5.1 | * 4.2 | * 5.5 | * 4.2 | 5.1 |
| Max Green Setting (Gmax), s | * 15 | 32.2 | * 7.2 | 26.8 | * 8.8 | * 39 | * 4 | 30.0 |
| Max Q Clear Time (g_c+I1), s | 9.2 | 6.7 | 6.2 | 25.4 | 10.8 | 42.6 | 5.6 | 8.9 |
| Green Ext Time (p_c), s | 0.1 | 10.9 | 0.0 | 0.7 | 0.0 | 0.0 | 0.0 | 1.7 |

**Intersection Summary**

| | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 73.7 | |
| HCM 6th LOS | | E | |

**Notes**

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

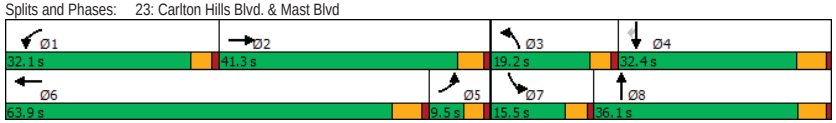
2035 AM
23: Carlton Hills Blvd. & Mast Blvd

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 55 | 400 | 230 | 225 | 1445 | 120 | 185 | 170 | 95 | 120 | 240 | 95 |
| Future Volume (vph) | 55 | 400 | 230 | 225 | 1445 | 120 | 185 | 170 | 95 | 120 | 240 | 95 |
| Confl. Peds. (#/hr) | | | 5 | | | 6 | | | 22 | | | 8 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 33.1 | | 8.2 | 32.4 | | 8.2 | 34.2 | | 8.2 | 32.4 | 32.4 |
| Total Split (s) | 9.5 | 41.3 | | 32.1 | 63.9 | | 19.2 | 36.1 | | 15.5 | 32.4 | 32.4 |
| Total Split (%) | 7.6% | 33.0% | | 25.7% | 51.1% | | 15.4% | 28.9% | | 12.4% | 25.9% | 25.9% |
| Yellow Time (s) | 3.2 | 4.1 | | 3.2 | 4.4 | | 3.2 | 4.2 | | 3.2 | 4.4 | 4.4 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.1 | | 4.2 | 5.4 | | 4.2 | 5.2 | | 4.2 | 5.4 | 5.4 |
| Lead/Lag | Lag | Lag | | Lead | Lead | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | Min | | None | Min | | None | Min | | None | Min | Min |

| Intersection Summary |
|---|
| Cycle Length: 125 |
| Actuated Cycle Length: 116.6 |
| Natural Cycle: 125 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 23: Carlton Hills Blvd. & Mast Blvd






2035 AM
23: Carlton Hills Blvd. & Mast Blvd

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 55 | 400 | 230 | 225 | 1445 | 120 | 185 | 170 | 95 | 120 | 240 | 95 |
| Future Volume (veh/h) | 55 | 400 | 230 | 225 | 1445 | 120 | 185 | 170 | 95 | 120 | 240 | 95 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.97 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 60 | 435 | 250 | 245 | 1571 | 130 | 201 | 185 | 103 | 130 | 261 | 103 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 77 | 861 | 491 | 274 | 1648 | 135 | 227 | 450 | 237 | 156 | 579 | 251 |
| Arrive On Green | 0.04 | 0.40 | 0.40 | 0.15 | 0.50 | 0.50 | 0.13 | 0.20 | 0.20 | 0.09 | 0.16 | 0.16 |
| Sat Flow, veh/h | 1781 | 2178 | 1241 | 1781 | 3324 | 273 | 1781 | 2221 | 1169 | 1781 | 3554 | 1541 |
| Grp Volume(v), veh/h | 60 | 354 | 331 | 245 | 834 | 867 | 201 | 146 | 142 | 130 | 261 | 103 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1641 | 1781 | 1777 | 1820 | 1781 | 1777 | 1613 | 1781 | 1777 | 1541 |
| Q Serve(g_s), s | 3.9 | 17.7 | 18.0 | 15.9 | 52.5 | 54.0 | 13.1 | 8.4 | 9.1 | 8.5 | 7.8 | 5.9 |
| Cycle Q Clear(g_c), s | 3.9 | 17.7 | 18.0 | 15.9 | 52.5 | 54.0 | 13.1 | 8.4 | 9.1 | 8.5 | 7.8 | 5.9 |
| Prop In Lane | 1.00 | | 0.76 | 1.00 | | 0.15 | 1.00 | | 0.72 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 77 | 703 | 649 | 274 | 881 | 903 | 227 | 360 | 327 | 156 | 579 | 251 |
| V/C Ratio(X) | 0.78 | 0.50 | 0.51 | 0.89 | 0.95 | 0.96 | 0.89 | 0.41 | 0.43 | 0.83 | 0.45 | 0.41 |
| Avail Cap(c_a), veh/h | 80 | 703 | 649 | 422 | 882 | 904 | 227 | 466 | 423 | 171 | 814 | 353 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 55.8 | 26.9 | 27.0 | 48.9 | 28.2 | 28.6 | 50.6 | 40.8 | 41.1 | 52.9 | 44.6 | 31.4 |
| Incr Delay (d2), s/veh | 33.2 | 1.6 | 1.8 | 10.4 | 19.5 | 21.6 | 30.6 | 2.1 | 2.6 | 24.3 | 2.4 | 4.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.4 | 7.6 | 7.1 | 7.7 | 25.4 | 27.2 | 7.7 | 3.9 | 3.8 | 4.8 | 3.6 | 3.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 89.0 | 28.5 | 28.8 | 59.3 | 47.7 | 50.2 | 81.2 | 42.9 | 43.7 | 77.2 | 46.9 | 35.9 |
| LnGrp LOS | F | C | C | E | D | D | F | D | D | E | D | D |
| Approach Vol, veh/h | | 745 | | | 1946 | | | 489 | | | 494 | |
| Approach Delay, s/veh | | 33.5 | | | 50.3 | | | 58.9 | | | 52.6 | |
| Approach LOS | | C | | | D | | | E | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 22.3 | 51.7 | 19.2 | 24.6 | 10.2 | 63.8 | 14.5 | 29.3 |
| Change Period (Y+Rc), s | * 4.2 | 5.1 | * 4.2 | 5.4 | 5.1 | * 5.4 | * 4.2 | * 5.4 |
| Max Green Setting (Gmax), s | * 28 | 36.2 | * 15 | 27.0 | 5.3 | * 59 | * 11 | * 31 |
| Max Q Clear Time (g_c+I1), s | 17.9 | 20.0 | 15.1 | 9.8 | 5.9 | 56.0 | 10.5 | 11.1 |
| Green Ext Time (p_c), s | 0.2 | 7.3 | 0.0 | 4.3 | 0.0 | 2.4 | 0.0 | 3.3 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 48.3 |
| HCM 6th LOS | D |

Notes

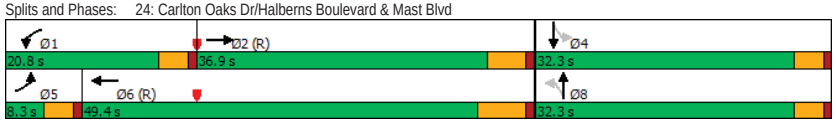
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\Long-Term\9 2035 AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 10 | 660 | 30 | 160 | 1630 | 30 | 70 | 40 | 130 | 60 | 60 | 60 |
| Future Volume (vph) | 10 | 660 | 30 | 160 | 1630 | 30 | 70 | 40 | 130 | 60 | 60 | 60 |
| Confl. Peds. (#/hr) | | | 6 | | | | | | 8 | | | 1 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Perm | NA | | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | | 4 | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 29.2 | | 8.2 | 28.3 | | 32.2 | 32.2 | | 32.2 | 32.2 | |
| Total Split (s) | 8.3 | 36.9 | | 20.8 | 49.4 | | 32.3 | 32.3 | | 32.3 | 32.3 | |
| Total Split (%) | 9.2% | 41.0% | | 23.1% | 54.9% | | 35.9% | 35.9% | | 35.9% | 35.9% | |
| Yellow Time (s) | 3.2 | 4.2 | | 3.2 | 5.3 | | 3.2 | 3.2 | | 3.2 | 3.2 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.2 | 5.2 | | 4.2 | 6.3 | | 4.2 | 4.2 | | 4.2 | 4.2 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 90 |
| Actuated Cycle Length: 90 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 90 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 24: Carlton Oaks Dr/Halberns Boulevard & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 10 | 660 | 30 | 160 | 1630 | 30 | 70 | 40 | 130 | 60 | 60 | 60 |
| Future Volume (veh/h) | 10 | 660 | 30 | 160 | 1630 | 30 | 70 | 40 | 130 | 60 | 60 | 60 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.99 | 0.99 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 11 | 717 | 33 | 174 | 1772 | 33 | 76 | 43 | 141 | 65 | 65 | 65 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 19 | 1810 | 83 | 209 | 2249 | 42 | 243 | 74 | 244 | 191 | 168 | 168 |
| Arrive On Green | 0.01 | 0.52 | 0.52 | 0.12 | 0.63 | 0.63 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 |
| Sat Flow, veh/h | 1781 | 3459 | 159 | 1781 | 3569 | 66 | 1259 | 380 | 1247 | 1191 | 857 | 857 |
| Grp Volume(v), veh/h | 11 | 368 | 382 | 174 | 880 | 925 | 76 | 0 | 184 | 65 | 0 | 130 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1841 | 1781 | 1777 | 1858 | 1259 | 0 | 1628 | 1191 | 0 | 1715 |
| Q Serve(g_s), s | 0.6 | 11.2 | 11.2 | 8.6 | 32.7 | 33.0 | 5.0 | 0.0 | 9.2 | 4.7 | 0.0 | 5.9 |
| Cycle Q Clear(g_c), s | 0.6 | 11.2 | 11.2 | 8.6 | 32.7 | 33.0 | 11.0 | 0.0 | 9.2 | 13.9 | 0.0 | 5.9 |
| Prop In Lane | 1.00 | | 0.09 | 1.00 | | 0.04 | 1.00 | | 0.77 | 1.00 | | 0.50 |
| Lane Grp Cap(c), veh/h | 19 | 930 | 964 | 209 | 1120 | 1171 | 243 | 0 | 319 | 191 | 0 | 336 |
| V/C Ratio(X) | 0.58 | 0.40 | 0.40 | 0.83 | 0.79 | 0.79 | 0.31 | 0.00 | 0.58 | 0.34 | 0.00 | 0.39 |
| Avail Cap(c_a), veh/h | 81 | 930 | 964 | 329 | 1120 | 1171 | 390 | 0 | 508 | 330 | 0 | 535 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.80 | 0.80 | 0.80 | 0.50 | 0.50 | 0.50 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 44.3 | 12.9 | 12.9 | 38.8 | 12.2 | 12.3 | 36.3 | 0.0 | 32.8 | 39.1 | 0.0 | 31.5 |
| Incr Delay (d2), s/veh | 8.0 | 1.0 | 1.0 | 2.8 | 2.9 | 2.8 | 0.3 | 0.0 | 0.6 | 0.4 | 0.0 | 0.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.3 | 4.2 | 4.4 | 3.8 | 11.2 | 11.8 | 1.5 | 0.0 | 3.6 | 1.4 | 0.0 | 2.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 52.3 | 13.9 | 13.9 | 41.6 | 15.1 | 15.1 | 36.5 | 0.0 | 33.4 | 39.5 | 0.0 | 31.8 |
| LnGrp LOS | D | B | B | D | B | B | D | A | C | D | A | C |
| Approach Vol, veh/h | | 761 | | | 1979 | | | 260 | | | 195 | |
| Approach Delay, s/veh | | 14.4 | | | 17.4 | | | 34.3 | | | 34.3 | |
| Approach LOS | | B | | | B | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 14.8 | 53.4 | | 21.8 | 5.2 | 63.0 | | 21.8 | | | | |
| Change Period (Y+Rc), s | * 4.2 | * 6.3 | | * 4.2 | * 4.2 | 6.3 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | * 17 | * 32 | | * 28 | * 4.1 | 43.1 | | * 28 | | | | |
| Max Q Clear Time (g_c+I1), s | 10.6 | 13.2 | | 15.9 | 2.6 | 35.0 | | 13.0 | | | | |
| Green Ext Time (p_c), s | 0.1 | 7.9 | | 0.4 | 0.0 | 7.7 | | 0.7 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 19.1 | |
| HCM 6th LOS | B | |

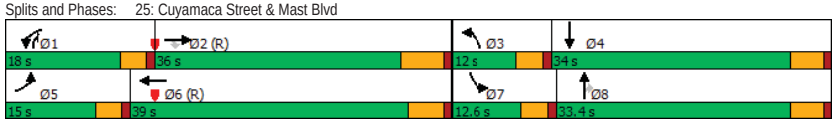
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 150 | 445 | 260 | 375 | 790 | 75 | 210 | 190 | 195 | 90 | 500 | 445 |
| Future Volume (vph) | 150 | 445 | 260 | 375 | 790 | 75 | 210 | 190 | 195 | 90 | 500 | 445 |
| Confl. Peds. (#/hr) | | | 8 | | | 5 | | | 3 | | | 3 |
| Confl. Bikes (#/hr) | | | 4 | | | 1 | | | 3 | | | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | | Prot | NA | pm+ov | Prot | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | 1 | 7 | 4 | |
| Permitted Phases | | | 2 | | | | | | 8 | | | |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | | 3 | 8 | 1 | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | | 4.0 | 7.0 | 4.0 | 4.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 34.3 | 34.3 | 8.2 | 32.3 | | 8.2 | 33.1 | 8.2 | 8.2 | 34.0 | |
| Total Split (s) | 15.0 | 36.0 | 36.0 | 18.0 | 39.0 | | 12.0 | 33.4 | 18.0 | 12.6 | 34.0 | |
| Total Split (%) | 15.0% | 36.0% | 36.0% | 18.0% | 39.0% | | 12.0% | 33.4% | 18.0% | 12.6% | 34.0% | |
| Yellow Time (s) | 3.2 | 5.3 | 5.3 | 3.2 | 4.3 | | 3.2 | 4.1 | 3.2 | 3.2 | 4.0 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.2 | 6.3 | 6.3 | 4.2 | 5.3 | | 4.2 | 5.1 | 4.2 | 4.2 | 5.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | |
| Recall Mode | None | C-Min | C-Min | None | C-Min | | None | None | None | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 31 (31%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 95 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 25: Cuyamaca Street & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 150 | 445 | 260 | 375 | 790 | 75 | 210 | 190 | 195 | 90 | 500 | 445 |
| Future Volume (veh/h) | 150 | 445 | 260 | 375 | 790 | 75 | 210 | 190 | 195 | 90 | 500 | 445 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 163 | 484 | 283 | 408 | 859 | 82 | 228 | 207 | 212 | 98 | 543 | 484 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 192 | 1059 | 462 | 470 | 1067 | 102 | 270 | 1061 | 681 | 124 | 515 | 452 |
| Arrive On Green | 0.11 | 0.30 | 0.30 | 0.14 | 0.33 | 0.33 | 0.08 | 0.30 | 0.30 | 0.07 | 0.29 | 0.29 |
| Sat Flow, veh/h | 1781 | 3554 | 1549 | 3456 | 3272 | 312 | 3456 | 3554 | 1558 | 1781 | 1777 | 1558 |
| Grp Volume(v), veh/h | 163 | 484 | 283 | 408 | 466 | 475 | 228 | 207 | 212 | 98 | 543 | 484 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1549 | 1728 | 1777 | 1808 | 1728 | 1777 | 1558 | 1781 | 1777 | 1558 |
| Q Serve(g_s), s | 9.0 | 11.1 | 15.7 | 11.6 | 24.0 | 24.0 | 6.5 | 4.3 | 8.9 | 5.4 | 29.0 | 29.0 |
| Cycle Q Clear(g_c), s | 9.0 | 11.1 | 15.7 | 11.6 | 24.0 | 24.0 | 6.5 | 4.3 | 8.9 | 5.4 | 29.0 | 29.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.17 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 192 | 1059 | 462 | 470 | 579 | 589 | 270 | 1061 | 681 | 124 | 515 | 452 |
| V/C Ratio(X) | 0.85 | 0.46 | 0.61 | 0.87 | 0.81 | 0.81 | 0.85 | 0.20 | 0.31 | 0.79 | 1.05 | 1.07 |
| Avail Cap(c_a), veh/h | 192 | 1059 | 462 | 477 | 599 | 609 | 270 | 1061 | 681 | 150 | 515 | 452 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.92 | 0.92 | 0.92 | 0.90 | 0.90 | 0.90 | 0.86 | 0.86 | 0.86 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 43.8 | 28.5 | 30.1 | 42.3 | 30.8 | 30.8 | 45.5 | 26.1 | 18.5 | 45.8 | 35.5 | 35.5 |
| Incr Delay (d2), s/veh | 25.1 | 1.3 | 5.5 | 13.6 | 10.3 | 10.2 | 17.9 | 0.1 | 0.3 | 17.2 | 54.6 | 62.8 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 5.2 | 4.7 | 6.4 | 5.7 | 11.4 | 11.6 | 3.4 | 1.8 | 3.1 | 2.9 | 19.9 | 18.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 68.9 | 29.8 | 35.7 | 55.9 | 41.1 | 41.0 | 63.4 | 26.2 | 18.8 | 63.0 | 90.1 | 98.3 |
| LnGrp LOS | E | C | D | E | D | D | E | C | B | E | F | F |
| Approach Vol, veh/h | | 930 | | | 1349 | | | 647 | | | 1125 | |
| Approach Delay, s/veh | | 38.5 | | | 45.6 | | | 36.9 | | | 91.2 | |
| Approach LOS | | D | | | D | | | D | | | F | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 17.8 | 36.1 | 12.0 | 34.1 | 15.0 | 38.9 | 11.1 | 35.0 |
| Change Period (Y+Rc), s | * 4.2 | 6.3 | * 4.2 | * 5.1 | * 4.2 | * 6.3 | * 4.2 | 5.1 |
| Max Green Setting (Gmax), s | * 14 | 29.7 | * 7.8 | * 29 | * 11 | * 34 | * 8.4 | 28.3 |
| Max Q Clear Time (g_c+I1), s | 13.6 | 17.7 | 8.5 | 31.0 | 11.0 | 26.0 | 7.4 | 10.9 |
| Green Ext Time (p_c), s | 0.0 | 4.5 | 0.0 | 0.0 | 0.0 | 4.0 | 0.0 | 2.6 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 55.2 |
| HCM 6th LOS | E |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 500 | 90 | 150 | 1025 | 30 | 120 |
| Future Volume (vph) | 500 | 90 | 150 | 1025 | 30 | 120 |
| Confl. Peds. (#/hr) | | 17 | | | | 29 |
| Confl. Bikes (#/hr) | | 3 | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | NA | | Prot | NA | Prot | Perm |
| Protected Phases | 2 | | 1 | 6 | 8 | |
| Permitted Phases | | | | | | 8 |
| Detector Phase | 2 | | 1 | 6 | 8 | 8 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 22.5 | | 8.5 | 20.5 | 22.5 | 22.5 |
| Total Split (s) | 22.5 | | 15.0 | 37.5 | 22.5 | 22.5 |
| Total Split (%) | 37.5% | | 25.0% | 62.5% | 37.5% | 37.5% |
| Yellow Time (s) | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lag | | Lead | | | |
| Lead-Lag Optimize? | Yes | | Yes | | | |
| Recall Mode | Min | | None | Min | None | None |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 43.6 |
| Natural Cycle: 60 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 26: Park Center Drive & Mast Blvd

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 500 | 90 | 150 | 1025 | 30 | 120 |
| Future Volume (veh/h) | 500 | 90 | 150 | 1025 | 30 | 120 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | 0.95 | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 543 | 98 | 163 | 1114 | 33 | 130 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 975 | 175 | 214 | 2104 | 209 | 186 |
| Arrive On Green | 0.33 | 0.33 | 0.12 | 0.59 | 0.12 | 0.12 |
| Sat Flow, veh/h | 3076 | 536 | 1781 | 3647 | 1781 | 1585 |
| Grp Volume(v), veh/h | 322 | 319 | 163 | 1114 | 33 | 130 |
| Grp Sat Flow(s),veh/h/ln | 1777 | 1741 | 1781 | 1777 | 1781 | 1585 |
| Q Serve(g_s), s | 4.6 | 4.7 | 2.7 | 5.8 | 0.5 | 2.4 |
| Cycle Q Clear(g_c), s | 4.6 | 4.7 | 2.7 | 5.8 | 0.5 | 2.4 |
| Prop In Lane | | 0.31 | 1.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 581 | 569 | 214 | 2104 | 209 | 186 |
| V/C Ratio(X) | 0.56 | 0.56 | 0.76 | 0.53 | 0.16 | 0.70 |
| Avail Cap(c_a), veh/h | 1032 | 1012 | 604 | 3785 | 1035 | 921 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 8.6 | 8.6 | 13.2 | 3.8 | 12.3 | 13.1 |
| Incr Delay (d2), s/veh | 0.8 | 0.9 | 5.5 | 0.2 | 0.3 | 4.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.1 | 1.1 | 1.1 | 0.2 | 0.2 | 0.9 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 9.4 | 9.5 | 18.7 | 4.0 | 12.6 | 17.8 |
| LnGrp LOS | A | A | B | A | B | B |
| Approach Vol, veh/h | 641 | | | 1277 | 163 | |
| Approach Delay, s/veh | 9.4 | | | 5.8 | 16.8 | |
| Approach LOS | A | | | A | B | |

| Timer - Assigned Phs | 1 | 2 | | | 6 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 8.2 | 14.6 | | | 22.8 | 8.1 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 10.5 | 18.0 | | | 33.0 | 18.0 |
| Max Q Clear Time (g_c+I1), s | 4.7 | 6.7 | | | 7.8 | 4.4 |
| Green Ext Time (p_c), s | 0.2 | 2.8 | | | 8.5 | 0.4 |

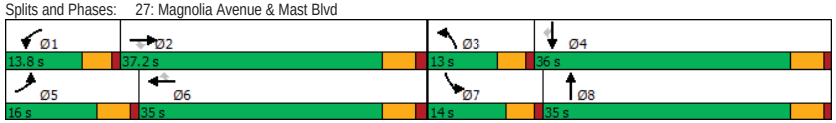
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 7.8 | |
| HCM 6th LOS | A | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 285 | 165 | 240 | 135 | 300 | 85 | 320 | 595 | 115 | 145 | 725 | 555 |
| Future Volume (vph) | 285 | 165 | 240 | 135 | 300 | 85 | 320 | 595 | 115 | 145 | 725 | 555 |
| Confl. Peds. (#/hr) | | | 14 | | | 31 | | | 11 | | | 8 |
| Confl. Bikes (#/hr) | | | 5 | | | 5 | | | 3 | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 11.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 9.0 | | 7.0 | 9.0 | 9.0 |
| Minimum Split (s) | 16.0 | 34.5 | 34.5 | 11.5 | 34.5 | 34.5 | 11.5 | 35.0 | | 11.5 | 36.0 | 36.0 |
| Total Split (s) | 16.0 | 37.2 | 37.2 | 13.8 | 35.0 | 35.0 | 13.0 | 35.0 | | 14.0 | 36.0 | 36.0 |
| Total Split (%) | 16.0% | 37.2% | 37.2% | 13.8% | 35.0% | 35.0% | 13.0% | 35.0% | | 14.0% | 36.0% | 36.0% |
| Yellow Time (s) | 4.0 | 4.0 | 4.0 | 3.5 | 4.0 | 4.0 | 3.5 | 4.0 | | 3.5 | 4.0 | 4.0 |
| All-Red Time (s) | 1.0 | 1.5 | 1.5 | 1.0 | 1.5 | 1.5 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 5.0 | 5.5 | 5.5 | 4.5 | 5.5 | 5.5 | 4.5 | 5.0 | | 4.5 | 5.0 | 5.0 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | Min | Min | None | Min | Min | None | Min | | None | Min | Min |

**Intersection Summary**

Cycle Length: 100
Actuated Cycle Length: 79.7
Natural Cycle: 100
Control Type: Actuated-Uncoordinated

Splits and Phases: 27: Magnolia Avenue & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 285 | 165 | 240 | 135 | 300 | 85 | 320 | 595 | 115 | 145 | 725 | 555 |
| Future Volume (veh/h) | 285 | 165 | 240 | 135 | 300 | 85 | 320 | 595 | 115 | 145 | 725 | 555 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.94 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 310 | 179 | 261 | 147 | 326 | 92 | 348 | 647 | 125 | 158 | 788 | 603 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 417 | 894 | 386 | 179 | 802 | 337 | 323 | 975 | 188 | 186 | 1210 | 529 |
| Arrive On Green | 0.12 | 0.25 | 0.25 | 0.10 | 0.23 | 0.23 | 0.09 | 0.33 | 0.33 | 0.10 | 0.34 | 0.34 |
| Sat Flow, veh/h | 3456 | 3554 | 1533 | 1781 | 3554 | 1495 | 3456 | 2958 | 570 | 1781 | 3554 | 1553 |
| Grp Volume(v), veh/h | 310 | 179 | 261 | 147 | 326 | 92 | 348 | 388 | 384 | 158 | 788 | 603 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1533 | 1781 | 1777 | 1495 | 1728 | 1777 | 1751 | 1781 | 1777 | 1553 |
| Q Serve(g_s), s | 7.9 | 3.6 | 14.0 | 7.4 | 7.1 | 4.6 | 8.5 | 17.1 | 17.1 | 7.9 | 17.1 | 31.0 |
| Cycle Q Clear(g_c), s | 7.9 | 3.6 | 14.0 | 7.4 | 7.1 | 4.6 | 8.5 | 17.1 | 17.1 | 7.9 | 17.1 | 31.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.33 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 417 | 894 | 386 | 179 | 802 | 337 | 323 | 585 | 577 | 186 | 1210 | 529 |
| V/C Ratio(X) | 0.74 | 0.20 | 0.68 | 0.82 | 0.41 | 0.27 | 1.08 | 0.66 | 0.66 | 0.85 | 0.65 | 1.14 |
| Avail Cap(c_a), veh/h | 418 | 1237 | 534 | 182 | 1151 | 484 | 323 | 585 | 577 | 186 | 1210 | 529 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 38.7 | 26.9 | 30.7 | 40.2 | 30.0 | 29.1 | 41.3 | 26.2 | 26.2 | 40.1 | 25.4 | 30.0 |
| Incr Delay (d2), s/veh | 7.3 | 0.1 | 2.5 | 23.3 | 0.4 | 0.5 | 72.7 | 2.8 | 2.9 | 28.1 | 1.2 | 84.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 3.6 | 1.5 | 5.2 | 4.3 | 3.0 | 1.6 | 6.7 | 7.2 | 7.1 | 4.8 | 7.0 | 23.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 45.9 | 27.0 | 33.2 | 63.5 | 30.4 | 29.6 | 113.9 | 29.0 | 29.1 | 68.2 | 26.7 | 114.0 |
| LnGrp LOS | D | C | C | E | C | C | F | C | C | E | C | F |
| Approach Vol, veh/h | | 750 | | | 565 | | | 1120 | | | 1549 | |
| Approach Delay, s/veh | | 37.0 | | | 38.9 | | | 55.4 | | | 64.9 | |
| Approach LOS | | D | | | D | | | E | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 13.6 | 28.4 | 13.0 | 36.0 | 16.0 | 26.0 | 14.0 | 35.0 |
| Change Period (Y+Rc), s | 4.5 | 5.5 | 4.5 | 5.0 | 5.0 | 5.5 | 4.5 | 5.0 |
| Max Green Setting (Gmax), s | 9.3 | 31.7 | 8.5 | 31.0 | 11.0 | 29.5 | 9.5 | 30.0 |
| Max Q Clear Time (g_c+I1), s | 9.4 | 16.0 | 10.5 | 33.0 | 9.9 | 9.1 | 9.9 | 19.1 |
| Green Ext Time (p_c), s | 0.0 | 2.1 | 0.0 | 0.0 | 0.2 | 2.7 | 0.0 | 3.4 |

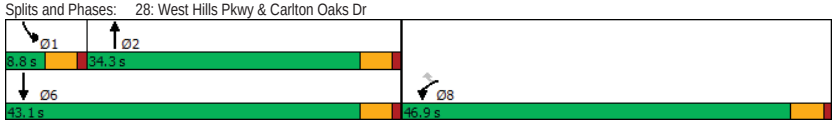
**Intersection Summary**

| | |
|---|---|
| HCM 6th Ctrl Delay | 53.3 |
| HCM 6th LOS | D |

| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 440 | 740 | 900 | 120 | 50 | 220 |
| Future Volume (vph) | 440 | 740 | 900 | 120 | 50 | 220 |
| Confl. Peds. (#/hr) | | 9 | | 6 | | |
| Confl. Bikes (#/hr) | | | | 2 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | 0% | | | 0% |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | NA | | Prot | NA |
| Protected Phases | 8 | | 2 | | 1 | 6 |
| Permitted Phases | | 8 | | | | |
| Detector Phase | 8 | 8 | 2 | | 1 | 6 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | | 8.5 | 20.5 |
| Total Split (s) | 46.9 | 46.9 | 34.3 | | 8.8 | 43.1 |
| Total Split (%) | 52.1% | 52.1% | 38.1% | | 9.8% | 47.9% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Lead/Lag | | | Lag | | Lead | |
| Lead-Lag Optimize? | | | Yes | | Yes | |
| Recall Mode | None | None | Min | | None | Min |

| Intersection Summary |
|---|
| Cycle Length: 90 |
| Actuated Cycle Length: 71.2 |
| Natural Cycle: 60 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 28: West Hills Pkwy & Carlton Oaks Dr








| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 440 | 740 | 900 | 120 | 50 | 220 |
| Future Volume (veh/h) | 440 | 740 | 900 | 120 | 50 | 220 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | | 0.97 | 1.00 | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | No | | | No |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 478 | 777 | 978 | 130 | 54 | 239 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 647 | 1014 | 1208 | 160 | 69 | 1757 |
| Arrive On Green | 0.36 | 0.36 | 0.38 | 0.38 | 0.04 | 0.49 |
| Sat Flow, veh/h | 1781 | 2790 | 3233 | 417 | 1781 | 3647 |
| Grp Volume(v), veh/h | 478 | 777 | 553 | 555 | 54 | 239 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1395 | 1777 | 1780 | 1781 | 1777 |
| Q Serve(g_s), s | 14.8 | 15.6 | 17.6 | 17.6 | 1.9 | 2.3 |
| Cycle Q Clear(g_c), s | 14.8 | 15.6 | 17.6 | 17.6 | 1.9 | 2.3 |
| Prop In Lane | 1.00 | 1.00 | | 0.23 | 1.00 | |
| Lane Grp Cap(c), veh/h | 647 | 1014 | 683 | 685 | 69 | 1757 |
| V/C Ratio(X) | 0.74 | 0.77 | 0.81 | 0.81 | 0.78 | 0.14 |
| Avail Cap(c_a), veh/h | 1193 | 1869 | 836 | 838 | 121 | 2167 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 17.5 | 17.8 | 17.4 | 17.4 | 30.2 | 8.7 |
| Incr Delay (d2), s/veh | 1.7 | 1.2 | 5.0 | 5.0 | 17.2 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 5.7 | 4.6 | 6.8 | 6.8 | 1.1 | 0.7 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 19.2 | 19.0 | 22.4 | 22.4 | 47.4 | 8.7 |
| LnGrp LOS | B | B | C | C | D | A |
| Approach Vol, veh/h | 1255 | | 1108 | | | 293 |
| Approach Delay, s/veh | 19.1 | | 22.4 | | | 15.8 |
| Approach LOS | B | | C | | | B |

| Timer - Assigned Phs | 1 | 2 | | | 6 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.0 | 28.9 | | | 35.8 | 27.5 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 4.3 | 29.8 | | | 38.6 | 42.4 |
| Max Q Clear Time (g_c+I1), s | 3.9 | 19.6 | | | 4.3 | 17.6 |
| Green Ext Time (p_c), s | 0.0 | 4.7 | | | 1.4 | 5.4 |

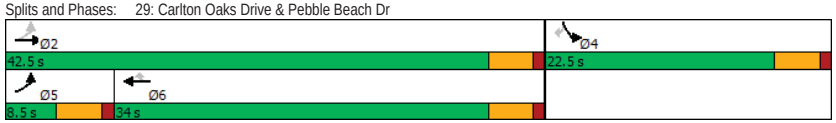
| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 20.1 | |
| HCM 6th LOS | | C | |

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 10 | 390 | 740 | 180 | 190 | 60 |
| Future Volume (vph) | 10 | 390 | 740 | 180 | 190 | 60 |
| Confl. Peds. (#/hr) | | | | 13 | | |
| Confl. Bikes (#/hr) | | | | 8 | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | pm+pt | NA | NA | Perm | Prot | Perm |
| Protected Phases | 5 | 2 | 6 | | 4 | |
| Permitted Phases | 2 | | | 6 | | 4 |
| Detector Phase | 5 | 2 | 6 | 6 | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 |
| Total Split (s) | 8.5 | 42.5 | 34.0 | 34.0 | 22.5 | 22.5 |
| Total Split (%) | 13.1% | 65.4% | 52.3% | 52.3% | 34.6% | 34.6% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | | Lag | Lag | | |
| Lead-Lag Optimize? | Yes | | Yes | Yes | | |
| Recall Mode | None | Min | Min | Min | None | None |

**Intersection Summary**

Cycle Length: 65
Actuated Cycle Length: 53.8
Natural Cycle: 70
Control Type: Semi Act-Uncoord

Splits and Phases: 29: Carlton Oaks Drive & Pebble Beach Dr








| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 10 | 390 | 740 | 180 | 190 | 60 |
| Future Volume (veh/h) | 10 | 390 | 740 | 180 | 190 | 60 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 0.96 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 11 | 424 | 804 | 196 | 207 | 65 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 273 | 1185 | 974 | 794 | 290 | 258 |
| Arrive On Green | 0.01 | 0.63 | 0.52 | 0.52 | 0.16 | 0.16 |
| Sat Flow, veh/h | 1781 | 1870 | 1870 | 1525 | 1781 | 1585 |
| Grp Volume(v), veh/h | 11 | 424 | 804 | 196 | 207 | 65 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1870 | 1525 | 1781 | 1585 |
| Q Serve(g_s), s | 0.1 | 4.8 | 16.0 | 3.1 | 4.9 | 1.6 |
| Cycle Q Clear(g_c), s | 0.1 | 4.8 | 16.0 | 3.1 | 4.9 | 1.6 |
| Prop In Lane | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 273 | 1185 | 974 | 794 | 290 | 258 |
| V/C Ratio(X) | 0.04 | 0.36 | 0.83 | 0.25 | 0.71 | 0.25 |
| Avail Cap(c_a), veh/h | 413 | 1605 | 1246 | 1016 | 724 | 644 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 7.7 | 3.8 | 8.9 | 5.8 | 17.6 | 16.2 |
| Incr Delay (d2), s/veh | 0.1 | 0.2 | 3.7 | 0.2 | 3.2 | 0.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.8 | 5.3 | 0.7 | 2.0 | 1.5 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 7.8 | 4.0 | 12.6 | 6.0 | 20.8 | 16.7 |
| LnGrp LOS | A | A | B | A | C | B |
| Approach Vol, veh/h | | 435 | 1000 | | 272 | |
| Approach Delay, s/veh | | 4.1 | 11.3 | | 19.8 | |
| Approach LOS | | A | B | | B | |

| Timer - Assigned Phs | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 32.6 | | 11.7 | 5.0 | 27.6 |
| Change Period (Y+Rc), s | 4.5 | | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 38.0 | | 18.0 | 4.0 | 29.5 |
| Max Q Clear Time (g_c+I1), s | 6.8 | | 6.9 | 2.1 | 18.0 |
| Green Ext Time (p_c), s | 2.7 | | 0.6 | 0.0 | 5.1 |

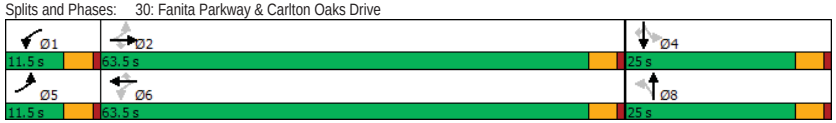
**Intersection Summary**

| | |
|---|---|
| HCM 6th Ctrl Delay | 10.8 |
| HCM 6th LOS | B |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 45 | 400 | 0 | 0 | 760 | 160 | 5 | 0 | 10 | 260 | 0 | 135 |
| Future Volume (vph) | 45 | 400 | 0 | 0 | 760 | 160 | 5 | 0 | 10 | 260 | 0 | 135 |
| Confl. Peds. (#/hr) | | | 4 | | | 4 | | | 14 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | 6 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | pm+pt | NA | Perm | pm+pt | NA | Perm | Perm | NA | | Perm | | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | 2 | | 2 | 6 | | 6 | 8 | | | 4 | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 8 | 8 | | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | | 7.0 | 7.0 | 7.0 |
| Minimum Split (s) | 11.5 | 26.5 | 26.5 | 11.5 | 20.5 | 20.5 | 22.5 | 22.5 | | 22.5 | 22.5 | 22.5 |
| Total Split (s) | 11.5 | 63.5 | 63.5 | 11.5 | 63.5 | 63.5 | 25.0 | 25.0 | | 25.0 | 25.0 | 25.0 |
| Total Split (%) | 11.5% | 63.5% | 63.5% | 11.5% | 63.5% | 63.5% | 25.0% | 25.0% | | 25.0% | 25.0% | 25.0% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | | | | | | |
| Recall Mode | None | Min | Min | None | Min | Min | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 79.2 |
| Natural Cycle: 90 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 30: Fanita Parkway & Carlton Oaks Drive






2035 AM
30: Fanita Parkway & Carlton Oaks Drive
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 45 | 400 | 0 | 0 | 760 | 160 | 5 | 0 | 10 | 260 | 0 | 135 |
| Future Volume (veh/h) | 45 | 400 | 0 | 0 | 760 | 160 | 5 | 0 | 10 | 260 | 0 | 135 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.97 | 1.00 | | 0.97 | 0.97 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 49 | 435 | 0 | 0 | 826 | 174 | 5 | 0 | 11 | 283 | 0 | 147 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 283 | 1195 | 1013 | 594 | 964 | 794 | 145 | 30 | 240 | 425 | 442 | 373 |
| Arrive On Green | 0.06 | 0.64 | 0.00 | 0.00 | 0.52 | 0.52 | 0.24 | 0.00 | 0.24 | 0.24 | 0.00 | 0.24 |
| Sat Flow, veh/h | 1781 | 1870 | 1585 | 1781 | 1870 | 1541 | 336 | 126 | 1017 | 1363 | 1870 | 1578 |
| Grp Volume(v), veh/h | 49 | 435 | 0 | 0 | 826 | 174 | 16 | 0 | 0 | 283 | 0 | 147 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1585 | 1781 | 1870 | 1541 | 1479 | 0 | 0 | 1363 | 1870 | 1578 |
| Q Serve(g_s), s | 0.8 | 7.9 | 0.0 | 0.0 | 27.6 | 4.4 | 0.0 | 0.0 | 0.0 | 13.7 | 0.0 | 5.6 |
| Cycle Q Clear(g_c), s | 0.8 | 7.9 | 0.0 | 0.0 | 27.6 | 4.4 | 0.5 | 0.0 | 0.0 | 14.2 | 0.0 | 5.6 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 0.31 | | 0.69 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 283 | 1195 | 1013 | 594 | 964 | 794 | 415 | 0 | 0 | 425 | 442 | 373 |
| V/C Ratio(X) | 0.17 | 0.36 | 0.00 | 0.00 | 0.86 | 0.22 | 0.04 | 0.00 | 0.00 | 0.67 | 0.00 | 0.39 |
| Avail Cap(c_a), veh/h | 348 | 1533 | 1299 | 765 | 1533 | 1262 | 484 | 0 | 0 | 491 | 533 | 449 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 12.5 | 6.1 | 0.0 | 0.0 | 15.1 | 9.5 | 21.2 | 0.0 | 0.0 | 26.4 | 0.0 | 23.2 |
| Incr Delay (d2), s/veh | 0.3 | 0.2 | 0.0 | 0.0 | 3.0 | 0.1 | 0.0 | 0.0 | 0.0 | 2.8 | 0.0 | 0.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.3 | 2.4 | 0.0 | 0.0 | 10.5 | 1.3 | 0.2 | 0.0 | 0.0 | 4.7 | 0.0 | 2.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 12.7 | 6.3 | 0.0 | 0.0 | 18.1 | 9.7 | 21.3 | 0.0 | 0.0 | 29.2 | 0.0 | 23.8 |
| LnGrp LOS | B | A | A | A | B | A | C | A | A | C | A | C |
| Approach Vol, veh/h | | 484 | | | 1000 | | | 16 | | | 430 | |
| Approach Delay, s/veh | | 7.0 | | | 16.6 | | | 21.3 | | | 27.3 | |
| Approach LOS | | A | | | B | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 0.0 | 50.5 | | 21.5 | 8.9 | 41.6 | | 21.5 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 7.0 | 59.0 | | 20.5 | 7.0 | 59.0 | | 20.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 0.0 | 9.9 | | 16.2 | 2.8 | 29.6 | | 2.5 | | | | |
| Green Ext Time (p_c), s | 0.0 | 2.9 | | 0.6 | 0.0 | 7.5 | | 0.0 | | | | |

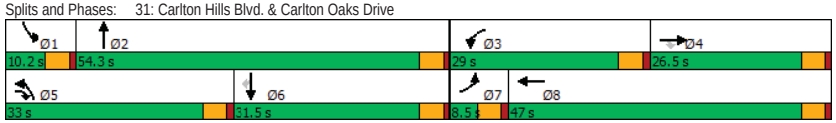
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 16.6 | |
| HCM 6th LOS | B | |

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\Long-Term\9 2035 AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 10 | 170 | 610 | 290 | 210 | 15 | 650 | 355 | 240 | 20 | 600 | 90 |
| Future Volume (vph) | 10 | 170 | 610 | 290 | 210 | 15 | 650 | 355 | 240 | 20 | 600 | 90 |
| Confl. Peds. (#/hr) | | | 16 | | | 2 | | | 3 | | | 4 |
| Confl. Bikes (#/hr) | | | 1 | | | 1 | | | 1 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 7 | 4 | 5 | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | | | | 6 |
| Detector Phase | 7 | 4 | 5 | 3 | 8 | | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 26.5 | 8.5 | 8.5 | 26.5 | | 8.5 | 22.5 | | 8.5 | 22.5 | 22.5 |
| Total Split (s) | 8.5 | 26.5 | 33.0 | 29.0 | 47.0 | | 33.0 | 54.3 | | 10.2 | 31.5 | 31.5 |
| Total Split (%) | 7.1% | 22.1% | 27.5% | 24.2% | 39.2% | | 27.5% | 45.3% | | 8.5% | 26.3% | 26.3% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | | None | Min | | None | Min | Min |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 109.2 |
| Natural Cycle: 90 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 31: Carlton Hills Blvd. & Carlton Oaks Drive






2035 AM
31: Carlton Hills Blvd. & Carlton Oaks Drive
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 10 | 170 | 610 | 290 | 210 | 15 | 650 | 355 | 240 | 20 | 600 | 90 |
| Future Volume (veh/h) | 10 | 170 | 610 | 290 | 210 | 15 | 650 | 355 | 240 | 20 | 600 | 90 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.96 | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 11 | 185 | 636 | 315 | 228 | 16 | 707 | 386 | 261 | 22 | 652 | 98 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 18 | 373 | 667 | 346 | 1291 | 90 | 789 | 862 | 575 | 32 | 762 | 334 |
| Arrive On Green | 0.01 | 0.20 | 0.20 | 0.19 | 0.38 | 0.38 | 0.23 | 0.42 | 0.42 | 0.02 | 0.21 | 0.21 |
| Sat Flow, veh/h | 1781 | 1870 | 1527 | 1781 | 3367 | 235 | 3456 | 2028 | 1352 | 1781 | 3554 | 1556 |
| Grp Volume(v), veh/h | 11 | 185 | 636 | 315 | 120 | 124 | 707 | 337 | 310 | 22 | 652 | 98 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1527 | 1781 | 1777 | 1824 | 1728 | 1777 | 1603 | 1781 | 1777 | 1556 |
| Q Serve(g_s), s | 0.7 | 9.7 | 22.0 | 19.1 | 4.9 | 5.0 | 21.9 | 14.9 | 15.2 | 1.4 | 19.4 | 5.8 |
| Cycle Q Clear(g_c), s | 0.7 | 9.7 | 22.0 | 19.1 | 4.9 | 5.0 | 21.9 | 14.9 | 15.2 | 1.4 | 19.4 | 5.8 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.13 | 1.00 | | 0.84 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 18 | 373 | 667 | 346 | 681 | 700 | 789 | 755 | 681 | 32 | 762 | 334 |
| V/C Ratio(X) | 0.60 | 0.50 | 0.95 | 0.91 | 0.18 | 0.18 | 0.90 | 0.45 | 0.45 | 0.69 | 0.86 | 0.29 |
| Avail Cap(c_a), veh/h | 65 | 373 | 667 | 396 | 685 | 704 | 894 | 803 | 725 | 92 | 871 | 381 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 54.3 | 39.2 | 30.7 | 43.5 | 22.4 | 22.5 | 41.3 | 22.5 | 22.6 | 53.8 | 41.6 | 36.3 |
| Incr Delay (d2), s/veh | 26.9 | 1.0 | 24.1 | 22.9 | 0.1 | 0.1 | 10.8 | 0.4 | 0.5 | 23.8 | 7.6 | 0.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.4 | 4.5 | 20.2 | 10.5 | 2.1 | 2.2 | 10.3 | 6.1 | 5.6 | 0.8 | 9.2 | 2.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 81.2 | 40.2 | 54.8 | 66.3 | 22.6 | 22.6 | 52.1 | 22.9 | 23.1 | 77.6 | 49.2 | 36.8 |
| LnGrp LOS | F | D | D | E | C | C | D | C | C | E | D | D |
| Approach Vol, veh/h | | 832 | | | 559 | | | 1354 | | | 772 | |
| Approach Delay, s/veh | | 51.9 | | | 47.2 | | | 38.2 | | | 48.4 | |
| Approach LOS | | D | | | D | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 6.5 | 51.3 | 25.9 | 26.5 | 29.6 | 28.1 | 5.6 | 46.8 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 5.7 | 49.8 | 24.5 | 22.0 | 28.5 | 27.0 | 4.0 | 42.5 |
| Max Q Clear Time (g_c+I1), s | 3.4 | 17.2 | 21.1 | 24.0 | 23.9 | 21.4 | 2.7 | 7.0 |
| Green Ext Time (p_c), s | 0.0 | 4.4 | 0.3 | 0.0 | 1.3 | 2.2 | 0.0 | 1.5 |

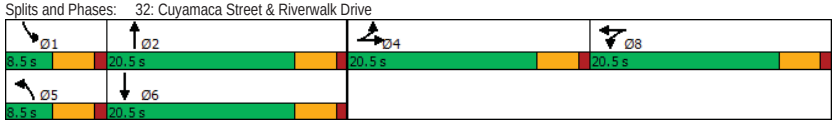
| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 45.1 |
| HCM 6th LOS | D |

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\Long-Term\9 2035 AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 5 | 0 | 0 | 100 | 5 | 60 | 20 | 540 | 90 | 110 | 1120 | 5 |
| Future Volume (vph) | 5 | 0 | 0 | 100 | 5 | 60 | 20 | 540 | 90 | 110 | 1120 | 5 |
| Confl. Peds. (#/hr) | | | 17 | | | 2 | | | 1 | | | 7 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Split | | | Split | NA | | Prot | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | 20.5 | 20.5 | | 20.5 | 20.5 | | 8.5 | 20.5 | | 8.5 | 20.5 | |
| Total Split (s) | 20.5 | 20.5 | | 20.5 | 20.5 | | 8.5 | 20.5 | | 8.5 | 20.5 | |
| Total Split (%) | 29.3% | 29.3% | | 29.3% | 29.3% | | 12.1% | 29.3% | | 12.1% | 29.3% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 70 |
| Actuated Cycle Length: 45 |
| Natural Cycle: 80 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 32: Cuyamaca Street & Riverwalk Drive








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 5 | 0 | 0 | 100 | 5 | 60 | 20 | 540 | 90 | 110 | 1120 | 5 |
| Future Volume (veh/h) | 5 | 0 | 0 | 100 | 5 | 60 | 20 | 540 | 90 | 110 | 1120 | 5 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.99 | 1.00 | | 1.00 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 5 | 0 | 0 | 109 | 5 | 65 | 22 | 587 | 98 | 120 | 1217 | 5 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 74 | 78 | 0 | 191 | 12 | 158 | 39 | 979 | 163 | 152 | 1398 | 6 |
| Arrive On Green | 0.04 | 0.00 | 0.00 | 0.11 | 0.11 | 0.11 | 0.02 | 0.32 | 0.32 | 0.09 | 0.39 | 0.39 |
| Sat Flow, veh/h | 1781 | 1870 | 0 | 1781 | 114 | 1480 | 1781 | 3047 | 507 | 1781 | 3629 | 15 |
| Grp Volume(v), veh/h | 5 | 0 | 0 | 109 | 0 | 70 | 22 | 342 | 343 | 120 | 596 | 626 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 0 | 1781 | 0 | 1594 | 1781 | 1777 | 1778 | 1781 | 1777 | 1868 |
| Q Serve(g_s), s | 0.1 | 0.0 | 0.0 | 2.4 | 0.0 | 1.7 | 0.5 | 6.5 | 6.6 | 2.7 | 12.6 | 12.6 |
| Cycle Q Clear(g_c), s | 0.1 | 0.0 | 0.0 | 2.4 | 0.0 | 1.7 | 0.5 | 6.5 | 6.6 | 2.7 | 12.6 | 12.6 |
| Prop In Lane | 1.00 | | 0.00 | 1.00 | | 0.93 | 1.00 | | 0.29 | 1.00 | | 0.01 |
| Lane Grp Cap(c), veh/h | 74 | 78 | 0 | 191 | 0 | 171 | 39 | 571 | 571 | 152 | 684 | 719 |
| V/C Ratio(X) | 0.07 | 0.00 | 0.00 | 0.57 | 0.00 | 0.41 | 0.57 | 0.60 | 0.60 | 0.79 | 0.87 | 0.87 |
| Avail Cap(c_a), veh/h | 704 | 739 | 0 | 704 | 0 | 630 | 176 | 702 | 703 | 176 | 702 | 738 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 18.6 | 0.0 | 0.0 | 17.2 | 0.0 | 16.9 | 19.6 | 11.5 | 11.6 | 18.2 | 11.5 | 11.5 |
| Incr Delay (d2), s/veh | 0.4 | 0.0 | 0.0 | 2.7 | 0.0 | 1.6 | 12.6 | 1.0 | 1.0 | 18.4 | 11.3 | 10.8 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.6 | 0.3 | 2.1 | 2.1 | 1.7 | 5.6 | 5.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 19.0 | 0.0 | 0.0 | 19.9 | 0.0 | 18.5 | 32.2 | 12.6 | 12.6 | 36.6 | 22.8 | 22.3 |
| LnGrp LOS | B | A | A | B | A | B | C | B | B | D | C | C |
| Approach Vol, veh/h | | 5 | | | 179 | | | 707 | | | 1342 | |
| Approach Delay, s/veh | | 19.0 | | | 19.3 | | | 13.2 | | | 23.8 | |
| Approach LOS | | B | | | B | | | B | | | C | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 8.0 | 17.5 | | 6.2 | 5.4 | 20.1 | | 8.8 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 4.0 | 16.0 | | 16.0 | 4.0 | 16.0 | | 16.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 4.7 | 8.6 | | 2.1 | 2.5 | 14.6 | | 4.4 | | | | |
| Green Ext Time (p_c), s | 0.0 | 2.4 | | 0.0 | 0.0 | 1.0 | | 0.5 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 20.1 | |
| HCM 6th LOS | C | |

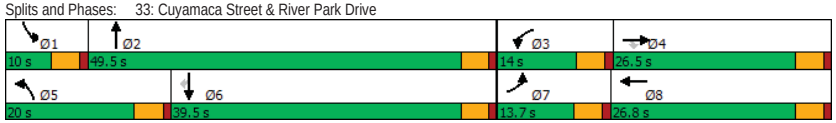
2035 AM
33: Cuyamaca Street & River Park Drive

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 65 | 30 | 110 | 80 | 35 | 30 | 140 | 660 | 90 | 20 | 950 | 50 |
| Future Volume (vph) | 65 | 30 | 110 | 80 | 35 | 30 | 140 | 660 | 90 | 20 | 950 | 50 |
| Confl. Peds. (#/hr) | | | 10 | | | 6 | | | 10 | | | 6 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | | | | 6 |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 26.5 | 26.5 | 8.5 | 26.5 | | 8.5 | 22.5 | | 8.5 | 26.5 | 26.5 |
| Total Split (s) | 13.7 | 26.5 | 26.5 | 14.0 | 26.8 | | 20.0 | 49.5 | | 10.0 | 39.5 | 39.5 |
| Total Split (%) | 13.7% | 26.5% | 26.5% | 14.0% | 26.8% | | 20.0% | 49.5% | | 10.0% | 39.5% | 39.5% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | | None | Min | | None | Min | Min |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 74.2 |
| Natural Cycle: 80 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 33: Cuyamaca Street & River Park Drive






2035 AM
33: Cuyamaca Street & River Park Drive

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 65 | 30 | 110 | 80 | 35 | 30 | 140 | 660 | 90 | 20 | 950 | 50 |
| Future Volume (veh/h) | 65 | 30 | 110 | 80 | 35 | 30 | 140 | 660 | 90 | 20 | 950 | 50 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 71 | 33 | 120 | 87 | 38 | 33 | 152 | 717 | 98 | 22 | 1033 | 54 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 91 | 267 | 221 | 113 | 142 | 123 | 196 | 1518 | 207 | 36 | 1400 | 620 |
| Arrive On Green | 0.05 | 0.14 | 0.14 | 0.06 | 0.15 | 0.15 | 0.11 | 0.48 | 0.48 | 0.02 | 0.39 | 0.39 |
| Sat Flow, veh/h | 1781 | 1870 | 1552 | 1781 | 918 | 797 | 1781 | 3136 | 428 | 1781 | 3554 | 1573 |
| Grp Volume(v), veh/h | 71 | 33 | 120 | 87 | 0 | 71 | 152 | 406 | 409 | 22 | 1033 | 54 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1552 | 1781 | 0 | 1716 | 1781 | 1777 | 1788 | 1781 | 1777 | 1573 |
| Q Serve(g_s), s | 2.4 | 1.0 | 4.5 | 3.0 | 0.0 | 2.3 | 5.2 | 9.5 | 9.5 | 0.8 | 15.4 | 1.3 |
| Cycle Q Clear(g_c), s | 2.4 | 1.0 | 4.5 | 3.0 | 0.0 | 2.3 | 5.2 | 9.5 | 9.5 | 0.8 | 15.4 | 1.3 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.46 | 1.00 | | 0.24 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 91 | 267 | 221 | 113 | 0 | 265 | 196 | 860 | 865 | 36 | 1400 | 620 |
| V/C Ratio(X) | 0.78 | 0.12 | 0.54 | 0.77 | 0.00 | 0.27 | 0.77 | 0.47 | 0.47 | 0.61 | 0.74 | 0.09 |
| Avail Cap(c_a), veh/h | 264 | 663 | 550 | 273 | 0 | 616 | 445 | 1288 | 1296 | 158 | 2004 | 887 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 29.1 | 23.2 | 24.7 | 28.6 | 0.0 | 23.1 | 26.9 | 10.7 | 10.7 | 30.2 | 16.1 | 11.8 |
| Incr Delay (d2), s/veh | 13.4 | 0.2 | 2.1 | 10.7 | 0.0 | 0.5 | 6.4 | 0.4 | 0.4 | 15.3 | 0.9 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.3 | 0.4 | 1.7 | 1.5 | 0.0 | 0.9 | 2.4 | 3.1 | 3.2 | 0.5 | 5.5 | 0.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 42.5 | 23.4 | 26.8 | 39.3 | 0.0 | 23.7 | 33.2 | 11.1 | 11.1 | 45.4 | 16.9 | 11.9 |
| LnGrp LOS | D | C | C | D | A | C | C | B | B | D | B | B |
| Approach Vol, veh/h | | 224 | | | 158 | | | 967 | | | 1109 | |
| Approach Delay, s/veh | | 31.3 | | | 32.3 | | | 14.6 | | | 17.2 | |
| Approach LOS | | C | | | C | | | B | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.8 | 34.5 | 8.4 | 13.3 | 11.3 | 29.0 | 7.7 | 14.1 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 5.5 | 45.0 | 9.5 | 22.0 | 15.5 | 35.0 | 9.2 | 22.3 |
| Max Q Clear Time (g_c+I1), s | 2.8 | 11.5 | 5.0 | 6.5 | 7.2 | 17.4 | 4.4 | 4.3 |
| Green Ext Time (p_c), s | 0.0 | 5.7 | 0.1 | 0.4 | 0.2 | 7.0 | 0.0 | 0.3 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 18.4 |
| HCM 6th LOS | | B |

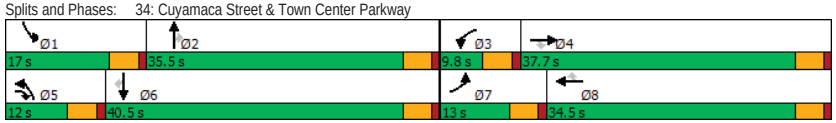
Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\Long-Term\9 2035 AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 180 | 60 | 90 | 60 | 100 | 180 | 115 | 435 | 75 | 145 | 600 | 300 |
| Future Volume (vph) | 180 | 60 | 90 | 60 | 100 | 180 | 115 | 435 | 75 | 145 | 600 | 300 |
| Confl. Peds. (#/hr) | | | 7 | | | 1 | | | 5 | | | 3 |
| Confl. Bikes (#/hr) | | | 1 | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 7 | 4 | 5 | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | 2 | | | 6 |
| Detector Phase | 7 | 4 | 5 | 3 | 8 | 8 | 5 | 2 | 2 | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 34.5 | 8.5 | 8.5 | 34.5 | 34.5 | 8.5 | 34.5 | 34.5 | 8.5 | 34.5 | 34.5 |
| Total Split (s) | 13.0 | 37.7 | 12.0 | 9.8 | 34.5 | 34.5 | 12.0 | 35.5 | 35.5 | 17.0 | 40.5 | 40.5 |
| Total Split (%) | 13.0% | 37.7% | 12.0% | 9.8% | 34.5% | 34.5% | 12.0% | 35.5% | 35.5% | 17.0% | 40.5% | 40.5% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lead | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | None | None | Min | Min | None | Min | Min |

**Intersection Summary**

Cycle Length: 100
Actuated Cycle Length: 63.1
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 34: Cuyamaca Street & Town Center Parkway








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 180 | 60 | 90 | 60 | 100 | 180 | 115 | 435 | 75 | 145 | 600 | 300 |
| Future Volume (veh/h) | 180 | 60 | 90 | 60 | 100 | 180 | 115 | 435 | 75 | 145 | 600 | 300 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 1.00 | 1.00 | | 0.99 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 196 | 65 | 98 | 65 | 109 | 196 | 125 | 473 | 82 | 158 | 652 | 326 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 310 | 447 | 470 | 157 | 693 | 309 | 216 | 1415 | 435 | 204 | 1681 | 520 |
| Arrive On Green | 0.09 | 0.24 | 0.24 | 0.05 | 0.20 | 0.20 | 0.06 | 0.28 | 0.28 | 0.11 | 0.33 | 0.33 |
| Sat Flow, veh/h | 3456 | 1870 | 1551 | 3456 | 3554 | 1583 | 3456 | 5106 | 1571 | 1781 | 5106 | 1581 |
| Grp Volume(v), veh/h | 196 | 65 | 98 | 65 | 109 | 196 | 125 | 473 | 82 | 158 | 652 | 326 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1870 | 1551 | 1728 | 1777 | 1583 | 1728 | 1702 | 1571 | 1781 | 1702 | 1581 |
| Q Serve(g_s), s | 3.0 | 1.5 | 2.6 | 1.0 | 1.4 | 6.3 | 2.0 | 4.1 | 2.2 | 4.8 | 5.5 | 9.7 |
| Cycle Q Clear(g_c), s | 3.0 | 1.5 | 2.6 | 1.0 | 1.4 | 6.3 | 2.0 | 4.1 | 2.2 | 4.8 | 5.5 | 9.7 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 310 | 447 | 470 | 157 | 693 | 309 | 216 | 1415 | 435 | 204 | 1681 | 520 |
| V/C Ratio(X) | 0.63 | 0.15 | 0.21 | 0.41 | 0.16 | 0.63 | 0.58 | 0.33 | 0.19 | 0.77 | 0.39 | 0.63 |
| Avail Cap(c_a), veh/h | 528 | 1117 | 1025 | 329 | 1917 | 854 | 466 | 2846 | 876 | 400 | 3305 | 1023 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 24.4 | 16.7 | 14.5 | 25.8 | 18.6 | 20.6 | 25.4 | 16.0 | 15.3 | 23.9 | 14.3 | 15.8 |
| Incr Delay (d2), s/veh | 2.1 | 0.1 | 0.2 | 1.7 | 0.1 | 2.2 | 2.5 | 0.1 | 0.2 | 6.2 | 0.1 | 1.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.3 | 0.6 | 0.9 | 0.4 | 0.5 | 2.3 | 0.8 | 1.4 | 0.7 | 2.2 | 1.8 | 3.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 26.6 | 16.8 | 14.7 | 27.5 | 18.7 | 22.7 | 27.8 | 16.2 | 15.5 | 30.1 | 14.5 | 17.0 |
| LnGrp LOS | C | B | B | C | B | C | C | B | B | C | B | B |
| Approach Vol, veh/h | | 359 | | | 370 | | | 680 | | | 1136 | |
| Approach Delay, s/veh | | 21.6 | | | 22.4 | | | 18.2 | | | 17.4 | |
| Approach LOS | | C | | | C | | | B | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 10.9 | 19.9 | 7.0 | 17.8 | 8.0 | 22.8 | 9.5 | 15.3 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 12.5 | 31.0 | 5.3 | 33.2 | 7.5 | 36.0 | 8.5 | 30.0 |
| Max Q Clear Time (g_c+I1), s | 6.8 | 6.1 | 3.0 | 4.6 | 4.0 | 11.7 | 5.0 | 8.3 |
| Green Ext Time (p_c), s | 0.2 | 3.5 | 0.0 | 0.7 | 0.1 | 5.9 | 0.2 | 1.3 |

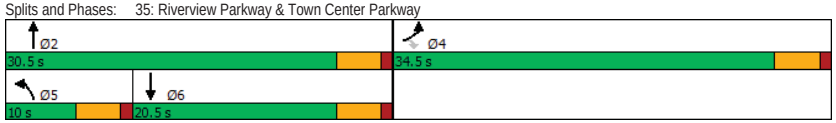
**Intersection Summary**

| | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 18.9 |
| HCM 6th LOS | | B |

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 5 | 130 | 140 | 470 | 170 | 40 |
| Future Volume (vph) | 5 | 130 | 140 | 470 | 170 | 40 |
| Confl. Peds. (#/hr) | | 4 | | | | 1 |
| Confl. Bikes (#/hr) | | 2 | | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | Prot | NA | NA | |
| Protected Phases | 4 | | 5 | 2 | 6 | |
| Permitted Phases | | 4 | | | | |
| Detector Phase | 4 | 4 | 5 | 2 | 6 | |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Minimum Split (s) | 34.5 | 34.5 | 8.5 | 25.5 | 20.5 | |
| Total Split (s) | 34.5 | 34.5 | 10.0 | 30.5 | 20.5 | |
| Total Split (%) | 53.1% | 53.1% | 15.4% | 46.9% | 31.5% | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lead/Lag | | | Lead | | Lag | |
| Lead-Lag Optimize? | | | Yes | | Yes | |
| Recall Mode | None | None | None | Min | Min | |

| Intersection Summary |
|---|
| Cycle Length: 65 |
| Actuated Cycle Length: 38.2 |
| Natural Cycle: 65 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 35: Riverview Parkway & Town Center Parkway








| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 5 | 130 | 140 | 470 | 170 | 40 |
| Future Volume (veh/h) | 5 | 130 | 140 | 470 | 170 | 40 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 5 | 141 | 152 | 511 | 185 | 43 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 208 | 185 | 192 | 1748 | 539 | 122 |
| Arrive On Green | 0.12 | 0.12 | 0.11 | 0.49 | 0.19 | 0.19 |
| Sat Flow, veh/h | 1781 | 1585 | 1781 | 3647 | 2957 | 648 |
| Grp Volume(v), veh/h | 5 | 141 | 152 | 511 | 113 | 115 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 1781 | 1777 | 1777 | 1734 |
| Q Serve(g_s), s | 0.1 | 2.0 | 1.9 | 2.0 | 1.3 | 1.3 |
| Cycle Q Clear(g_c), s | 0.1 | 2.0 | 1.9 | 2.0 | 1.3 | 1.3 |
| Prop In Lane | 1.00 | 1.00 | 1.00 | | | 0.37 |
| Lane Grp Cap(c), veh/h | 208 | 185 | 192 | 1748 | 335 | 327 |
| V/C Ratio(X) | 0.02 | 0.76 | 0.79 | 0.29 | 0.34 | 0.35 |
| Avail Cap(c_a), veh/h | 2323 | 2067 | 426 | 4017 | 1236 | 1207 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 9.0 | 9.8 | 10.0 | 3.5 | 8.1 | 8.1 |
| Incr Delay (d2), s/veh | 0.0 | 6.4 | 7.1 | 0.1 | 0.6 | 0.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.3 | 0.8 | 0.1 | 0.3 | 0.3 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 9.0 | 16.2 | 17.1 | 3.6 | 8.7 | 8.8 |
| LnGrp LOS | A | B | B | A | A | A |
| Approach Vol, veh/h | 146 | | | 663 | 228 | |
| Approach Delay, s/veh | 16.0 | | | 6.7 | 8.7 | |
| Approach LOS | B | | | A | A | |

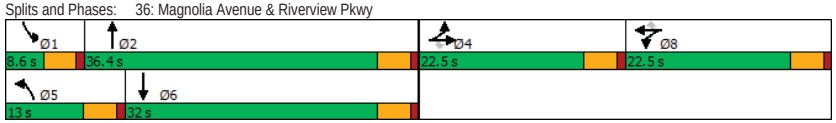
| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 15.8 | | 7.2 | 7.0 | 8.8 |
| Change Period (Y+Rc), s | | 4.5 | | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | | 26.0 | | 30.0 | 5.5 | 16.0 |
| Max Q Clear Time (g_c+I1), s | | 4.0 | | 4.0 | 3.9 | 3.3 |
| Green Ext Time (p_c), s | | 3.5 | | 0.4 | 0.1 | 1.0 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 8.4 | |
| HCM 6th LOS | A | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 5 | 0 | 30 | 70 | 0 | 20 | 220 | 1050 | 40 | 20 | 1370 | 10 |
| Future Volume (vph) | 5 | 0 | 30 | 70 | 0 | 20 | 220 | 1050 | 40 | 20 | 1370 | 10 |
| Confl. Peds. (#/hr) | | | 8 | | | | | | | | | 8 |
| Confl. Bikes (#/hr) | | | 1 | | | | | | 5 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Split | NA | Perm | Split | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | | | | |
| Detector Phase | 4 | 4 | 4 | 8 | 8 | 8 | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 8.5 | 22.5 | | 8.5 | 22.5 | |
| Total Split (s) | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 13.0 | 36.4 | | 8.6 | 32.0 | |
| Total Split (%) | 25.0% | 25.0% | 25.0% | 25.0% | 25.0% | 25.0% | 14.4% | 40.4% | | 9.6% | 35.6% | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | None | None | None | None | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 90 |
| Actuated Cycle Length: 62.3 |
| Natural Cycle: 120 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 36: Magnolia Avenue & Riverview Pkwy








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 5 | 0 | 30 | 70 | 0 | 20 | 220 | 1050 | 40 | 20 | 1370 | 10 |
| Future Volume (veh/h) | 5 | 0 | 30 | 70 | 0 | 20 | 220 | 1050 | 40 | 20 | 1370 | 10 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.95 | 1.00 | | 1.00 | 1.00 | | 0.98 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 5 | 0 | 33 | 76 | 0 | 22 | 239 | 1141 | 43 | 22 | 1489 | 11 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 87 | 0 | 74 | 115 | 0 | 102 | 251 | 1982 | 75 | 36 | 1618 | 12 |
| Arrive On Green | 0.05 | 0.00 | 0.05 | 0.06 | 0.00 | 0.06 | 0.14 | 0.57 | 0.57 | 0.02 | 0.45 | 0.45 |
| Sat Flow, veh/h | 1781 | 0 | 1505 | 1781 | 0 | 1585 | 1781 | 3488 | 131 | 1781 | 3615 | 27 |
| Grp Volume(v), veh/h | 5 | 0 | 33 | 76 | 0 | 22 | 239 | 581 | 603 | 22 | 732 | 768 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1505 | 1781 | 0 | 1585 | 1781 | 1777 | 1843 | 1781 | 1777 | 1865 |
| Q Serve(g_s), s | 0.2 | 0.0 | 1.3 | 2.5 | 0.0 | 0.8 | 8.0 | 12.7 | 12.7 | 0.7 | 23.3 | 23.4 |
| Cycle Q Clear(g_c), s | 0.2 | 0.0 | 1.3 | 2.5 | 0.0 | 0.8 | 8.0 | 12.7 | 12.7 | 0.7 | 23.3 | 23.4 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.07 | 1.00 | | 0.01 |
| Lane Grp Cap(c), veh/h | 87 | 0 | 74 | 115 | 0 | 102 | 251 | 1009 | 1047 | 36 | 795 | 835 |
| V/C Ratio(X) | 0.06 | 0.00 | 0.45 | 0.66 | 0.00 | 0.22 | 0.95 | 0.58 | 0.58 | 0.60 | 0.92 | 0.92 |
| Avail Cap(c_a), veh/h | 531 | 0 | 449 | 531 | 0 | 473 | 251 | 1009 | 1047 | 121 | 810 | 850 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 27.4 | 0.0 | 27.9 | 27.6 | 0.0 | 26.8 | 25.7 | 8.4 | 8.4 | 29.3 | 15.7 | 15.7 |
| Incr Delay (d2), s/veh | 0.3 | 0.0 | 4.2 | 6.4 | 0.0 | 1.0 | 43.8 | 0.8 | 0.8 | 15.0 | 15.4 | 15.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.1 | 0.0 | 0.5 | 1.2 | 0.0 | 0.3 | 6.1 | 3.6 | 3.7 | 0.4 | 10.5 | 10.9 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 27.6 | 0.0 | 32.1 | 34.0 | 0.0 | 27.8 | 69.5 | 9.2 | 9.1 | 44.3 | 31.1 | 30.6 |
| LnGrp LOS | C | A | C | C | A | C | E | A | A | D | C | C |
| Approach Vol, veh/h | | 38 | | | 98 | | | 1423 | | | 1522 | |
| Approach Delay, s/veh | | 31.5 | | | 32.6 | | | 19.3 | | | 31.1 | |
| Approach LOS | | C | | | C | | | B | | | C | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.7 | 38.8 | | 7.4 | 13.0 | 31.5 | | 8.4 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 4.1 | 31.9 | | 18.0 | 8.5 | 27.5 | | 18.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.7 | 14.7 | | 3.3 | 10.0 | 25.4 | | 4.5 | | | | |
| Green Ext Time (p_c), s | 0.0 | 7.1 | | 0.1 | 0.0 | 1.6 | | 0.3 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 25.7 | |
| HCM 6th LOS | C | |

| Intersection | |
|---|---|
| Int Delay, s/veh | 143.3 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 0 | 20 | 0 | 190 | 460 | 630 | 0 | 0 | 380 | 670 |
| Future Vol, veh/h | 0 | 0 | 0 | 20 | 0 | 190 | 460 | 630 | 0 | 0 | 380 | 670 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 9 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | 190 | - | - | - | - | - |
| Veh in Median Storage, # | - | 2 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 0 | 22 | 0 | 207 | 500 | 685 | 0 | 0 | 413 | 728 |

| Major/Minor | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 2462 | 2826 | 685 | 1141 | 0 | - | - | - | 0 |
| Stage 1 | 1685 | 1685 | - | - | - | - | - | - | - |
| Stage 2 | 777 | 1141 | - | - | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.52 | 6.22 | 4.12 | - | - | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 2.218 | - | - | - | - | - |
| Pot Cap-1 Maneuver | 34 | 18 | 448 | 612 | - | 0 | 0 | - | - |
| Stage 1 | 165 | 150 | - | - | - | 0 | 0 | - | - |
| Stage 2 | 453 | 275 | - | - | - | 0 | 0 | - | - |
| Platoon blocked, % | | | | | - | | | - | - |
| Mov Cap-1 Maneuver | ~ 6 | 0 | 448 | 612 | - | - | - | - | - |
| Mov Cap-2 Maneuver | ~ 6 | 0 | - | - | - | - | - | - | - |
| Stage 1 | 30 | 0 | - | - | - | - | - | - | - |
| Stage 2 | 453 | 0 | - | - | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | $ 1534 | 13.4 | 0 |
| HCM LOS | F | | |

| Minor Lane/Major Mvmt | NBL | NBTWBLn1 | SBT | SBR |
|---|---|---|---|---|
| Capacity (veh/h) | 612 | - 56 | - | - |
| HCM Lane V/C Ratio | 0.817 | - 4.076 | - | - |
| HCM Control Delay (s) | 31.8 | -$ 1534 | - | - |
| HCM Lane LOS | D | - F | - | - |
| HCM 95th %tile Q(veh) | 8.4 | - 25 | - | - |

| Notes |
|---|
| ~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon |

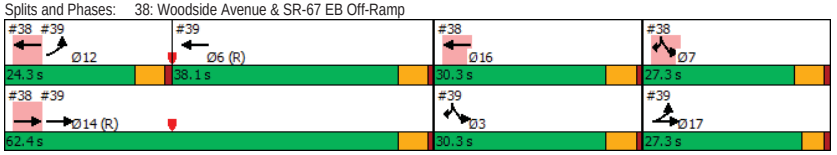




| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR | Ø3 | Ø6 | Ø12 | Ø16 | Ø17 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 320 | 180 | 0 | 550 | 140 | | | | | |
| Future Volume (vph) | 0 | 320 | 180 | 0 | 550 | 140 | | | | | |
| Confl. Peds. (#/hr) | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | | | |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | | | | | |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| Parking (#/hr) | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | | | | | | |
| Shared Lane Traffic (%) | | | | | | | | | | | |
| Turn Type | | NA | NA | | Prot | Prot | | | | | |
| Protected Phases | | 14 | 12 16 | | 7 | 7 | 3 | 6 | 12 | 16 | 17 |
| Permitted Phases | | | | | | | | | | | |
| Detector Phase | | 14 | 12 16 | | 7 | 7 | | | | | |
| Switch Phase | | | | | | | | | | | |
| Minimum Initial (s) | | 4.0 | | | 8.0 | 8.0 | 5.0 | 5.0 | 5.0 | 2.0 | 5.0 |
| Minimum Split (s) | | 20.0 | | | 27.3 | 27.3 | 30.3 | 29.3 | 24.3 | 20.0 | 9.2 |
| Total Split (s) | | 62.4 | | | 27.3 | 27.3 | 30.3 | 38.1 | 24.3 | 30.3 | 27.3 |
| Total Split (%) | | 52.0% | | | 22.8% | 22.8% | 25% | 32% | 20% | 25% | 23% |
| Yellow Time (s) | | 4.3 | | | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 3.2 |
| All-Red Time (s) | | 1.0 | | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | | 0.0 | | | 0.0 | 0.0 | | | | | |
| Total Lost Time (s) | | 5.3 | | | 5.3 | 5.3 | | | | | |
| Lead/Lag | | | | | | | | Lag | Lead | | |
| Lead-Lag Optimize? | | | | | | | | Yes | Yes | | |
| Recall Mode | | C-Max | | | Max | Max | None | C-Max | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 0 (0%), Referenced to phase 6:WBT and 14:EBT, Start of Green |
| Natural Cycle: 135 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 38: Woodside Avenue & SR-67 EB Off-Ramp



2035 AM
38: Woodside Avenue & SR-67 EB Off-Ramp

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 320 | 180 | 0 | 550 | 140 |
| Future Volume (vph) | 0 | 320 | 180 | 0 | 550 | 140 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 5.3 | 5.3 | | 5.3 | 5.3 |
| Lane Util. Factor | | 0.95 | 1.00 | | 0.97 | 1.00 |
| Frt | | 1.00 | 1.00 | | 1.00 | 0.85 |
| Flt Protected | | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | | 3539 | 1863 | | 3433 | 1583 |
| Flt Permitted | | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (perm) | | 3539 | 1863 | | 3433 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 348 | 196 | 0 | 598 | 152 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 44 |
| Lane Group Flow (vph) | 0 | 348 | 196 | 0 | 598 | 108 |
| Turn Type | | NA | NA | | Prot | Prot |
| Protected Phases | | 14 | 12 16 | | 7 | 7 |
| Permitted Phases | | | | | | |
| Actuated Green, G (s) | | 57.1 | 41.2 | | 22.8 | 22.8 |
| Effective Green, g (s) | | 57.1 | 41.2 | | 22.8 | 22.8 |
| Actuated g/C Ratio | | 0.48 | 0.34 | | 0.19 | 0.19 |
| Clearance Time (s) | | 5.3 | | | 5.3 | 5.3 |
| Vehicle Extension (s) | | 1.0 | | | 3.0 | 3.0 |
| Lane Grp Cap (vph) | | 1683 | 639 | | 652 | 300 |
| v/s Ratio Prot | | c0.10 | c0.11 | | c0.17 | 0.07 |
| v/s Ratio Perm | | | | | | |
| v/c Ratio | | 0.21 | 0.31 | | 0.92 | 0.36 |
| Uniform Delay, d1 | | 18.3 | 28.9 | | 47.7 | 42.3 |
| Progression Factor | | 1.00 | 1.21 | | 1.00 | 1.00 |
| Incremental Delay, d2 | | 0.3 | 0.1 | | 19.9 | 3.3 |
| Delay (s) | | 18.6 | 35.0 | | 67.6 | 45.6 |
| Level of Service | | B | C | | E | D |
| Approach Delay (s) | | 18.6 | 35.0 | | 63.1 | |
| Approach LOS | | B | C | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 46.9 | HCM 2000 Level of Service | D |
| HCM 2000 Volume to Capacity ratio | 0.42 | | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 21.2 |
| Intersection Capacity Utilization | 34.0% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group



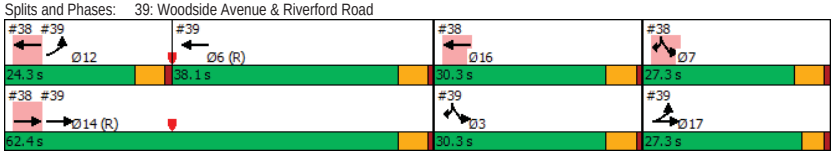
2035 AM
39: Woodside Avenue & Riverford Road

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR | Ø7 | Ø12 | Ø14 | Ø16 | Ø17 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | |
| Traffic Volume (vph) | 520 | 350 | 130 | 570 | 300 | 50 | | | | | |
| Future Volume (vph) | 520 | 350 | 130 | 570 | 300 | 50 | | | | | |
| Confl. Peds. (#/hr) | | | | | | 1 | | | | | |
| Confl. Bikes (#/hr) | | | | 1 | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | | | |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | | | | | |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| Parking (#/hr) | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | | | | | | |
| Shared Lane Traffic (%) | | | | | | | | | | | |
| Turn Type | Prot | NA | NA | | Prot | Prot | | | | | |
| Protected Phases | 12 17 | 14 17 | 6 | | 3 | 3 | 7 | 12 | 14 | 16 | 17 |
| Permitted Phases | | | | | | | | | | | |
| Detector Phase | 12 17 | 14 17 | 6 | | 3 | 3 | | | | | |
| Switch Phase | | | | | | | | | | | |
| Minimum Initial (s) | | | 5.0 | | 5.0 | 5.0 | 8.0 | 5.0 | 4.0 | 2.0 | 5.0 |
| Minimum Split (s) | | | 29.3 | | 30.3 | 30.3 | 27.3 | 24.3 | 20.0 | 20.0 | 9.2 |
| Total Split (s) | | | 38.1 | | 30.3 | 30.3 | 27.3 | 24.3 | 62.4 | 30.3 | 27.3 |
| Total Split (%) | | | 31.8% | | 25.3% | 25.3% | 23% | 20% | 52% | 25% | 23% |
| Yellow Time (s) | | | 4.3 | | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 3.2 |
| All-Red Time (s) | | | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | | | 0.0 | | 0.0 | 0.0 | | | | | |
| Total Lost Time (s) | | | 5.3 | | 5.3 | 5.3 | | | | | |
| Lead/Lag | | | Lag | | | | | Lead | | | |
| Lead-Lag Optimize? | | | Yes | | | | | Yes | | | |
| Recall Mode | | | C-Max | | None | None | Max | None | C-Max | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 0 (0%), Referenced to phase 6:WBT and 14:EBT, Start of Green |
| Natural Cycle: 135 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 39: Woodside Avenue & Riverford Road



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 520 | 350 | 130 | 570 | 300 | 50 |
| Future Volume (vph) | 520 | 350 | 130 | 570 | 300 | 50 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.3 | 5.3 | 5.3 | | 5.3 | 5.3 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.98 | | 1.00 | 1.00 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.89 | | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | 1770 | 1863 | 1629 | | 1770 | 1583 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (perm) | 1770 | 1863 | 1629 | | 1770 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 565 | 380 | 141 | 620 | 326 | 54 |
| RTOR Reduction (vph) | 0 | 0 | 129 | 0 | 0 | 31 |
| Lane Group Flow (vph) | 565 | 380 | 632 | 0 | 326 | 23 |
| Confl. Peds. (#/hr) | | | | | | 1 |
| Confl. Bikes (#/hr) | | | | 1 | | |
| Turn Type | Prot | NA | NA | | Prot | Prot |
| Protected Phases | 12 17 | 14 17 | 6 | | 3 | 3 |
| Permitted Phases | | | | | | |
| Actuated Green, G (s) | 45.1 | 85.2 | 34.8 | | 24.2 | 24.2 |
| Effective Green, g (s) | 40.9 | 81.0 | 34.8 | | 24.2 | 24.2 |
| Actuated g/C Ratio | 0.34 | 0.68 | 0.29 | | 0.20 | 0.20 |
| Clearance Time (s) | | | 5.3 | | 5.3 | 5.3 |
| Vehicle Extension (s) | | | 3.0 | | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 603 | 1257 | 472 | | 356 | 319 |
| v/s Ratio Prot | c0.32 | 0.20 | c0.39 | | c0.18 | 0.01 |
| v/s Ratio Perm | | | | | | |
| v/c Ratio | 0.94 | 0.30 | 1.34 | | 0.92 | 0.07 |
| Uniform Delay, d1 | 38.3 | 8.0 | 42.6 | | 46.9 | 38.8 |
| Progression Factor | 0.30 | 0.08 | 1.00 | | 1.00 | 1.00 |
| Incremental Delay, d2 | 18.1 | 0.1 | 166.2 | | 27.3 | 0.1 |
| Delay (s) | 29.6 | 0.8 | 208.8 | | 74.2 | 38.9 |
| Level of Service | C | A | F | | E | D |
| Approach Delay (s) | | 18.0 | 208.8 | | 69.2 | |
| Approach LOS | | B | F | | E | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| HCM 2000 Control Delay | 96.9 | HCM 2000 Level of Service | F | |
| HCM 2000 Volume to Capacity ratio | 1.08 | | | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 21.2 | |
| Intersection Capacity Utilization | 100.8% | ICU Level of Service | G | |
| Analysis Period (min) | 15 | | | |

c Critical Lane Group

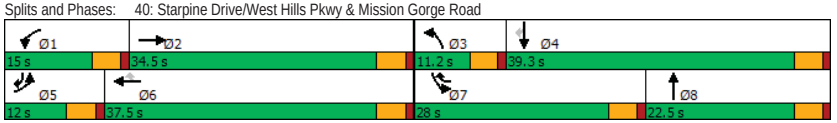




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 315 | 410 | 80 | 80 | 1090 | 1235 | 40 | 60 | 80 | 175 | 60 | 410 |
| Future Volume (vph) | 315 | 410 | 80 | 80 | 1090 | 1235 | 40 | 60 | 80 | 175 | 60 | 410 |
| Confl. Peds. (#/hr) | | | 3 | | | 1 | | | 1 | | | |
| Confl. Bikes (#/hr) | | | 2 | | | 6 | | | | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Prot | NA | | Prot | NA | pm+ov |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 5 |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 5 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 29.5 | | 8.5 | 29.5 | 8.5 | 8.5 | 22.5 | | 8.5 | 29.5 | 8.5 |
| Total Split (s) | 12.0 | 34.5 | | 15.0 | 37.5 | 28.0 | 11.2 | 22.5 | | 28.0 | 39.3 | 12.0 |
| Total Split (%) | 12.0% | 34.5% | | 15.0% | 37.5% | 28.0% | 11.2% | 22.5% | | 28.0% | 39.3% | 12.0% |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | Lead |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | Min | | None | Min | None | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 93.1 |
| Natural Cycle: 130 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 40: Starpine Drive/West Hills Pkwy & Mission Gorge Road



2035 AM
40: Starpine Drive/West Hills Pkwy & Mission Gorge Road

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 315 | 410 | 80 | 80 | 1090 | 1235 | 40 | 60 | 80 | 175 | 60 | 410 |
| Future Volume (veh/h) | 315 | 410 | 80 | 80 | 1090 | 1235 | 40 | 60 | 80 | 175 | 60 | 410 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 1.00 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 342 | 446 | 87 | 87 | 1185 | 1342 | 43 | 65 | 87 | 190 | 65 | 446 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 343 | 1398 | 270 | 113 | 1552 | 816 | 56 | 102 | 136 | 294 | 363 | 806 |
| Arrive On Green | 0.10 | 0.47 | 0.47 | 0.06 | 0.44 | 0.44 | 0.03 | 0.14 | 0.14 | 0.09 | 0.19 | 0.19 |
| Sat Flow, veh/h | 3456 | 2955 | 572 | 1781 | 3554 | 1560 | 1781 | 724 | 969 | 3456 | 1870 | 2723 |
| Grp Volume(v), veh/h | 342 | 267 | 266 | 87 | 1185 | 1342 | 43 | 0 | 152 | 190 | 65 | 446 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1750 | 1781 | 1777 | 1560 | 1781 | 0 | 1693 | 1728 | 1870 | 1362 |
| Q Serve(g_s), s | 7.5 | 7.0 | 7.1 | 3.6 | 21.3 | 33.0 | 1.8 | 0.0 | 6.4 | 4.0 | 2.2 | 10.5 |
| Cycle Q Clear(g_c), s | 7.5 | 7.0 | 7.1 | 3.6 | 21.3 | 33.0 | 1.8 | 0.0 | 6.4 | 4.0 | 2.2 | 10.5 |
| Prop In Lane | 1.00 | | 0.33 | 1.00 | | 1.00 | 1.00 | | 0.57 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 343 | 840 | 828 | 113 | 1552 | 816 | 56 | 0 | 238 | 294 | 363 | 806 |
| V/C Ratio(X) | 1.00 | 0.32 | 0.32 | 0.77 | 0.76 | 1.64 | 0.77 | 0.00 | 0.64 | 0.65 | 0.18 | 0.55 |
| Avail Cap(c_a), veh/h | 343 | 840 | 828 | 248 | 1552 | 816 | 158 | 0 | 404 | 1075 | 862 | 1532 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 34.0 | 12.3 | 12.4 | 34.8 | 18.0 | 18.1 | 36.3 | 0.0 | 30.6 | 33.5 | 25.4 | 22.6 |
| Incr Delay (d2), s/veh | 47.7 | 0.2 | 0.2 | 10.6 | 2.3 | 295.3 | 19.3 | 0.0 | 2.8 | 2.4 | 0.2 | 0.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 5.1 | 2.3 | 2.3 | 1.8 | 7.6 | 79.2 | 1.1 | 0.0 | 2.7 | 1.7 | 0.9 | 3.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 81.7 | 12.6 | 12.6 | 45.4 | 20.3 | 313.4 | 55.6 | 0.0 | 33.5 | 35.8 | 25.6 | 23.1 |
| LnGrp LOS | F | B | B | D | C | F | E | A | C | D | C | C |
| Approach Vol, veh/h | | 875 | | | 2614 | | | 195 | | | 701 | |
| Approach Delay, s/veh | | 39.6 | | | 171.6 | | | 38.4 | | | 26.8 | |
| Approach LOS | | D | | | F | | | D | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 9.3 | 40.2 | 6.9 | 19.2 | 12.0 | 37.5 | 10.9 | 15.1 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 10.5 | 30.0 | 6.7 | 34.8 | 7.5 | 33.0 | 23.5 | 18.0 |
| Max Q Clear Time (g_c+I1), s | 5.6 | 9.1 | 3.8 | 12.5 | 9.5 | 35.0 | 6.0 | 8.4 |
| Green Ext Time (p_c), s | 0.1 | 2.6 | 0.0 | 2.1 | 0.0 | 0.0 | 0.5 | 0.5 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 116.2 |
| HCM 6th LOS | F |



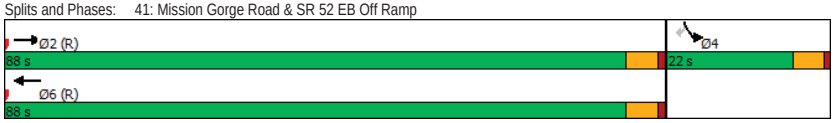
2035 AM
41: Mission Gorge Road & SR 52 EB Off Ramp

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 940 | 1680 | 0 | 160 | 15 |
| Future Volume (vph) | 0 | 940 | 1680 | 0 | 160 | 15 |
| Confl. Peds. (#/hr) | | | | | | |
| Confl. Bikes (#/hr) | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | | NA | NA | | Prot | Perm |
| Protected Phases | | 2 | 6 | | 4 | |
| Permitted Phases | | | | | | 4 |
| Detector Phase | | 2 | 6 | | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | | 6.0 | 11.0 | | 10.0 | 10.0 |
| Minimum Split (s) | | 20.0 | 20.0 | | 20.0 | 20.0 |
| Total Split (s) | | 88.0 | 88.0 | | 22.0 | 22.0 |
| Total Split (%) | | 80.0% | 80.0% | | 20.0% | 20.0% |
| Yellow Time (s) | | 4.4 | 4.4 | | 4.1 | 4.1 |
| All-Red Time (s) | | 1.0 | 1.0 | | 1.0 | 1.0 |
| Lost Time Adjust (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | | 5.4 | 5.4 | | 5.1 | 5.1 |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | | C-Min | C-Min | | None | None |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 110 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green, Master Intersection |
| Natural Cycle: 60 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 41: Mission Gorge Road & SR 52 EB Off Ramp



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 940 | 1680 | 0 | 160 | 15 |
| Future Volume (veh/h) | 0 | 940 | 1680 | 0 | 160 | 15 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 0 | 1870 | 1870 | 0 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 1022 | 1826 | 0 | 174 | 16 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 0 | 2 | 2 | 0 | 2 | 2 |
| Cap, veh/h | 0 | 2892 | 2892 | 0 | 313 | 144 |
| Arrive On Green | 0.00 | 0.81 | 1.00 | 0.00 | 0.09 | 0.09 |
| Sat Flow, veh/h | 0 | 3741 | 3741 | 0 | 3456 | 1585 |
| Grp Volume(v), veh/h | 0 | 1022 | 1826 | 0 | 174 | 16 |
| Grp Sat Flow(s),veh/h/ln | 0 | 1777 | 1777 | 0 | 1728 | 1585 |
| Q Serve(g_s), s | 0.0 | 8.3 | 0.0 | 0.0 | 5.3 | 1.0 |
| Cycle Q Clear(g_c), s | 0.0 | 8.3 | 0.0 | 0.0 | 5.3 | 1.0 |
| Prop In Lane | 0.00 | | | 0.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 0 | 2892 | 2892 | 0 | 313 | 144 |
| V/C Ratio(X) | 0.00 | 0.35 | 0.63 | 0.00 | 0.56 | 0.11 |
| Avail Cap(c_a), veh/h | 0 | 2892 | 2892 | 0 | 531 | 244 |
| HCM Platoon Ratio | 1.00 | 1.00 | 2.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.00 | 1.00 | 0.52 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 0.0 | 2.7 | 0.0 | 0.0 | 47.9 | 45.9 |
| Incr Delay (d2), s/veh | 0.0 | 0.3 | 0.6 | 0.0 | 1.5 | 0.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 2.1 | 0.2 | 0.0 | 2.3 | 0.4 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 3.0 | 0.6 | 0.0 | 49.4 | 46.3 |
| LnGrp LOS | A | A | A | A | D | D |
| Approach Vol, veh/h | | 1022 | 1826 | | 190 | |
| Approach Delay, s/veh | | 3.0 | 0.6 | | 49.2 | |
| Approach LOS | | A | A | | D | |

| Timer - Assigned Phs | 2 | | 4 | | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 94.9 | | 15.1 | | 94.9 |
| Change Period (Y+Rc), s | 5.4 | | 5.1 | | 5.4 |
| Max Green Setting (Gmax), s | 82.6 | | 16.9 | | 82.6 |
| Max Q Clear Time (g_c+I1), s | 10.3 | | 7.3 | | 2.0 |
| Green Ext Time (p_c), s | 9.9 | | 0.4 | | 26.9 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 4.4 |
| HCM 6th LOS | A |

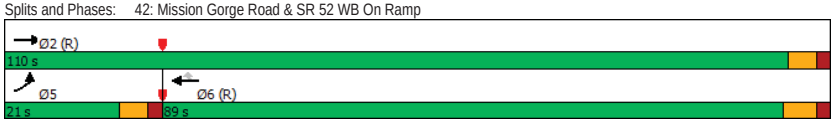




| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 125 | 950 | 1680 | 990 | 0 | 0 |
| Future Volume (vph) | 125 | 950 | 1680 | 990 | 0 | 0 |
| Confl. Peds. (#/hr) | | | | | | |
| Confl. Bikes (#/hr) | | | | 2 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | |
| Shared Lane Traffic (%) | | | | 19% | | |
| Turn Type | Prot | NA | NA | Perm | | |
| Protected Phases | 5 | 2 | 6 | | | |
| Permitted Phases | | | | 6 | | |
| Detector Phase | 5 | 2 | 6 | 6 | | |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 10.0 | 10.0 | | |
| Minimum Split (s) | 10.7 | 21.0 | 22.4 | 22.4 | | |
| Total Split (s) | 21.0 | 110.0 | 89.0 | 89.0 | | |
| Total Split (%) | 19.1% | 100.0% | 80.9% | 80.9% | | |
| Yellow Time (s) | 3.7 | 3.7 | 4.4 | 4.4 | | |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | | |
| Total Lost Time (s) | 5.7 | 5.7 | 6.4 | 6.4 | | |
| Lead/Lag | Lead | | Lag | Lag | | |
| Lead-Lag Optimize? | Yes | | Yes | Yes | | |
| Recall Mode | None | C-Min | C-Min | C-Min | | |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 110 |
| Offset: 32 (29%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 60 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 42: Mission Gorge Road & SR 52 WB On Ramp



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 125 | 950 | 1680 | 990 | 0 | 0 |
| Future Volume (veh/h) | 125 | 950 | 1680 | 990 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 0.98 | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Work Zone On Approach | | No | No | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | | |
| Adj Flow Rate, veh/h | 136 | 1033 | 1989 | 967 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | | |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | | |
| Cap, veh/h | 163 | 3347 | 2987 | 1239 | | |
| Arrive On Green | 0.18 | 1.00 | 1.00 | 1.00 | | |
| Sat Flow, veh/h | 1781 | 3647 | 3741 | 1552 | | |
| Grp Volume(v), veh/h | 136 | 1033 | 1989 | 967 | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1870 | 1552 | | |
| Q Serve(g_s), s | 8.1 | 0.0 | 0.0 | 0.0 | | |
| Cycle Q Clear(g_c), s | 8.1 | 0.0 | 0.0 | 0.0 | | |
| Prop In Lane | 1.00 | | | 1.00 | | |
| Lane Grp Cap(c), veh/h | 163 | 3347 | 2987 | 1239 | | |
| V/C Ratio(X) | 0.83 | 0.31 | 0.67 | 0.78 | | |
| Avail Cap(c_a), veh/h | 248 | 3370 | 2987 | 1239 | | |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 2.00 | | |
| Upstream Filter(I) | 0.93 | 0.93 | 0.60 | 0.60 | | |
| Uniform Delay (d), s/veh | 44.1 | 0.0 | 0.0 | 0.0 | | |
| Incr Delay (d2), s/veh | 12.9 | 0.2 | 0.7 | 3.0 | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | | |
| %ile BackOfQ(50%),veh/ln | 3.8 | 0.1 | 0.3 | 1.0 | | |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 57.0 | 0.2 | 0.7 | 3.0 | | |
| LnGrp LOS | E | A | A | A | | |
| Approach Vol, veh/h | | 1169 | 2956 | | | |
| Approach Delay, s/veh | | 6.8 | 1.5 | | | |
| Approach LOS | | A | A | | | |

| Timer - Assigned Phs | 2 | | | 5 | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 110.0 | | | 15.8 | 94.2 |
| Change Period (Y+Rc), s | * 6.4 | | | * 5.7 | 6.4 |
| Max Green Setting (Gmax), s | * 1E2 | | | * 15 | 82.6 |
| Max Q Clear Time (g_c+I1), s | 2.0 | | | 10.1 | 2.0 |
| Green Ext Time (p_c), s | 2.5 | | | 0.1 | 51.3 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 3.0 |
| HCM 6th LOS | A |

**Notes**

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

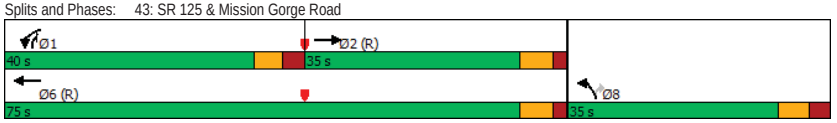




| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 700 | 320 | 980 | 2030 | 690 | 930 |
| Future Volume (vph) | 700 | 320 | 980 | 2030 | 690 | 930 |
| Confl. Peds. (#/hr) | | 11 | | | | |
| Confl. Bikes (#/hr) | | 3 | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | NA | | Prot | NA | Prot | pm+ov |
| Protected Phases | 2 | | 1 | 6 | 8 | 1 |
| Permitted Phases | | | | | | 8 |
| Detector Phase | 2 | | 1 | 6 | 8 | 1 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 11.0 | | 5.0 | 10.0 | 5.0 | 5.0 |
| Minimum Split (s) | 17.4 | | 11.7 | 20.0 | 20.0 | 11.7 |
| Total Split (s) | 35.0 | | 40.0 | 75.0 | 35.0 | 40.0 |
| Total Split (%) | 31.8% | | 36.4% | 68.2% | 31.8% | 36.4% |
| Yellow Time (s) | 4.4 | | 3.7 | 4.4 | 4.1 | 3.7 |
| All-Red Time (s) | 2.0 | | 3.0 | 2.0 | 3.0 | 3.0 |
| Lost Time Adjust (s) | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.4 | | 6.7 | 6.4 | 7.1 | 6.7 |
| Lead/Lag | Lag | | Lead | | | Lead |
| Lead-Lag Optimize? | Yes | | Yes | | | Yes |
| Recall Mode | C-Max | | None | C-Max | None | None |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 110 |
| Offset: 29 (26%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 90 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 43: SR 125 & Mission Gorge Road



| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 700 | 320 | 980 | 2030 | 690 | 930 |
| Future Volume (veh/h) | 700 | 320 | 980 | 2030 | 690 | 930 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | 0.96 | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 761 | 348 | 1065 | 2207 | 750 | 1011 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 885 | 394 | 1046 | 3184 | 876 | 1552 |
| Arrive On Green | 0.52 | 0.52 | 0.30 | 0.62 | 0.25 | 0.25 |
| Sat Flow, veh/h | 3572 | 1514 | 3456 | 5274 | 3456 | 2790 |
| Grp Volume(v), veh/h | 761 | 348 | 1065 | 2207 | 750 | 1011 |
| Grp Sat Flow(s),veh/h/ln | 1702 | 1514 | 1728 | 1702 | 1728 | 1395 |
| Q Serve(g_s), s | 21.3 | 22.5 | 33.3 | 31.5 | 22.8 | 27.7 |
| Cycle Q Clear(g_c), s | 21.3 | 22.5 | 33.3 | 31.5 | 22.8 | 27.7 |
| Prop In Lane | | 1.00 | 1.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 885 | 394 | 1046 | 3184 | 876 | 1552 |
| V/C Ratio(X) | 0.86 | 0.88 | 1.02 | 0.69 | 0.86 | 0.65 |
| Avail Cap(c_a), veh/h | 885 | 394 | 1046 | 3184 | 876 | 1552 |
| HCM Platoon Ratio | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.97 | 0.97 | 0.57 | 0.57 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 24.7 | 24.9 | 38.3 | 13.7 | 39.1 | 17.0 |
| Incr Delay (d2), s/veh | 10.4 | 23.4 | 25.6 | 0.7 | 8.3 | 1.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 6.8 | 7.7 | 17.2 | 10.8 | 10.5 | 8.7 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 35.1 | 48.3 | 64.0 | 14.4 | 47.5 | 18.0 |
| LnGrp LOS | D | D | F | B | D | B |
| Approach Vol, veh/h | 1109 | | | 3272 | 1761 | |
| Approach Delay, s/veh | 39.2 | | | 30.6 | 30.5 | |
| Approach LOS | D | | | C | C | |

| Timer - Assigned Phs | 1 | 2 | 6 | 8 |
|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 40.0 | 35.0 | 75.0 | 35.0 |
| Change Period (Y+Rc), s | * 6.7 | 6.4 | 6.4 | 7.1 |
| Max Green Setting (Gmax), s | * 33 | 28.6 | 68.6 | 27.9 |
| Max Q Clear Time (g_c+I1), s | 35.3 | 24.5 | 33.5 | 29.7 |
| Green Ext Time (p_c), s | 0.0 | 2.5 | 23.3 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 32.1 |
| HCM 6th LOS | C |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

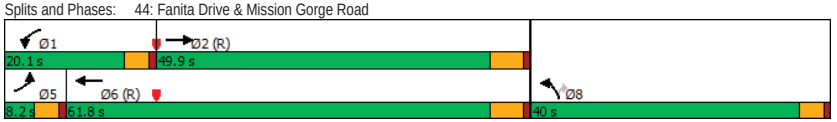




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 10 | 1140 | 420 | 355 | 1925 | 0 | 870 | 0 | 400 | 0 | 0 | 0 |
| Future Volume (vph) | 10 | 1140 | 420 | 355 | 1925 | 0 | 870 | 0 | 400 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | | | 4 | | | | | | | | | |
| Confl. Bikes (#/hr) | | | 2 | | | | | | 2 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | | Perm | | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | | | | | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | | 8 | | | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 7.0 | | 7.0 | | | |
| Minimum Split (s) | 8.2 | 33.3 | | 8.2 | 20.0 | | 34.2 | | 34.2 | | | |
| Total Split (s) | 8.2 | 49.9 | | 20.1 | 61.8 | | 40.0 | | 40.0 | | | |
| Total Split (%) | 7.5% | 45.4% | | 18.3% | 56.2% | | 36.4% | | 36.4% | | | |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | | 3.2 | | 3.2 | | | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | | 1.0 | | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | | 0.0 | | | |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | | 4.2 | | 4.2 | | | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | | None | | | |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 110 |
| Offset: 52 (47%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 90 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 44: Fanita Drive & Mission Gorge Road



2035 AM
44: Fanita Drive & Mission Gorge Road

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 10 | 1140 | 420 | 355 | 1925 | 0 | 870 | 0 | 400 | 0 | 0 | 0 |
| Future Volume (veh/h) | 10 | 1140 | 420 | 355 | 1925 | 0 | 870 | 0 | 400 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 1.00 | 1.00 | | 1.00 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 0 | 1870 | 0 | 1870 | | | |
| Adj Flow Rate, veh/h | 11 | 1239 | 457 | 386 | 2092 | 0 | 946 | 0 | 435 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 0 | 2 | 0 | 2 | | | |
| Cap, veh/h | 18 | 1598 | 587 | 451 | 2850 | 0 | 1060 | 0 | 486 | | | |
| Arrive On Green | 0.00 | 0.14 | 0.14 | 0.04 | 0.18 | 0.00 | 0.31 | 0.00 | 0.31 | | | |
| Sat Flow, veh/h | 1781 | 3649 | 1341 | 3456 | 5274 | 0 | 3456 | 0 | 1585 | | | |
| Grp Volume(v), veh/h | 11 | 1155 | 541 | 386 | 2092 | 0 | 946 | 0 | 435 | | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1702 | 1586 | 1728 | 1702 | 0 | 1728 | 0 | 1585 | | | |
| Q Serve(g_s), s | 0.7 | 36.0 | 36.1 | 12.2 | 42.5 | 0.0 | 28.7 | 0.0 | 28.8 | | | |
| Cycle Q Clear(g_c), s | 0.7 | 36.0 | 36.1 | 12.2 | 42.5 | 0.0 | 28.7 | 0.0 | 28.8 | | | |
| Prop In Lane | 1.00 | | 0.85 | 1.00 | | 0.00 | 1.00 | | 1.00 | | | |
| Lane Grp Cap(c), veh/h | 18 | 1491 | 695 | 451 | 2850 | 0 | 1060 | 0 | 486 | | | |
| V/C Ratio(X) | 0.59 | 0.77 | 0.78 | 0.86 | 0.73 | 0.00 | 0.89 | 0.00 | 0.89 | | | |
| Avail Cap(c_a), veh/h | 65 | 1491 | 695 | 500 | 2850 | 0 | 1125 | 0 | 516 | | | |
| HCM Platoon Ratio | 0.33 | 0.33 | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 0.63 | 0.63 | 0.63 | 0.18 | 0.18 | 0.00 | 1.00 | 0.00 | 1.00 | | | |
| Uniform Delay (d), s/veh | 54.6 | 41.8 | 41.9 | 51.6 | 37.2 | 0.0 | 36.4 | 0.0 | 36.4 | | | |
| Incr Delay (d2), s/veh | 17.7 | 2.6 | 5.4 | 2.4 | 0.3 | 0.0 | 9.1 | 0.0 | 17.6 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ln | 0.4 | 16.8 | 16.3 | 5.8 | 19.3 | 0.0 | 12.9 | 0.0 | 13.1 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 72.3 | 44.4 | 47.3 | 54.0 | 37.5 | 0.0 | 45.4 | 0.0 | 54.0 | | | |
| LnGrp LOS | E | D | D | D | D | A | D | A | D | | | |
| Approach Vol, veh/h | | 1707 | | | 2478 | | | 1381 | | | | |
| Approach Delay, s/veh | | 45.5 | | | 40.0 | | | 48.1 | | | | |
| Approach LOS | | D | | | D | | | D | | | | |

| Timer - Assigned Phs | 1 | 2 | | | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 18.6 | 53.5 | | | 5.3 | 66.7 | | 38.0 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | | | * 4.2 | 5.3 | | 4.2 | | | | |
| Max Green Setting (Gmax), s | * 16 | 44.6 | | | * 4 | 56.5 | | 35.8 | | | | |
| Max Q Clear Time (g_c+I1), s | 14.2 | 38.1 | | | 2.7 | 44.5 | | 30.8 | | | | |
| Green Ext Time (p_c), s | 0.2 | 5.2 | | | 0.0 | 10.2 | | 2.9 | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 43.7 | |
| HCM 6th LOS | | D | |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



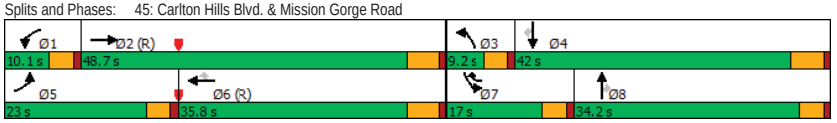
2035 AM
45: Carlton Hills Blvd. & Mission Gorge Road

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 740 | 775 | 90 | 25 | 1320 | 425 | 40 | 40 | 10 | 425 | 80 | 1010 |
| Future Volume (vph) | 740 | 775 | 90 | 25 | 1320 | 425 | 40 | 40 | 10 | 425 | 80 | 1010 |
| Confl. Peds. (#/hr) | | | 13 | | | 3 | | | 5 | | | 5 |
| Confl. Bikes (#/hr) | | | 2 | | | 2 | | | 3 | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | 47% |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | 6 | | | 8 | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | 8 | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 23.3 | | 8.2 | 34.3 | 8.2 | 8.2 | 34.2 | 34.2 | 8.2 | 32.4 | 32.4 |
| Total Split (s) | 23.0 | 48.7 | | 10.1 | 35.8 | 17.0 | 9.2 | 34.2 | 34.2 | 17.0 | 42.0 | 42.0 |
| Total Split (%) | 20.9% | 44.3% | | 9.2% | 32.5% | 15.5% | 8.4% | 31.1% | 31.1% | 15.5% | 38.2% | 38.2% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | 3.2 | 3.2 | 3.2 | 3.2 | 3.2 | 4.4 | 4.4 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | 4.2 | 4.2 | 4.2 | 4.2 | 4.2 | 5.4 | 5.4 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | C-Min | | None | C-Min | None | None | None | None | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 110 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 145 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 45: Carlton Hills Blvd. & Mission Gorge Road



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 740 | 775 | 90 | 25 | 1320 | 425 | 40 | 40 | 10 | 425 | 80 | 1010 |
| Future Volume (veh/h) | 740 | 775 | 90 | 25 | 1320 | 425 | 40 | 40 | 10 | 425 | 80 | 1010 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.96 | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 804 | 842 | 98 | 27 | 1435 | 462 | 43 | 43 | 11 | 462 | 0 | 1052 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 591 | 2044 | 236 | 36 | 1490 | 639 | 55 | 462 | 384 | 415 | 0 | 1035 |
| Arrive On Green | 0.06 | 0.15 | 0.15 | 0.01 | 0.10 | 0.10 | 0.03 | 0.25 | 0.25 | 0.12 | 0.00 | 0.33 |
| Sat Flow, veh/h | 3456 | 4620 | 535 | 1781 | 5106 | 1559 | 1781 | 1870 | 1552 | 3563 | 0 | 3110 |
| Grp Volume(v), veh/h | 804 | 619 | 321 | 27 | 1435 | 462 | 43 | 43 | 11 | 462 | 0 | 1052 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1702 | 1751 | 1781 | 1702 | 1559 | 1781 | 1870 | 1552 | 1781 | 0 | 1555 |
| Q Serve(g_s), s | 18.8 | 18.2 | 18.3 | 1.7 | 30.8 | 27.3 | 2.6 | 1.9 | 0.6 | 12.8 | 0.0 | 36.6 |
| Cycle Q Clear(g_c), s | 18.8 | 18.2 | 18.3 | 1.7 | 30.8 | 27.3 | 2.6 | 1.9 | 0.6 | 12.8 | 0.0 | 36.6 |
| Prop In Lane | 1.00 | | 0.31 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 591 | 1506 | 774 | 36 | 1490 | 639 | 55 | 462 | 384 | 415 | 0 | 1035 |
| V/C Ratio(X) | 1.36 | 0.41 | 0.41 | 0.74 | 0.96 | 0.72 | 0.78 | 0.09 | 0.03 | 1.11 | 0.00 | 1.02 |
| Avail Cap(c_a), veh/h | 591 | 1506 | 774 | 96 | 1490 | 639 | 81 | 510 | 423 | 415 | 0 | 1035 |
| HCM Platoon Ratio | 0.33 | 0.33 | 0.33 | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.54 | 0.54 | 0.54 | 0.89 | 0.89 | 0.89 | 1.00 | 1.00 | 1.00 | 0.33 | 0.00 | 0.33 |
| Uniform Delay (d), s/veh | 51.9 | 34.0 | 34.0 | 54.3 | 49.1 | 34.9 | 52.9 | 31.9 | 31.4 | 48.6 | 0.0 | 36.7 |
| Incr Delay (d2), s/veh | 168.6 | 0.4 | 0.9 | 9.4 | 14.8 | 6.2 | 24.9 | 0.0 | 0.0 | 62.9 | 0.0 | 20.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 22.5 | 8.3 | 8.7 | 0.8 | 16.0 | 12.4 | 1.6 | 0.9 | 0.2 | 9.2 | 0.0 | 16.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 220.5 | 34.4 | 34.9 | 63.7 | 63.9 | 41.1 | 77.9 | 31.9 | 31.4 | 111.5 | 0.0 | 57.1 |
| LnGrp LOS | F | C | C | E | E | D | E | C | C | F | A | F |
| Approach Vol, veh/h | | 1744 | | | 1924 | | | 97 | | | 1514 | |
| Approach Delay, s/veh | | 120.3 | | | 58.4 | | | 52.2 | | | 73.7 | |
| Approach LOS | | F | | | E | | | D | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 6.4 | 54.0 | 7.6 | 42.0 | 23.0 | 37.4 | 17.0 | 32.6 |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | * 4.2 | 5.4 | * 4.2 | 5.3 | * 4.2 | * 5.4 |
| Max Green Setting (Gmax), s | * 5.9 | 43.4 | * 5 | 36.6 | * 19 | 30.5 | * 13 | * 30 |
| Max Q Clear Time (g_c+I1), s | 3.7 | 20.3 | 4.6 | 38.6 | 20.8 | 32.8 | 14.8 | 3.9 |
| Green Ext Time (p_c), s | 0.0 | 6.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 83.1 |
| HCM 6th LOS | F |

**Notes**

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

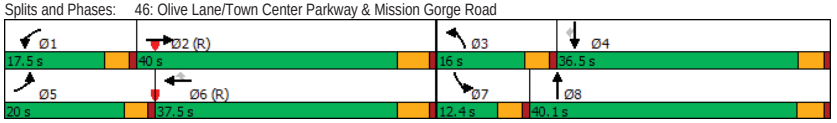




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 300 | 600 | 220 | 100 | 830 | 140 | 210 | 120 | 65 | 110 | 100 | 310 |
| Future Volume (vph) | 300 | 600 | 220 | 100 | 830 | 140 | 210 | 120 | 65 | 110 | 100 | 310 |
| Confl. Peds. (#/hr) | | | 5 | | | 8 | | | 11 | | | 3 |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | Perm | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | 10.0 | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 26.3 | | 8.2 | 36.3 | 36.3 | 8.2 | 34.6 | | 8.2 | 36.5 | 36.5 |
| Total Split (s) | 20.0 | 40.0 | | 17.5 | 37.5 | 37.5 | 16.0 | 40.1 | | 12.4 | 36.5 | 36.5 |
| Total Split (%) | 18.2% | 36.4% | | 15.9% | 34.1% | 34.1% | 14.5% | 36.5% | | 11.3% | 33.2% | 33.2% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | 4.3 | 3.2 | 3.6 | | 3.2 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | 5.3 | 4.2 | 4.6 | | 4.2 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | C-Min | | None | C-Min | C-Min | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 110 |
| Offset: 40 (36%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 90 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 46: Olive Lane/Town Center Parkway & Mission Gorge Road



## 46: Olive Lane/Town Center Parkway & Mission Gorge Road

06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 300 | 600 | 220 | 100 | 830 | 140 | 210 | 120 | 65 | 110 | 100 | 310 |
| Future Volume (veh/h) | 300 | 600 | 220 | 100 | 830 | 140 | 210 | 120 | 65 | 110 | 100 | 310 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 326 | 652 | 239 | 109 | 902 | 152 | 228 | 130 | 71 | 120 | 109 | 337 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 388 | 1801 | 648 | 135 | 2302 | 711 | 290 | 247 | 135 | 177 | 349 | 518 |
| Arrive On Green | 0.15 | 0.65 | 0.65 | 0.08 | 0.45 | 0.45 | 0.08 | 0.22 | 0.22 | 0.05 | 0.19 | 0.19 |
| Sat Flow, veh/h | 3456 | 3697 | 1330 | 1781 | 5106 | 1577 | 3456 | 1125 | 614 | 3456 | 1870 | 2776 |
| Grp Volume(v), veh/h | 326 | 599 | 292 | 109 | 902 | 152 | 228 | 0 | 201 | 120 | 109 | 337 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1702 | 1623 | 1781 | 1702 | 1577 | 1728 | 0 | 1739 | 1728 | 1870 | 1388 |
| Q Serve(g_s), s | 10.1 | 8.9 | 9.1 | 6.6 | 13.0 | 6.4 | 7.1 | 0.0 | 11.2 | 3.8 | 5.5 | 12.4 |
| Cycle Q Clear(g_c), s | 10.1 | 8.9 | 9.1 | 6.6 | 13.0 | 6.4 | 7.1 | 0.0 | 11.2 | 3.8 | 5.5 | 12.4 |
| Prop In Lane | 1.00 | | 0.82 | 1.00 | | 1.00 | 1.00 | | 0.35 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 388 | 1658 | 790 | 135 | 2302 | 711 | 290 | 0 | 381 | 177 | 349 | 518 |
| V/C Ratio(X) | 0.84 | 0.36 | 0.37 | 0.81 | 0.39 | 0.21 | 0.79 | 0.00 | 0.53 | 0.68 | 0.31 | 0.65 |
| Avail Cap(c_a), veh/h | 496 | 1658 | 790 | 215 | 2302 | 711 | 371 | 0 | 561 | 258 | 544 | 808 |
| HCM Platoon Ratio | 1.33 | 1.33 | 1.33 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.78 | 0.78 | 0.78 | 0.71 | 0.71 | 0.71 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 45.8 | 11.5 | 11.5 | 50.0 | 20.1 | 18.4 | 49.4 | 0.0 | 37.9 | 51.3 | 38.6 | 41.4 |
| Incr Delay (d2), s/veh | 6.5 | 0.5 | 1.0 | 3.4 | 0.4 | 0.5 | 6.3 | 0.0 | 1.6 | 1.7 | 0.9 | 2.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 4.4 | 3.0 | 3.0 | 3.0 | 5.0 | 2.4 | 3.3 | 0.0 | 4.9 | 1.7 | 2.6 | 4.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 52.3 | 12.0 | 12.6 | 53.5 | 20.5 | 18.8 | 55.7 | 0.0 | 39.5 | 53.0 | 39.6 | 44.0 |
| LnGrp LOS | D | B | B | D | C | B | E | A | D | D | D | D |
| Approach Vol, veh/h | | 1217 | | | 1163 | | | 429 | | | 566 | |
| Approach Delay, s/veh | | 22.9 | | | 23.4 | | | 48.1 | | | 45.0 | |
| Approach LOS | | C | | | C | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 12.6 | 58.9 | 13.4 | 25.1 | 16.5 | 54.9 | 9.8 | 28.7 |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | * 4.2 | * 4.6 | * 4.2 | 5.3 | * 4.2 | 4.6 |
| Max Green Setting (Gmax), s | * 13 | 34.7 | * 12 | * 32 | * 16 | 32.2 | * 8.2 | 35.5 |
| Max Q Clear Time (g_c+I1), s | 8.6 | 11.1 | 9.1 | 14.4 | 12.1 | 15.0 | 5.8 | 13.2 |
| Green Ext Time (p_c), s | 0.0 | 6.9 | 0.1 | 3.4 | 0.2 | 8.5 | 0.0 | 1.6 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 30.0 |
| HCM 6th LOS | C |

**Notes**

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.





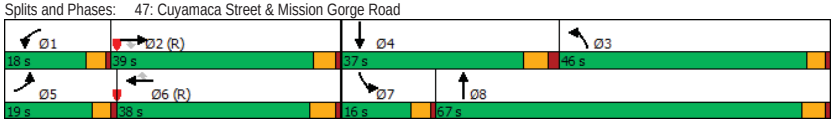
## 47: Cuyamaca Street & Mission Gorge Road

06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 170 | 435 | 320 | 190 | 560 | 160 | 700 | 560 | 150 | 145 | 555 | 140 |
| Future Volume (vph) | 170 | 435 | 320 | 190 | 560 | 160 | 700 | 560 | 150 | 145 | 555 | 140 |
| Confl. Peds. (#/hr) | | | 11 | | | 14 | | | 19 | | | 16 |
| Confl. Bikes (#/hr) | | | 4 | | | | | | | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | 10.0 | 4.0 | 7.0 | | 4.0 | 15.0 | |
| Minimum Split (s) | 19.0 | 34.8 | 34.8 | 8.2 | 34.3 | 34.3 | 8.2 | 38.0 | | 8.2 | 37.0 | |
| Total Split (s) | 19.0 | 39.0 | 39.0 | 18.0 | 38.0 | 38.0 | 46.0 | 67.0 | | 16.0 | 37.0 | |
| Total Split (%) | 13.6% | 27.9% | 27.9% | 12.9% | 27.1% | 27.1% | 32.9% | 47.9% | | 11.4% | 26.4% | |
| Yellow Time (s) | 3.2 | 3.8 | 3.8 | 3.2 | 4.3 | 4.3 | 3.2 | 4.0 | | 3.2 | 4.0 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 2.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.2 | 4.8 | 4.8 | 4.2 | 5.3 | 5.3 | 4.2 | 5.0 | | 4.2 | 6.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lag | Lag | | Lead | Lead | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | C-Min | C-Min | None | C-Min | C-Min | None | None | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 140 |
| Actuated Cycle Length: 140 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green, Master Intersection |
| Natural Cycle: 120 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 47: Cuyamaca Street & Mission Gorge Road



2035 AM
47: Cuyamaca Street & Mission Gorge Road

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 170 | 435 | 320 | 190 | 560 | 160 | 700 | 560 | 150 | 145 | 555 | 140 |
| Future Volume (veh/h) | 170 | 435 | 320 | 190 | 560 | 160 | 700 | 560 | 150 | 145 | 555 | 140 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 0.96 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1683 | 1683 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 185 | 473 | 348 | 207 | 609 | 174 | 761 | 609 | 163 | 158 | 603 | 152 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 235 | 1700 | 515 | 256 | 1732 | 531 | 824 | 994 | 265 | 207 | 843 | 207 |
| Arrive On Green | 0.07 | 0.33 | 0.33 | 0.07 | 0.34 | 0.34 | 0.24 | 0.40 | 0.40 | 0.06 | 0.21 | 0.21 |
| Sat Flow, veh/h | 3456 | 5106 | 1546 | 3456 | 5106 | 1565 | 3456 | 2487 | 664 | 3456 | 4051 | 997 |
| Grp Volume(v), veh/h | 185 | 473 | 348 | 207 | 609 | 174 | 761 | 391 | 381 | 158 | 504 | 251 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1702 | 1546 | 1728 | 1702 | 1565 | 1728 | 1599 | 1552 | 1728 | 1702 | 1644 |
| Q Serve(g_s), s | 7.4 | 9.5 | 14.4 | 8.3 | 12.5 | 11.6 | 30.1 | 27.2 | 27.3 | 6.3 | 19.3 | 19.9 |
| Cycle Q Clear(g_c), s | 7.4 | 9.5 | 14.4 | 8.3 | 12.5 | 11.6 | 30.1 | 27.2 | 27.3 | 6.3 | 19.3 | 19.9 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.43 | 1.00 | | 0.61 |
| Lane Grp Cap(c), veh/h | 235 | 1700 | 515 | 256 | 1732 | 531 | 824 | 639 | 620 | 207 | 708 | 342 |
| V/C Ratio(X) | 0.79 | 0.28 | 0.68 | 0.81 | 0.35 | 0.33 | 0.92 | 0.61 | 0.61 | 0.76 | 0.71 | 0.73 |
| Avail Cap(c_a), veh/h | 365 | 1700 | 515 | 341 | 1732 | 531 | 1032 | 708 | 687 | 291 | 754 | 364 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.93 | 0.93 | 0.93 | 0.92 | 0.92 | 0.92 | 0.53 | 0.53 | 0.53 | 0.92 | 0.92 | 0.92 |
| Uniform Delay (d), s/veh | 64.2 | 34.3 | 11.4 | 63.8 | 34.7 | 34.4 | 52.1 | 33.4 | 33.5 | 64.8 | 51.5 | 51.8 |
| Incr Delay (d2), s/veh | 2.4 | 0.4 | 6.5 | 7.0 | 0.5 | 1.5 | 6.2 | 0.9 | 1.0 | 4.0 | 4.2 | 9.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 3.3 | 4.0 | 5.7 | 3.8 | 5.2 | 4.6 | 13.6 | 10.6 | 10.4 | 2.9 | 8.6 | 9.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 66.6 | 34.7 | 17.9 | 70.8 | 35.2 | 35.9 | 58.2 | 34.4 | 34.4 | 68.8 | 55.8 | 61.3 |
| LnGrp LOS | E | C | B | E | D | D | E | C | C | E | E | E |
| Approach Vol, veh/h | | 1006 | | | 990 | | | 1533 | | | 913 | |
| Approach Delay, s/veh | | 34.7 | | | 42.8 | | | 46.2 | | | 59.5 | |
| Approach LOS | | C | | | D | | | D | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 14.6 | 51.9 | 38.4 | 35.1 | 13.7 | 52.8 | 12.6 | 60.9 |
| Change Period (Y+Rc), s | * 4.2 | * 5.3 | 5.0 | * 6 | * 4.2 | 5.3 | * 4.2 | 5.0 |
| Max Green Setting (Gmax), s | * 14 | * 34 | 41.8 | * 31 | * 15 | 32.7 | * 12 | 62.0 |
| Max Q Clear Time (g_c+I1), s | 10.3 | 16.4 | 32.1 | 21.9 | 9.4 | 14.5 | 8.3 | 29.3 |
| Green Ext Time (p_c), s | 0.1 | 8.9 | 1.3 | 5.3 | 0.1 | 6.7 | 0.1 | 8.4 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 45.6 |
| HCM 6th LOS | D |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



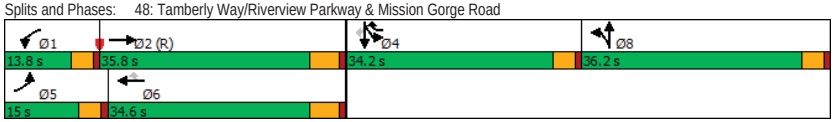
2035 AM
48: Tamberly Way/Riverview Parkway & Mission Gorge Road

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 200 | 470 | 55 | 55 | 770 | 255 | 50 | 100 | 50 | 130 | 20 | 75 |
| Future Volume (vph) | 200 | 470 | 55 | 55 | 770 | 255 | 50 | 100 | 50 | 130 | 20 | 75 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | 1 | | | 3 | | | | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | 43% | | |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Split | NA | | Split | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 4 | 8 | 8 | | 4 | 4 | |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 4 | 8 | 8 | | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | 7.0 | 4.0 | 4.0 | | 7.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 23.3 | | 8.2 | 34.3 | 34.2 | 36.2 | 36.2 | | 34.2 | 34.2 | 34.2 |
| Total Split (s) | 15.0 | 35.8 | | 13.8 | 34.6 | 34.2 | 36.2 | 36.2 | | 34.2 | 34.2 | 34.2 |
| Total Split (%) | 12.5% | 29.8% | | 11.5% | 28.8% | 28.5% | 30.2% | 30.2% | | 28.5% | 28.5% | 28.5% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | 3.2 | 3.2 | 3.2 | | 3.2 | 3.2 | 3.2 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | 4.2 | 4.2 | 4.2 | | 4.2 | 4.2 | 4.2 |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | Min | None | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 0 (0%), Referenced to phase 2:EBT, Start of Green |
| Natural Cycle: 125 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 48: Tamberly Way/Riverview Parkway & Mission Gorge Road



2035 AM
48: Tamberly Way/Riverview Parkway & Mission Gorge Road

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 200 | 470 | 55 | 55 | 770 | 255 | 50 | 100 | 50 | 130 | 20 | 75 |
| Future Volume (veh/h) | 200 | 470 | 55 | 55 | 770 | 255 | 50 | 100 | 50 | 130 | 20 | 75 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.99 | 1.00 | | 1.00 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 217 | 511 | 60 | 60 | 837 | 277 | 54 | 109 | 54 | 157 | 0 | 82 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 160 | 2889 | 334 | 77 | 2948 | 1016 | 200 | 132 | 66 | 255 | 0 | 112 |
| Arrive On Green | 0.09 | 0.62 | 0.62 | 0.04 | 0.58 | 0.58 | 0.11 | 0.11 | 0.11 | 0.07 | 0.00 | 0.07 |
| Sat Flow, veh/h | 1781 | 4630 | 535 | 1781 | 5106 | 1564 | 1781 | 1180 | 585 | 3563 | 0 | 1561 |
| Grp Volume(v), veh/h | 217 | 374 | 197 | 60 | 837 | 277 | 54 | 0 | 163 | 157 | 0 | 82 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1702 | 1761 | 1781 | 1702 | 1564 | 1781 | 0 | 1765 | 1781 | 0 | 1561 |
| Q Serve(g_s), s | 10.8 | 5.6 | 5.7 | 4.0 | 9.9 | 9.1 | 3.3 | 0.0 | 10.8 | 5.1 | 0.0 | 6.2 |
| Cycle Q Clear(g_c), s | 10.8 | 5.6 | 5.7 | 4.0 | 9.9 | 9.1 | 3.3 | 0.0 | 10.8 | 5.1 | 0.0 | 6.2 |
| Prop In Lane | 1.00 | | 0.30 | 1.00 | | 1.00 | 1.00 | | 0.33 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 160 | 2124 | 1099 | 77 | 2948 | 1016 | 200 | 0 | 198 | 255 | 0 | 112 |
| V/C Ratio(X) | 1.35 | 0.18 | 0.18 | 0.78 | 0.28 | 0.27 | 0.27 | 0.00 | 0.82 | 0.62 | 0.00 | 0.73 |
| Avail Cap(c_a), veh/h | 160 | 2124 | 1099 | 143 | 2948 | 1016 | 475 | 0 | 471 | 891 | 0 | 390 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.94 | 0.94 | 0.94 | 0.96 | 0.96 | 0.96 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 54.6 | 9.5 | 9.6 | 56.8 | 12.8 | 9.0 | 48.8 | 0.0 | 52.1 | 54.1 | 0.0 | 54.6 |
| Incr Delay (d2), s/veh | 192.5 | 0.2 | 0.3 | 5.9 | 0.1 | 0.2 | 0.3 | 0.0 | 3.3 | 0.9 | 0.0 | 3.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 13.3 | 2.0 | 2.1 | 1.9 | 3.6 | 3.7 | 1.5 | 0.0 | 5.0 | 2.3 | 0.0 | 2.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 247.1 | 9.7 | 9.9 | 62.7 | 12.9 | 9.2 | 49.1 | 0.0 | 55.4 | 55.0 | 0.0 | 58.1 |
| LnGrp LOS | F | A | A | E | B | A | D | A | E | E | A | E |
| Approach Vol, veh/h | | 788 | | | 1174 | | | 217 | | | 239 | |
| Approach Delay, s/veh | | 75.1 | | | 14.6 | | | 53.8 | | | 56.1 | |
| Approach LOS | | E | | | B | | | D | | | E | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 9.4 | 80.2 | | 12.8 | 15.0 | 74.6 | | 17.6 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | | * 4.2 | * 4.2 | 5.3 | | 4.2 | | | | |
| Max Green Setting (Gmax), s | * 9.6 | 30.5 | | * 30 | * 11 | 29.3 | | 32.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 6.0 | 7.7 | | 8.2 | 12.8 | 11.9 | | 12.8 | | | | |
| Green Ext Time (p_c), s | 0.0 | 6.1 | | 0.4 | 0.0 | 9.2 | | 0.6 | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | | 41.9 |
| HCM 6th LOS | | | D |

**Notes**

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



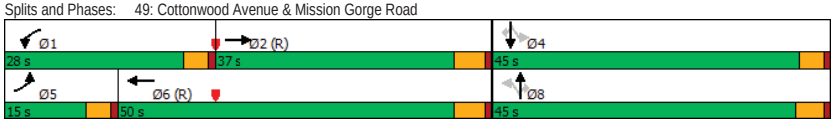
2035 AM
49: Cottonwood Avenue & Mission Gorge Road

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 35 | 450 | 125 | 130 | 940 | 55 | 120 | 65 | 125 | 30 | 15 | 50 |
| Future Volume (vph) | 35 | 450 | 125 | 130 | 940 | 55 | 120 | 65 | 125 | 30 | 15 | 50 |
| Confl. Peds. (#/hr) | | | 6 | | | 19 | | | 1 | | | 4 |
| Confl. Bikes (#/hr) | | | 2 | | | 1 | | | | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Perm | NA | Perm | Perm | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | 8 | 4 | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | 8 | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 4.0 | 4.0 | 4.0 | 7.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 23.3 | | 8.2 | 24.3 | | 33.8 | 33.8 | 33.8 | 32.2 | 32.2 | 32.2 |
| Total Split (s) | 15.0 | 37.0 | | 28.0 | 50.0 | | 45.0 | 45.0 | 45.0 | 45.0 | 45.0 | 45.0 |
| Total Split (%) | 13.6% | 33.6% | | 25.5% | 45.5% | | 40.9% | 40.9% | 40.9% | 40.9% | 40.9% | 40.9% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | | 3.8 | 3.8 | 3.8 | 3.2 | 3.2 | 3.2 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | | | 4.8 | 4.8 | | 4.2 | 4.2 |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | None | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 110 |
| Offset: 21 (19%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 70 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 49: Cottonwood Avenue & Mission Gorge Road



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 35 | 450 | 125 | 130 | 940 | 55 | 120 | 65 | 125 | 30 | 15 | 50 |
| Future Volume (veh/h) | 35 | 450 | 125 | 130 | 940 | 55 | 120 | 65 | 125 | 30 | 15 | 50 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.96 | 1.00 | | 1.00 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 38 | 489 | 136 | 141 | 1022 | 60 | 130 | 71 | 136 | 33 | 16 | 54 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 48 | 1609 | 432 | 168 | 2322 | 136 | 54 | 19 | 587 | 55 | 16 | 578 |
| Arrive On Green | 0.03 | 0.40 | 0.40 | 0.19 | 0.94 | 0.94 | 0.37 | 0.37 | 0.37 | 0.37 | 0.37 | 0.37 |
| Sat Flow, veh/h | 1781 | 3977 | 1068 | 1781 | 4920 | 288 | 0 | 50 | 1584 | 0 | 44 | 1557 |
| Grp Volume(v), veh/h | 38 | 416 | 209 | 141 | 707 | 375 | 201 | 0 | 136 | 49 | 0 | 54 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1702 | 1640 | 1781 | 1702 | 1804 | 50 | 0 | 1584 | 44 | 0 | 1557 |
| Q Serve(g_s), s | 2.3 | 9.1 | 9.6 | 8.4 | 2.2 | 2.2 | 0.0 | 0.0 | 6.5 | 0.0 | 0.0 | 2.5 |
| Cycle Q Clear(g_c), s | 2.3 | 9.1 | 9.6 | 8.4 | 2.2 | 2.2 | 40.8 | 0.0 | 6.5 | 40.8 | 0.0 | 2.5 |
| Prop In Lane | 1.00 | | 0.65 | 1.00 | | 0.16 | 0.65 | | 1.00 | 0.67 | | 1.00 |
| Lane Grp Cap(c), veh/h | 48 | 1378 | 664 | 168 | 1607 | 851 | 72 | 0 | 587 | 71 | 0 | 578 |
| V/C Ratio(X) | 0.79 | 0.30 | 0.31 | 0.84 | 0.44 | 0.44 | 2.77 | 0.00 | 0.23 | 0.69 | 0.00 | 0.09 |
| Avail Cap(c_a), veh/h | 175 | 1378 | 664 | 385 | 1607 | 851 | 72 | 0 | 587 | 71 | 0 | 578 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.98 | 0.98 | 0.98 | 0.54 | 0.54 | 0.54 | 0.98 | 0.00 | 0.98 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 53.2 | 22.2 | 22.3 | 43.8 | 1.7 | 1.7 | 44.7 | 0.0 | 23.8 | 41.4 | 0.0 | 22.5 |
| Incr Delay (d2), s/veh | 9.8 | 0.6 | 1.2 | 2.3 | 0.5 | 0.9 | 834.5 | 0.0 | 0.1 | 20.6 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.2 | 3.6 | 3.8 | 3.4 | 0.6 | 0.7 | 18.8 | 0.0 | 2.5 | 1.8 | 0.0 | 0.9 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 63.0 | 22.8 | 23.6 | 46.1 | 2.2 | 2.6 | 879.2 | 0.0 | 23.9 | 62.1 | 0.0 | 22.6 |
| LnGrp LOS | E | C | C | D | A | A | F | A | C | E | A | C |
| Approach Vol, veh/h | | 663 | | | 1223 | | | 337 | | | 103 | |
| Approach Delay, s/veh | | 25.3 | | | 7.4 | | | 534.0 | | | 41.4 | |
| Approach LOS | | C | | | A | | | F | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 14.6 | 49.8 | | 45.6 | 7.2 | 57.2 | | 45.6 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | | * 4.8 | * 4.2 | 5.3 | | * 4.8 | | | | |
| Max Green Setting (Gmax), s | * 24 | 31.7 | | * 41 | * 11 | 44.7 | | * 40 | | | | |
| Max Q Clear Time (g_c+I1), s | 10.4 | 11.6 | | 42.8 | 4.3 | 4.2 | | 42.8 | | | | |
| Green Ext Time (p_c), s | 0.1 | 3.2 | | 0.0 | 0.0 | 12.9 | | 0.0 | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 90.3 | |
| HCM 6th LOS | | F | |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

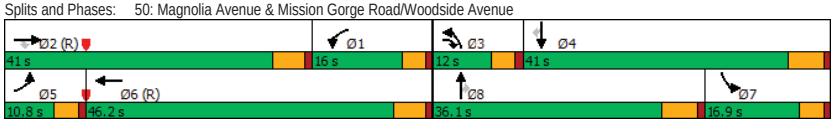




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 155 | 220 | 180 | 430 | 630 | 300 | 270 | 805 | 430 | 335 | 1200 | 285 |
| Future Volume (vph) | 155 | 220 | 180 | 430 | 630 | 300 | 270 | 805 | 430 | 335 | 1200 | 285 |
| Confl. Peds. (#/hr) | | | 6 | | | 11 | | | 19 | | | 6 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | | | | 8 | | | 4 |
| Detector Phase | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | 8 | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 4.0 | 4.0 | 10.0 | | 4.0 | 7.0 | 7.0 | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 38.3 | 8.2 | 8.2 | 35.3 | | 8.2 | 34.7 | 34.7 | 8.2 | 35.7 | 35.7 |
| Total Split (s) | 10.8 | 41.0 | 12.0 | 16.0 | 46.2 | | 12.0 | 36.1 | 36.1 | 16.9 | 41.0 | 41.0 |
| Total Split (%) | 9.8% | 37.3% | 10.9% | 14.5% | 42.0% | | 10.9% | 32.8% | 32.8% | 15.4% | 37.3% | 37.3% |
| Yellow Time (s) | 3.2 | 4.3 | 3.2 | 3.2 | 4.3 | | 3.2 | 4.7 | 4.7 | 3.2 | 4.7 | 4.7 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | 4.2 | 4.2 | 5.3 | | 4.2 | 5.7 | 5.7 | 4.2 | 5.7 | 5.7 |
| Lead/Lag | Lead | Lead | Lead | Lag | Lag | | Lead | Lead | Lead | Lag | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | C-Min | None | None | C-Min | | None | None | None | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 110 |
| Offset: 46 (42%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 125 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 50: Magnolia Avenue & Mission Gorge Road/Woodside Avenue



## 50: Magnolia Avenue & Mission Gorge Road/Woodside Avenue

06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 155 | 220 | 180 | 430 | 630 | 300 | 270 | 805 | 430 | 335 | 1200 | 285 |
| Future Volume (veh/h) | 155 | 220 | 180 | 430 | 630 | 300 | 270 | 805 | 430 | 335 | 1200 | 285 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 168 | 239 | 196 | 467 | 685 | 293 | 293 | 875 | 420 | 364 | 1304 | 284 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 207 | 519 | 341 | 906 | 865 | 370 | 245 | 982 | 429 | 399 | 1189 | 527 |
| Arrive On Green | 0.10 | 0.24 | 0.24 | 0.26 | 0.36 | 0.36 | 0.14 | 0.55 | 0.55 | 0.12 | 0.33 | 0.33 |
| Sat Flow, veh/h | 3456 | 3554 | 1566 | 3456 | 2416 | 1034 | 3456 | 3554 | 1552 | 3456 | 3554 | 1577 |
| Grp Volume(v), veh/h | 168 | 239 | 196 | 467 | 504 | 474 | 293 | 875 | 420 | 364 | 1304 | 284 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1566 | 1728 | 1777 | 1673 | 1728 | 1777 | 1552 | 1728 | 1777 | 1577 |
| Q Serve(g_s), s | 5.2 | 6.3 | 6.0 | 12.7 | 27.9 | 27.9 | 7.8 | 23.9 | 29.0 | 11.5 | 36.8 | 16.1 |
| Cycle Q Clear(g_c), s | 5.2 | 6.3 | 6.0 | 12.7 | 27.9 | 27.9 | 7.8 | 23.9 | 29.0 | 11.5 | 36.8 | 16.1 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.62 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 207 | 519 | 341 | 906 | 636 | 599 | 245 | 982 | 429 | 399 | 1189 | 527 |
| V/C Ratio(X) | 0.81 | 0.46 | 0.57 | 0.52 | 0.79 | 0.79 | 1.20 | 0.89 | 0.98 | 0.91 | 1.10 | 0.54 |
| Avail Cap(c_a), veh/h | 207 | 1153 | 620 | 906 | 661 | 622 | 245 | 982 | 429 | 399 | 1189 | 527 |
| HCM Platoon Ratio | 1.67 | 1.67 | 1.67 | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.98 | 0.98 | 0.98 | 1.00 | 1.00 | 1.00 | 0.88 | 0.88 | 0.88 | 0.40 | 0.40 | 0.40 |
| Uniform Delay (d), s/veh | 48.9 | 37.9 | 13.6 | 34.6 | 31.6 | 31.6 | 47.2 | 23.1 | 24.3 | 48.1 | 36.6 | 29.7 |
| Incr Delay (d2), s/veh | 19.3 | 2.9 | 6.8 | 0.2 | 9.7 | 10.3 | 117.6 | 9.4 | 35.3 | 12.1 | 49.6 | 0.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.7 | 2.8 | 2.7 | 5.2 | 13.2 | 12.5 | 7.0 | 7.2 | 10.2 | 5.4 | 23.2 | 5.9 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 68.2 | 40.8 | 20.3 | 34.8 | 41.3 | 41.9 | 164.8 | 32.5 | 59.6 | 60.2 | 86.2 | 30.2 |
| LnGrp LOS | E | D | C | C | D | D | F | C | E | E | F | C |
| Approach Vol, veh/h | | 603 | | | 1445 | | | 1588 | | | 1952 | |
| Approach Delay, s/veh | | 41.8 | | | 39.4 | | | 64.1 | | | 73.2 | |
| Approach LOS | | D | | | D | | | E | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 34.1 | 21.4 | 12.0 | 42.5 | 10.8 | 44.7 | 18.4 | 36.1 |
| Change Period (Y+Rc), s | 5.3 | * 5.3 | * 4.2 | 5.7 | * 4.2 | 5.3 | 5.7 | * 5.7 |
| Max Green Setting (Gmax), s | 11.8 | * 36 | * 7.8 | 35.3 | * 6.6 | 40.9 | 12.7 | * 30 |
| Max Q Clear Time (g_c+I1), s | 14.7 | 8.3 | 9.8 | 38.8 | 7.2 | 29.9 | 13.5 | 31.0 |
| Green Ext Time (p_c), s | 0.0 | 2.6 | 0.0 | 0.0 | 0.0 | 6.5 | 0.0 | 0.0 |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 58.5 | |
| HCM 6th LOS | | E | |

**Notes**

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.





## 51: Woodside Avenue & SR-67 SB Off-Ramp

06/06/2019

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 39.6 |
| Intersection LOS | E |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 10 | 150 | 360 | 10 | 0 | 320 | 0 | 0 | 10 | 590 | 40 |
| Future Vol, veh/h | 0 | 10 | 150 | 360 | 10 | 0 | 320 | 0 | 0 | 10 | 590 | 40 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 11 | 163 | 391 | 11 | 0 | 348 | 0 | 0 | 11 | 641 | 43 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 2 | 0 |

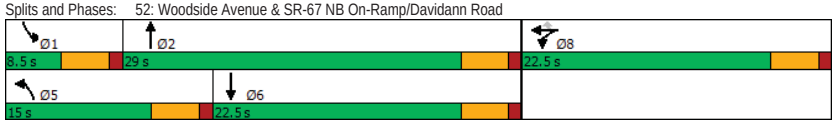
| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay | 17.3 | 50.2 | 47.7 | 34.9 |
| HCM LOS | C | F | E | D |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 97% | 3% | 0% |
| Vol Thru, % | 0% | 100% | 6% | 3% | 97% | 88% |
| Vol Right, % | 0% | 0% | 94% | 0% | 0% | 12% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 320 | 0 | 160 | 370 | 305 | 335 |
| LT Vol | 320 | 0 | 0 | 360 | 10 | 0 |
| Through Vol | 0 | 0 | 10 | 10 | 295 | 295 |
| RT Vol | 0 | 0 | 150 | 0 | 0 | 40 |
| Lane Flow Rate | 348 | 0 | 174 | 402 | 332 | 364 |
| Geometry Grp | 7 | 7 | 2 | 2 | 7 | 7 |
| Degree of Util (X) | 0.864 | 0 | 0.408 | 0.9 | 0.751 | 0.814 |
| Departure Headway (Hd) | 8.946 | 8.426 | 8.44 | 8.057 | 8.152 | 8.049 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 403 | 0 | 424 | 450 | 444 | 448 |
| Service Time | 6.708 | 6.188 | 6.523 | 6.116 | 5.925 | 5.821 |
| HCM Lane V/C Ratio | 0.864 | 0 | 0.41 | 0.893 | 0.748 | 0.813 |
| HCM Control Delay | 47.7 | 11.2 | 17.3 | 50.2 | 31.8 | 37.7 |
| HCM Lane LOS | E | N | C | F | D | E |
| HCM 95th-tile Q | 8.5 | 0 | 1.9 | 9.8 | 6.2 | 7.6 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 0 | 50 | 5 | 5 | 220 | 210 | 20 | 5 | 300 | 5 |
| Future Volume (vph) | 0 | 0 | 0 | 50 | 5 | 5 | 220 | 210 | 20 | 5 | 300 | 5 |
| Confl. Peds. (#/hr) | | | | | | | | | 1 | | | |
| Confl. Bikes (#/hr) | | | | | | 2 | | | 2 | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | | | | Split | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | | | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | 8 | | | | | | |
| Detector Phase | | | | 8 | 8 | 8 | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | | | | 22.5 | 22.5 | 22.5 | 8.5 | 22.5 | | 8.5 | 22.5 | |
| Total Split (s) | | | | 22.5 | 22.5 | 22.5 | 15.0 | 29.0 | | 8.5 | 22.5 | |
| Total Split (%) | | | | 37.5% | 37.5% | 37.5% | 25.0% | 48.3% | | 14.2% | 37.5% | |
| Yellow Time (s) | | | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | | | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | | | | | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | | | | | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | | | | None | None | None | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 41.9 |
| Natural Cycle: 60 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 52: Woodside Avenue & SR-67 NB On-Ramp/Davidann Road








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 50 | 5 | 5 | 220 | 210 | 20 | 5 | 300 | 5 |
| Future Volume (veh/h) | 0 | 0 | 0 | 50 | 5 | 5 | 220 | 210 | 20 | 5 | 300 | 5 |
| Initial Q (Qb), veh | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | | | 1.00 | | 0.97 | 1.00 | | 0.98 | 1.00 | | 0.97 |
| Parking Bus, Adj | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | | | | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | | | | 54 | 5 | 5 | 239 | 228 | 22 | 5 | 326 | 5 |
| Peak Hour Factor | | | | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | | | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | | | | 92 | 9 | 87 | 316 | 758 | 73 | 10 | 516 | 8 |
| Arrive On Green | | | | 0.06 | 0.06 | 0.06 | 0.18 | 0.45 | 0.45 | 0.01 | 0.28 | 0.28 |
| Sat Flow, veh/h | | | | 1637 | 152 | 1545 | 1781 | 1675 | 162 | 1781 | 1836 | 28 |
| Grp Volume(v), veh/h | | | | 59 | 0 | 5 | 239 | 0 | 250 | 5 | 0 | 331 |
| Grp Sat Flow(s),veh/h/ln | | | | 1789 | 0 | 1545 | 1781 | 0 | 1837 | 1781 | 0 | 1864 |
| Q Serve(g_s), s | | | | 0.9 | 0.0 | 0.1 | 3.5 | 0.0 | 2.4 | 0.1 | 0.0 | 4.3 |
| Cycle Q Clear(g_c), s | | | | 0.9 | 0.0 | 0.1 | 3.5 | 0.0 | 2.4 | 0.1 | 0.0 | 4.3 |
| Prop In Lane | | | | 0.92 | | 1.00 | 1.00 | | 0.09 | 1.00 | | 0.02 |
| Lane Grp Cap(c), veh/h | | | | 100 | 0 | 87 | 316 | 0 | 831 | 10 | 0 | 524 |
| V/C Ratio(X) | | | | 0.59 | 0.00 | 0.06 | 0.76 | 0.00 | 0.30 | 0.52 | 0.00 | 0.63 |
| Avail Cap(c_a), veh/h | | | | 1159 | 0 | 1001 | 673 | 0 | 1620 | 256 | 0 | 1208 |
| HCM Platoon Ratio | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | | | | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | | | | 12.8 | 0.0 | 12.4 | 10.9 | 0.0 | 4.8 | 13.8 | 0.0 | 8.7 |
| Incr Delay (d2), s/veh | | | | 5.4 | 0.0 | 0.3 | 3.7 | 0.0 | 0.2 | 36.5 | 0.0 | 1.3 |
| Initial Q Delay(d3),s/veh | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | | 0.4 | 0.0 | 0.0 | 1.3 | 0.0 | 0.4 | 0.1 | 0.0 | 1.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | 18.2 | 0.0 | 12.7 | 14.6 | 0.0 | 5.0 | 50.2 | 0.0 | 10.0 |
| LnGrp LOS | | | | B | A | B | B | A | A | D | A | B |
| Approach Vol, veh/h | | | | | 64 | | | 489 | | | 336 | |
| Approach Delay, s/veh | | | | | 17.7 | | | 9.7 | | | 10.6 | |
| Approach LOS | | | | | B | | | A | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 5 | 6 | | 8 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 4.7 | 17.1 | | 9.4 | 12.3 | | 6.1 | | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | | | | | |
| Max Green Setting (Gmax), s | 4.0 | 24.5 | | 10.5 | 18.0 | | 18.0 | | | | | |
| Max Q Clear Time (g_c+I1), s | 2.1 | 4.4 | | 5.5 | 6.3 | | 2.9 | | | | | |
| Green Ext Time (p_c), s | 0.0 | 1.4 | | 0.3 | 1.5 | | 0.2 | | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 10.6 | |
| HCM 6th LOS | B | |

| Intersection | |
|---|---|
| Int Delay, s/veh | 16.3 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 110 | 580 | 650 | 0 | 0 | 780 |
| Future Vol, veh/h | 110 | 580 | 650 | 0 | 0 | 780 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | 300 | - | - | - | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 120 | 630 | 707 | 0 | 0 | 848 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 1131 | 354 | 0 | - | - | - |
| Stage 1 | 707 | - | - | - | - | - |
| Stage 2 | 424 | - | - | - | - | - |
| Critical Hdwy | 6.84 | 6.9 | - | - | - | - |
| Critical Hdwy Stg 1 | 5.84 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.84 | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 3.32 | - | - | - | - |
| Pot Cap-1 Maneuver | 197 | 645 | - | 0 | 0 | - |
| Stage 1 | 450 | - | - | 0 | 0 | - |
| Stage 2 | 628 | - | - | 0 | 0 | - |
| Platoon blocked, % | | | - | | | - |
| Mov Cap-1 Maneuver | 197 | 645 | - | - | - | - |
| Mov Cap-2 Maneuver | 325 | - | - | - | - | - |
| Stage 1 | 450 | - | - | - | - | - |
| Stage 2 | 628 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 50.1 | 0 | 0 |
| HCM LOS | F | | |

| Minor Lane/Major Mvmt | NBT | WBLn1 | WBLn2 | SBT |
|---|---|---|---|---|
| Capacity (veh/h) | - | 325 | 645 | - |
| HCM Lane V/C Ratio | - | 0.368 | 0.977 | - |
| HCM Control Delay (s) | - | 22.4 | 55.3 | - |
| HCM Lane LOS | - | C | F | - |
| HCM 95th %tile Q(veh) | - | 1.6 | 14.5 | - |





| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 670 | 230 | 460 | 450 |
| Future Volume (Veh/h) | 0 | 0 | 670 | 230 | 460 | 450 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 0 | 728 | 250 | 500 | 489 |
| Pedestrians | 2 | | | | | |
| Lane Width (ft) | 0.0 | | | | | |
| Walking Speed (ft/s) | 4.0 | | | | | |
| Percent Blockage | 0 | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | 769 | | | 1029 |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 2100 | 491 | | | 980 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 2100 | 491 | | | 980 | |
| tC, single (s) | 6.8 | 6.9 | | | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 100 | 100 | | | 29 | |
| cM capacity (veh/h) | 13 | 523 | | | 700 | |

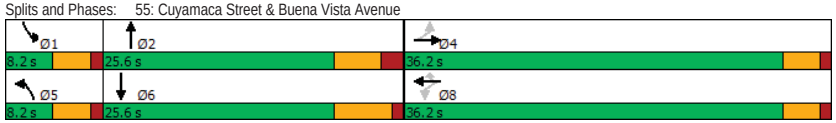
| Direction, Lane # | NB 1 | NB 2 | SB 1 | SB 2 | SB 3 |
|---|---|---|---|---|---|
| Volume Total | 485 | 493 | 500 | 244 | 244 |
| Volume Left | 0 | 0 | 500 | 0 | 0 |
| Volume Right | 0 | 250 | 0 | 0 | 0 |
| cSH | 1700 | 1700 | 700 | 1700 | 1700 |
| Volume to Capacity | 0.29 | 0.29 | 0.71 | 0.14 | 0.14 |
| Queue Length 95th (ft) | 0 | 0 | 151 | 0 | 0 |
| Control Delay (s) | 0.0 | 0.0 | 21.9 | 0.0 | 0.0 |
| Lane LOS | | | C | | |
| Approach Delay (s) | 0.0 | | 11.1 | | |
| Approach LOS | | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 5.6 | | |
| Intersection Capacity Utilization | 60.5% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 10 | 10 | 15 | 210 | 5 | 70 | 55 | 1360 | 180 | 70 | 1120 | 30 |
| Future Volume (vph) | 10 | 10 | 15 | 210 | 5 | 70 | 55 | 1360 | 180 | 70 | 1120 | 30 |
| Confl. Peds. (#/hr) | | | 3 | | | 7 | | | 5 | | | 2 |
| Confl. Bikes (#/hr) | | | 1 | | | 4 | | | 3 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Perm | NA | | Perm | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | 8 | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | 8 | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 10.0 | | 4.0 | 10.0 | |
| Minimum Split (s) | 36.2 | 36.2 | | 34.2 | 34.2 | 34.2 | 8.2 | 24.0 | | 8.2 | 24.0 | |
| Total Split (s) | 36.2 | 36.2 | | 36.2 | 36.2 | 36.2 | 8.2 | 25.6 | | 8.2 | 25.6 | |
| Total Split (%) | 51.7% | 51.7% | | 51.7% | 51.7% | 51.7% | 11.7% | 36.6% | | 11.7% | 36.6% | |
| Yellow Time (s) | 3.2 | 3.2 | | 3.2 | 3.2 | 3.2 | 3.2 | 4.0 | | 3.2 | 4.9 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 2.0 | | 1.0 | 1.1 | |
| Lost Time Adjust (s) | | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | | 4.2 | | | 4.2 | 4.2 | 4.2 | 6.0 | | 4.2 | 6.0 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | None | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 70 |
| Actuated Cycle Length: 54.3 |
| Natural Cycle: 80 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 55: Cuyamaca Street & Buena Vista Avenue








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 10 | 10 | 15 | 210 | 5 | 70 | 55 | 1360 | 180 | 70 | 1120 | 30 |
| Future Volume (veh/h) | 10 | 10 | 15 | 210 | 5 | 70 | 55 | 1360 | 180 | 70 | 1120 | 30 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 11 | 11 | 16 | 228 | 5 | 76 | 60 | 1478 | 196 | 76 | 1217 | 33 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 98 | 101 | 89 | 393 | 7 | 604 | 74 | 1460 | 193 | 96 | 1704 | 46 |
| Arrive On Green | 0.39 | 0.39 | 0.39 | 0.39 | 0.39 | 0.39 | 0.04 | 0.32 | 0.32 | 0.05 | 0.33 | 0.33 |
| Sat Flow, veh/h | 55 | 259 | 228 | 710 | 19 | 1554 | 1781 | 4542 | 602 | 1781 | 5110 | 139 |
| Grp Volume(v), veh/h | 38 | 0 | 0 | 233 | 0 | 76 | 60 | 1107 | 567 | 76 | 811 | 439 |
| Grp Sat Flow(s),veh/h/ln | 543 | 0 | 0 | 729 | 0 | 1554 | 1781 | 1702 | 1739 | 1781 | 1702 | 1845 |
| Q Serve(g_s), s | 0.4 | 0.0 | 0.0 | 0.2 | 0.0 | 1.9 | 2.0 | 19.6 | 19.6 | 2.6 | 12.7 | 12.7 |
| Cycle Q Clear(g_c), s | 21.2 | 0.0 | 0.0 | 21.0 | 0.0 | 1.9 | 2.0 | 19.6 | 19.6 | 2.6 | 12.7 | 12.7 |
| Prop In Lane | 0.29 | | 0.42 | 0.98 | | 1.00 | 1.00 | | 0.35 | 1.00 | | 0.08 |
| Lane Grp Cap(c), veh/h | 287 | 0 | 0 | 400 | 0 | 604 | 74 | 1094 | 559 | 96 | 1135 | 615 |
| V/C Ratio(X) | 0.13 | 0.00 | 0.00 | 0.58 | 0.00 | 0.13 | 0.81 | 1.01 | 1.01 | 0.79 | 0.71 | 0.71 |
| Avail Cap(c_a), veh/h | 498 | 0 | 0 | 589 | 0 | 816 | 117 | 1094 | 559 | 117 | 1135 | 615 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 13.8 | 0.0 | 0.0 | 17.9 | 0.0 | 12.0 | 29.0 | 20.7 | 20.7 | 28.5 | 17.8 | 17.8 |
| Incr Delay (d2), s/veh | 0.1 | 0.0 | 0.0 | 0.5 | 0.0 | 0.0 | 9.5 | 30.2 | 41.5 | 21.1 | 2.4 | 4.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.3 | 0.0 | 0.0 | 2.8 | 0.0 | 0.6 | 1.0 | 11.4 | 13.4 | 1.6 | 4.7 | 5.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 13.9 | 0.0 | 0.0 | 18.4 | 0.0 | 12.0 | 38.4 | 50.9 | 62.1 | 49.6 | 20.2 | 22.1 |
| LnGrp LOS | B | A | A | B | A | B | D | F | F | D | C | C |
| Approach Vol, veh/h | | 38 | | | 309 | | | 1734 | | | 1326 | |
| Approach Delay, s/veh | | 13.9 | | | 16.8 | | | 54.1 | | | 22.5 | |
| Approach LOS | | B | | | B | | | D | | | C | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.5 | 25.6 | | 28.1 | 6.8 | 26.3 | | 28.1 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 6.0 | | * 4.2 | * 4.2 | * 6 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | * 4 | 19.6 | | * 32 | * 4 | * 20 | | * 32 | | | | |
| Max Q Clear Time (g_c+I1), s | 4.6 | 21.6 | | 23.2 | 4.0 | 14.7 | | 23.0 | | | | |
| Green Ext Time (p_c), s | 0.0 | 0.0 | | 0.0 | 0.0 | 3.7 | | 0.7 | | | | |

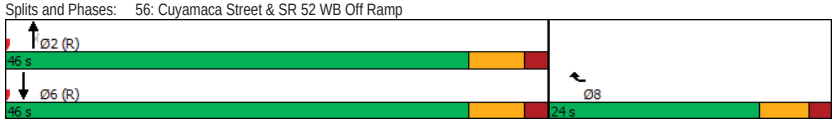
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 38.0 | |
| HCM 6th LOS | D | |

| Notes |
|---|
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. |

| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 895 | 920 | 215 | 0 | 1460 |
| Future Volume (vph) | 0 | 895 | 920 | 215 | 0 | 1460 |
| Confl. Peds. (#/hr) | | | | 9 | | |
| Confl. Bikes (#/hr) | | | | 3 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | 0% | | | 0% |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | | Prot | NA | Perm | | NA |
| Protected Phases | | 8 | 2 | | | 6 |
| Permitted Phases | | | | 2 | | |
| Detector Phase | | 8 | 2 | 2 | | 6 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | | 5.0 | 14.0 | 14.0 | | 14.0 |
| Minimum Split (s) | | 20.0 | 45.8 | 45.8 | | 45.8 |
| Total Split (s) | | 24.0 | 46.0 | 46.0 | | 46.0 |
| Total Split (%) | | 34.3% | 65.7% | 65.7% | | 65.7% |
| Yellow Time (s) | | 4.1 | 4.8 | 4.8 | | 4.8 |
| All-Red Time (s) | | 2.0 | 2.0 | 2.0 | | 2.0 |
| Lost Time Adjust (s) | | 0.0 | 0.0 | 0.0 | | 0.0 |
| Total Lost Time (s) | | 6.1 | 6.8 | 6.8 | | 6.8 |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | | None | C-Max | C-Max | | C-Max |

| Intersection Summary |
|---|
| Cycle Length: 70 |
| Actuated Cycle Length: 70 |
| Offset: 22 (31%), Referenced to phase 2:NBT and 6:SBT, Start of Green |
| Natural Cycle: 80 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 56: Cuyamaca Street & SR 52 WB Off Ramp








| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 895 | 920 | 215 | 0 | 1460 |
| Future Volume (veh/h) | 0 | 895 | 920 | 215 | 0 | 1460 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | | 0.97 | 1.00 | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | No | | | No |
| Adj Sat Flow, veh/h/ln | 0 | 1870 | 1870 | 1870 | 0 | 1870 |
| Adj Flow Rate, veh/h | 0 | 973 | 1000 | 234 | 0 | 1587 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 0 | 2 | 2 | 2 | 0 | 2 |
| Cap, veh/h | 0 | 0 | 4610 | 1394 | 0 | 4610 |
| Arrive On Green | 0.00 | 0.00 | 0.30 | 0.30 | 0.00 | 0.90 |
| Sat Flow, veh/h | 0 | | 5274 | 1544 | 0 | 5443 |
| Grp Volume(v), veh/h | 0.0 | | 1000 | 234 | 0 | 1587 |
| Grp Sat Flow(s),veh/h/ln | | | 1702 | 1544 | 0 | 1702 |
| Q Serve(g_s), s | | | 10.3 | 7.8 | 0.0 | 3.1 |
| Cycle Q Clear(g_c), s | | | 10.3 | 7.8 | 0.0 | 3.1 |
| Prop In Lane | | | | 1.00 | 0.00 | |
| Lane Grp Cap(c), veh/h | | | 4610 | 1394 | 0 | 4610 |
| V/C Ratio(X) | | | 0.22 | 0.17 | 0.00 | 0.34 |
| Avail Cap(c_a), veh/h | | | 4610 | 1394 | 0 | 4610 |
| HCM Platoon Ratio | | | 0.33 | 0.33 | 1.00 | 1.00 |
| Upstream Filter(I) | | | 1.00 | 1.00 | 0.00 | 0.81 |
| Uniform Delay (d), s/veh | | | 6.0 | 5.1 | 0.0 | 0.5 |
| Incr Delay (d2), s/veh | | | 0.1 | 0.3 | 0.0 | 0.2 |
| Initial Q Delay(d3),s/veh | | | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | 0.0 | 0.1 | 0.0 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | | | 6.1 | 5.4 | 0.0 | 0.6 |
| LnGrp LOS | | | A | A | A | A |
| Approach Vol, veh/h | | | 1234 | | | 1587 |
| Approach Delay, s/veh | | | 6.0 | | | 0.6 |
| Approach LOS | | | A | | | A |

| Timer - Assigned Phs | 2 | | | | | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 70.0 | | | | | 70.0 |
| Change Period (Y+Rc), s | 6.8 | | | | | 6.8 |
| Max Green Setting (Gmax), s | 39.2 | | | | | 39.2 |
| Max Q Clear Time (g_c+I1), s | 12.3 | | | | | 5.1 |
| Green Ext Time (p_c), s | 8.8 | | | | | 15.3 |

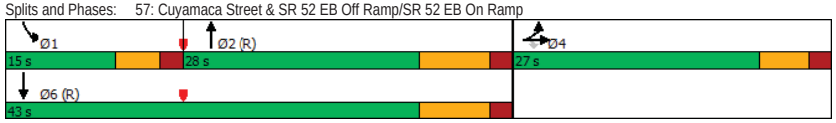
| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 3.0 |
| HCM 6th LOS | A |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 400 | 5 | 490 | 0 | 0 | 0 | 0 | 780 | 160 | 320 | 770 | 0 |
| Future Volume (vph) | 400 | 5 | 490 | 0 | 0 | 0 | 0 | 780 | 160 | 320 | 770 | 0 |
| Confl. Peds. (#/hr) | | | | | | | | | 5 | | | 24 |
| Confl. Bikes (#/hr) | | | | | | | | | 2 | | | 9 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | 49% | | | | | | | | | | | |
| Turn Type | Split | NA | Perm | | | | | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | | | | | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | | | | |
| Detector Phase | 4 | 4 | 4 | | | | | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | | | | | 11.0 | | 5.0 | 12.0 | |
| Minimum Split (s) | 22.1 | 22.1 | 22.1 | | | | | 27.0 | | 10.7 | 32.0 | |
| Total Split (s) | 27.0 | 27.0 | 27.0 | | | | | 28.0 | | 15.0 | 43.0 | |
| Total Split (%) | 38.6% | 38.6% | 38.6% | | | | | 40.0% | | 21.4% | 61.4% | |
| Yellow Time (s) | 4.1 | 4.1 | 4.1 | | | | | 6.0 | | 3.7 | 6.0 | |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | | | | | 2.0 | | 2.0 | 2.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | | | | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 6.1 | 6.1 | 6.1 | | | | | 8.0 | | 5.7 | 8.0 | |
| Lead/Lag | | | | | | | | Lag | | Lead | | |
| Lead-Lag Optimize? | | | | | | | | Yes | | Yes | | |
| Recall Mode | None | None | None | | | | | C-Min | | None | C-Min | |

**Intersection Summary**

Cycle Length: 70
Actuated Cycle Length: 70
Offset: 10 (14%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 57: Cuyamaca Street & SR 52 EB Off Ramp/SR 52 EB On Ramp






2035 AM
Fanita Ranch
57: Cuyamaca Street & SR 52 EB Off Ramp/SR 52 EB On Ramp
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 400 | 5 | 490 | 0 | 0 | 0 | 0 | 780 | 160 | 320 | 770 | 0 |
| Future Volume (veh/h) | 400 | 5 | 490 | 0 | 0 | 0 | 0 | 780 | 160 | 320 | 770 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | | | | 1.00 | | 0.98 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | | | | 0 | 1870 | 1870 | 1870 | 1870 | 0 |
| Adj Flow Rate, veh/h | 439 | 0 | 533 | | | | 0 | 848 | 174 | 348 | 837 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | | | | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | | | | 0 | 2 | 2 | 2 | 2 | 0 |
| Cap, veh/h | 1064 | 0 | 473 | | | | 0 | 1228 | 250 | 444 | 1777 | 0 |
| Arrive On Green | 0.30 | 0.00 | 0.30 | | | | 0.00 | 0.58 | 0.58 | 0.04 | 0.17 | 0.00 |
| Sat Flow, veh/h | 3563 | 0 | 1585 | | | | 0 | 4405 | 863 | 3456 | 3647 | 0 |
| Grp Volume(v), veh/h | 439 | 0 | 533 | | | | 0 | 680 | 342 | 348 | 837 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1585 | | | | 0 | 1702 | 1696 | 1728 | 1777 | 0 |
| Q Serve(g_s), s | 6.9 | 0.0 | 20.9 | | | | 0.0 | 9.8 | 9.9 | 7.0 | 14.9 | 0.0 |
| Cycle Q Clear(g_c), s | 6.9 | 0.0 | 20.9 | | | | 0.0 | 9.8 | 9.9 | 7.0 | 14.9 | 0.0 |
| Prop In Lane | 1.00 | | 1.00 | | | | 0.00 | | 0.51 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 1064 | 0 | 473 | | | | 0 | 987 | 492 | 444 | 1777 | 0 |
| V/C Ratio(X) | 0.41 | 0.00 | 1.13 | | | | 0.00 | 0.69 | 0.69 | 0.78 | 0.47 | 0.00 |
| Avail Cap(c_a), veh/h | 1064 | 0 | 473 | | | | 0 | 987 | 492 | 459 | 1777 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | | | | 1.00 | 2.00 | 2.00 | 0.33 | 0.33 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | | | | 0.00 | 0.88 | 0.88 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | 19.6 | 0.0 | 24.5 | | | | 0.0 | 12.5 | 12.5 | 32.5 | 20.8 | 0.0 |
| Incr Delay (d2), s/veh | 0.3 | 0.0 | 80.7 | | | | 0.0 | 3.5 | 7.0 | 7.5 | 0.9 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.7 | 0.0 | 17.9 | | | | 0.0 | 2.9 | 3.4 | 3.4 | 7.1 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 19.9 | 0.0 | 105.3 | | | | 0.0 | 16.0 | 19.5 | 40.1 | 21.7 | 0.0 |
| LnGrp LOS | B | A | F | | | | A | B | B | D | C | A |
| Approach Vol, veh/h | | 972 | | | | | | 1022 | | | 1185 | |
| Approach Delay, s/veh | | 66.7 | | | | | | 17.1 | | | 27.1 | |
| Approach LOS | | E | | | | | | B | | | C | |

| Timer - Assigned Phs | 1 | 2 | 4 | 6 |
|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 14.7 | 28.3 | 27.0 | 43.0 |
| Change Period (Y+Rc), s | * 5.7 | 8.0 | 6.1 | 8.0 |
| Max Green Setting (Gmax), s | * 9.3 | 20.0 | 20.9 | 35.0 |
| Max Q Clear Time (g_c+I1), s | 9.0 | 11.9 | 22.9 | 16.9 |
| Green Ext Time (p_c), s | 0.0 | 4.0 | 0.0 | 5.5 |

**Intersection Summary**

| | |
|---|---|
| HCM 6th Ctrl Delay | 36.0 |
| HCM 6th LOS | D |

**Notes**

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\Long-Term\9 2035 AM.syn

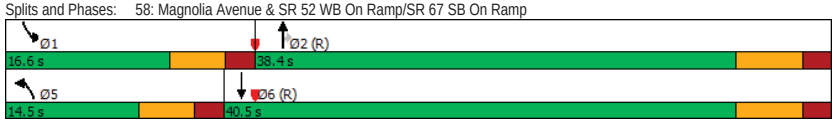
2035 AM — Fanita Ranch

58: Magnolia Avenue & SR 52 WB On Ramp/SR 67 SB On Ramp — 06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 445 | 1260 | 250 | 620 | 640 | 370 |
| Future Volume (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 445 | 1260 | 250 | 620 | 640 | 370 |
| Confl. Peds. (#/hr) | | | | | | | | | 5 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | | | | | | | Prot | NA | Perm | Prot | NA | |
| Protected Phases | | | | | | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | | | 2 | | | |
| Detector Phase | | | | | | | 5 | 2 | 2 | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | | | | | | 5.0 | 6.0 | 6.0 | 5.0 | 7.0 | |
| Minimum Split (s) | | | | | | | 10.7 | 38.4 | 38.4 | 10.7 | 39.4 | |
| Total Split (s) | | | | | | | 14.5 | 38.4 | 38.4 | 16.6 | 40.5 | |
| Total Split (%) | | | | | | | 26.4% | 69.8% | 69.8% | 30.2% | 73.6% | |
| Yellow Time (s) | | | | | | | 3.7 | 4.4 | 4.4 | 3.7 | 4.4 | |
| All-Red Time (s) | | | | | | | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | |
| Lost Time Adjust (s) | | | | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | | | | | | | 5.7 | 6.4 | 6.4 | 5.7 | 6.4 | |
| Lead/Lag | | | | | | | Lead | Lag | Lag | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | Yes | Yes | Yes | |
| Recall Mode | | | | | | | None | C-Max | C-Max | None | C-Max | |

| Intersection Summary |
|---|
| Cycle Length: 55 |
| Actuated Cycle Length: 55 |
| Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green |
| Natural Cycle: 60 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 58: Magnolia Avenue & SR 52 WB On Ramp/SR 67 SB On Ramp






2035 AM — Fanita Ranch

58: Magnolia Avenue & SR 52 WB On Ramp/SR 67 SB On Ramp — 06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 0 | 0 | 0 | 445 | 1260 | 250 | 620 | 640 | 370 |
| Future Volume (veh/h) | 0 | 0 | 0 | 0 | 0 | 0 | 445 | 1260 | 250 | 620 | 640 | 370 |
| Initial Q (Qb), veh | | | | | | | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | | | | | | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | | | | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | | | | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | | | | | | | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | | | | | | | 484 | 1370 | 272 | 674 | 696 | 402 |
| Peak Hour Factor | | | | | | | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | | | | | | | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | | | | | | | 553 | 2971 | 899 | 685 | 1333 | 769 |
| Arrive On Green | | | | | | | 0.32 | 1.00 | 1.00 | 0.33 | 1.00 | 1.00 |
| Sat Flow, veh/h | | | | | | | 3456 | 5106 | 1546 | 3456 | 2150 | 1240 |
| Grp Volume(v), veh/h | | | | | | | 484 | 1370 | 272 | 674 | 575 | 523 |
| Grp Sat Flow(s),veh/h/ln | | | | | | | 1728 | 1702 | 1546 | 1728 | 1777 | 1613 |
| Q Serve(g_s), s | | | | | | | 7.3 | 0.0 | 0.0 | 10.6 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | | | | | | | 7.3 | 0.0 | 0.0 | 10.6 | 0.0 | 0.0 |
| Prop In Lane | | | | | | | 1.00 | | 1.00 | 1.00 | | 0.77 |
| Lane Grp Cap(c), veh/h | | | | | | | 553 | 2971 | 899 | 685 | 1102 | 1000 |
| V/C Ratio(X) | | | | | | | 0.88 | 0.46 | 0.30 | 0.98 | 0.52 | 0.52 |
| Avail Cap(c_a), veh/h | | | | | | | 553 | 2971 | 899 | 685 | 1102 | 1000 |
| HCM Platoon Ratio | | | | | | | 2.00 | 2.00 | 2.00 | 1.67 | 1.67 | 1.67 |
| Upstream Filter(I) | | | | | | | 0.32 | 0.32 | 0.32 | 0.26 | 0.26 | 0.26 |
| Uniform Delay (d), s/veh | | | | | | | 18.2 | 0.0 | 0.0 | 18.3 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | | | | | | | 5.2 | 0.2 | 0.3 | 13.9 | 0.5 | 0.5 |
| Initial Q Delay(d3),s/veh | | | | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | | | | | 2.6 | 0.0 | 0.1 | 4.2 | 0.1 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | | | | 23.3 | 0.2 | 0.3 | 32.3 | 0.5 | 0.5 |
| LnGrp LOS | | | | | | | C | A | A | C | A | A |
| Approach Vol, veh/h | | | | | | | | 2126 | | | 1772 | |
| Approach Delay, s/veh | | | | | | | | 5.5 | | | 12.6 | |
| Approach LOS | | | | | | | | A | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 5 | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 16.6 | 38.4 | | 14.5 | 40.5 |
| Change Period (Y+Rc), s | * 5.7 | 6.4 | | * 5.7 | 6.4 |
| Max Green Setting (Gmax), s | * 11 | 32.0 | | * 8.8 | 34.1 |
| Max Q Clear Time (g_c+I1), s | 12.6 | 2.0 | | 9.3 | 2.0 |
| Green Ext Time (p_c), s | 0.0 | 14.0 | | 0.0 | 8.1 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 8.7 | |
| HCM 6th LOS | A | |

Notes

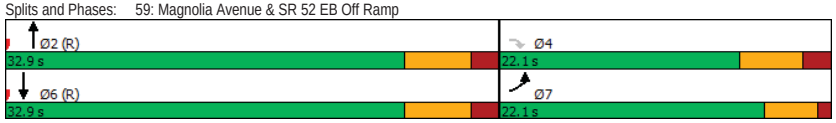
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\Long-Term\9 2035 AM.syn

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 300 | 260 | 0 | 1630 | 630 | 0 |
| Future Volume (vph) | 300 | 260 | 0 | 1630 | 630 | 0 |
| Confl. Peds. (#/hr) | | | | | | |
| Confl. Bikes (#/hr) | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | | NA | NA | |
| Protected Phases | 7 | | | 2 | 6 | |
| Permitted Phases | | 4 | | | | |
| Detector Phase | 7 | 4 | | 2 | 6 | |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 5.0 | | 5.0 | 5.0 | |
| Minimum Split (s) | 8.5 | 22.1 | | 22.4 | 27.4 | |
| Total Split (s) | 22.1 | 22.1 | | 32.9 | 32.9 | |
| Total Split (%) | 40.2% | 40.2% | | 59.8% | 59.8% | |
| Yellow Time (s) | 3.5 | 4.1 | | 4.4 | 4.4 | |
| All-Red Time (s) | 1.0 | 2.0 | | 2.0 | 2.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 6.1 | | 6.4 | 6.4 | |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | None | None | | C-Max | C-Max | |

| Intersection Summary |
|---|
| Cycle Length: 55 |
| Actuated Cycle Length: 55 |
| Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green |
| Natural Cycle: 65 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 59: Magnolia Avenue & SR 52 EB Off Ramp








| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 300 | 260 | 0 | 1630 | 630 | 0 |
| Future Volume (veh/h) | 300 | 260 | 0 | 1630 | 630 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 0 | 1870 | 1870 | 0 |
| Adj Flow Rate, veh/h | 326 | 283 | 0 | 1772 | 685 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 0 | 2 | 2 | 0 |
| Cap, veh/h | 410 | 365 | 0 | 2031 | 2031 | 0 |
| Arrive On Green | 0.23 | 0.23 | 0.00 | 0.57 | 1.00 | 0.00 |
| Sat Flow, veh/h | 1781 | 1585 | 0 | 3741 | 3741 | 0 |
| Grp Volume(v), veh/h | 326 | 283 | 0 | 1772 | 685 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 0 | 1777 | 1777 | 0 |
| Q Serve(g_s), s | 9.5 | 9.2 | 0.0 | 23.4 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 9.5 | 9.2 | 0.0 | 23.4 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | 1.00 | 0.00 | | | 0.00 |
| Lane Grp Cap(c), veh/h | 410 | 365 | 0 | 2031 | 2031 | 0 |
| V/C Ratio(X) | 0.79 | 0.77 | 0.00 | 0.87 | 0.34 | 0.00 |
| Avail Cap(c_a), veh/h | 570 | 507 | 0 | 2031 | 2031 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 2.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.40 | 0.83 | 0.00 |
| Uniform Delay (d), s/veh | 19.9 | 19.8 | 0.0 | 10.1 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 5.3 | 5.0 | 0.0 | 2.3 | 0.4 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 4.1 | 3.6 | 0.0 | 5.9 | 0.1 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 25.2 | 24.8 | 0.0 | 12.4 | 0.4 | 0.0 |
| LnGrp LOS | C | C | A | B | A | A |
| Approach Vol, veh/h | 609 | | | 1772 | 685 | |
| Approach Delay, s/veh | 25.0 | | | 12.4 | 0.4 | |
| Approach LOS | C | | | B | A | |

| Timer - Assigned Phs | | 2 | | 4 | | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 37.8 | | 17.2 | | 37.8 |
| Change Period (Y+Rc), s | | 6.4 | | 4.5 | | 6.4 |
| Max Green Setting (Gmax), s | | 26.5 | | 17.6 | | 26.5 |
| Max Q Clear Time (g_c+I1), s | | 25.4 | | 11.5 | | 2.0 |
| Green Ext Time (p_c), s | | 0.9 | | 1.2 | | 4.4 |

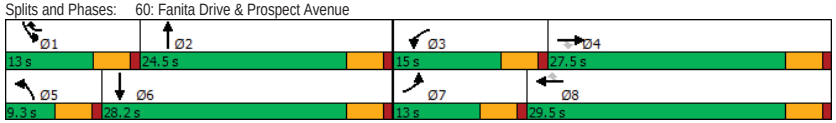
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 12.2 | |
| HCM 6th LOS | B | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 215 | 150 | 60 | 100 | 170 | 420 | 75 | 330 | 95 | 220 | 160 | 110 |
| Future Volume (vph) | 215 | 150 | 60 | 100 | 170 | 420 | 75 | 330 | 95 | 220 | 160 | 110 |
| Confl. Peds. (#/hr) | | | 5 | | | 3 | | | 4 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | 1 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | pm+ov | Prot | NA | | Prot | NA | |
| Protected Phases | 7 | 4 | | 3 | 8 | 1 | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | | | | |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | 1 | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | 8.5 | 24.5 | 24.5 | 8.5 | 29.5 | 8.5 | 8.5 | 22.5 | | 8.5 | 24.5 | |
| Total Split (s) | 13.0 | 27.5 | 27.5 | 15.0 | 29.5 | 13.0 | 9.3 | 24.5 | | 13.0 | 28.2 | |
| Total Split (%) | 16.3% | 34.4% | 34.4% | 18.8% | 36.9% | 16.3% | 11.6% | 30.6% | | 16.3% | 35.3% | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | None | None | None | None | None | Min | | None | Min | |

**Intersection Summary**

Cycle Length: 80
Actuated Cycle Length: 68.9
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 60: Fanita Drive & Prospect Avenue








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 215 | 150 | 60 | 100 | 170 | 420 | 75 | 330 | 95 | 220 | 160 | 110 |
| Future Volume (veh/h) | 215 | 150 | 60 | 100 | 170 | 420 | 75 | 330 | 95 | 220 | 160 | 110 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 234 | 163 | 65 | 109 | 185 | 457 | 82 | 359 | 103 | 239 | 174 | 120 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 195 | 602 | 508 | 140 | 544 | 627 | 105 | 358 | 103 | 195 | 635 | 414 |
| Arrive On Green | 0.11 | 0.32 | 0.32 | 0.08 | 0.29 | 0.29 | 0.06 | 0.26 | 0.26 | 0.11 | 0.31 | 0.31 |
| Sat Flow, veh/h | 1781 | 1870 | 1578 | 1781 | 1870 | 1560 | 1781 | 1387 | 398 | 1781 | 2059 | 1341 |
| Grp Volume(v), veh/h | 234 | 163 | 65 | 109 | 185 | 457 | 82 | 0 | 462 | 239 | 149 | 145 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1578 | 1781 | 1870 | 1560 | 1781 | 0 | 1785 | 1781 | 1777 | 1624 |
| Q Serve(g_s), s | 8.5 | 5.0 | 2.3 | 4.7 | 6.0 | 19.3 | 3.5 | 0.0 | 20.0 | 8.5 | 4.9 | 5.3 |
| Cycle Q Clear(g_c), s | 8.5 | 5.0 | 2.3 | 4.7 | 6.0 | 19.3 | 3.5 | 0.0 | 20.0 | 8.5 | 4.9 | 5.3 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.22 | 1.00 | | 0.83 |
| Lane Grp Cap(c), veh/h | 195 | 602 | 508 | 140 | 544 | 627 | 105 | 0 | 460 | 195 | 548 | 501 |
| V/C Ratio(X) | 1.20 | 0.27 | 0.13 | 0.78 | 0.34 | 0.73 | 0.78 | 0.00 | 1.00 | 1.22 | 0.27 | 0.29 |
| Avail Cap(c_a), veh/h | 195 | 602 | 508 | 241 | 603 | 677 | 110 | 0 | 460 | 195 | 548 | 501 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 34.5 | 19.5 | 18.6 | 35.1 | 21.6 | 19.7 | 36.0 | 0.0 | 28.8 | 34.5 | 20.2 | 20.4 |
| Incr Delay (d2), s/veh | 128.2 | 0.2 | 0.1 | 9.0 | 0.4 | 3.7 | 28.2 | 0.0 | 42.9 | 137.8 | 0.3 | 0.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 10.5 | 2.1 | 0.8 | 2.3 | 2.6 | 7.0 | 2.3 | 0.0 | 13.3 | 10.9 | 1.9 | 1.9 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 162.7 | 19.8 | 18.7 | 44.1 | 22.0 | 23.4 | 64.2 | 0.0 | 71.7 | 172.3 | 20.5 | 20.7 |
| LnGrp LOS | F | B | B | D | C | C | E | A | F | F | C | C |
| Approach Vol, veh/h | | 462 | | | 751 | | | 544 | | | 533 | |
| Approach Delay, s/veh | | 92.0 | | | 26.0 | | | 70.6 | | | 88.6 | |
| Approach LOS | | F | | | C | | | E | | | F | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 13.0 | 24.5 | 10.6 | 29.5 | 9.1 | 28.4 | 13.0 | 27.1 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 8.5 | 20.0 | 10.5 | 23.0 | 4.8 | 23.7 | 8.5 | 25.0 |
| Max Q Clear Time (g_c+I1), s | 10.5 | 22.0 | 6.7 | 7.0 | 5.5 | 7.3 | 10.5 | 21.3 |
| Green Ext Time (p_c), s | 0.0 | 0.0 | 0.1 | 0.9 | 0.0 | 1.4 | 0.0 | 1.1 |

**Intersection Summary**

| | |
|---|---|
| HCM 6th Ctrl Delay | 64.5 |
| HCM 6th LOS | E |

2035 AM
61: Cuyamaca Street & Prospect Avenue

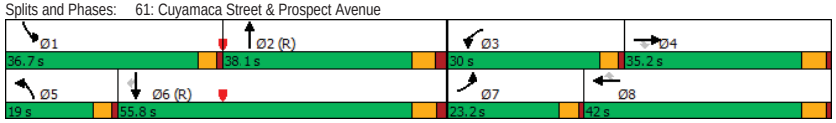
Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 125 | 165 | 115 | 180 | 165 | 310 | 85 | 580 | 80 | 245 | 940 | 185 |
| Future Volume (vph) | 125 | 165 | 115 | 180 | 165 | 310 | 85 | 580 | 80 | 245 | 940 | 185 |
| Confl. Peds. (#/hr) | | | 20 | | | 8 | | | 8 | | | 4 |
| Confl. Bikes (#/hr) | | | 1 | | | 4 | | | 4 | | | 7 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | | | | 6 |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | 8 | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 7.0 | 7.0 | 4.0 | 7.0 | 7.0 | 4.0 | 10.0 | | 4.0 | 10.0 | 10.0 |
| Minimum Split (s) | 8.2 | 35.2 | 35.2 | 8.2 | 36.2 | 36.2 | 8.2 | 33.0 | | 8.2 | 31.0 | 31.0 |
| Total Split (s) | 23.2 | 35.2 | 35.2 | 30.0 | 42.0 | 42.0 | 19.0 | 38.1 | | 36.7 | 55.8 | 55.8 |
| Total Split (%) | 16.6% | 25.1% | 25.1% | 21.4% | 30.0% | 30.0% | 13.6% | 27.2% | | 26.2% | 39.9% | 39.9% |
| Yellow Time (s) | 3.2 | 4.2 | 4.2 | 3.2 | 4.2 | 4.2 | 3.2 | 4.0 | | 3.2 | 4.1 | 4.1 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 2.0 | | 1.0 | 1.9 | 1.9 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.2 | 5.2 | 4.2 | 5.2 | 5.2 | 4.2 | 6.0 | | 4.2 | 6.0 | 6.0 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | None | None | C-Min | | None | C-Min | C-Min |

**Intersection Summary**

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 26 (19%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 61: Cuyamaca Street & Prospect Avenue







2035 AM
61: Cuyamaca Street & Prospect Avenue

Fanita Ranch
06/06/2019


| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 125 | 165 | 115 | 180 | 165 | 310 | 85 | 580 | 80 | 245 | 940 | 185 |
| Future Volume (veh/h) | 125 | 165 | 115 | 180 | 165 | 310 | 85 | 580 | 80 | 245 | 940 | 185 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.96 | 1.00 | | 0.97 | 1.00 | | 0.97 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 136 | 179 | 125 | 196 | 179 | 337 | 92 | 630 | 87 | 266 | 1022 | 201 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 160 | 374 | 303 | 220 | 831 | 361 | 114 | 1699 | 231 | 286 | 1680 | 736 |
| Arrive On Green | 0.09 | 0.20 | 0.20 | 0.12 | 0.23 | 0.23 | 0.06 | 0.38 | 0.38 | 0.32 | 0.95 | 0.95 |
| Sat Flow, veh/h | 1781 | 1870 | 1518 | 1781 | 3554 | 1544 | 1781 | 4522 | 616 | 1781 | 3554 | 1557 |
| Grp Volume(v), veh/h | 136 | 179 | 125 | 196 | 179 | 337 | 92 | 472 | 245 | 266 | 1022 | 201 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1518 | 1781 | 1777 | 1544 | 1781 | 1702 | 1734 | 1781 | 1777 | 1557 |
| Q Serve(g_s), s | 10.5 | 11.9 | 10.1 | 15.2 | 5.7 | 29.9 | 7.1 | 14.1 | 14.4 | 20.2 | 5.2 | 1.3 |
| Cycle Q Clear(g_c), s | 10.5 | 11.9 | 10.1 | 15.2 | 5.7 | 29.9 | 7.1 | 14.1 | 14.4 | 20.2 | 5.2 | 1.3 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.36 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 160 | 374 | 303 | 220 | 831 | 361 | 114 | 1279 | 651 | 286 | 1680 | 736 |
| V/C Ratio(X) | 0.85 | 0.48 | 0.41 | 0.89 | 0.22 | 0.93 | 0.81 | 0.37 | 0.38 | 0.93 | 0.61 | 0.27 |
| Avail Cap(c_a), veh/h | 242 | 401 | 325 | 328 | 934 | 406 | 188 | 1279 | 651 | 414 | 1680 | 736 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 2.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 0.80 | 0.80 | 0.80 | 1.00 | 1.00 | 1.00 | 0.72 | 0.72 | 0.72 |
| Uniform Delay (d), s/veh | 62.8 | 49.6 | 48.8 | 60.4 | 43.3 | 52.6 | 64.7 | 31.7 | 31.8 | 46.7 | 2.2 | 2.1 |
| Incr Delay (d2), s/veh | 10.8 | 1.0 | 1.0 | 11.1 | 0.1 | 22.5 | 5.1 | 0.8 | 1.7 | 14.1 | 1.2 | 0.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 5.2 | 5.7 | 3.9 | 7.5 | 2.5 | 13.8 | 3.4 | 5.9 | 6.3 | 8.8 | 1.2 | 0.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 73.6 | 50.6 | 49.8 | 71.5 | 43.3 | 75.0 | 69.8 | 32.5 | 33.4 | 60.8 | 3.3 | 2.7 |
| LnGrp LOS | E | D | D | E | D | E | E | C | C | E | A | A |
| Approach Vol, veh/h | | 440 | | | 712 | | | 809 | | | 1489 | |
| Approach Delay, s/veh | | 57.5 | | | 66.1 | | | 37.0 | | | 13.5 | |
| Approach LOS | | E | | | E | | | D | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 26.7 | 58.6 | 21.5 | 33.2 | 13.1 | 72.2 | 16.8 | 37.9 |
| Change Period (Y+Rc), s | * 4.2 | 6.0 | * 4.2 | 5.2 | * 4.2 | * 6 | * 4.2 | 5.2 |
| Max Green Setting (Gmax), s | * 33 | 32.1 | * 26 | 30.0 | * 15 | * 50 | * 19 | 36.8 |
| Max Q Clear Time (g_c+I1), s | 22.2 | 16.4 | 17.2 | 13.9 | 9.1 | 7.2 | 12.5 | 31.9 |
| Green Ext Time (p_c), s | 0.3 | 5.6 | 0.2 | 1.3 | 0.0 | 15.1 | 0.1 | 0.8 |

**Intersection Summary**

| | |
|---|---|
| HCM 6th Ctrl Delay | 35.5 |
| HCM 6th LOS | D |

**Notes**

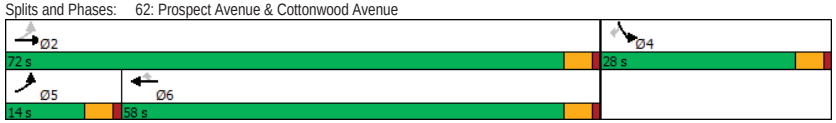
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.


Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\Long-Term\9 2035 AM.syn

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 100 | 190 | 450 | 180 | 110 | 200 |
| Future Volume (vph) | 100 | 190 | 450 | 180 | 110 | 200 |
| Confl. Peds. (#/hr) | | | | 3 | | 6 |
| Confl. Bikes (#/hr) | | | | 1 | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | pm+pt | NA | NA | Perm | Prot | Perm |
| Protected Phases | 5 | 2 | 6 | | 4 | |
| Permitted Phases | 2 | | | 6 | | 4 |
| Detector Phase | 5 | 2 | 6 | 6 | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 |
| Total Split (s) | 14.0 | 72.0 | 58.0 | 58.0 | 28.0 | 28.0 |
| Total Split (%) | 14.0% | 72.0% | 58.0% | 58.0% | 28.0% | 28.0% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | | Lag | Lag | | |
| Lead-Lag Optimize? | Yes | | Yes | Yes | | |
| Recall Mode | None | Min | Min | Min | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 51.4 |
| Natural Cycle: 60 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 62: Prospect Avenue & Cottonwood Avenue








| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 100 | 190 | 450 | 180 | 110 | 200 |
| Future Volume (veh/h) | 100 | 190 | 450 | 180 | 110 | 200 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 0.98 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 109 | 207 | 489 | 196 | 120 | 217 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 435 | 1062 | 710 | 587 | 354 | 315 |
| Arrive On Green | 0.07 | 0.57 | 0.38 | 0.38 | 0.20 | 0.20 |
| Sat Flow, veh/h | 1781 | 1870 | 1870 | 1546 | 1781 | 1585 |
| Grp Volume(v), veh/h | 109 | 207 | 489 | 196 | 120 | 217 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1870 | 1546 | 1781 | 1585 |
| Q Serve(g_s), s | 1.2 | 2.1 | 8.5 | 3.5 | 2.2 | 4.9 |
| Cycle Q Clear(g_c), s | 1.2 | 2.1 | 8.5 | 3.5 | 2.2 | 4.9 |
| Prop In Lane | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 435 | 1062 | 710 | 587 | 354 | 315 |
| V/C Ratio(X) | 0.25 | 0.19 | 0.69 | 0.33 | 0.34 | 0.69 |
| Avail Cap(c_a), veh/h | 747 | 3276 | 2596 | 2145 | 1086 | 966 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 6.7 | 4.0 | 10.0 | 8.5 | 13.3 | 14.3 |
| Incr Delay (d2), s/veh | 0.3 | 0.1 | 1.2 | 0.3 | 0.6 | 2.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.3 | 0.4 | 2.6 | 0.8 | 0.8 | 0.2 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 7.0 | 4.1 | 11.2 | 8.8 | 13.8 | 17.0 |
| LnGrp LOS | A | A | B | A | B | B |
| Approach Vol, veh/h | | 316 | 685 | | 337 | |
| Approach Delay, s/veh | | 5.1 | 10.6 | | 15.9 | |
| Approach LOS | | A | B | | B | |

| Timer - Assigned Phs | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 26.4 | | 12.2 | 7.3 | 19.1 |
| Change Period (Y+Rc), s | 4.5 | | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 67.5 | | 23.5 | 9.5 | 53.5 |
| Max Q Clear Time (g_c+I1), s | 4.1 | | 6.9 | 3.2 | 10.5 |
| Green Ext Time (p_c), s | 1.2 | | 1.0 | 0.1 | 4.1 |

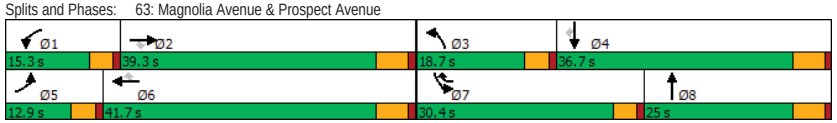
| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 10.6 |
| HCM 6th LOS | B |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 125 | 100 | 70 | 150 | 420 | 1220 | 130 | 450 | 90 | 360 | 380 | 145 |
| Future Volume (vph) | 125 | 100 | 70 | 150 | 420 | 1220 | 130 | 450 | 90 | 360 | 380 | 145 |
| Confl. Peds. (#/hr) | | | 1 | | | 1 | | | 2 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | pm+ov | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | 4.0 | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 39.3 | 39.3 | 8.2 | 37.4 | 8.2 | 8.2 | 23.2 | | 8.2 | 36.2 | 36.2 |
| Total Split (s) | 12.9 | 39.3 | 39.3 | 15.3 | 41.7 | 30.4 | 18.7 | 25.0 | | 30.4 | 36.7 | 36.7 |
| Total Split (%) | 11.7% | 35.7% | 35.7% | 13.9% | 37.9% | 27.6% | 17.0% | 22.7% | | 27.6% | 33.4% | 33.4% |
| Yellow Time (s) | 3.2 | 4.3 | 4.3 | 3.2 | 4.4 | 3.2 | 3.2 | 4.2 | | 3.2 | 4.2 | 4.2 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | 5.3 | 4.2 | 5.4 | 4.2 | 4.2 | 5.2 | | 4.2 | 5.2 | 5.2 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | Min | Min | None | Min | None | None | None | | None | None | None |

**Intersection Summary**

Cycle Length: 110
Actuated Cycle Length: 91.5
Natural Cycle: 95
Control Type: Actuated-Uncoordinated

Splits and Phases: 63: Magnolia Avenue & Prospect Avenue








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 125 | 100 | 70 | 150 | 420 | 1220 | 130 | 450 | 90 | 360 | 380 | 145 |
| Future Volume (veh/h) | 125 | 100 | 70 | 150 | 420 | 1220 | 130 | 450 | 90 | 360 | 380 | 145 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.98 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 136 | 109 | 76 | 163 | 457 | 1326 | 141 | 489 | 98 | 391 | 413 | 158 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 206 | 644 | 546 | 196 | 1404 | 1502 | 175 | 573 | 114 | 498 | 855 | 376 |
| Arrive On Green | 0.06 | 0.34 | 0.34 | 0.11 | 0.39 | 0.39 | 0.10 | 0.19 | 0.19 | 0.14 | 0.24 | 0.24 |
| Sat Flow, veh/h | 3456 | 1870 | 1584 | 1781 | 3554 | 2786 | 1781 | 2944 | 586 | 3456 | 3554 | 1563 |
| Grp Volume(v), veh/h | 136 | 109 | 76 | 163 | 457 | 1326 | 141 | 294 | 293 | 391 | 413 | 158 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1870 | 1584 | 1781 | 1777 | 1393 | 1781 | 1777 | 1753 | 1728 | 1777 | 1563 |
| Q Serve(g_s), s | 3.5 | 3.7 | 3.0 | 8.2 | 8.2 | 36.3 | 7.1 | 14.7 | 14.8 | 10.0 | 9.2 | 7.8 |
| Cycle Q Clear(g_c), s | 3.5 | 3.7 | 3.0 | 8.2 | 8.2 | 36.3 | 7.1 | 14.7 | 14.8 | 10.0 | 9.2 | 7.8 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.33 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 206 | 644 | 546 | 196 | 1404 | 1502 | 175 | 346 | 341 | 498 | 855 | 376 |
| V/C Ratio(X) | 0.66 | 0.17 | 0.14 | 0.83 | 0.33 | 0.88 | 0.81 | 0.85 | 0.86 | 0.79 | 0.48 | 0.42 |
| Avail Cap(c_a), veh/h | 327 | 692 | 586 | 215 | 1404 | 1502 | 281 | 383 | 378 | 985 | 1218 | 536 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 42.3 | 21.0 | 20.7 | 40.1 | 19.3 | 18.6 | 40.6 | 35.7 | 35.8 | 38.0 | 30.0 | 29.5 |
| Incr Delay (d2), s/veh | 3.6 | 0.1 | 0.1 | 21.8 | 0.1 | 6.5 | 8.5 | 15.3 | 16.5 | 2.8 | 0.4 | 0.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.6 | 1.6 | 1.1 | 4.7 | 3.3 | 12.6 | 3.5 | 7.7 | 7.8 | 4.4 | 3.9 | 3.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 45.9 | 21.1 | 20.9 | 61.9 | 19.4 | 25.2 | 49.1 | 51.0 | 52.3 | 40.7 | 30.4 | 30.2 |
| LnGrp LOS | D | C | C | E | B | C | D | D | D | D | C | C |
| Approach Vol, veh/h | | 321 | | | 1946 | | | 728 | | | 962 | |
| Approach Delay, s/veh | | 31.5 | | | 26.9 | | | 51.2 | | | 34.6 | |
| Approach LOS | | C | | | C | | | D | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 14.3 | 37.1 | 13.2 | 27.3 | 9.7 | 41.7 | 17.4 | 23.1 |
| Change Period (Y+Rc), s | * 4.2 | * 5.4 | * 4.2 | 5.2 | * 4.2 | 5.4 | * 4.2 | 5.2 |
| Max Green Setting (Gmax), s | * 11 | * 34 | * 15 | 31.5 | * 8.7 | 36.3 | * 26 | 19.8 |
| Max Q Clear Time (g_c+I1), s | 10.2 | 5.7 | 9.1 | 11.2 | 5.5 | 38.3 | 12.0 | 16.8 |
| Green Ext Time (p_c), s | 0.0 | 0.8 | 0.2 | 3.2 | 0.1 | 0.0 | 1.2 | 1.0 |

**Intersection Summary**

| | | |
|---|---|---|
| HCM 6th Ctrl Delay | 33.6 | |
| HCM 6th LOS | C | |

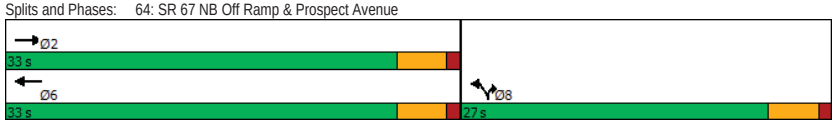
**Notes**

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 510 | 0 | 0 | 1010 | 790 | 50 |
| Future Volume (vph) | 510 | 0 | 0 | 1010 | 790 | 50 |
| Confl. Peds. (#/hr) | | | | | | |
| Confl. Bikes (#/hr) | | 1 | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | NA | | | NA | Prot | Prot |
| Protected Phases | 2 | | | 6 | 8 | 8 |
| Permitted Phases | | | | | | |
| Detector Phase | 2 | | | 6 | 8 | 8 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 5.0 | | | 10.0 | 5.0 | 5.0 |
| Minimum Split (s) | 20.6 | | | 20.6 | 20.6 | 20.6 |
| Total Split (s) | 33.0 | | | 33.0 | 27.0 | 27.0 |
| Total Split (%) | 55.0% | | | 55.0% | 45.0% | 45.0% |
| Yellow Time (s) | 3.6 | | | 3.6 | 3.6 | 3.6 |
| All-Red Time (s) | 1.0 | | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.6 | | | 4.6 | 4.6 | 4.6 |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | Min | | | Min | None | None |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 48.7 |
| Natural Cycle: 45 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 64: SR 67 NB Off Ramp & Prospect Avenue








| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 510 | 0 | 0 | 1010 | 790 | 50 |
| Future Volume (veh/h) | 510 | 0 | 0 | 1010 | 790 | 50 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | 1.00 | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 0 | 0 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 554 | 0 | 0 | 1098 | 859 | 54 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 0 | 0 | 2 | 2 | 2 |
| Cap, veh/h | 1641 | 0 | 0 | 1641 | 1089 | 500 |
| Arrive On Green | 0.46 | 0.00 | 0.00 | 0.46 | 0.32 | 0.32 |
| Sat Flow, veh/h | 3741 | 0 | 0 | 3741 | 3456 | 1585 |
| Grp Volume(v), veh/h | 554 | 0 | 0 | 1098 | 859 | 54 |
| Grp Sat Flow(s),veh/h/ln | 1777 | 0 | 0 | 1777 | 1728 | 1585 |
| Q Serve(g_s), s | 4.1 | 0.0 | 0.0 | 9.9 | 9.3 | 1.0 |
| Cycle Q Clear(g_c), s | 4.1 | 0.0 | 0.0 | 9.9 | 9.3 | 1.0 |
| Prop In Lane | | 0.00 | 0.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 1641 | 0 | 0 | 1641 | 1089 | 500 |
| V/C Ratio(X) | 0.34 | 0.00 | 0.00 | 0.67 | 0.79 | 0.11 |
| Avail Cap(c_a), veh/h | 2448 | 0 | 0 | 2448 | 1877 | 861 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 7.1 | 0.0 | 0.0 | 8.6 | 12.9 | 10.0 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 0.0 | 0.5 | 0.5 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.0 | 0.0 | 0.0 | 2.5 | 2.9 | 0.3 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 7.1 | 0.0 | 0.0 | 9.1 | 13.4 | 10.0 |
| LnGrp LOS | A | A | A | A | B | B |
| Approach Vol, veh/h | 554 | | | 1098 | 913 | |
| Approach Delay, s/veh | 7.1 | | | 9.1 | 13.2 | |
| Approach LOS | A | | | A | B | |

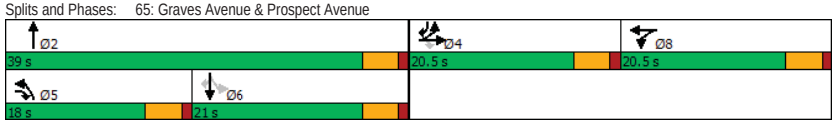
| Timer - Assigned Phs | 2 | | | 6 | 8 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 23.6 | | | 23.6 | 17.6 |
| Change Period (Y+Rc), s | 4.6 | | | 4.6 | 4.6 |
| Max Green Setting (Gmax), s | 28.4 | | | 28.4 | 22.4 |
| Max Q Clear Time (g_c+I1), s | 6.1 | | | 11.9 | 11.3 |
| Green Ext Time (p_c), s | 2.4 | | | 7.1 | 1.7 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 10.1 | |
| HCM 6th LOS | B | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 190 | 20 | 390 | 5 | 10 | 5 | 640 | 30 | 10 | 5 | 80 | 380 |
| Future Volume (vph) | 190 | 20 | 390 | 5 | 10 | 5 | 640 | 30 | 10 | 5 | 80 | 380 |
| Confl. Peds. (#/hr) | | | 1 | | | 1 | | | 12 | | | |
| Confl. Bikes (#/hr) | | | 3 | | | | | | 1 | | | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | 45% | | | | | | | | | | | |
| Turn Type | Split | NA | pm+ov | Split | NA | | Prot | NA | | Perm | NA | pm+ov |
| Protected Phases | 4 | 4 | 5 | 8 | 8 | | 5 | 2 | | | 6 | 4 |
| Permitted Phases | | | 4 | | | | | | | 6 | | 6 |
| Detector Phase | 4 | 4 | 5 | 8 | 8 | | 5 | 2 | | 6 | 6 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 20.5 | 20.5 | 8.5 | 20.5 | 20.5 | | 8.5 | 20.5 | | 20.5 | 20.5 | 20.5 |
| Total Split (s) | 20.5 | 20.5 | 18.0 | 20.5 | 20.5 | | 18.0 | 39.0 | | 21.0 | 21.0 | 20.5 |
| Total Split (%) | 25.6% | 25.6% | 22.5% | 25.6% | 25.6% | | 22.5% | 48.8% | | 26.3% | 26.3% | 25.6% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | | | 4.5 | 4.5 |
| Lead/Lag | | | Lead | | | | Lead | | | Lag | Lag | |
| Lead-Lag Optimize? | | | Yes | | | | Yes | | | Yes | Yes | |
| Recall Mode | None | None | None | None | None | | None | Min | | Min | Min | None |

| Intersection Summary |
|---|
| Cycle Length: 80 |
| Actuated Cycle Length: 50.4 |
| Natural Cycle: 80 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 65: Graves Avenue & Prospect Avenue








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 190 | 20 | 390 | 5 | 10 | 5 | 640 | 30 | 10 | 5 | 80 | 380 |
| Future Volume (veh/h) | 190 | 20 | 390 | 5 | 10 | 5 | 640 | 30 | 10 | 5 | 80 | 380 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 1.00 | 1.00 | | 0.97 | 0.98 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 223 | 0 | 424 | 5 | 11 | 5 | 696 | 33 | 11 | 5 | 87 | 413 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 865 | 0 | 716 | 39 | 26 | 12 | 745 | 692 | 231 | 67 | 426 | 748 |
| Arrive On Green | 0.24 | 0.00 | 0.24 | 0.02 | 0.02 | 0.02 | 0.22 | 0.52 | 0.52 | 0.23 | 0.23 | 0.23 |
| Sat Flow, veh/h | 3563 | 0 | 1543 | 1781 | 1215 | 552 | 3456 | 1330 | 443 | 28 | 1831 | 1561 |
| Grp Volume(v), veh/h | 223 | 0 | 424 | 5 | 0 | 16 | 696 | 0 | 44 | 92 | 0 | 413 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1543 | 1781 | 0 | 1768 | 1728 | 0 | 1773 | 1859 | 0 | 1561 |
| Q Serve(g_s), s | 3.2 | 0.0 | 12.9 | 0.2 | 0.0 | 0.6 | 12.4 | 0.0 | 0.8 | 0.0 | 0.0 | 11.8 |
| Cycle Q Clear(g_c), s | 3.2 | 0.0 | 12.9 | 0.2 | 0.0 | 0.6 | 12.4 | 0.0 | 0.8 | 2.5 | 0.0 | 11.8 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.31 | 1.00 | | 0.25 | 0.05 | | 1.00 |
| Lane Grp Cap(c), veh/h | 865 | 0 | 716 | 39 | 0 | 38 | 745 | 0 | 922 | 493 | 0 | 748 |
| V/C Ratio(X) | 0.26 | 0.00 | 0.59 | 0.13 | 0.00 | 0.42 | 0.93 | 0.00 | 0.05 | 0.19 | 0.00 | 0.55 |
| Avail Cap(c_a), veh/h | 910 | 0 | 736 | 455 | 0 | 451 | 745 | 0 | 976 | 549 | 0 | 796 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 19.2 | 0.0 | 12.7 | 30.1 | 0.0 | 30.3 | 24.1 | 0.0 | 7.4 | 19.4 | 0.0 | 11.7 |
| Incr Delay (d2), s/veh | 0.2 | 0.0 | 1.2 | 1.5 | 0.0 | 7.1 | 18.9 | 0.0 | 0.0 | 0.2 | 0.0 | 0.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.2 | 0.0 | 4.1 | 0.1 | 0.0 | 0.3 | 6.6 | 0.0 | 0.3 | 1.0 | 0.0 | 6.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 19.3 | 0.0 | 13.9 | 31.6 | 0.0 | 37.4 | 43.1 | 0.0 | 7.4 | 19.6 | 0.0 | 12.4 |
| LnGrp LOS | B | A | B | C | A | D | D | A | A | B | A | B |
| Approach Vol, veh/h | | 647 | | | 21 | | | 740 | | | 505 | |
| Approach Delay, s/veh | | 15.8 | | | 36.0 | | | 40.9 | | | 13.7 | |
| Approach LOS | | B | | | D | | | D | | | B | |

| Timer - Assigned Phs | 2 | 4 | 5 | 6 | 8 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 37.1 | 19.7 | 18.0 | 19.1 | 5.9 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 34.5 | 16.0 | 13.5 | 16.5 | 16.0 |
| Max Q Clear Time (g_c+I1), s | 2.8 | 14.9 | 14.4 | 13.8 | 2.6 |
| Green Ext Time (p_c), s | 0.2 | 0.4 | 0.0 | 0.6 | 0.0 |

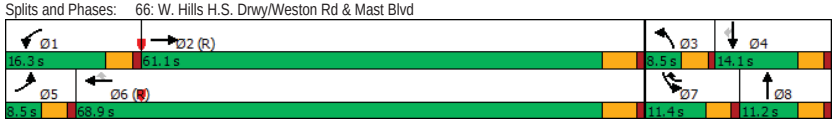
| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 25.2 |
| HCM 6th LOS | C |

| Notes |
|---|
| User approved volume balancing among the lanes for turning movement. |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 50 | 550 | 50 | 90 | 2010 | 25 | 20 | 5 | 80 | 100 | 10 | 180 |
| Future Volume (vph) | 50 | 550 | 50 | 90 | 2010 | 25 | 20 | 5 | 80 | 100 | 10 | 180 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | 4.0 | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.5 | 22.5 | | 8.5 | 27.3 | 8.5 | 8.5 | 11.2 | | 8.5 | 11.2 | 11.2 |
| Total Split (s) | 8.5 | 61.1 | | 16.3 | 68.9 | 11.4 | 8.5 | 11.2 | | 11.4 | 14.1 | 14.1 |
| Total Split (%) | 8.5% | 61.1% | | 16.3% | 68.9% | 11.4% | 8.5% | 11.2% | | 11.4% | 14.1% | 14.1% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | 3.2 | 3.2 | 3.2 | | 3.2 | 3.2 | 3.2 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | 4.2 | 4.2 | 4.2 | | 4.2 | 4.2 | 4.2 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | C-Min | | None | C-Min | None | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 84 (84%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 90 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 66: W. Hills H.S. Drwy/Weston Rd & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 50 | 550 | 50 | 90 | 2010 | 25 | 20 | 5 | 80 | 100 | 10 | 180 |
| Future Volume (veh/h) | 50 | 550 | 50 | 90 | 2010 | 25 | 20 | 5 | 80 | 100 | 10 | 180 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 54 | 598 | 54 | 98 | 2185 | 27 | 22 | 5 | 87 | 109 | 11 | 176 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 69 | 2008 | 181 | 125 | 2276 | 1129 | 33 | 6 | 106 | 128 | 231 | 196 |
| Arrive On Green | 0.08 | 1.00 | 1.00 | 0.07 | 0.64 | 0.64 | 0.02 | 0.07 | 0.07 | 0.07 | 0.12 | 0.12 |
| Sat Flow, veh/h | 1781 | 3297 | 297 | 1781 | 3554 | 1585 | 1781 | 87 | 1511 | 1781 | 1870 | 1585 |
| Grp Volume(v), veh/h | 54 | 322 | 330 | 98 | 2185 | 27 | 22 | 0 | 92 | 109 | 11 | 176 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1817 | 1781 | 1777 | 1585 | 1781 | 0 | 1598 | 1781 | 1870 | 1585 |
| Q Serve(g_s), s | 3.0 | 0.0 | 0.0 | 5.4 | 57.4 | 0.5 | 1.2 | 0.0 | 5.7 | 6.0 | 0.5 | 10.9 |
| Cycle Q Clear(g_c), s | 3.0 | 0.0 | 0.0 | 5.4 | 57.4 | 0.5 | 1.2 | 0.0 | 5.7 | 6.0 | 0.5 | 10.9 |
| Prop In Lane | 1.00 | | 0.16 | 1.00 | | 1.00 | 1.00 | | 0.95 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 69 | 1082 | 1107 | 125 | 2276 | 1129 | 33 | 0 | 112 | 128 | 231 | 196 |
| V/C Ratio(X) | 0.78 | 0.30 | 0.30 | 0.79 | 0.96 | 0.02 | 0.68 | 0.00 | 0.82 | 0.85 | 0.05 | 0.90 |
| Avail Cap(c_a), veh/h | 77 | 1082 | 1107 | 216 | 2276 | 1129 | 77 | 0 | 112 | 128 | 231 | 196 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.97 | 0.97 | 0.97 | 0.71 | 0.71 | 0.71 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 45.7 | 0.0 | 0.0 | 45.8 | 16.8 | 4.2 | 48.8 | 0.0 | 45.9 | 45.9 | 38.6 | 43.2 |
| Incr Delay (d2), s/veh | 36.1 | 0.7 | 0.7 | 7.6 | 9.0 | 0.0 | 21.6 | 0.0 | 36.8 | 38.6 | 0.1 | 37.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.9 | 0.2 | 0.2 | 2.6 | 21.8 | 0.1 | 0.7 | 0.0 | 3.4 | 4.0 | 0.2 | 6.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 81.8 | 0.7 | 0.7 | 53.3 | 25.8 | 4.2 | 70.4 | 0.0 | 82.7 | 84.5 | 38.7 | 80.5 |
| LnGrp LOS | F | A | A | D | C | A | E | A | F | F | D | F |
| Approach Vol, veh/h | | 706 | | | 2310 | | | 114 | | | 296 | |
| Approach Delay, s/veh | | 6.9 | | | 26.7 | | | 80.3 | | | 80.4 | |
| Approach LOS | | A | | | C | | | F | | | F | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 11.2 | 66.2 | 6.0 | 16.6 | 8.1 | 69.3 | 11.4 | 11.2 |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | * 4.2 | * 4.2 | * 4.2 | 5.3 | * 4.2 | * 4.2 |
| Max Green Setting (Gmax), s | * 12 | 55.8 | * 4.3 | * 9.9 | * 4.3 | 63.6 | * 7.2 | * 7 |
| Max Q Clear Time (g_c+I1), s | 7.4 | 2.0 | 3.2 | 12.9 | 5.0 | 59.4 | 8.0 | 7.7 |
| Green Ext Time (p_c), s | 0.1 | 4.2 | 0.0 | 0.0 | 0.0 | 3.9 | 0.0 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 29.1 |
| HCM 6th LOS | C |

| Notes |
|---|
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. |

| Intersection | |
|---|---|
| Int Delay, s/veh | 2 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 100 | 10 | 380 | 220 | 10 | 180 |
| Future Vol, veh/h | 100 | 10 | 380 | 220 | 10 | 180 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | 150 | 50 | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 109 | 11 | 413 | 239 | 11 | 196 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 631 | 413 | 0 | 0 | 652 | 0 |
| Stage 1 | 413 | - | - | - | - | - |
| Stage 2 | 218 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | - | - | 4.12 | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | - | - | 2.218 | - |
| Pot Cap-1 Maneuver | 445 | 639 | - | - | 935 | - |
| Stage 1 | 668 | - | - | - | - | - |
| Stage 2 | 818 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 440 | 639 | - | - | 935 | - |
| Mov Cap-2 Maneuver | 440 | - | - | - | - | - |
| Stage 1 | 660 | - | - | - | - | - |
| Stage 2 | 818 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 15.8 | 0 | 0.5 |
| HCM LOS | C | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | SBL | SBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 453 | 935 | - |
| HCM Lane V/C Ratio | - | - | 0.264 | 0.012 | - |
| HCM Control Delay (s) | - | - | 15.8 | 8.9 | - |
| HCM Lane LOS | - | - | C | A | - |
| HCM 95th %tile Q(veh) | - | - | 1 | 0 | - |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 9.6 |
| Intersection LOS | A |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 5 | 5 | 40 | 20 | 10 | 5 | 100 | 260 | 35 | 0 | 130 | 5 |
| Future Vol, veh/h | 5 | 5 | 40 | 20 | 10 | 5 | 100 | 260 | 35 | 0 | 130 | 5 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 5 | 5 | 43 | 22 | 11 | 5 | 109 | 283 | 38 | 0 | 141 | 5 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 3 | 3 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 3 | 3 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 3 | 3 | 1 | 1 |
| HCM Control Delay | 8.6 | 9.3 | 10 | 9.1 |
| HCM LOS | A | A | A | A |

| Lane | NBLn1 | NBLn2 | NBLn3 | EBLn1 | WBLn1 | SBLn1 | SBLn2 | SBLn3 |
|---|---|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 10% | 57% | 0% | 0% | 0% |
| Vol Thru, % | 0% | 100% | 0% | 10% | 29% | 100% | 100% | 0% |
| Vol Right, % | 0% | 0% | 100% | 80% | 14% | 0% | 0% | 100% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 100 | 260 | 35 | 50 | 35 | 0 | 130 | 5 |
| LT Vol | 100 | 0 | 0 | 5 | 20 | 0 | 0 | 0 |
| Through Vol | 0 | 260 | 0 | 5 | 10 | 0 | 130 | 0 |
| RT Vol | 0 | 0 | 35 | 40 | 5 | 0 | 0 | 5 |
| Lane Flow Rate | 109 | 283 | 38 | 54 | 38 | 0 | 141 | 5 |
| Geometry Grp | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| Degree of Util (X) | 0.164 | 0.387 | 0.045 | 0.081 | 0.064 | 0 | 0.203 | 0.007 |
| Departure Headway (Hd) | 5.426 | 4.924 | 4.221 | 5.377 | 6.092 | 5.183 | 5.183 | 4.48 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 662 | 732 | 848 | 664 | 587 | 0 | 692 | 797 |
| Service Time | 3.154 | 2.652 | 1.949 | 3.126 | 3.844 | 2.92 | 2.92 | 2.217 |
| HCM Lane V/C Ratio | 0.165 | 0.387 | 0.045 | 0.081 | 0.065 | 0 | 0.204 | 0.006 |
| HCM Control Delay | 9.2 | 10.7 | 7.1 | 8.6 | 9.3 | 7.9 | 9.2 | 7.2 |
| HCM Lane LOS | A | B | A | A | A | N | A | A |
| HCM 95th-tile Q | 0.6 | 1.8 | 0.1 | 0.3 | 0.2 | 0 | 0.8 | 0 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 1.5 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 63 | 5 | 493 | 103 | 5 | 232 |
| Future Vol, veh/h | 63 | 5 | 493 | 103 | 5 | 232 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 1 | 1 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 68 | 5 | 536 | 112 | 5 | 252 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 855 | 593 | 0 | 0 | 649 | 0 |
| Stage 1 | 593 | - | - | - | - | - |
| Stage 2 | 262 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | - | - | 4.12 | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | - | - | 2.218 | - |
| Pot Cap-1 Maneuver | 329 | 506 | - | - | 937 | - |
| Stage 1 | 552 | - | - | - | - | - |
| Stage 2 | 782 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 327 | 506 | - | - | 936 | - |
| Mov Cap-2 Maneuver | 327 | - | - | - | - | - |
| Stage 1 | 548 | - | - | - | - | - |
| Stage 2 | 782 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 18.7 | 0 | 0.2 |
| HCM LOS | C | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | SBL | SBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 336 | 936 | - |
| HCM Lane V/C Ratio | - | - | 0.22 | 0.006 | - |
| HCM Control Delay (s) | - | - | 18.7 | 8.9 | 0 |
| HCM Lane LOS | - | - | C | A | A |
| HCM 95th %tile Q(veh) | - | - | 0.8 | 0 | - |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 98.7 |
| Intersection LOS | F |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 5 | 10 | 115 | 5 | 15 | 10 | 565 | 240 | 5 | 260 | 5 |
| Future Vol, veh/h | 0 | 5 | 10 | 115 | 5 | 15 | 10 | 565 | 240 | 5 | 260 | 5 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 5 | 11 | 125 | 5 | 16 | 11 | 614 | 261 | 5 | 283 | 5 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |

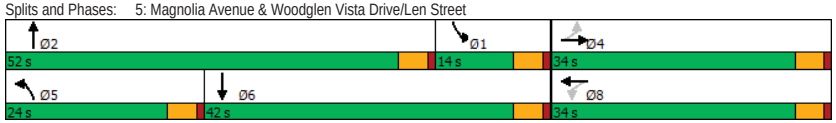
| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay | 10.2 | 12.5 | 142.7 | 13.7 |
| HCM LOS | B | B | F | B |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 85% | 100% | 0% |
| Vol Thru, % | 0% | 70% | 33% | 4% | 0% | 98% |
| Vol Right, % | 0% | 30% | 67% | 11% | 0% | 2% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 10 | 805 | 15 | 135 | 5 | 265 |
| LT Vol | 10 | 0 | 0 | 115 | 5 | 0 |
| Through Vol | 0 | 565 | 5 | 5 | 0 | 260 |
| RT Vol | 0 | 240 | 10 | 15 | 0 | 5 |
| Lane Flow Rate | 11 | 875 | 16 | 147 | 5 | 288 |
| Geometry Grp | 7 | 7 | 2 | 2 | 7 | 7 |
| Degree of Util (X) | 0.018 | 1.255 | 0.029 | 0.264 | 0.009 | 0.458 |
| Departure Headway (Hd) | 5.878 | 5.163 | 7.018 | 7.025 | 6.573 | 6.051 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 604 | 700 | 513 | 515 | 548 | 599 |
| Service Time | 3.665 | 2.949 | 5.018 | 5.025 | 4.273 | 3.751 |
| HCM Lane V/C Ratio | 0.018 | 1.25 | 0.031 | 0.285 | 0.009 | 0.481 |
| HCM Control Delay | 8.8 | 144.4 | 10.2 | 12.5 | 9.3 | 13.8 |
| HCM Lane LOS | A | F | B | B | A | B |
| HCM 95th-tile Q | 0.1 | 32 | 0.1 | 1.1 | 0 | 2.4 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 15 | 35 | 85 | 35 | 10 | 10 | 85 | 620 | 45 | 5 | 360 | 10 |
| Future Volume (vph) | 15 | 35 | 85 | 35 | 10 | 10 | 85 | 620 | 45 | 5 | 360 | 10 |
| Confl. Peds. (#/hr) | 4 | | 6 | 6 | | 4 | 8 | | | | | 8 |
| Confl. Bikes (#/hr) | | | 5 | | | 4 | | | 4 | | | 5 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Perm | NA | | Perm | NA | | Prot | NA | | Prot | NA | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 26.5 | 26.5 | | 26.5 | 26.5 | | 11.5 | 22.5 | | 11.5 | 22.5 | |
| Total Split (s) | 34.0 | 34.0 | | 34.0 | 34.0 | | 24.0 | 52.0 | | 14.0 | 42.0 | |
| Total Split (%) | 34.0% | 34.0% | | 34.0% | 34.0% | | 24.0% | 52.0% | | 14.0% | 42.0% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | | | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lead | | Lag | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 40.2 |
| Natural Cycle: 65 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 5: Magnolia Avenue & Woodglen Vista Drive/Len Street








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 15 | 35 | 85 | 35 | 10 | 10 | 85 | 620 | 45 | 5 | 360 | 10 |
| Future Volume (veh/h) | 15 | 35 | 85 | 35 | 10 | 10 | 85 | 620 | 45 | 5 | 360 | 10 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 0.99 | | 0.97 | 0.99 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 0.96 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 16 | 38 | 92 | 38 | 11 | 11 | 92 | 674 | 49 | 5 | 391 | 11 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 531 | 98 | 238 | 299 | 85 | 46 | 215 | 1253 | 91 | 17 | 926 | 26 |
| Arrive On Green | 0.21 | 0.21 | 0.21 | 0.21 | 0.21 | 0.21 | 0.12 | 0.37 | 0.37 | 0.01 | 0.26 | 0.26 |
| Sat Flow, veh/h | 1380 | 476 | 1152 | 585 | 411 | 224 | 1781 | 3350 | 243 | 1781 | 3525 | 99 |
| Grp Volume(v), veh/h | 16 | 0 | 130 | 60 | 0 | 0 | 92 | 357 | 366 | 5 | 197 | 205 |
| Grp Sat Flow(s),veh/h/ln | 1380 | 0 | 1628 | 1220 | 0 | 0 | 1781 | 1777 | 1816 | 1781 | 1777 | 1847 |
| Q Serve(g_s), s | 0.0 | 0.0 | 2.3 | 0.1 | 0.0 | 0.0 | 1.6 | 5.2 | 5.2 | 0.1 | 3.0 | 3.0 |
| Cycle Q Clear(g_c), s | 0.2 | 0.0 | 2.3 | 2.3 | 0.0 | 0.0 | 1.6 | 5.2 | 5.2 | 0.1 | 3.0 | 3.0 |
| Prop In Lane | 1.00 | | 0.71 | 0.63 | | 0.18 | 1.00 | | 0.13 | 1.00 | | 0.05 |
| Lane Grp Cap(c), veh/h | 531 | 0 | 336 | 431 | 0 | 0 | 215 | 665 | 679 | 17 | 467 | 485 |
| V/C Ratio(X) | 0.03 | 0.00 | 0.39 | 0.14 | 0.00 | 0.00 | 0.43 | 0.54 | 0.54 | 0.30 | 0.42 | 0.42 |
| Avail Cap(c_a), veh/h | 1481 | 0 | 1457 | 1384 | 0 | 0 | 1054 | 2561 | 2618 | 514 | 2022 | 2102 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 10.5 | 0.0 | 11.3 | 10.7 | 0.0 | 0.0 | 13.4 | 8.1 | 8.1 | 16.2 | 10.1 | 10.1 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 0.7 | 0.1 | 0.0 | 0.0 | 1.3 | 0.7 | 0.7 | 9.4 | 0.6 | 0.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.1 | 0.0 | 0.7 | 0.3 | 0.0 | 0.0 | 0.5 | 1.2 | 1.2 | 0.1 | 0.8 | 0.9 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 10.5 | 0.0 | 12.0 | 10.9 | 0.0 | 0.0 | 14.8 | 8.8 | 8.7 | 25.6 | 10.7 | 10.7 |
| LnGrp LOS | B | A | B | B | A | A | B | A | A | C | B | B |
| Approach Vol, veh/h | | 146 | | | 60 | | | 815 | | | 407 | |
| Approach Delay, s/veh | | 11.8 | | | 10.9 | | | 9.4 | | | 10.9 | |
| Approach LOS | | B | | | B | | | A | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 4.8 | 16.8 | | 11.3 | 8.5 | 13.2 | | 11.3 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 9.5 | 47.5 | | 29.5 | 19.5 | 37.5 | | 29.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.1 | 7.2 | | 4.3 | 3.6 | 5.0 | | 4.3 | | | | |
| Green Ext Time (p_c), s | 0.0 | 4.7 | | 0.8 | 0.2 | 2.3 | | 0.3 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 10.1 | |
| HCM 6th LOS | B | |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 58.9 |
| Intersection LOS | F |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 5 | 5 | 5 | 105 | 10 | 5 | 15 | 800 | 110 | 5 | 385 | 0 |
| Future Vol, veh/h | 5 | 5 | 5 | 105 | 10 | 5 | 15 | 800 | 110 | 5 | 385 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 5 | 5 | 5 | 114 | 11 | 5 | 16 | 870 | 120 | 5 | 418 | 0 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay | 11.2 | 13.1 | 238.7 | 20.2 |
| HCM LOS | B | B | F | C |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 33% | 88% | 100% | 0% |
| Vol Thru, % | 0% | 88% | 33% | 8% | 0% | 100% |
| Vol Right, % | 0% | 12% | 33% | 4% | 0% | 0% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 15 | 910 | 15 | 120 | 5 | 385 |
| LT Vol | 15 | 0 | 5 | 105 | 5 | 0 |
| Through Vol | 0 | 800 | 5 | 10 | 0 | 385 |
| RT Vol | 0 | 110 | 5 | 5 | 0 | 0 |
| Lane Flow Rate | 16 | 989 | 16 | 130 | 5 | 418 |
| Geometry Grp | 7 | 7 | 2 | 2 | 7 | 7 |
| Degree of Util (X) | 0.027 | 1.486 | 0.031 | 0.245 | 0.009 | 0.664 |
| Departure Headway (Hd) | 6 | 5.409 | 7.96 | 7.665 | 6.704 | 6.194 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 593 | 673 | 452 | 472 | 537 | 586 |
| Service Time | 3.777 | 3.186 | 5.96 | 5.665 | 4.404 | 3.894 |
| HCM Lane V/C Ratio | 0.027 | 1.47 | 0.035 | 0.275 | 0.009 | 0.713 |
| HCM Control Delay | 8.9 | 242.5 | 11.2 | 13.1 | 9.5 | 20.3 |
| HCM Lane LOS | A | F | B | B | A | C |
| HCM 95th-tile Q | 0.1 | 47.6 | 0.1 | 1 | 0 | 4.9 |

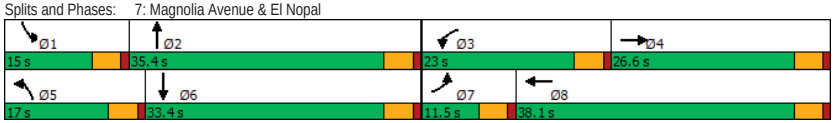




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 10 | 70 | 65 | 210 | 110 | 175 | 95 | 570 | 205 | 105 | 420 | 10 |
| Future Volume (vph) | 10 | 70 | 65 | 210 | 110 | 175 | 95 | 570 | 205 | 105 | 420 | 10 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | 1 | | | 1 | | | 3 | | | 5 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | | Prot | NA | |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 11.5 | 26.5 | | 11.5 | 25.5 | | 11.5 | 22.5 | | 11.5 | 22.5 | |
| Total Split (s) | 11.5 | 26.6 | | 23.0 | 38.1 | | 17.0 | 35.4 | | 15.0 | 33.4 | |
| Total Split (%) | 11.5% | 26.6% | | 23.0% | 38.1% | | 17.0% | 35.4% | | 15.0% | 33.4% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 77.8 |
| Natural Cycle: 80 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 7: Magnolia Avenue & El Nopal



2035 PM
7: Magnolia Avenue & El Nopal

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 10 | 70 | 65 | 210 | 110 | 175 | 95 | 570 | 205 | 105 | 420 | 10 |
| Future Volume (veh/h) | 10 | 70 | 65 | 210 | 110 | 175 | 95 | 570 | 205 | 105 | 420 | 10 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 11 | 76 | 71 | 228 | 120 | 190 | 103 | 620 | 223 | 114 | 457 | 11 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 35 | 111 | 104 | 284 | 172 | 272 | 168 | 827 | 297 | 174 | 1164 | 28 |
| Arrive On Green | 0.02 | 0.13 | 0.13 | 0.16 | 0.27 | 0.27 | 0.09 | 0.33 | 0.33 | 0.10 | 0.33 | 0.33 |
| Sat Flow, veh/h | 1781 | 883 | 825 | 1781 | 647 | 1024 | 1781 | 2543 | 914 | 1781 | 3544 | 85 |
| Grp Volume(v), veh/h | 11 | 0 | 147 | 228 | 0 | 310 | 103 | 433 | 410 | 114 | 229 | 239 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1708 | 1781 | 0 | 1670 | 1781 | 1777 | 1680 | 1781 | 1777 | 1852 |
| Q Serve(g_s), s | 0.4 | 0.0 | 5.1 | 7.6 | 0.0 | 10.3 | 3.4 | 13.4 | 13.4 | 3.8 | 6.1 | 6.1 |
| Cycle Q Clear(g_c), s | 0.4 | 0.0 | 5.1 | 7.6 | 0.0 | 10.3 | 3.4 | 13.4 | 13.4 | 3.8 | 6.1 | 6.1 |
| Prop In Lane | 1.00 | | 0.48 | 1.00 | | 0.61 | 1.00 | | 0.54 | 1.00 | | 0.05 |
| Lane Grp Cap(c), veh/h | 35 | 0 | 215 | 284 | 0 | 444 | 168 | 578 | 546 | 174 | 584 | 608 |
| V/C Ratio(X) | 0.32 | 0.00 | 0.68 | 0.80 | 0.00 | 0.70 | 0.61 | 0.75 | 0.75 | 0.66 | 0.39 | 0.39 |
| Avail Cap(c_a), veh/h | 202 | 0 | 613 | 535 | 0 | 911 | 361 | 891 | 843 | 304 | 833 | 869 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 29.8 | 0.0 | 25.8 | 25.0 | 0.0 | 20.4 | 26.8 | 18.6 | 18.6 | 26.8 | 15.9 | 16.0 |
| Incr Delay (d2), s/veh | 5.1 | 0.0 | 3.8 | 5.2 | 0.0 | 2.0 | 3.6 | 2.0 | 2.1 | 4.2 | 0.4 | 0.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.2 | 0.0 | 2.2 | 3.5 | 0.0 | 4.0 | 1.5 | 5.0 | 4.8 | 1.7 | 2.2 | 2.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 34.9 | 0.0 | 29.6 | 30.2 | 0.0 | 22.4 | 30.5 | 20.5 | 20.7 | 31.0 | 16.4 | 16.4 |
| LnGrp LOS | C | A | C | C | A | C | C | C | C | C | B | B |
| Approach Vol, veh/h | | 158 | | | 538 | | | 946 | | | 582 | |
| Approach Delay, s/veh | | 30.0 | | | 25.7 | | | 21.7 | | | 19.2 | |
| Approach LOS | | C | | | C | | | C | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 10.5 | 24.5 | 14.3 | 12.2 | 10.3 | 24.7 | 5.7 | 20.9 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 10.5 | 30.9 | 18.5 | 22.1 | 12.5 | 28.9 | 7.0 | 33.6 |
| Max Q Clear Time (g_c+I1), s | 5.8 | 15.4 | 9.6 | 7.1 | 5.4 | 8.1 | 2.4 | 12.3 |
| Green Ext Time (p_c), s | 0.1 | 4.6 | 0.4 | 0.7 | 0.1 | 2.5 | 0.0 | 2.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 22.6 |
| HCM 6th LOS | C |

HCM 6th Signalized Intersection Summary
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2035 PM
8: Los Ranchitos Road & El Nopal

Fanita Ranch
06/06/2019

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 29.3 |
| Intersection LOS | D |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 300 | 15 | 170 | 400 | 10 | 220 |
| Future Vol, veh/h | 300 | 15 | 170 | 400 | 10 | 220 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 326 | 16 | 185 | 435 | 11 | 239 |
| Number of Lanes | 1 | 1 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB |
|---|---|---|---|
| Opposing Approach | WB | EB | |
| Opposing Lanes | 1 | 2 | 0 |
| Conflicting Approach Left | | NB | EB |
| Conflicting Lanes Left | 0 | 1 | 2 |
| Conflicting Approach Right | NB | | WB |
| Conflicting Lanes Right | 1 | 0 | 1 |
| HCM Control Delay | 15.6 | 43.4 | 12.9 |
| HCM LOS | C | E | B |

| Lane | NBLn1 | EBLn1 | EBLn2 | WBLn1 |
|---|---|---|---|---|
| Vol Left, % | 4% | 0% | 0% | 30% |
| Vol Thru, % | 0% | 100% | 0% | 70% |
| Vol Right, % | 96% | 0% | 100% | 0% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 230 | 300 | 15 | 570 |
| LT Vol | 10 | 0 | 0 | 170 |
| Through Vol | 0 | 300 | 0 | 400 |
| RT Vol | 220 | 0 | 15 | 0 |
| Lane Flow Rate | 250 | 326 | 16 | 620 |
| Geometry Grp | 2 | 7 | 7 | 5 |
| Degree of Util (X) | 0.405 | 0.549 | 0.024 | 0.932 |
| Departure Headway (Hd) | 5.836 | 6.059 | 5.347 | 5.416 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 613 | 593 | 667 | 669 |
| Service Time | 3.904 | 3.815 | 3.102 | 3.461 |
| HCM Lane V/C Ratio | 0.408 | 0.55 | 0.024 | 0.927 |
| HCM Control Delay | 12.9 | 16 | 8.2 | 43.4 |
| HCM Lane LOS | B | C | A | E |
| HCM 95th-tile Q | 2 | 3.3 | 0.1 | 12.6 |

HCM 6th AWSC
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| Intersection | |
|---|---|
| Intersection Delay, s/veh | 35 |
| Intersection LOS | D |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 53 | 52 | 607 | 93 | 22 | 309 |
| Future Vol, veh/h | 53 | 52 | 607 | 93 | 22 | 309 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 58 | 57 | 660 | 101 | 24 | 336 |
| Number of Lanes | 1 | 0 | 1 | 0 | 0 | 1 |

| Approach | WB | NB | SB |
|---|---|---|---|
| Opposing Approach | | SB | NB |
| Opposing Lanes | 0 | 1 | 1 |
| Conflicting Approach Left | NB | | WB |
| Conflicting Lanes Left | 1 | 0 | 1 |
| Conflicting Approach Right | SB | WB | |
| Conflicting Lanes Right | 1 | 1 | 0 |
| HCM Control Delay | 10.9 | 48.7 | 13.8 |
| HCM LOS | B | E | B |

| Lane | NBLn1 | WBLn1 | SBLn1 |
|---|---|---|---|
| Vol Left, % | 0% | 50% | 7% |
| Vol Thru, % | 87% | 0% | 93% |
| Vol Right, % | 13% | 50% | 0% |
| Sign Control | Stop | Stop | Stop |
| Traffic Vol by Lane | 700 | 105 | 331 |
| LT Vol | 0 | 53 | 22 |
| Through Vol | 607 | 0 | 309 |
| RT Vol | 93 | 52 | 0 |
| Lane Flow Rate | 761 | 114 | 360 |
| Geometry Grp | 1 | 1 | 1 |
| Degree of Util (X) | 0.978 | 0.2 | 0.522 |
| Departure Headway (Hd) | 4.629 | 6.302 | 5.228 |
| Convergence, Y/N | Yes | Yes | Yes |
| Cap | 776 | 572 | 691 |
| Service Time | 2.727 | 4.315 | 3.24 |
| HCM Lane V/C Ratio | 0.981 | 0.199 | 0.521 |
| HCM Control Delay | 48.7 | 10.9 | 13.8 |
| HCM Lane LOS | E | B | B |
| HCM 95th-tile Q | 15.7 | 0.7 | 3 |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 10 |
| Intersection LOS | A |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 5 | 15 | 180 | 15 | 10 | 5 | 190 | 60 | 25 | 5 | 40 | 5 |
| Future Vol, veh/h | 5 | 15 | 180 | 15 | 10 | 5 | 190 | 60 | 25 | 5 | 40 | 5 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 5 | 16 | 196 | 16 | 11 | 5 | 207 | 65 | 27 | 5 | 43 | 5 |
| Number of Lanes | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 2 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 2 | 2 | 3 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 3 | 2 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 3 | 2 | 1 | 2 |
| HCM Control Delay | 9.4 | 9.3 | 10.6 | 9.1 |
| HCM LOS | A | A | B | A |

| Lane | NBLn1 | NBLn2 | NBLn3 | EBLn1 | EBLn2 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 25% | 0% | 50% | 100% | 0% |
| Vol Thru, % | 0% | 100% | 44% | 75% | 0% | 33% | 0% | 89% |
| Vol Right, % | 0% | 0% | 56% | 0% | 100% | 17% | 0% | 11% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 190 | 40 | 45 | 20 | 180 | 30 | 5 | 45 |
| LT Vol | 190 | 0 | 0 | 5 | 0 | 15 | 5 | 0 |
| Through Vol | 0 | 40 | 20 | 15 | 0 | 10 | 0 | 40 |
| RT Vol | 0 | 0 | 25 | 0 | 180 | 5 | 0 | 5 |
| Lane Flow Rate | 207 | 43 | 49 | 22 | 196 | 33 | 5 | 49 |
| Geometry Grp | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| Degree of Util (X) | 0.336 | 0.065 | 0.067 | 0.035 | 0.267 | 0.055 | 0.01 | 0.079 |
| Departure Headway (Hd) | 5.849 | 5.346 | 4.955 | 5.746 | 4.92 | 6.105 | 6.379 | 5.796 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 611 | 665 | 717 | 620 | 726 | 581 | 556 | 612 |
| Service Time | 3.623 | 3.12 | 2.728 | 3.508 | 2.681 | 3.901 | 4.174 | 3.591 |
| HCM Lane V/C Ratio | 0.339 | 0.065 | 0.068 | 0.035 | 0.27 | 0.057 | 0.009 | 0.08 |
| HCM Control Delay | 11.6 | 8.5 | 8.1 | 8.7 | 9.5 | 9.3 | 9.2 | 9.1 |
| HCM Lane LOS | B | A | A | A | A | A | A | A |
| HCM 95th-tile Q | 1.5 | 0.2 | 0.2 | 0.1 | 1.1 | 0.2 | 0 | 0.3 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 5.1 |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 10 | 35 | 40 | 35 | 0 | 15 |
| Future Vol, veh/h | 10 | 35 | 40 | 35 | 0 | 15 |
| Conflicting Peds, #/hr | 4 | 1 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | 150 | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 11 | 38 | 43 | 38 | 0 | 16 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 136 | 9 | 16 | 0 | - | 0 |
| Stage 1 | 8 | - | - | - | - | - |
| Stage 2 | 128 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | 4.12 | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | 2.218 | - | - | - |
| Pot Cap-1 Maneuver | 857 | 1073 | 1602 | - | - | - |
| Stage 1 | 1015 | - | - | - | - | - |
| Stage 2 | 898 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 834 | 1072 | 1602 | - | - | - |
| Mov Cap-2 Maneuver | 834 | - | - | - | - | - |
| Stage 1 | 988 | - | - | - | - | - |
| Stage 2 | 898 | - | - | - | - | - |

| Approach | EB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 8.8 | 3.9 | 0 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1602 | - | 1008 | - | - |
| HCM Lane V/C Ratio | 0.027 | - | 0.049 | - | - |
| HCM Control Delay (s) | 7.3 | - | 8.8 | - | - |
| HCM Lane LOS | A | - | A | - | - |
| HCM 95th %tile Q(veh) | 0.1 | - | 0.2 | - | - |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 170.1 |
| Intersection LOS | F |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 10 | 60 | 5 | 5 | 10 | 925 | 65 | 5 | 470 | 5 |
| Future Vol, veh/h | 0 | 0 | 10 | 60 | 5 | 5 | 10 | 925 | 65 | 5 | 470 | 5 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 11 | 65 | 5 | 5 | 11 | 1005 | 71 | 5 | 511 | 5 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 3 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 3 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 3 | 2 | 1 | 1 |
| HCM Control Delay | 10.9 | 13.2 | 240.3 | 50.1 |
| HCM LOS | B | B | F | F |

| Lane | NBLn1 | NBLn2 | NBLn3 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 0% | 86% | 100% | 0% |
| Vol Thru, % | 0% | 100% | 0% | 0% | 7% | 0% | 99% |
| Vol Right, % | 0% | 0% | 100% | 100% | 7% | 0% | 1% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 10 | 925 | 65 | 10 | 70 | 5 | 475 |
| LT Vol | 10 | 0 | 0 | 0 | 60 | 5 | 0 |
| Through Vol | 0 | 925 | 0 | 0 | 5 | 0 | 470 |
| RT Vol | 0 | 0 | 65 | 10 | 5 | 0 | 5 |
| Lane Flow Rate | 11 | 1005 | 71 | 11 | 76 | 5 | 516 |
| Geometry Grp | 7 | 7 | 7 | 7 | 7 | 8 | 8 |
| Degree of Util (X) | 0.018 | 1.524 | 0.093 | 0.021 | 0.167 | 0.01 | 0.924 |
| Departure Headway (Hd) | 5.962 | 5.457 | 4.75 | 8.021 | 8.767 | 7.788 | 7.276 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 597 | 664 | 747 | 449 | 412 | 462 | 501 |
| Service Time | 3.735 | 3.23 | 2.522 | 5.721 | 6.467 | 5.488 | 4.976 |
| HCM Lane V/C Ratio | 0.018 | 1.514 | 0.095 | 0.024 | 0.184 | 0.011 | 1.03 |
| HCM Control Delay | 8.8 | 259.1 | 8 | 10.9 | 13.2 | 10.6 | 50.5 |
| HCM Lane LOS | A | F | A | B | B | B | F |
| HCM 95th-tile Q | 0.1 | 50.1 | 0.3 | 0.1 | 0.6 | 0 | 11 |

| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 100 | 20 | 931 | 165 | 30 | 755 |
| Future Volume (vph) | 100 | 20 | 931 | 165 | 30 | 755 |
| Confl. Peds. (#/hr) | | 8 | | 6 | | |
| Confl. Bikes (#/hr) | | | | 5 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | 0% | | | 0% |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | NA | | Prot | NA |
| Protected Phases | 8 | | 2 | | 1 | 6 |
| Permitted Phases | | 8 | | | | |
| Detector Phase | 8 | 8 | 2 | | 1 | 6 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | | 8.5 | 20.5 |
| Total Split (s) | 22.6 | 22.6 | 28.8 | | 8.6 | 37.4 |
| Total Split (%) | 37.7% | 37.7% | 48.0% | | 14.3% | 62.3% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Lead/Lag | | | Lag | | Lead | |
| Lead-Lag Optimize? | | | Yes | | Yes | |
| Recall Mode | None | None | Min | | None | Min |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 47.3 |
| Natural Cycle: 60 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 13: Magnolia Avenue & 2nd Street

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 100 | 20 | 931 | 165 | 30 | 755 |
| Future Volume (veh/h) | 100 | 20 | 931 | 165 | 30 | 755 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | | 0.97 | 1.00 | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | No | | | No |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 109 | 22 | 1012 | 179 | 33 | 821 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 159 | 142 | 1483 | 262 | 56 | 2323 |
| Arrive On Green | 0.09 | 0.09 | 0.49 | 0.49 | 0.03 | 0.65 |
| Sat Flow, veh/h | 1781 | 1585 | 3096 | 530 | 1781 | 3647 |
| Grp Volume(v), veh/h | 109 | 22 | 598 | 593 | 33 | 821 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 1777 | 1756 | 1781 | 1777 |
| Q Serve(g_s), s | 2.1 | 0.4 | 9.0 | 9.0 | 0.6 | 3.6 |
| Cycle Q Clear(g_c), s | 2.1 | 0.4 | 9.0 | 9.0 | 0.6 | 3.6 |
| Prop In Lane | 1.00 | 1.00 | | 0.30 | 1.00 | |
| Lane Grp Cap(c), veh/h | 159 | 142 | 878 | 867 | 56 | 2323 |
| V/C Ratio(X) | 0.68 | 0.16 | 0.68 | 0.68 | 0.59 | 0.35 |
| Avail Cap(c_a), veh/h | 920 | 819 | 1233 | 1218 | 209 | 3338 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 15.5 | 14.7 | 6.8 | 6.8 | 16.7 | 2.7 |
| Incr Delay (d2), s/veh | 5.1 | 0.5 | 0.9 | 1.0 | 9.6 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.9 | 0.2 | 1.7 | 1.6 | 0.4 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 20.6 | 15.2 | 7.7 | 7.7 | 26.3 | 2.8 |
| LnGrp LOS | C | B | A | A | C | A |
| Approach Vol, veh/h | 131 | | 1191 | | | 854 |
| Approach Delay, s/veh | 19.7 | | 7.7 | | | 3.7 |
| Approach LOS | B | | A | | | A |

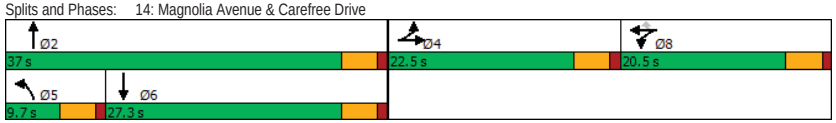
| Timer - Assigned Phs | 1 | 2 | | | 6 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.6 | 21.8 | | | 27.4 | 7.6 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 4.1 | 24.3 | | | 32.9 | 18.1 |
| Max Q Clear Time (g_c+I1), s | 2.6 | 11.0 | | | 5.6 | 4.1 |
| Green Ext Time (p_c), s | 0.0 | 6.2 | | | 5.9 | 0.3 |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 6.9 | |
| HCM 6th LOS | | A | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 20 | 0 | 70 | 5 | 0 | 0 | 80 | 1075 | 0 | 0 | 840 | 15 |
| Future Volume (vph) | 20 | 0 | 70 | 5 | 0 | 0 | 80 | 1075 | 0 | 0 | 840 | 15 |
| Confl. Peds. (#/hr) | | | 22 | | | | | | 8 | | | 12 |
| Confl. Bikes (#/hr) | | | 4 | | | | | | | | | 6 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | 50% | | | | | | | | |
| Turn Type | Split | NA | | Split | NA | Perm | Prot | NA | | | NA | |
| Protected Phases | 4 | 4 | | 8 | 8 | | 5 | 2 | | | 6 | |
| Permitted Phases | | | | | | 8 | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | 8 | 5 | 2 | | | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | | 4.0 | |
| Minimum Split (s) | 22.5 | 22.5 | | 20.5 | 20.5 | 20.5 | 8.5 | 22.5 | | | 22.5 | |
| Total Split (s) | 22.5 | 22.5 | | 20.5 | 20.5 | 20.5 | 9.7 | 37.0 | | | 27.3 | |
| Total Split (%) | 28.1% | 28.1% | | 25.6% | 25.6% | 25.6% | 12.1% | 46.3% | | | 34.1% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | 0.0 | |
| Total Lost Time (s) | | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | | 4.5 | |
| Lead/Lag | | | | | | | Lead | | | | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | | | | Yes | |
| Recall Mode | None | None | | None | None | None | None | Min | | | Min | |

| Intersection Summary |
|---|
| Cycle Length: 80 |
| Actuated Cycle Length: 47.7 |
| Natural Cycle: 80 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 14: Magnolia Avenue & Carefree Drive








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 20 | 0 | 70 | 5 | 0 | 0 | 80 | 1075 | 0 | 0 | 840 | 15 |
| Future Volume (veh/h) | 20 | 0 | 70 | 5 | 0 | 0 | 80 | 1075 | 0 | 0 | 840 | 15 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.93 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.96 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 0 | 0 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 22 | 0 | 76 | 5 | 0 | 0 | 87 | 1168 | 0 | 0 | 913 | 16 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 0 | 0 | 2 | 2 |
| Cap, veh/h | 42 | 0 | 145 | 19 | 0 | 9 | 109 | 1935 | 0 | 0 | 1335 | 23 |
| Arrive On Green | 0.12 | 0.00 | 0.12 | 0.01 | 0.00 | 0.00 | 0.06 | 0.54 | 0.00 | 0.00 | 0.37 | 0.37 |
| Sat Flow, veh/h | 344 | 0 | 1188 | 3563 | 0 | 1585 | 1781 | 3647 | 0 | 0 | 3664 | 63 |
| Grp Volume(v), veh/h | 98 | 0 | 0 | 5 | 0 | 0 | 87 | 1168 | 0 | 0 | 454 | 475 |
| Grp Sat Flow(s),veh/h/ln | 1532 | 0 | 0 | 1781 | 0 | 1585 | 1781 | 1777 | 0 | 0 | 1777 | 1856 |
| Q Serve(g_s), s | 2.5 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 2.0 | 9.2 | 0.0 | 0.0 | 8.9 | 8.9 |
| Cycle Q Clear(g_c), s | 2.5 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 2.0 | 9.2 | 0.0 | 0.0 | 8.9 | 8.9 |
| Prop In Lane | 0.22 | | 0.78 | 1.00 | | 1.00 | 1.00 | | 0.00 | 0.00 | | 0.03 |
| Lane Grp Cap(c), veh/h | 188 | 0 | 0 | 19 | 0 | 9 | 109 | 1935 | 0 | 0 | 665 | 694 |
| V/C Ratio(X) | 0.52 | 0.00 | 0.00 | 0.26 | 0.00 | 0.00 | 0.80 | 0.60 | 0.00 | 0.00 | 0.68 | 0.68 |
| Avail Cap(c_a), veh/h | 669 | 0 | 0 | 1383 | 0 | 615 | 225 | 2803 | 0 | 0 | 983 | 1027 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 17.0 | 0.0 | 0.0 | 20.4 | 0.0 | 0.0 | 19.1 | 6.4 | 0.0 | 0.0 | 10.8 | 10.8 |
| Incr Delay (d2), s/veh | 2.2 | 0.0 | 0.0 | 7.0 | 0.0 | 0.0 | 12.3 | 0.3 | 0.0 | 0.0 | 1.3 | 1.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 1.7 | 0.0 | 0.0 | 2.6 | 2.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 19.2 | 0.0 | 0.0 | 27.4 | 0.0 | 0.0 | 31.4 | 6.7 | 0.0 | 0.0 | 12.1 | 12.0 |
| LnGrp LOS | B | A | A | C | A | A | C | A | A | A | B | B |
| Approach Vol, veh/h | | 98 | | | 5 | | | 1255 | | | 929 | |
| Approach Delay, s/veh | | 19.2 | | | 27.4 | | | 8.4 | | | 12.1 | |
| Approach LOS | | B | | | C | | | A | | | B | |

| Timer - Assigned Phs | 2 | 4 | 5 | 6 | 8 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 26.9 | 9.5 | 7.0 | 19.9 | 4.7 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 32.5 | 18.0 | 5.2 | 22.8 | 16.0 |
| Max Q Clear Time (g_c+I1), s | 11.2 | 4.5 | 4.0 | 10.9 | 2.1 |
| Green Ext Time (p_c), s | 8.4 | 0.4 | 0.0 | 4.4 | 0.0 |

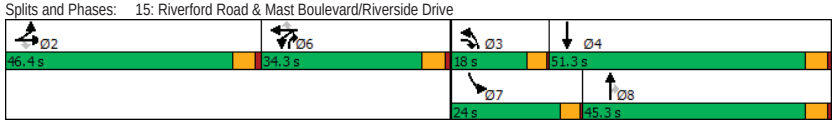
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 10.4 | |
| HCM 6th LOS | B | |

| Notes |
|---|
| User approved volume balancing among the lanes for turning movement. |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 30 | 20 | 70 | 660 | 80 | 380 | 140 | 330 | 590 | 250 | 250 | 50 |
| Future Volume (vph) | 30 | 20 | 70 | 660 | 80 | 380 | 140 | 330 | 590 | 250 | 250 | 50 |
| Confl. Peds. (#/hr) | | | | | | | | | 4 | | | |
| Confl. Bikes (#/hr) | | | 3 | | | 1 | | | 3 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Split | NA | pm+ov | Split | NA | Perm | Prot | NA | pm+ov | Prot | NA | |
| Protected Phases | 2 | 2 | 3 | 6 | 6 | | 3 | 8 | 6 | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | 8 | | | |
| Detector Phase | 2 | 2 | 3 | 6 | 6 | 6 | 3 | 8 | 6 | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 6.0 | 6.0 | 5.0 | 4.0 | 4.0 | 4.0 | 5.0 | 6.0 | 4.0 | 4.0 | 6.0 | |
| Minimum Split (s) | 45.3 | 45.3 | 9.1 | 34.3 | 34.3 | 34.3 | 9.1 | 45.3 | 34.3 | 8.6 | 49.9 | |
| Total Split (s) | 46.4 | 46.4 | 18.0 | 34.3 | 34.3 | 34.3 | 18.0 | 45.3 | 34.3 | 24.0 | 51.3 | |
| Total Split (%) | 30.9% | 30.9% | 12.0% | 22.9% | 22.9% | 22.9% | 12.0% | 30.2% | 22.9% | 16.0% | 34.2% | |
| Yellow Time (s) | 4.3 | 4.3 | 3.6 | 4.3 | 4.3 | 4.3 | 3.6 | 3.9 | 4.3 | 3.6 | 3.9 | |
| All-Red Time (s) | 1.0 | 1.0 | 0.5 | 1.0 | 1.0 | 1.0 | 0.5 | 1.0 | 1.0 | 0.5 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 5.3 | 5.3 | 4.1 | 5.3 | 5.3 | 5.3 | 4.1 | 4.9 | 5.3 | 4.1 | 4.9 | |
| Lead/Lag | | | Lead | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | Yes | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | None | None | None | None | None | Min | None | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 150 |
| Actuated Cycle Length: 105.6 |
| Natural Cycle: 150 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 15: Riverford Road & Mast Boulevard/Riverside Drive








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 30 | 20 | 70 | 660 | 80 | 380 | 140 | 330 | 590 | 250 | 250 | 50 |
| Future Volume (veh/h) | 30 | 20 | 70 | 660 | 80 | 380 | 140 | 330 | 590 | 250 | 250 | 50 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.96 | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 33 | 22 | 76 | 717 | 87 | 413 | 152 | 359 | 641 | 272 | 272 | 54 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 96 | 192 | 429 | 920 | 946 | 413 | 182 | 618 | 937 | 302 | 601 | 119 |
| Arrive On Green | 0.05 | 0.05 | 0.05 | 0.27 | 0.27 | 0.27 | 0.10 | 0.33 | 0.33 | 0.17 | 0.40 | 0.40 |
| Sat Flow, veh/h | 1781 | 3554 | 2678 | 3456 | 3554 | 1551 | 1781 | 1870 | 1557 | 1781 | 1512 | 300 |
| Grp Volume(v), veh/h | 33 | 22 | 76 | 717 | 87 | 413 | 152 | 359 | 641 | 272 | 0 | 326 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1339 | 1728 | 1777 | 1551 | 1781 | 1870 | 1557 | 1781 | 0 | 1812 |
| Q Serve(g_s), s | 1.9 | 0.6 | 2.7 | 20.9 | 2.0 | 29.0 | 9.1 | 17.3 | 30.7 | 16.3 | 0.0 | 14.4 |
| Cycle Q Clear(g_c), s | 1.9 | 0.6 | 2.7 | 20.9 | 2.0 | 29.0 | 9.1 | 17.3 | 30.7 | 16.3 | 0.0 | 14.4 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.17 |
| Lane Grp Cap(c), veh/h | 96 | 192 | 429 | 920 | 946 | 413 | 182 | 618 | 937 | 302 | 0 | 721 |
| V/C Ratio(X) | 0.34 | 0.11 | 0.18 | 0.78 | 0.09 | 1.00 | 0.84 | 0.58 | 0.68 | 0.90 | 0.00 | 0.45 |
| Avail Cap(c_a), veh/h | 672 | 1341 | 1295 | 920 | 946 | 413 | 227 | 694 | 1000 | 325 | 0 | 772 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 49.7 | 49.0 | 39.9 | 37.0 | 30.1 | 40.0 | 48.0 | 30.2 | 15.1 | 44.4 | 0.0 | 24.1 |
| Incr Delay (d2), s/veh | 2.1 | 0.3 | 0.2 | 4.3 | 0.0 | 44.3 | 19.3 | 1.0 | 1.8 | 25.7 | 0.0 | 0.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.9 | 0.3 | 0.9 | 9.1 | 0.8 | 15.9 | 5.0 | 7.9 | 18.0 | 9.3 | 0.0 | 6.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 51.7 | 49.3 | 40.1 | 41.3 | 30.1 | 84.3 | 67.3 | 31.2 | 16.9 | 70.1 | 0.0 | 24.5 |
| LnGrp LOS | D | D | D | D | C | F | E | C | B | E | A | C |
| Approach Vol, veh/h | | 131 | | | 1217 | | | 1152 | | | 598 | |
| Approach Delay, s/veh | | 44.6 | | | 55.1 | | | 28.0 | | | 45.3 | |
| Approach LOS | | D | | | E | | | C | | | D | |

| Timer - Assigned Phs | 2 | 3 | 4 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 11.2 | 15.2 | 48.2 | 34.3 | 22.5 | 40.9 |
| Change Period (Y+Rc), s | 5.3 | 4.1 | 4.9 | 5.3 | 4.1 | 4.9 |
| Max Green Setting (Gmax), s | 41.1 | 13.9 | 46.4 | 29.0 | 19.9 | 40.4 |
| Max Q Clear Time (g_c+I1), s | 4.7 | 11.1 | 16.4 | 31.0 | 18.3 | 32.7 |
| Green Ext Time (p_c), s | 0.5 | 0.1 | 2.1 | 0.0 | 0.1 | 3.1 |

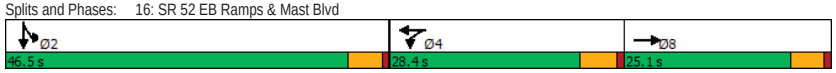
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 42.7 | |
| HCM 6th LOS | D | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 25 | 25 | 325 | 30 | 0 | 0 | 0 | 0 | 1590 | 5 | 10 |
| Future Volume (vph) | 0 | 25 | 25 | 325 | 30 | 0 | 0 | 0 | 0 | 1590 | 5 | 10 |
| Confl. Peds. (#/hr) | | | 5 | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | 50% | | |
| Turn Type | | NA | | Split | NA | | | | | Split | NA | |
| Protected Phases | | 8 | | 4 | 4 | | | | | 2 | 2 | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | | 8 | | 4 | 4 | | | | | 2 | 2 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | 7.0 | | 8.0 | 8.0 | | | | | 5.0 | 5.0 | |
| Minimum Split (s) | | 25.1 | | 28.4 | 28.4 | | | | | 32.3 | 32.3 | |
| Total Split (s) | | 25.1 | | 28.4 | 28.4 | | | | | 46.5 | 46.5 | |
| Total Split (%) | | 25.1% | | 28.4% | 28.4% | | | | | 46.5% | 46.5% | |
| Yellow Time (s) | | 4.1 | | 4.4 | 4.4 | | | | | 4.1 | 4.1 | |
| All-Red Time (s) | | 1.0 | | 1.0 | 1.0 | | | | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | | 0.0 | 0.0 | | | | | 0.0 | 0.0 | |
| Total Lost Time (s) | | 5.1 | | 5.4 | 5.4 | | | | | 5.1 | 5.1 | |
| Lead/Lag | | | | | | | | | | | | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Recall Mode | | None | | None | None | | | | | None | None | |

**Intersection Summary**

Cycle Length: 100
Actuated Cycle Length: 85.1
Natural Cycle: 130
Control Type: Actuated-Uncoordinated

Splits and Phases: 16: SR 52 EB Ramps & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 25 | 25 | 325 | 30 | 0 | 0 | 0 | 0 | 1590 | 5 | 10 |
| Future Volume (veh/h) | 0 | 25 | 25 | 325 | 30 | 0 | 0 | 0 | 0 | 1590 | 5 | 10 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | | | | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 1.00 | | | | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | | | | No | |
| Adj Sat Flow, veh/h/ln | 0 | 1870 | 1870 | 1870 | 1870 | 0 | | | | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 27 | 27 | 353 | 33 | 0 | | | | 1742 | 0 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 0 | 2 | 2 | 2 | 2 | 0 | | | | 2 | 2 | 2 |
| Cap, veh/h | 0 | 61 | 61 | 400 | 420 | 0 | | | | 1817 | 954 | 0 |
| Arrive On Green | 0.00 | 0.07 | 0.07 | 0.22 | 0.22 | 0.00 | | | | 0.51 | 0.00 | 0.00 |
| Sat Flow, veh/h | 0 | 850 | 850 | 1781 | 1870 | 0 | | | | 3563 | 1870 | 0 |
| Grp Volume(v), veh/h | 0 | 0 | 54 | 353 | 33 | 0 | | | | 1742 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 0 | 0 | 1700 | 1781 | 1870 | 0 | | | | 1781 | 1870 | 0 |
| Q Serve(g_s), s | 0.0 | 0.0 | 2.4 | 15.4 | 1.1 | 0.0 | | | | 37.7 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 0.0 | 0.0 | 2.4 | 15.4 | 1.1 | 0.0 | | | | 37.7 | 0.0 | 0.0 |
| Prop In Lane | 0.00 | | 0.50 | 1.00 | | 0.00 | | | | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 0 | 0 | 121 | 400 | 420 | 0 | | | | 1817 | 954 | 0 |
| V/C Ratio(X) | 0.00 | 0.00 | 0.44 | 0.88 | 0.08 | 0.00 | | | | 0.96 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 0 | 0 | 423 | 510 | 535 | 0 | | | | 1835 | 963 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.00 | | | | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 0.0 | 0.0 | 35.8 | 30.1 | 24.6 | 0.0 | | | | 18.9 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 1.0 | 13.9 | 0.1 | 0.0 | | | | 12.6 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.0 | 1.0 | 7.8 | 0.5 | 0.0 | | | | 16.9 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 0.0 | 36.7 | 44.0 | 24.7 | 0.0 | | | | 31.5 | 0.0 | 0.0 |
| LnGrp LOS | A | A | D | D | C | A | | | | C | A | A |
| Approach Vol, veh/h | | 54 | | | 386 | | | | | | 1742 | |
| Approach Delay, s/veh | | 36.7 | | | 42.3 | | | | | | 31.5 | |
| Approach LOS | | D | | | D | | | | | | C | |

| Timer - Assigned Phs | 2 | 4 | 8 |
|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 46.1 | 23.4 | 10.8 |
| Change Period (Y+Rc), s | 5.1 | 5.4 | 5.1 |
| Max Green Setting (Gmax), s | 41.4 | 23.0 | 20.0 |
| Max Q Clear Time (g_c+I1), s | 39.7 | 17.4 | 4.4 |
| Green Ext Time (p_c), s | 1.3 | 0.6 | 0.1 |

**Intersection Summary**

| | |
|---|---|
| HCM 6th Ctrl Delay | 33.6 |
| HCM 6th LOS | C |

**Notes**

User approved volume balancing among the lanes for turning movement.

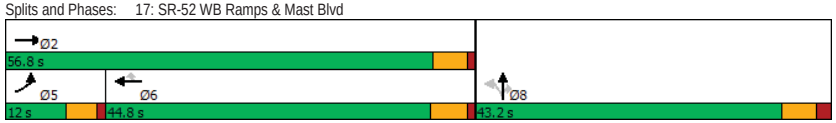
2035 PM
17: SR-52 WB Ramps & Mast Blvd

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 25 | 1590 | 0 | 0 | 355 | 655 | 0 | 5 | 640 | 0 | 0 | 0 |
| Future Volume (vph) | 25 | 1590 | 0 | 0 | 355 | 655 | 0 | 5 | 640 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | | | 6 | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | 4 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | 27% | | | 50% | | | |
| Turn Type | Prot | NA | | | NA | Perm | | NA | Perm | | | |
| Protected Phases | 5 | 2 | | | 6 | | | 8 | | | | |
| Permitted Phases | | | | | | 6 | 8 | | 8 | | | |
| Detector Phase | 5 | 2 | | | 6 | 6 | 8 | 8 | 8 | | | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 10.0 | | | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | | | |
| Minimum Split (s) | 11.7 | 38.6 | | | 28.4 | 28.4 | 43.1 | 43.1 | 43.1 | | | |
| Total Split (s) | 12.0 | 56.8 | | | 44.8 | 44.8 | 43.2 | 43.2 | 43.2 | | | |
| Total Split (%) | 12.0% | 56.8% | | | 44.8% | 44.8% | 43.2% | 43.2% | 43.2% | | | |
| Yellow Time (s) | 3.7 | 4.1 | | | 4.4 | 4.4 | 4.1 | 4.1 | 4.1 | | | |
| All-Red Time (s) | 1.0 | 1.0 | | | 1.0 | 1.0 | 2.0 | 2.0 | 2.0 | | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | 0.0 | | | |
| Total Lost Time (s) | 4.7 | 5.1 | | | 5.4 | 5.4 | | 6.1 | 6.1 | | | |
| Lead/Lag | Lead | | | | Lag | Lag | | | | | | |
| Lead-Lag Optimize? | Yes | | | | Yes | Yes | | | | | | |
| Recall Mode | None | Min | | | Min | Min | None | None | None | | | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 84.6 |
| Natural Cycle: 95 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 17: SR-52 WB Ramps & Mast Blvd




Timings
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2035 PM
17: SR-52 WB Ramps & Mast Blvd

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 25 | 1590 | 0 | 0 | 355 | 655 | 0 | 5 | 640 | 0 | 0 | 0 |
| Future Volume (veh/h) | 25 | 1590 | 0 | 0 | 355 | 655 | 0 | 5 | 640 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.99 | 1.00 | | 1.00 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.99 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 0 | 0 | 1870 | 1945 | 1870 | 1870 | 1870 | | | |
| Adj Flow Rate, veh/h | 27 | 1728 | 0 | 0 | 630 | 549 | 0 | 0 | 699 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | |
| Percent Heavy Veh, % | 2 | 2 | 0 | 0 | 2 | 2 | 2 | 2 | 2 | | | |
| Cap, veh/h | 71 | 2097 | 0 | 0 | 913 | 793 | 0 | 477 | 818 | | | |
| Arrive On Green | 0.04 | 0.59 | 0.00 | 0.00 | 0.49 | 0.49 | 0.00 | 0.00 | 0.26 | | | |
| Sat Flow, veh/h | 1781 | 3647 | 0 | 0 | 1870 | 1626 | 0 | 1848 | 3170 | | | |
| Grp Volume(v), veh/h | 27 | 1728 | 0 | 0 | 630 | 549 | 0 | 0 | 699 | | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 0 | 0 | 1870 | 1626 | 0 | 1848 | 1585 | | | |
| Q Serve(g_s), s | 1.1 | 29.4 | 0.0 | 0.0 | 19.7 | 19.8 | 0.0 | 0.0 | 15.9 | | | |
| Cycle Q Clear(g_c), s | 1.1 | 29.4 | 0.0 | 0.0 | 19.7 | 19.8 | 0.0 | 0.0 | 15.9 | | | |
| Prop In Lane | 1.00 | | 0.00 | 0.00 | | 1.00 | 0.00 | | 1.00 | | | |
| Lane Grp Cap(c), veh/h | 71 | 2097 | 0 | 0 | 913 | 793 | 0 | 477 | 818 | | | |
| V/C Ratio(X) | 0.38 | 0.82 | 0.00 | 0.00 | 0.69 | 0.69 | 0.00 | 0.00 | 0.85 | | | |
| Avail Cap(c_a), veh/h | 172 | 2425 | 0 | 0 | 973 | 846 | 0 | 905 | 1553 | | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | | | |
| Uniform Delay (d), s/veh | 35.4 | 12.4 | 0.0 | 0.0 | 15.0 | 15.0 | 0.0 | 0.0 | 26.7 | | | |
| Incr Delay (d2), s/veh | 1.2 | 2.1 | 0.0 | 0.0 | 1.9 | 2.3 | 0.0 | 0.0 | 1.0 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ln | 0.5 | 9.9 | 0.0 | 0.0 | 7.8 | 6.8 | 0.0 | 0.0 | 5.8 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 36.7 | 14.5 | 0.0 | 0.0 | 16.9 | 17.2 | 0.0 | 0.0 | 27.8 | | | |
| LnGrp LOS | D | B | A | A | B | B | A | A | C | | | |
| Approach Vol, veh/h | | 1755 | | | 1179 | | | 699 | | | | |
| Approach Delay, s/veh | | 14.9 | | | 17.1 | | | 27.8 | | | | |
| Approach LOS | | B | | | B | | | C | | | | |

| Timer - Assigned Phs | 2 | | | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 50.1 | | | 7.7 | 42.4 | | 25.7 | | | | |
| Change Period (Y+Rc), s | * 5.4 | | | * 4.7 | 5.4 | | 6.1 | | | | |
| Max Green Setting (Gmax), s | * 52 | | | * 7.3 | 39.4 | | 37.1 | | | | |
| Max Q Clear Time (g_c+I1), s | 31.4 | | | 3.1 | 21.8 | | 17.9 | | | | |
| Green Ext Time (p_c), s | 13.3 | | | 0.0 | 6.1 | | 1.7 | | | | |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 18.1 |
| HCM 6th LOS | B |

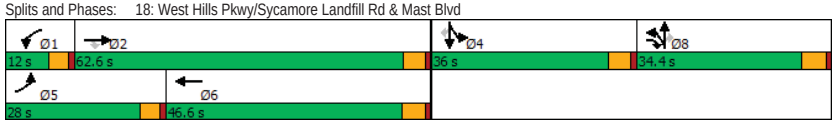
| Notes |
|---|
| User approved volume balancing among the lanes for turning movement. |
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. |

HCM 6th Signalized Intersection Summary
N:\2462\Analysis\Intersections\Synchro\Long-Term\10 2035 PM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 150 | 1560 | 520 | 190 | 620 | 80 | 280 | 45 | 460 | 75 | 10 | 110 |
| Future Volume (vph) | 150 | 1560 | 520 | 190 | 620 | 80 | 280 | 45 | 460 | 75 | 10 | 110 |
| Confl. Peds. (#/hr) | | | 12 | | | | | | | | | 4 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | 42% | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | | Split | NA | Perm | Split | NA | Perm |
| Protected Phases | 5 | 2 | 8 | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Permitted Phases | | | 2 | | | | | | 8 | | | 4 |
| Detector Phase | 5 | 2 | 8 | 1 | 6 | | 8 | 8 | 8 | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 10.0 | 10.0 | 4.0 | 10.0 | | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| Minimum Split (s) | 20.0 | 34.9 | 33.4 | 8.4 | 35.2 | | 33.4 | 33.4 | 33.4 | 34.9 | 34.9 | 34.9 |
| Total Split (s) | 28.0 | 62.6 | 34.4 | 12.0 | 46.6 | | 34.4 | 34.4 | 34.4 | 36.0 | 36.0 | 36.0 |
| Total Split (%) | 19.3% | 43.2% | 23.7% | 8.3% | 32.1% | | 23.7% | 23.7% | 23.7% | 24.8% | 24.8% | 24.8% |
| Yellow Time (s) | 3.4 | 3.9 | 4.4 | 3.4 | 4.2 | | 4.4 | 4.4 | 4.4 | 3.9 | 3.9 | 3.9 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.4 | 4.9 | 5.4 | 4.4 | 5.2 | | 5.4 | 5.4 | 5.4 | | 4.9 | 4.9 |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | Min | None | None | Min | | None | None | None | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 145 |
| Actuated Cycle Length: 122.8 |
| Natural Cycle: 145 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 18: West Hills Pkwy/Sycamore Landfill Rd & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 150 | 1560 | 520 | 190 | 620 | 80 | 280 | 45 | 460 | 75 | 10 | 110 |
| Future Volume (veh/h) | 150 | 1560 | 520 | 190 | 620 | 80 | 280 | 45 | 460 | 75 | 10 | 110 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 163 | 1696 | 565 | 207 | 674 | 87 | 339 | 0 | 453 | 82 | 11 | 120 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 190 | 1607 | 1071 | 206 | 1282 | 165 | 810 | 0 | 360 | 166 | 22 | 164 |
| Arrive On Green | 0.11 | 0.45 | 0.45 | 0.06 | 0.41 | 0.41 | 0.23 | 0.00 | 0.23 | 0.10 | 0.10 | 0.10 |
| Sat Flow, veh/h | 1781 | 3554 | 1572 | 3456 | 3166 | 408 | 3563 | 0 | 1585 | 1579 | 212 | 1567 |
| Grp Volume(v), veh/h | 163 | 1696 | 565 | 207 | 378 | 383 | 339 | 0 | 453 | 93 | 0 | 120 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1572 | 1728 | 1777 | 1797 | 1781 | 0 | 1585 | 1791 | 0 | 1567 |
| Q Serve(g_s), s | 11.5 | 57.7 | 22.9 | 7.6 | 20.5 | 20.6 | 10.4 | 0.0 | 29.0 | 6.3 | 0.0 | 9.5 |
| Cycle Q Clear(g_c), s | 11.5 | 57.7 | 22.9 | 7.6 | 20.5 | 20.6 | 10.4 | 0.0 | 29.0 | 6.3 | 0.0 | 9.5 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.23 | 1.00 | | 1.00 | 0.88 | | 1.00 |
| Lane Grp Cap(c), veh/h | 190 | 1607 | 1071 | 206 | 720 | 728 | 810 | 0 | 360 | 188 | 0 | 164 |
| V/C Ratio(X) | 0.86 | 1.06 | 0.53 | 1.01 | 0.53 | 0.53 | 0.42 | 0.00 | 1.26 | 0.49 | 0.00 | 0.73 |
| Avail Cap(c_a), veh/h | 329 | 1607 | 1071 | 206 | 720 | 728 | 810 | 0 | 360 | 437 | 0 | 382 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 56.0 | 34.9 | 10.2 | 60.0 | 28.7 | 28.7 | 42.1 | 0.0 | 49.3 | 53.9 | 0.0 | 55.3 |
| Incr Delay (d2), s/veh | 4.3 | 38.6 | 0.6 | 64.2 | 1.3 | 1.3 | 0.5 | 0.0 | 136.5 | 2.0 | 0.0 | 6.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 5.3 | 32.2 | 14.3 | 5.1 | 8.8 | 8.9 | 4.5 | 0.0 | 24.8 | 2.9 | 0.0 | 3.9 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 60.3 | 73.6 | 10.8 | 124.2 | 30.0 | 30.0 | 42.6 | 0.0 | 185.8 | 55.9 | 0.0 | 61.4 |
| LnGrp LOS | E | F | B | F | C | C | D | A | F | E | A | E |
| Approach Vol, veh/h | | 2424 | | | 968 | | | 792 | | | 213 | |
| Approach Delay, s/veh | | 58.1 | | | 50.2 | | | 124.5 | | | 59.0 | |
| Approach LOS | | E | | | D | | | F | | | E | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 12.0 | 62.9 | | 18.3 | 18.0 | 56.9 | | 34.4 | | | | |
| Change Period (Y+Rc), s | 4.4 | * 5.2 | | 4.9 | 4.4 | 5.2 | | 5.4 | | | | |
| Max Green Setting (Gmax), s | 7.6 | * 58 | | 31.1 | 23.6 | 41.4 | | 29.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 9.6 | 59.7 | | 11.5 | 13.5 | 22.6 | | 31.0 | | | | |
| Green Ext Time (p_c), s | 0.0 | 0.0 | | 0.7 | 0.1 | 7.8 | | 0.0 | | | | |

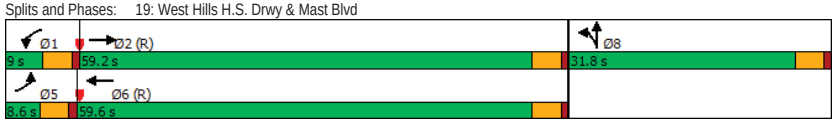
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 68.3 | |
| HCM 6th LOS | E | |

| Notes |
|---|
| User approved volume balancing among the lanes for turning movement. |
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 10 | 1710 | 25 | 40 | 650 | 0 | 50 | 0 | 100 | 0 | 0 | 0 |
| Future Volume (vph) | 10 | 1710 | 25 | 40 | 650 | 0 | 50 | 0 | 100 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | 4 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Split | NA | | | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | | | | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | | | | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | | | | |
| Minimum Split (s) | 8.5 | 22.5 | | 8.5 | 20.5 | | 31.5 | 31.5 | | | | |
| Total Split (s) | 8.6 | 59.2 | | 9.0 | 59.6 | | 31.8 | 31.8 | | | | |
| Total Split (%) | 8.6% | 59.2% | | 9.0% | 59.6% | | 31.8% | 31.8% | | | | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | | | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | | |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | | 4.5 | | | | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | | | | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 90 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 19: West Hills H.S. Drwy & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 10 | 1710 | 25 | 40 | 650 | 0 | 50 | 0 | 100 | 0 | 0 | 0 |
| Future Volume (veh/h) | 10 | 1710 | 25 | 40 | 650 | 0 | 50 | 0 | 100 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 0 | 1900 | 1870 | 1900 | | | |
| Adj Flow Rate, veh/h | 11 | 1859 | 27 | 43 | 707 | 0 | 54 | 0 | 109 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 0 | 0 | 2 | 0 | | | |
| Cap, veh/h | 19 | 2552 | 37 | 54 | 2600 | 0 | 67 | 0 | 135 | | | |
| Arrive On Green | 0.01 | 0.71 | 0.71 | 0.06 | 1.00 | 0.00 | 0.12 | 0.00 | 0.12 | | | |
| Sat Flow, veh/h | 1781 | 3586 | 52 | 1781 | 3647 | 0 | 545 | 0 | 1100 | | | |
| Grp Volume(v), veh/h | 11 | 919 | 967 | 43 | 707 | 0 | 163 | 0 | 0 | | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1861 | 1781 | 1777 | 0 | 1645 | 0 | 0 | | | |
| Q Serve(g_s), s | 0.6 | 30.9 | 31.2 | 2.4 | 0.0 | 0.0 | 9.6 | 0.0 | 0.0 | | | |
| Cycle Q Clear(g_c), s | 0.6 | 30.9 | 31.2 | 2.4 | 0.0 | 0.0 | 9.6 | 0.0 | 0.0 | | | |
| Prop In Lane | 1.00 | | 0.03 | 1.00 | | 0.00 | 0.33 | | 0.67 | | | |
| Lane Grp Cap(c), veh/h | 19 | 1264 | 1324 | 54 | 2600 | 0 | 202 | 0 | 0 | | | |
| V/C Ratio(X) | 0.59 | 0.73 | 0.73 | 0.79 | 0.27 | 0.00 | 0.81 | 0.00 | 0.00 | | | |
| Avail Cap(c_a), veh/h | 73 | 1264 | 1324 | 80 | 2600 | 0 | 449 | 0 | 0 | | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 0.12 | 0.12 | 0.12 | 0.93 | 0.93 | 0.00 | 1.00 | 0.00 | 0.00 | | | |
| Uniform Delay (d), s/veh | 49.3 | 8.6 | 8.7 | 46.6 | 0.0 | 0.0 | 42.7 | 0.0 | 0.0 | | | |
| Incr Delay (d2), s/veh | 3.5 | 0.5 | 0.4 | 25.0 | 0.2 | 0.0 | 7.4 | 0.0 | 0.0 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ln | 0.3 | 9.1 | 9.6 | 1.4 | 0.1 | 0.0 | 4.3 | 0.0 | 0.0 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 52.7 | 9.1 | 9.1 | 71.7 | 0.2 | 0.0 | 50.1 | 0.0 | 0.0 | | | |
| LnGrp LOS | D | A | A | E | A | A | D | A | A | | | |
| Approach Vol, veh/h | | 1897 | | | 750 | | | 163 | | | | |
| Approach Delay, s/veh | | 9.3 | | | 4.3 | | | 50.1 | | | | |
| Approach LOS | | A | | | A | | | D | | | | |

| Timer - Assigned Phs | 1 | 2 | | | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.6 | 75.7 | | | 5.6 | 77.7 | | 16.8 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 4.5 | 54.7 | | | 4.1 | 55.1 | | 27.3 | | | | |
| Max Q Clear Time (g_c+I1), s | 4.4 | 33.2 | | | 2.6 | 2.0 | | 11.6 | | | | |
| Green Ext Time (p_c), s | 0.0 | 14.4 | | | 0.0 | 5.3 | | 0.8 | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 10.4 | |
| HCM 6th LOS | | B | |

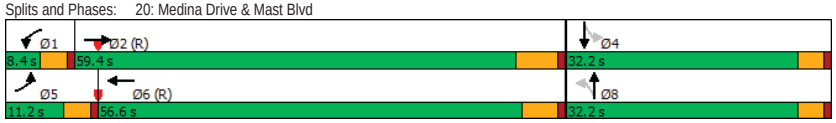
2035 PM
20: Medina Drive & Mast Blvd

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 40 | 1520 | 40 | 10 | 650 | 30 | 15 | 5 | 20 | 20 | 5 | 30 |
| Future Volume (vph) | 40 | 1520 | 40 | 10 | 650 | 30 | 15 | 5 | 20 | 20 | 5 | 30 |
| Confl. Peds. (#/hr) | | | 2 | | | | | | 2 | | | |
| Confl. Bikes (#/hr) | | | 2 | | | 5 | | | 2 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Perm | NA | | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | | 4 | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 22.0 | | 8.2 | 22.0 | | 32.2 | 32.2 | | 32.2 | 32.2 | |
| Total Split (s) | 11.2 | 59.4 | | 8.4 | 56.6 | | 32.2 | 32.2 | | 32.2 | 32.2 | |
| Total Split (%) | 11.2% | 59.4% | | 8.4% | 56.6% | | 32.2% | 32.2% | | 32.2% | 32.2% | |
| Yellow Time (s) | 3.2 | 5.1 | | 3.2 | 4.3 | | 3.2 | 3.2 | | 3.2 | 3.2 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | 0.0 | |
| Total Lost Time (s) | 4.2 | 6.1 | | 4.2 | 5.3 | | | 4.2 | | | 4.2 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 90 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 20: Medina Drive & Mast Blvd




Timings
N:\2462\Analysis\Intersections\Synchro\Long-Term\10 2035 PM.syn

2035 PM
20: Medina Drive & Mast Blvd

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 40 | 1520 | 40 | 10 | 650 | 30 | 15 | 5 | 20 | 20 | 5 | 30 |
| Future Volume (veh/h) | 40 | 1520 | 40 | 10 | 650 | 30 | 15 | 5 | 20 | 20 | 5 | 30 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.97 | 0.99 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 43 | 1652 | 43 | 11 | 707 | 33 | 16 | 5 | 22 | 22 | 5 | 33 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 55 | 2732 | 71 | 19 | 2598 | 121 | 78 | 28 | 60 | 80 | 21 | 63 |
| Arrive On Green | 0.06 | 1.00 | 1.00 | 0.02 | 1.00 | 1.00 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 |
| Sat Flow, veh/h | 1781 | 3536 | 92 | 1781 | 3453 | 161 | 401 | 388 | 827 | 425 | 291 | 875 |
| Grp Volume(v), veh/h | 43 | 828 | 867 | 11 | 364 | 376 | 43 | 0 | 0 | 60 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1851 | 1781 | 1777 | 1837 | 1616 | 0 | 0 | 1591 | 0 | 0 |
| Q Serve(g_s), s | 2.4 | 0.0 | 0.0 | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 2.4 | 0.0 | 0.0 | 0.6 | 0.0 | 0.0 | 2.4 | 0.0 | 0.0 | 3.5 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | | 0.05 | 1.00 | | 0.09 | 0.37 | | 0.51 | 0.37 | | 0.55 |
| Lane Grp Cap(c), veh/h | 55 | 1373 | 1430 | 19 | 1337 | 1382 | 166 | 0 | 0 | 164 | 0 | 0 |
| V/C Ratio(X) | 0.79 | 0.60 | 0.61 | 0.59 | 0.27 | 0.27 | 0.26 | 0.00 | 0.00 | 0.37 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 125 | 1373 | 1430 | 75 | 1337 | 1382 | 478 | 0 | 0 | 480 | 0 | 0 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.46 | 0.46 | 0.46 | 0.97 | 0.97 | 0.97 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 46.6 | 0.0 | 0.0 | 48.7 | 0.0 | 0.0 | 44.2 | 0.0 | 0.0 | 44.6 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 11.0 | 0.9 | 0.9 | 10.0 | 0.5 | 0.5 | 0.3 | 0.0 | 0.0 | 0.5 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.2 | 0.3 | 0.4 | 0.3 | 0.2 | 0.2 | 1.0 | 0.0 | 0.0 | 1.5 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 57.6 | 0.9 | 0.9 | 58.8 | 0.5 | 0.5 | 44.5 | 0.0 | 0.0 | 45.1 | 0.0 | 0.0 |
| LnGrp LOS | E | A | A | E | A | A | D | A | A | D | A | A |
| Approach Vol, veh/h | | 1738 | | | 751 | | | 43 | | | 60 | |
| Approach Delay, s/veh | | 2.3 | | | 1.3 | | | 44.5 | | | 45.1 | |
| Approach LOS | | A | | | A | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.3 | 83.3 | | 11.4 | 7.3 | 81.3 | | 11.4 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 6.1 | | * 4.2 | * 4.2 | * 6.1 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | * 4.2 | 53.3 | | * 28 | * 7 | * 51 | | * 28 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.6 | 2.0 | | 5.5 | 4.4 | 2.0 | | 4.4 | | | | |
| Green Ext Time (p_c), s | 0.0 | 32.1 | | 0.2 | 0.0 | 8.7 | | 0.1 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 3.7 | |
| HCM 6th LOS | A | |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
N:\2462\Analysis\Intersections\Synchro\Long-Term\10 2035 PM.syn

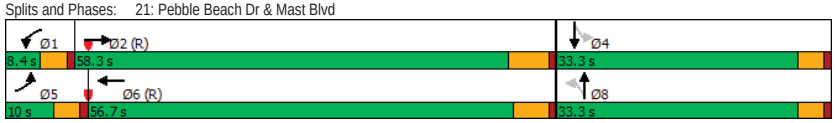
2035 PM
21: Pebble Beach Dr & Mast Blvd

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 20 | 1490 | 20 | 10 | 630 | 70 | 20 | 5 | 15 | 80 | 0 | 30 |
| Future Volume (vph) | 20 | 1490 | 20 | 10 | 630 | 70 | 20 | 5 | 15 | 80 | 0 | 30 |
| Confl. Peds. (#/hr) | | | 9 | | | | | | 1 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Perm | NA | | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | | 4 | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 23.9 | | 8.2 | 23.3 | | 33.2 | 33.2 | | 32.2 | 32.2 | |
| Total Split (s) | 10.0 | 58.3 | | 8.4 | 56.7 | | 33.3 | 33.3 | | 33.3 | 33.3 | |
| Total Split (%) | 10.0% | 58.3% | | 8.4% | 56.7% | | 33.3% | 33.3% | | 33.3% | 33.3% | |
| Yellow Time (s) | 3.2 | 4.9 | | 3.2 | 4.3 | | 3.2 | 3.2 | | 3.2 | 3.2 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | 0.0 | |
| Total Lost Time (s) | 4.2 | 5.9 | | 4.2 | 5.3 | | | 4.2 | | | 4.2 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Max | | None | C-Max | | None | None | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 90 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 21: Pebble Beach Dr & Mast Blvd




Timings
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2035 PM
21: Pebble Beach Dr & Mast Blvd

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 20 | 1490 | 20 | 10 | 630 | 70 | 20 | 5 | 15 | 80 | 0 | 30 |
| Future Volume (veh/h) | 20 | 1490 | 20 | 10 | 630 | 70 | 20 | 5 | 15 | 80 | 0 | 30 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 22 | 1620 | 22 | 11 | 685 | 76 | 22 | 5 | 16 | 87 | 0 | 33 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 33 | 2676 | 36 | 19 | 2379 | 264 | 123 | 36 | 62 | 170 | 3 | 42 |
| Arrive On Green | 0.04 | 1.00 | 1.00 | 0.02 | 1.00 | 1.00 | 0.10 | 0.10 | 0.10 | 0.10 | 0.00 | 0.10 |
| Sat Flow, veh/h | 1781 | 3589 | 49 | 1781 | 3225 | 358 | 682 | 357 | 616 | 1068 | 33 | 418 |
| Grp Volume(v), veh/h | 22 | 801 | 841 | 11 | 377 | 384 | 43 | 0 | 0 | 120 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1861 | 1781 | 1777 | 1806 | 1655 | 0 | 0 | 1518 | 0 | 0 |
| Q Serve(g_s), s | 1.2 | 0.0 | 0.0 | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 5.3 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 1.2 | 0.0 | 0.0 | 0.6 | 0.0 | 0.0 | 2.3 | 0.0 | 0.0 | 7.6 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | | 0.03 | 1.00 | | 0.20 | 0.51 | | 0.37 | 0.72 | | 0.27 |
| Lane Grp Cap(c), veh/h | 33 | 1324 | 1387 | 19 | 1311 | 1332 | 222 | 0 | 0 | 216 | 0 | 0 |
| V/C Ratio(X) | 0.68 | 0.60 | 0.61 | 0.59 | 0.29 | 0.29 | 0.19 | 0.00 | 0.00 | 0.56 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 103 | 1324 | 1387 | 75 | 1311 | 1332 | 505 | 0 | 0 | 488 | 0 | 0 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.77 | 0.77 | 0.77 | 0.71 | 0.71 | 0.71 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 47.9 | 0.0 | 0.0 | 48.7 | 0.0 | 0.0 | 41.4 | 0.0 | 0.0 | 43.6 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 6.8 | 1.6 | 1.5 | 7.5 | 0.4 | 0.4 | 0.2 | 0.0 | 0.0 | 0.8 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.6 | 0.6 | 0.6 | 0.3 | 0.1 | 0.1 | 1.0 | 0.0 | 0.0 | 2.9 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 54.7 | 1.6 | 1.5 | 56.2 | 0.4 | 0.4 | 41.6 | 0.0 | 0.0 | 44.5 | 0.0 | 0.0 |
| LnGrp LOS | D | A | A | E | A | A | D | A | A | D | A | A |
| Approach Vol, veh/h | | 1664 | | | 772 | | | 43 | | | 120 | |
| Approach Delay, s/veh | | 2.3 | | | 1.2 | | | 41.6 | | | 44.5 | |
| Approach LOS | | A | | | A | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.3 | 80.4 | | 14.3 | 6.0 | 79.7 | | 14.3 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 5.9 | | * 4.2 | * 4.2 | * 5.9 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | * 4.2 | 52.4 | | * 29 | * 5.8 | * 51 | | * 29 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.6 | 2.0 | | 9.6 | 3.2 | 2.0 | | 4.3 | | | | |
| Green Ext Time (p_c), s | 0.0 | 34.1 | | 0.4 | 0.0 | 12.6 | | 0.1 | | | | |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 4.5 |
| HCM 6th LOS | A |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
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2035 PM
22: Fanita Parkway & Mast Blvd

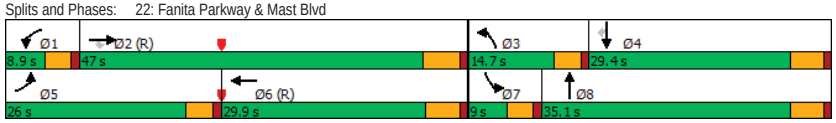
Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 460 | 1070 | 70 | 40 | 480 | 100 | 80 | 190 | 50 | 90 | 110 | 220 |
| Future Volume (vph) | 460 | 1070 | 70 | 40 | 480 | 100 | 80 | 190 | 50 | 90 | 110 | 220 |
| Confl. Peds. (#/hr) | | | 12 | | | 1 | | | 3 | | | 5 |
| Confl. Bikes (#/hr) | | | | | | 5 | | | 1 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | | | | | | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 27.5 | 27.5 | 8.2 | 28.1 | | 8.2 | 35.1 | | 8.2 | 28.1 | 28.1 |
| Total Split (s) | 26.0 | 47.0 | 47.0 | 8.9 | 29.9 | | 14.7 | 35.1 | | 9.0 | 29.4 | 29.4 |
| Total Split (%) | 26.0% | 47.0% | 47.0% | 8.9% | 29.9% | | 14.7% | 35.1% | | 9.0% | 29.4% | 29.4% |
| Yellow Time (s) | 3.2 | 4.5 | 4.5 | 3.2 | 4.1 | | 3.2 | 4.1 | | 3.2 | 4.1 | 4.1 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.5 | 5.5 | 4.2 | 5.1 | | 4.2 | 5.1 | | 4.2 | 5.1 | 5.1 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | C-Max | C-Max | None | C-Max | | None | None | | None | None | None |

**Intersection Summary**

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 14.1 (14%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated

Splits and Phases: 22: Fanita Parkway & Mast Blvd




Timings
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2035 PM
22: Fanita Parkway & Mast Blvd

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 460 | 1070 | 70 | 40 | 480 | 100 | 80 | 190 | 50 | 90 | 110 | 220 |
| Future Volume (veh/h) | 460 | 1070 | 70 | 40 | 480 | 100 | 80 | 190 | 50 | 90 | 110 | 220 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.97 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 500 | 1163 | 76 | 43 | 522 | 109 | 87 | 207 | 54 | 98 | 120 | 239 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 388 | 1867 | 823 | 55 | 985 | 205 | 111 | 293 | 77 | 86 | 358 | 297 |
| Arrive On Green | 0.29 | 0.70 | 0.70 | 0.01 | 0.11 | 0.11 | 0.06 | 0.21 | 0.21 | 0.05 | 0.19 | 0.19 |
| Sat Flow, veh/h | 1781 | 3554 | 1567 | 1781 | 2913 | 605 | 1781 | 1424 | 372 | 1781 | 1870 | 1552 |
| Grp Volume(v), veh/h | 500 | 1163 | 76 | 43 | 317 | 314 | 87 | 0 | 261 | 98 | 120 | 239 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1567 | 1781 | 1777 | 1742 | 1781 | 0 | 1796 | 1781 | 1870 | 1552 |
| Q Serve(g_s), s | 21.8 | 17.5 | 1.6 | 2.4 | 16.9 | 17.0 | 4.8 | 0.0 | 13.5 | 4.8 | 5.5 | 14.7 |
| Cycle Q Clear(g_c), s | 21.8 | 17.5 | 1.6 | 2.4 | 16.9 | 17.0 | 4.8 | 0.0 | 13.5 | 4.8 | 5.5 | 14.7 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.35 | 1.00 | | 0.21 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 388 | 1867 | 823 | 55 | 601 | 589 | 111 | 0 | 370 | 86 | 358 | 297 |
| V/C Ratio(X) | 1.29 | 0.62 | 0.09 | 0.79 | 0.53 | 0.53 | 0.78 | 0.00 | 0.71 | 1.15 | 0.34 | 0.80 |
| Avail Cap(c_a), veh/h | 388 | 1867 | 823 | 84 | 601 | 589 | 187 | 0 | 539 | 86 | 454 | 377 |
| HCM Platoon Ratio | 1.33 | 1.33 | 1.33 | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.76 | 0.76 | 0.76 | 0.70 | 0.70 | 0.70 | 0.98 | 0.00 | 0.98 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 35.5 | 9.8 | 7.4 | 49.2 | 36.9 | 37.0 | 46.2 | 0.0 | 36.9 | 47.6 | 34.9 | 38.6 |
| Incr Delay (d2), s/veh | 143.6 | 1.2 | 0.2 | 13.5 | 2.3 | 2.4 | 8.4 | 0.0 | 8.5 | 142.2 | 1.8 | 16.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 23.8 | 4.9 | 0.5 | 1.3 | 8.4 | 8.3 | 2.3 | 0.0 | 6.6 | 5.4 | 2.6 | 6.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 179.1 | 11.0 | 7.6 | 62.7 | 39.2 | 39.4 | 54.6 | 0.0 | 45.4 | 189.8 | 36.7 | 55.0 |
| LnGrp LOS | F | B | A | E | D | D | D | A | D | F | D | E |
| Approach Vol, veh/h | | 1739 | | | 674 | | | 348 | | | 457 | |
| Approach Delay, s/veh | | 59.2 | | | 40.8 | | | 47.7 | | | 79.1 | |
| Approach LOS | | E | | | D | | | D | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.3 | 58.0 | 10.4 | 24.3 | 26.0 | 39.3 | 9.0 | 25.7 |
| Change Period (Y+Rc), s | * 4.2 | 5.5 | * 4.2 | 5.1 | * 4.2 | * 5.5 | * 4.2 | 5.1 |
| Max Green Setting (Gmax), s | * 4.7 | 41.5 | * 11 | 24.3 | * 22 | * 25 | * 4.8 | 30.0 |
| Max Q Clear Time (g_c+I1), s | 4.4 | 19.5 | 6.8 | 16.7 | 23.8 | 19.0 | 6.8 | 15.5 |
| Green Ext Time (p_c), s | 0.0 | 16.2 | 0.0 | 2.0 | 0.0 | 3.4 | 0.0 | 2.7 |

**Intersection Summary**

| | |
|---|---|
| HCM 6th Ctrl Delay | 56.9 |
| HCM 6th LOS | E |

**Notes**

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
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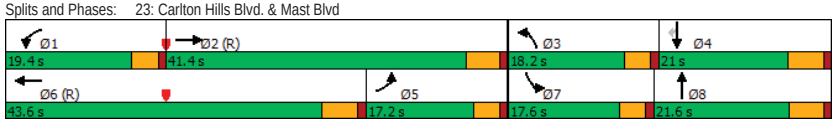
2035 PM
23: Carlton Hills Blvd. & Mast Blvd

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 105 | 950 | 230 | 240 | 445 | 225 | 220 | 320 | 240 | 200 | 210 | 50 |
| Future Volume (vph) | 105 | 950 | 230 | 240 | 445 | 225 | 220 | 320 | 240 | 200 | 210 | 50 |
| Confl. Peds. (#/hr) | | | 3 | | | 7 | | | 11 | | | 8 |
| Confl. Bikes (#/hr) | | | 4 | | | 2 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 33.1 | | 8.2 | 32.4 | | 8.2 | 21.0 | | 8.2 | 21.0 | 21.0 |
| Total Split (s) | 17.2 | 41.4 | | 19.4 | 43.6 | | 18.2 | 21.6 | | 17.6 | 21.0 | 21.0 |
| Total Split (%) | 17.2% | 41.4% | | 19.4% | 43.6% | | 18.2% | 21.6% | | 17.6% | 21.0% | 21.0% |
| Yellow Time (s) | 3.2 | 4.1 | | 3.2 | 4.4 | | 3.2 | 4.2 | | 3.2 | 4.4 | 4.4 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.1 | | 4.2 | 5.4 | | 4.2 | 5.2 | | 4.2 | 5.4 | 5.4 |
| Lead/Lag | Lag | Lag | | Lead | Lead | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 50 (50%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 100 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 23: Carlton Hills Blvd. & Mast Blvd







2035 PM
23: Carlton Hills Blvd. & Mast Blvd


Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 105 | 950 | 230 | 240 | 445 | 225 | 220 | 320 | 240 | 200 | 210 | 50 |
| Future Volume (veh/h) | 105 | 950 | 230 | 240 | 445 | 225 | 220 | 320 | 240 | 200 | 210 | 50 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 114 | 1033 | 225 | 261 | 484 | 221 | 239 | 348 | 209 | 217 | 228 | 49 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 415 | 1076 | 233 | 271 | 657 | 298 | 249 | 350 | 206 | 239 | 561 | 247 |
| Arrive On Green | 0.47 | 0.74 | 0.74 | 0.25 | 0.47 | 0.47 | 0.14 | 0.16 | 0.16 | 0.13 | 0.16 | 0.16 |
| Sat Flow, veh/h | 1781 | 2894 | 628 | 1781 | 2358 | 1070 | 1781 | 2135 | 1256 | 1781 | 3554 | 1561 |
| Grp Volume(v), veh/h | 114 | 633 | 625 | 261 | 364 | 341 | 239 | 288 | 269 | 217 | 228 | 49 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1745 | 1781 | 1777 | 1651 | 1781 | 1777 | 1614 | 1781 | 1777 | 1561 |
| Q Serve(g_s), s | 3.9 | 31.8 | 32.4 | 14.5 | 16.6 | 16.9 | 13.3 | 16.2 | 16.4 | 12.0 | 5.8 | 1.7 |
| Cycle Q Clear(g_c), s | 3.9 | 31.8 | 32.4 | 14.5 | 16.6 | 16.9 | 13.3 | 16.2 | 16.4 | 12.0 | 5.8 | 1.7 |
| Prop In Lane | 1.00 | | 0.36 | 1.00 | | 0.65 | 1.00 | | 0.78 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 415 | 660 | 649 | 271 | 495 | 460 | 249 | 291 | 265 | 239 | 561 | 247 |
| V/C Ratio(X) | 0.27 | 0.96 | 0.96 | 0.96 | 0.73 | 0.74 | 0.96 | 0.99 | 1.01 | 0.91 | 0.41 | 0.20 |
| Avail Cap(c_a), veh/h | 415 | 660 | 649 | 271 | 679 | 631 | 249 | 291 | 265 | 239 | 561 | 247 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 1.67 | 1.67 | 1.67 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.68 | 0.68 | 0.68 | 0.93 | 0.93 | 0.93 | 0.57 | 0.57 | 0.57 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 21.5 | 12.1 | 12.2 | 37.0 | 23.7 | 23.8 | 42.7 | 41.7 | 41.8 | 42.7 | 37.9 | 13.7 |
| Incr Delay (d2), s/veh | 0.1 | 20.4 | 21.6 | 42.6 | 8.7 | 9.6 | 32.2 | 37.2 | 45.6 | 34.2 | 2.0 | 1.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.5 | 8.0 | 8.1 | 8.5 | 6.5 | 6.2 | 8.0 | 9.9 | 9.7 | 7.4 | 2.6 | 1.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 21.6 | 32.5 | 33.8 | 79.6 | 32.4 | 33.4 | 74.9 | 78.9 | 87.4 | 76.9 | 39.9 | 15.4 |
| LnGrp LOS | C | C | C | E | C | C | E | E | F | E | D | B |
| Approach Vol, veh/h | | 1372 | | | 966 | | | 796 | | | 494 | |
| Approach Delay, s/veh | | 32.2 | | | 45.5 | | | 80.5 | | | 53.7 | |
| Approach LOS | | C | | | D | | | F | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 19.4 | 42.3 | 18.2 | 21.2 | 28.4 | 33.3 | 17.6 | 21.8 |
| Change Period (Y+Rc), s | * 4.2 | 5.1 | * 4.2 | 5.4 | 5.1 | * 5.4 | * 4.2 | * 5.4 |
| Max Green Setting (Gmax), s | * 15 | 36.3 | * 14 | 15.6 | 13.0 | * 38 | * 13 | * 16 |
| Max Q Clear Time (g_c+I1), s | 16.5 | 34.4 | 15.3 | 7.8 | 5.9 | 18.9 | 14.0 | 18.4 |
| Green Ext Time (p_c), s | 0.0 | 1.7 | 0.0 | 1.9 | 0.1 | 9.0 | 0.0 | 0.0 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 49.3 | |
| HCM 6th LOS | D | |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

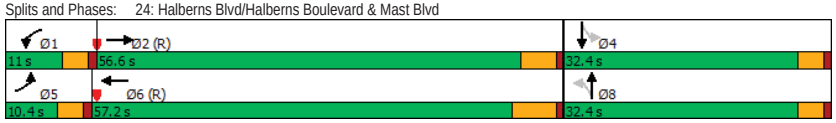
2035 PM
24: Halberns Blvd/Halberns Boulevard & Mast Blvd

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 30 | 1440 | 80 | 70 | 740 | 60 | 50 | 90 | 230 | 60 | 60 | 20 |
| Future Volume (vph) | 30 | 1440 | 80 | 70 | 740 | 60 | 50 | 90 | 230 | 60 | 60 | 20 |
| Confl. Peds. (#/hr) | | | 1 | | | 5 | | | 1 | | | 2 |
| Confl. Bikes (#/hr) | | | 1 | | | 1 | | | 1 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Perm | NA | | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | | 4 | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 29.2 | | 8.2 | 28.3 | | 32.2 | 32.2 | | 32.2 | 32.2 | |
| Total Split (s) | 10.4 | 56.6 | | 11.0 | 57.2 | | 32.4 | 32.4 | | 32.4 | 32.4 | |
| Total Split (%) | 10.4% | 56.6% | | 11.0% | 57.2% | | 32.4% | 32.4% | | 32.4% | 32.4% | |
| Yellow Time (s) | 3.2 | 4.2 | | 3.2 | 5.3 | | 3.2 | 3.2 | | 3.2 | 3.2 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.2 | 5.2 | | 4.2 | 6.3 | | 4.2 | 4.2 | | 4.2 | 4.2 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Max | | None | C-Max | | None | None | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 90 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 24: Halberns Blvd/Halberns Boulevard & Mast Blvd






2035 PM
24: Halberns Blvd/Halberns Boulevard & Mast Blvd

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 30 | 1440 | 80 | 70 | 740 | 60 | 50 | 90 | 230 | 60 | 60 | 20 |
| Future Volume (veh/h) | 30 | 1440 | 80 | 70 | 740 | 60 | 50 | 90 | 230 | 60 | 60 | 20 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.97 | 1.00 | | 0.99 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 33 | 1565 | 87 | 76 | 804 | 65 | 54 | 98 | 250 | 65 | 65 | 22 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 43 | 1783 | 99 | 98 | 1834 | 148 | 386 | 128 | 326 | 157 | 370 | 125 |
| Arrive On Green | 0.02 | 0.35 | 0.35 | 0.02 | 0.18 | 0.18 | 0.28 | 0.28 | 0.28 | 0.28 | 0.28 | 0.28 |
| Sat Flow, veh/h | 1781 | 3421 | 189 | 1781 | 3322 | 269 | 1308 | 462 | 1177 | 1032 | 1336 | 452 |
| Grp Volume(v), veh/h | 33 | 809 | 843 | 76 | 430 | 439 | 54 | 0 | 348 | 65 | 0 | 87 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1833 | 1781 | 1777 | 1814 | 1308 | 0 | 1639 | 1032 | 0 | 1788 |
| Q Serve(g_s), s | 1.8 | 42.6 | 43.2 | 4.2 | 21.5 | 21.5 | 3.3 | 0.0 | 19.5 | 6.2 | 0.0 | 3.7 |
| Cycle Q Clear(g_c), s | 1.8 | 42.6 | 43.2 | 4.2 | 21.5 | 21.5 | 7.0 | 0.0 | 19.5 | 25.7 | 0.0 | 3.7 |
| Prop In Lane | 1.00 | | 0.10 | 1.00 | | 0.15 | 1.00 | | 0.72 | 1.00 | | 0.25 |
| Lane Grp Cap(c), veh/h | 43 | 926 | 955 | 98 | 981 | 1001 | 386 | 0 | 454 | 157 | 0 | 495 |
| V/C Ratio(X) | 0.77 | 0.87 | 0.88 | 0.78 | 0.44 | 0.44 | 0.14 | 0.00 | 0.77 | 0.41 | 0.00 | 0.18 |
| Avail Cap(c_a), veh/h | 110 | 926 | 955 | 121 | 981 | 1001 | 392 | 0 | 462 | 162 | 0 | 504 |
| HCM Platoon Ratio | 0.67 | 0.67 | 0.67 | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.09 | 0.09 | 0.09 | 0.61 | 0.61 | 0.61 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 48.9 | 29.5 | 29.7 | 48.5 | 27.1 | 27.1 | 30.1 | 0.0 | 33.2 | 45.0 | 0.0 | 27.5 |
| Incr Delay (d2), s/veh | 1.0 | 1.2 | 1.2 | 11.0 | 0.9 | 0.9 | 0.1 | 0.0 | 6.7 | 0.7 | 0.0 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.8 | 18.7 | 19.6 | 2.2 | 10.3 | 10.5 | 1.0 | 0.0 | 8.3 | 1.6 | 0.0 | 1.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 49.9 | 30.7 | 30.9 | 59.5 | 28.0 | 28.0 | 30.2 | 0.0 | 39.9 | 45.6 | 0.0 | 27.5 |
| LnGrp LOS | D | C | C | E | C | C | C | A | D | D | A | C |
| Approach Vol, veh/h | | 1685 | | | 945 | | | 402 | | | 152 | |
| Approach Delay, s/veh | | 31.2 | | | 30.5 | | | 38.6 | | | 35.3 | |
| Approach LOS | | C | | | C | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 9.7 | 58.4 | | 31.9 | 6.6 | 61.5 | | 31.9 | | | | |
| Change Period (Y+Rc), s | * 4.2 | * 6.3 | | * 4.2 | * 4.2 | 6.3 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | * 6.8 | * 51 | | * 28 | * 6.2 | 50.9 | | * 28 | | | | |
| Max Q Clear Time (g_c+I1), s | 6.2 | 45.2 | | 27.7 | 3.8 | 23.5 | | 21.5 | | | | |
| Green Ext Time (p_c), s | 0.0 | 5.7 | | 0.0 | 0.0 | 11.5 | | 0.9 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 32.1 | |
| HCM 6th LOS | C | |

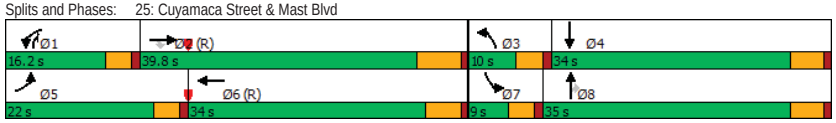
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 550 | 910 | 310 | 350 | 385 | 100 | 275 | 520 | 535 | 110 | 305 | 215 |
| Future Volume (vph) | 550 | 910 | 310 | 350 | 385 | 100 | 275 | 520 | 535 | 110 | 305 | 215 |
| Confl. Peds. (#/hr) | | | 11 | | | 3 | | | | | | 3 |
| Confl. Bikes (#/hr) | | | 2 | | | 2 | | | | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | | Prot | NA | pm+ov | Prot | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | 1 | 7 | 4 | |
| Permitted Phases | | | 2 | | | | | | 8 | | | |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | | 3 | 8 | 1 | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | | 4.0 | 7.0 | 4.0 | 4.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 34.3 | 34.3 | 8.2 | 32.3 | | 8.2 | 33.1 | 8.2 | 8.2 | 34.0 | |
| Total Split (s) | 22.0 | 39.8 | 39.8 | 16.2 | 34.0 | | 10.0 | 35.0 | 16.2 | 9.0 | 34.0 | |
| Total Split (%) | 22.0% | 39.8% | 39.8% | 16.2% | 34.0% | | 10.0% | 35.0% | 16.2% | 9.0% | 34.0% | |
| Yellow Time (s) | 3.2 | 5.3 | 5.3 | 3.2 | 4.3 | | 3.2 | 4.1 | 3.2 | 3.2 | 4.0 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.2 | 6.3 | 6.3 | 4.2 | 5.3 | | 4.2 | 5.1 | 4.2 | 4.2 | 5.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | |
| Recall Mode | None | C-Min | C-Min | None | C-Min | | None | None | None | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 21 (21%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 125 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 25: Cuyamaca Street & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 550 | 910 | 310 | 350 | 385 | 100 | 275 | 520 | 535 | 110 | 305 | 215 |
| Future Volume (veh/h) | 550 | 910 | 310 | 350 | 385 | 100 | 275 | 520 | 535 | 110 | 305 | 215 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 1.00 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 598 | 989 | 337 | 380 | 418 | 109 | 299 | 565 | 582 | 120 | 332 | 234 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 317 | 1190 | 519 | 415 | 771 | 199 | 200 | 1063 | 664 | 86 | 577 | 398 |
| Arrive On Green | 0.06 | 0.11 | 0.11 | 0.12 | 0.28 | 0.28 | 0.06 | 0.30 | 0.30 | 0.05 | 0.29 | 0.29 |
| Sat Flow, veh/h | 1781 | 3554 | 1549 | 3456 | 2785 | 719 | 3456 | 3554 | 1585 | 1781 | 1998 | 1376 |
| Grp Volume(v), veh/h | 598 | 989 | 337 | 380 | 265 | 262 | 299 | 565 | 582 | 120 | 294 | 272 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1549 | 1728 | 1777 | 1727 | 1728 | 1777 | 1585 | 1781 | 1777 | 1597 |
| Q Serve(g_s), s | 17.8 | 27.3 | 20.9 | 10.9 | 12.7 | 12.9 | 5.8 | 13.3 | 29.9 | 4.8 | 14.1 | 14.6 |
| Cycle Q Clear(g_c), s | 17.8 | 27.3 | 20.9 | 10.9 | 12.7 | 12.9 | 5.8 | 13.3 | 29.9 | 4.8 | 14.1 | 14.6 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.42 | 1.00 | | 1.00 | 1.00 | | 0.86 |
| Lane Grp Cap(c), veh/h | 317 | 1190 | 519 | 415 | 492 | 478 | 200 | 1063 | 664 | 86 | 514 | 461 |
| V/C Ratio(X) | 1.89 | 0.83 | 0.65 | 0.92 | 0.54 | 0.55 | 1.49 | 0.53 | 0.88 | 1.40 | 0.57 | 0.59 |
| Avail Cap(c_a), veh/h | 317 | 1190 | 519 | 415 | 510 | 496 | 200 | 1063 | 664 | 86 | 515 | 463 |
| HCM Platoon Ratio | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.55 | 0.55 | 0.55 | 0.96 | 0.96 | 0.96 | 0.34 | 0.34 | 0.34 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 47.1 | 41.7 | 38.8 | 43.5 | 30.7 | 30.8 | 47.1 | 29.2 | 26.7 | 47.6 | 30.3 | 30.5 |
| Incr Delay (d2), s/veh | 405.2 | 3.9 | 3.5 | 23.7 | 4.0 | 4.3 | 230.2 | 0.2 | 5.0 | 237.5 | 2.0 | 2.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 44.1 | 13.5 | 9.1 | 5.9 | 5.8 | 5.7 | 8.9 | 5.5 | 12.9 | 7.7 | 6.2 | 5.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 452.3 | 45.6 | 42.3 | 67.2 | 34.7 | 35.1 | 277.3 | 29.4 | 31.6 | 285.1 | 32.3 | 33.0 |
| LnGrp LOS | F | D | D | E | C | D | F | C | C | F | C | C |
| Approach Vol, veh/h | | 1924 | | | 907 | | | 1446 | | | 686 | |
| Approach Delay, s/veh | | 171.4 | | | 48.4 | | | 81.6 | | | 76.8 | |
| Approach LOS | | F | | | D | | | F | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 16.2 | 39.8 | 10.0 | 34.0 | 22.0 | 34.0 | 9.0 | 35.0 |
| Change Period (Y+Rc), s | * 4.2 | 6.3 | * 4.2 | * 5.1 | * 4.2 | * 6.3 | * 4.2 | 5.1 |
| Max Green Setting (Gmax), s | * 12 | 33.5 | * 5.8 | * 29 | * 18 | * 29 | * 4.8 | 29.9 |
| Max Q Clear Time (g_c+I1), s | 12.9 | 29.3 | 7.8 | 16.6 | 19.8 | 14.9 | 6.8 | 31.9 |
| Green Ext Time (p_c), s | 0.0 | 3.2 | 0.0 | 4.0 | 0.0 | 3.2 | 0.0 | 0.0 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 109.7 | |
| HCM 6th LOS | F | |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 1000 | 50 | 140 | 770 | 20 | 150 |
| Future Volume (vph) | 1000 | 50 | 140 | 770 | 20 | 150 |
| Confl. Peds. (#/hr) | | 12 | | | | 20 |
| Confl. Bikes (#/hr) | | 4 | | | | 8 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | NA | | Prot | NA | Prot | Perm |
| Protected Phases | 2 | | 1 | 6 | 8 | |
| Permitted Phases | | | | | | 8 |
| Detector Phase | 2 | | 1 | 6 | 8 | 8 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 22.5 | | 8.5 | 20.5 | 22.5 | 22.5 |
| Total Split (s) | 54.0 | | 22.0 | 76.0 | 24.0 | 24.0 |
| Total Split (%) | 54.0% | | 22.0% | 76.0% | 24.0% | 24.0% |
| Yellow Time (s) | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lag | | Lead | | | |
| Lead-Lag Optimize? | Yes | | Yes | | | |
| Recall Mode | Min | | None | Min | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 64.6 |
| Natural Cycle: 65 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 26: Park Center Drive & Mast Blvd

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 1000 | 50 | 140 | 770 | 20 | 150 |
| Future Volume (veh/h) | 1000 | 50 | 140 | 770 | 20 | 150 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | 0.96 | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 1087 | 54 | 152 | 837 | 22 | 163 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 1610 | 80 | 201 | 2400 | 244 | 217 |
| Arrive On Green | 0.47 | 0.47 | 0.11 | 0.68 | 0.14 | 0.14 |
| Sat Flow, veh/h | 3532 | 171 | 1781 | 3647 | 1781 | 1585 |
| Grp Volume(v), veh/h | 562 | 579 | 152 | 837 | 22 | 163 |
| Grp Sat Flow(s),veh/h/ln | 1777 | 1832 | 1781 | 1777 | 1781 | 1585 |
| Q Serve(g_s), s | 11.8 | 11.8 | 4.0 | 4.8 | 0.5 | 4.7 |
| Cycle Q Clear(g_c), s | 11.8 | 11.8 | 4.0 | 4.8 | 0.5 | 4.7 |
| Prop In Lane | | 0.09 | 1.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 832 | 858 | 201 | 2400 | 244 | 217 |
| V/C Ratio(X) | 0.67 | 0.68 | 0.76 | 0.35 | 0.09 | 0.75 |
| Avail Cap(c_a), veh/h | 1835 | 1892 | 650 | 5300 | 725 | 645 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 9.9 | 9.9 | 20.6 | 3.3 | 18.1 | 19.9 |
| Incr Delay (d2), s/veh | 1.0 | 0.9 | 5.7 | 0.1 | 0.2 | 5.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 3.3 | 3.4 | 1.7 | 0.6 | 0.2 | 1.9 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 10.9 | 10.8 | 26.3 | 3.4 | 18.2 | 25.1 |
| LnGrp LOS | B | B | C | A | B | C |
| Approach Vol, veh/h | 1141 | | | 989 | 185 | |
| Approach Delay, s/veh | 10.9 | | | 6.9 | 24.2 | |
| Approach LOS | B | | | A | C | |

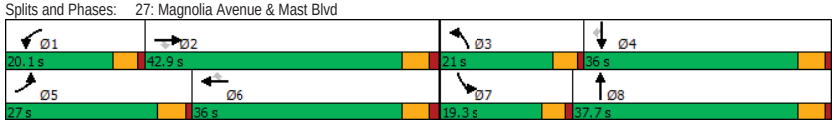
| Timer - Assigned Phs | 1 | 2 | | | 6 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 9.9 | 27.0 | | | 36.9 | 11.1 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 17.5 | 49.5 | | | 71.5 | 19.5 |
| Max Q Clear Time (g_c+I1), s | 6.0 | 13.8 | | | 6.8 | 6.7 |
| Green Ext Time (p_c), s | 0.3 | 8.7 | | | 6.6 | 0.4 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 10.2 | |
| HCM 6th LOS | B | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 530 | 335 | 260 | 110 | 150 | 40 | 390 | 660 | 170 | 150 | 525 | 405 |
| Future Volume (vph) | 530 | 335 | 260 | 110 | 150 | 40 | 390 | 660 | 170 | 150 | 525 | 405 |
| Confl. Peds. (#/hr) | | | 14 | | | 20 | | | 3 | | | 24 |
| Confl. Bikes (#/hr) | | | 1 | | | 4 | | | 2 | | | 6 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 11.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 9.0 | | 7.0 | 9.0 | 9.0 |
| Minimum Split (s) | 16.0 | 34.5 | 34.5 | 11.5 | 34.5 | 34.5 | 11.5 | 35.0 | | 11.5 | 36.0 | 36.0 |
| Total Split (s) | 27.0 | 42.9 | 42.9 | 20.1 | 36.0 | 36.0 | 21.0 | 37.7 | | 19.3 | 36.0 | 36.0 |
| Total Split (%) | 22.5% | 35.8% | 35.8% | 16.8% | 30.0% | 30.0% | 17.5% | 31.4% | | 16.1% | 30.0% | 30.0% |
| Yellow Time (s) | 4.0 | 4.0 | 4.0 | 3.5 | 4.0 | 4.0 | 3.5 | 4.0 | | 3.5 | 4.0 | 4.0 |
| All-Red Time (s) | 1.0 | 1.5 | 1.5 | 1.0 | 1.5 | 1.5 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 5.0 | 5.5 | 5.5 | 4.5 | 5.5 | 5.5 | 4.5 | 5.0 | | 4.5 | 5.0 | 5.0 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | Min | Min | None | Min | Min | None | Min | | None | Min | Min |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 97.5 |
| Natural Cycle: 110 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 27: Magnolia Avenue & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 530 | 335 | 260 | 110 | 150 | 40 | 390 | 660 | 170 | 150 | 525 | 405 |
| Future Volume (veh/h) | 530 | 335 | 260 | 110 | 150 | 40 | 390 | 660 | 170 | 150 | 525 | 405 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.95 | 1.00 | | 0.98 | 1.00 | | 0.96 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 576 | 364 | 283 | 120 | 163 | 43 | 424 | 717 | 185 | 163 | 571 | 440 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 664 | 959 | 416 | 149 | 556 | 234 | 493 | 951 | 245 | 195 | 1095 | 469 |
| Arrive On Green | 0.19 | 0.27 | 0.27 | 0.08 | 0.16 | 0.16 | 0.14 | 0.34 | 0.34 | 0.11 | 0.31 | 0.31 |
| Sat Flow, veh/h | 3456 | 3554 | 1541 | 1781 | 3554 | 1498 | 3456 | 2786 | 719 | 1781 | 3554 | 1523 |
| Grp Volume(v), veh/h | 576 | 364 | 283 | 120 | 163 | 43 | 424 | 457 | 445 | 163 | 571 | 440 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1541 | 1781 | 1777 | 1498 | 1728 | 1777 | 1727 | 1781 | 1777 | 1523 |
| Q Serve(g_s), s | 16.1 | 8.3 | 16.4 | 6.6 | 4.0 | 2.5 | 11.9 | 22.7 | 22.8 | 8.9 | 13.2 | 28.0 |
| Cycle Q Clear(g_c), s | 16.1 | 8.3 | 16.4 | 6.6 | 4.0 | 2.5 | 11.9 | 22.7 | 22.8 | 8.9 | 13.2 | 28.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.42 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 664 | 959 | 416 | 149 | 556 | 234 | 493 | 607 | 590 | 195 | 1095 | 469 |
| V/C Ratio(X) | 0.87 | 0.38 | 0.68 | 0.80 | 0.29 | 0.18 | 0.86 | 0.75 | 0.75 | 0.84 | 0.52 | 0.94 |
| Avail Cap(c_a), veh/h | 763 | 1334 | 578 | 279 | 1088 | 459 | 572 | 607 | 590 | 265 | 1105 | 474 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 39.0 | 29.6 | 32.5 | 44.8 | 37.2 | 36.5 | 41.8 | 29.1 | 29.1 | 43.5 | 28.4 | 33.5 |
| Incr Delay (d2), s/veh | 9.8 | 0.3 | 2.4 | 3.8 | 0.3 | 0.4 | 10.2 | 5.3 | 5.5 | 12.0 | 0.4 | 26.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 7.5 | 3.5 | 6.1 | 3.0 | 1.8 | 0.9 | 5.6 | 10.1 | 9.8 | 4.5 | 5.4 | 13.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 48.8 | 29.9 | 34.9 | 48.6 | 37.5 | 36.9 | 51.9 | 34.4 | 34.6 | 55.5 | 28.8 | 59.9 |
| LnGrp LOS | D | C | C | D | D | D | D | C | C | E | C | E |
| Approach Vol, veh/h | | 1223 | | | 326 | | | 1326 | | | 1174 | |
| Approach Delay, s/veh | | 40.0 | | | 41.5 | | | 40.1 | | | 44.2 | |
| Approach LOS | | D | | | D | | | D | | | D | |

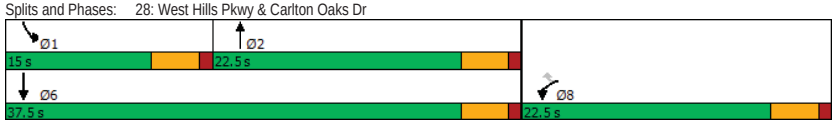
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 12.9 | 32.4 | 18.7 | 35.7 | 24.1 | 21.1 | 15.4 | 39.0 |
| Change Period (Y+Rc), s | 4.5 | 5.5 | 4.5 | 5.0 | 5.0 | 5.5 | 4.5 | 5.0 |
| Max Green Setting (Gmax), s | 15.6 | 37.4 | 16.5 | 31.0 | 22.0 | 30.5 | 14.8 | 32.7 |
| Max Q Clear Time (g_c+I1), s | 8.6 | 18.4 | 13.9 | 30.0 | 18.1 | 6.0 | 10.9 | 24.8 |
| Green Ext Time (p_c), s | 0.1 | 3.8 | 0.3 | 0.6 | 1.0 | 1.3 | 0.1 | 3.3 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 41.3 |
| HCM 6th LOS | | D |

| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 95 | 150 | 550 | 205 | 300 | 570 |
| Future Volume (vph) | 95 | 150 | 550 | 205 | 300 | 570 |
| Confl. Peds. (#/hr) | | | | 1 | | |
| Confl. Bikes (#/hr) | | 1 | | 5 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | 0% | | | 0% |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | NA | | Prot | NA |
| Protected Phases | 8 | | 2 | | 1 | 6 |
| Permitted Phases | | 8 | | | | |
| Detector Phase | 8 | 8 | 2 | | 1 | 6 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | | 8.5 | 20.5 |
| Total Split (s) | 22.5 | 22.5 | 22.5 | | 15.0 | 37.5 |
| Total Split (%) | 37.5% | 37.5% | 37.5% | | 25.0% | 62.5% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Lead/Lag | | | Lag | | Lead | |
| Lead-Lag Optimize? | | | Yes | | Yes | |
| Recall Mode | None | None | Min | | None | Min |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 47.5 |
| Natural Cycle: 65 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 28: West Hills Pkwy & Carlton Oaks Dr








| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 95 | 150 | 550 | 205 | 300 | 570 |
| Future Volume (veh/h) | 95 | 150 | 550 | 205 | 300 | 570 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | | 0.97 | 1.00 | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | No | | | No |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 103 | 163 | 598 | 223 | 326 | 620 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 207 | 325 | 829 | 308 | 395 | 2353 |
| Arrive On Green | 0.12 | 0.12 | 0.33 | 0.33 | 0.22 | 0.66 |
| Sat Flow, veh/h | 1781 | 2790 | 2606 | 935 | 1781 | 3647 |
| Grp Volume(v), veh/h | 103 | 163 | 423 | 398 | 326 | 620 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1395 | 1777 | 1671 | 1781 | 1777 |
| Q Serve(g_s), s | 2.2 | 2.2 | 8.5 | 8.5 | 7.1 | 2.9 |
| Cycle Q Clear(g_c), s | 2.2 | 2.2 | 8.5 | 8.5 | 7.1 | 2.9 |
| Prop In Lane | 1.00 | 1.00 | | 0.56 | 1.00 | |
| Lane Grp Cap(c), veh/h | 207 | 325 | 586 | 551 | 395 | 2353 |
| V/C Ratio(X) | 0.50 | 0.50 | 0.72 | 0.72 | 0.83 | 0.26 |
| Avail Cap(c_a), veh/h | 789 | 1236 | 787 | 740 | 460 | 2886 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 16.8 | 16.8 | 12.0 | 12.0 | 15.1 | 2.8 |
| Incr Delay (d2), s/veh | 1.8 | 1.2 | 2.1 | 2.3 | 10.4 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.9 | 0.7 | 2.6 | 2.4 | 3.2 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 18.7 | 18.0 | 14.1 | 14.3 | 25.4 | 2.9 |
| LnGrp LOS | B | B | B | B | C | A |
| Approach Vol, veh/h | 266 | | 821 | | | 946 |
| Approach Delay, s/veh | 18.3 | | 14.2 | | | 10.6 |
| Approach LOS | B | | B | | | B |

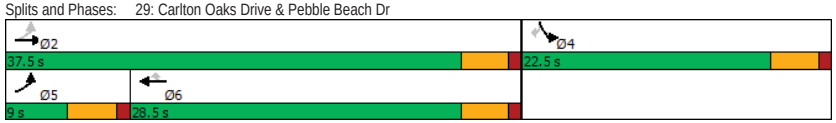
| Timer - Assigned Phs | 1 | 2 | | | 6 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 13.5 | 17.9 | | | 31.4 | 9.2 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 10.5 | 18.0 | | | 33.0 | 18.0 |
| Max Q Clear Time (g_c+I1), s | 9.1 | 10.5 | | | 4.9 | 4.2 |
| Green Ext Time (p_c), s | 0.2 | 2.8 | | | 4.0 | 0.7 |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 13.1 | |
| HCM 6th LOS | | B | |

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 10 | 400 | 360 | 40 | 30 | 10 |
| Future Volume (vph) | 10 | 400 | 360 | 40 | 30 | 10 |
| Confl. Peds. (#/hr) | | | | 8 | | |
| Confl. Bikes (#/hr) | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | pm+pt | NA | NA | Perm | Prot | Perm |
| Protected Phases | 5 | 2 | 6 | | 4 | |
| Permitted Phases | 2 | | | 6 | | 4 |
| Detector Phase | 5 | 2 | 6 | 6 | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 |
| Total Split (s) | 9.0 | 37.5 | 28.5 | 28.5 | 22.5 | 22.5 |
| Total Split (%) | 15.0% | 62.5% | 47.5% | 47.5% | 37.5% | 37.5% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | | Lag | Lag | | |
| Lead-Lag Optimize? | Yes | | Yes | Yes | | |
| Recall Mode | None | Min | Min | Min | None | None |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 37 |
| Natural Cycle: 55 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 29: Carlton Oaks Drive & Pebble Beach Dr








| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 10 | 400 | 360 | 40 | 30 | 10 |
| Future Volume (veh/h) | 10 | 400 | 360 | 40 | 30 | 10 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 0.99 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 11 | 435 | 391 | 43 | 33 | 11 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 519 | 1069 | 686 | 575 | 76 | 67 |
| Arrive On Green | 0.01 | 0.57 | 0.37 | 0.37 | 0.04 | 0.04 |
| Sat Flow, veh/h | 1781 | 1870 | 1870 | 1568 | 1781 | 1585 |
| Grp Volume(v), veh/h | 11 | 435 | 391 | 43 | 33 | 11 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1870 | 1568 | 1781 | 1585 |
| Q Serve(g_s), s | 0.1 | 3.0 | 3.9 | 0.4 | 0.4 | 0.2 |
| Cycle Q Clear(g_c), s | 0.1 | 3.0 | 3.9 | 0.4 | 0.4 | 0.2 |
| Prop In Lane | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 519 | 1069 | 686 | 575 | 76 | 67 |
| V/C Ratio(X) | 0.02 | 0.41 | 0.57 | 0.07 | 0.44 | 0.16 |
| Avail Cap(c_a), veh/h | 842 | 2648 | 1926 | 1614 | 1375 | 1224 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 4.1 | 2.8 | 5.9 | 4.8 | 10.9 | 10.8 |
| Incr Delay (d2), s/veh | 0.0 | 0.2 | 0.8 | 0.1 | 3.9 | 1.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.1 | 0.7 | 0.1 | 0.2 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 4.1 | 3.0 | 6.7 | 4.9 | 14.8 | 11.9 |
| LnGrp LOS | A | A | A | A | B | B |
| Approach Vol, veh/h | | 446 | 434 | | 44 | |
| Approach Delay, s/veh | | 3.1 | 6.5 | | 14.1 | |
| Approach LOS | | A | A | | B | |

| Timer - Assigned Phs | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 17.8 | | 5.5 | 4.8 | 13.0 |
| Change Period (Y+Rc), s | 4.5 | | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 33.0 | | 18.0 | 4.5 | 24.0 |
| Max Q Clear Time (g_c+I1), s | 5.0 | | 2.4 | 2.1 | 5.9 |
| Green Ext Time (p_c), s | 2.7 | | 0.1 | 0.0 | 2.4 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 5.2 |
| HCM 6th LOS | A |

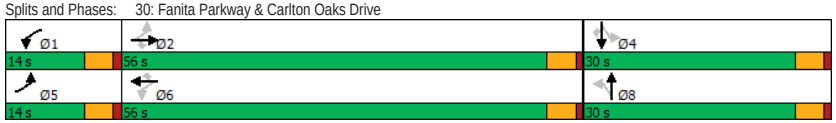
2035 PM
30: Fanita Parkway & Carlton Oaks Drive

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 65 | 370 | 5 | 10 | 350 | 205 | 5 | 0 | 10 | 155 | 5 | 40 |
| Future Volume (vph) | 65 | 370 | 5 | 10 | 350 | 205 | 5 | 0 | 10 | 155 | 5 | 40 |
| Confl. Peds. (#/hr) | | | 7 | | | 9 | | | 9 | | | 7 |
| Confl. Bikes (#/hr) | | | 3 | | | 1 | | | 1 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | pm+pt | NA | Perm | pm+pt | NA | Perm | Perm | NA | | Perm | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | 2 | | 2 | 6 | | 6 | 8 | | | 4 | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 8 | 8 | | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | | 7.0 | 7.0 | 7.0 |
| Minimum Split (s) | 11.5 | 26.5 | 26.5 | 11.5 | 20.5 | 20.5 | 22.5 | 22.5 | | 22.5 | 22.5 | 22.5 |
| Total Split (s) | 14.0 | 56.0 | 56.0 | 14.0 | 56.0 | 56.0 | 30.0 | 30.0 | | 30.0 | 30.0 | 30.0 |
| Total Split (%) | 14.0% | 56.0% | 56.0% | 14.0% | 56.0% | 56.0% | 30.0% | 30.0% | | 30.0% | 30.0% | 30.0% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | | | | | | |
| Recall Mode | None | Min | Min | None | Min | Min | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 49.1 |
| Natural Cycle: 65 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 30: Fanita Parkway & Carlton Oaks Drive




Timings
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2035 PM
30: Fanita Parkway & Carlton Oaks Drive

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 65 | 370 | 5 | 10 | 350 | 205 | 5 | 0 | 10 | 155 | 5 | 40 |
| Future Volume (veh/h) | 65 | 370 | 5 | 10 | 350 | 205 | 5 | 0 | 10 | 155 | 5 | 40 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 0.99 | | 0.97 | 0.98 | | 0.96 | 0.98 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 71 | 402 | 5 | 11 | 380 | 223 | 5 | 0 | 11 | 168 | 5 | 43 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 499 | 749 | 615 | 467 | 601 | 492 | 182 | 46 | 212 | 482 | 377 | 314 |
| Arrive On Green | 0.10 | 0.40 | 0.40 | 0.02 | 0.32 | 0.32 | 0.20 | 0.00 | 0.20 | 0.20 | 0.20 | 0.20 |
| Sat Flow, veh/h | 1781 | 1870 | 1535 | 1781 | 1870 | 1530 | 249 | 228 | 1049 | 1373 | 1870 | 1558 |
| Grp Volume(v), veh/h | 71 | 402 | 5 | 11 | 380 | 223 | 16 | 0 | 0 | 168 | 5 | 43 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1535 | 1781 | 1870 | 1530 | 1525 | 0 | 0 | 1373 | 1870 | 1558 |
| Q Serve(g_s), s | 0.8 | 5.9 | 0.1 | 0.1 | 6.2 | 4.1 | 0.0 | 0.0 | 0.0 | 3.6 | 0.1 | 0.8 |
| Cycle Q Clear(g_c), s | 0.8 | 5.9 | 0.1 | 0.1 | 6.2 | 4.1 | 0.3 | 0.0 | 0.0 | 3.9 | 0.1 | 0.8 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 0.31 | | 0.69 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 499 | 749 | 615 | 467 | 601 | 492 | 440 | 0 | 0 | 482 | 377 | 314 |
| V/C Ratio(X) | 0.14 | 0.54 | 0.01 | 0.02 | 0.63 | 0.45 | 0.04 | 0.00 | 0.00 | 0.35 | 0.01 | 0.14 |
| Avail Cap(c_a), veh/h | 796 | 2695 | 2213 | 905 | 2695 | 2204 | 1184 | 0 | 0 | 1184 | 1335 | 1111 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 6.7 | 8.2 | 6.4 | 7.9 | 10.3 | 9.6 | 11.5 | 0.0 | 0.0 | 12.9 | 11.4 | 11.7 |
| Incr Delay (d2), s/veh | 0.1 | 0.6 | 0.0 | 0.0 | 1.1 | 0.7 | 0.0 | 0.0 | 0.0 | 0.4 | 0.0 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.2 | 1.6 | 0.0 | 0.0 | 1.9 | 1.0 | 0.1 | 0.0 | 0.0 | 1.0 | 0.0 | 0.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 6.8 | 8.8 | 6.5 | 7.9 | 11.4 | 10.3 | 11.5 | 0.0 | 0.0 | 13.3 | 11.4 | 11.9 |
| LnGrp LOS | A | A | A | A | B | B | B | A | A | B | B | B |
| Approach Vol, veh/h | | 478 | | | 614 | | | 16 | | | 216 | |
| Approach Delay, s/veh | | 8.5 | | | 11.0 | | | 11.5 | | | 13.0 | |
| Approach LOS | | A | | | B | | | B | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.2 | 18.8 | | 11.7 | 8.0 | 16.0 | | 11.7 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 9.5 | 51.5 | | 25.5 | 9.5 | 51.5 | | 25.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.1 | 7.9 | | 5.9 | 2.8 | 8.2 | | 2.3 | | | | |
| Green Ext Time (p_c), s | 0.0 | 2.6 | | 0.6 | 0.1 | 3.3 | | 0.0 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 10.4 | |
| HCM 6th LOS | B | |

HCM 6th Signalized Intersection Summary
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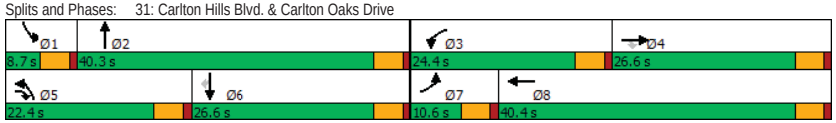
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 30 | 250 | 350 | 250 | 120 | 20 | 515 | 655 | 320 | 30 | 380 | 20 |
| Future Volume (vph) | 30 | 250 | 350 | 250 | 120 | 20 | 515 | 655 | 320 | 30 | 380 | 20 |
| Confl. Peds. (#/hr) | | | 9 | | | 1 | | | 6 | | | 4 |
| Confl. Bikes (#/hr) | | | 5 | | | 3 | | | 1 | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 7 | 4 | 5 | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | | | | 6 |
| Detector Phase | 7 | 4 | 5 | 3 | 8 | | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 26.5 | 8.5 | 8.5 | 26.5 | | 8.5 | 22.5 | | 8.5 | 22.5 | 22.5 |
| Total Split (s) | 10.6 | 26.6 | 22.4 | 24.4 | 40.4 | | 22.4 | 40.3 | | 8.7 | 26.6 | 26.6 |
| Total Split (%) | 10.6% | 26.6% | 22.4% | 24.4% | 40.4% | | 22.4% | 40.3% | | 8.7% | 26.6% | 26.6% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | | None | Min | | None | Min | Min |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 88.5 |
| Natural Cycle: 90 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 31: Carlton Hills Blvd. & Carlton Oaks Drive








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 30 | 250 | 350 | 250 | 120 | 20 | 515 | 655 | 320 | 30 | 380 | 20 |
| Future Volume (veh/h) | 30 | 250 | 350 | 250 | 120 | 20 | 515 | 655 | 320 | 30 | 380 | 20 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 33 | 272 | 380 | 272 | 130 | 22 | 560 | 712 | 348 | 33 | 413 | 22 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 45 | 430 | 650 | 313 | 1158 | 192 | 645 | 831 | 406 | 45 | 711 | 311 |
| Arrive On Green | 0.03 | 0.23 | 0.23 | 0.18 | 0.38 | 0.38 | 0.19 | 0.36 | 0.36 | 0.03 | 0.20 | 0.20 |
| Sat Flow, veh/h | 1781 | 1870 | 1540 | 1781 | 3044 | 504 | 3456 | 2299 | 1123 | 1781 | 3554 | 1553 |
| Grp Volume(v), veh/h | 33 | 272 | 380 | 272 | 75 | 77 | 560 | 550 | 510 | 33 | 413 | 22 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1540 | 1781 | 1777 | 1771 | 1728 | 1777 | 1645 | 1781 | 1777 | 1553 |
| Q Serve(g_s), s | 1.6 | 11.4 | 16.6 | 12.9 | 2.4 | 2.5 | 13.6 | 24.8 | 24.9 | 1.6 | 9.1 | 1.0 |
| Cycle Q Clear(g_c), s | 1.6 | 11.4 | 16.6 | 12.9 | 2.4 | 2.5 | 13.6 | 24.8 | 24.9 | 1.6 | 9.1 | 1.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.28 | 1.00 | | 0.68 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 45 | 430 | 650 | 313 | 676 | 674 | 645 | 642 | 594 | 45 | 711 | 311 |
| V/C Ratio(X) | 0.73 | 0.63 | 0.58 | 0.87 | 0.11 | 0.11 | 0.87 | 0.86 | 0.86 | 0.73 | 0.58 | 0.07 |
| Avail Cap(c_a), veh/h | 125 | 477 | 688 | 409 | 736 | 733 | 713 | 734 | 679 | 86 | 906 | 396 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 42.0 | 30.1 | 19.6 | 34.8 | 17.4 | 17.4 | 34.2 | 25.6 | 25.6 | 42.0 | 31.4 | 28.1 |
| Incr Delay (d2), s/veh | 20.2 | 2.3 | 1.2 | 14.6 | 0.1 | 0.1 | 10.4 | 8.9 | 9.6 | 20.2 | 0.8 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.9 | 5.3 | 5.8 | 6.7 | 1.0 | 1.0 | 6.4 | 11.4 | 10.7 | 0.9 | 3.8 | 0.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 62.2 | 32.4 | 20.7 | 49.4 | 17.4 | 17.5 | 44.6 | 34.6 | 35.3 | 62.2 | 32.1 | 28.2 |
| LnGrp LOS | E | C | C | D | B | B | D | C | D | E | C | C |
| Approach Vol, veh/h | | 685 | | | 424 | | | 1620 | | | 468 | |
| Approach Delay, s/veh | | 27.4 | | | 37.9 | | | 38.2 | | | 34.1 | |
| Approach LOS | | C | | | D | | | D | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 6.7 | 35.8 | 19.7 | 24.4 | 20.7 | 21.8 | 6.7 | 37.5 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 4.2 | 35.8 | 19.9 | 22.1 | 17.9 | 22.1 | 6.1 | 35.9 |
| Max Q Clear Time (g_c+I1), s | 3.6 | 26.9 | 14.9 | 18.6 | 15.6 | 11.1 | 3.6 | 4.5 |
| Green Ext Time (p_c), s | 0.0 | 4.5 | 0.4 | 1.1 | 0.5 | 2.0 | 0.0 | 0.9 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 35.3 |
| HCM 6th LOS | | D |

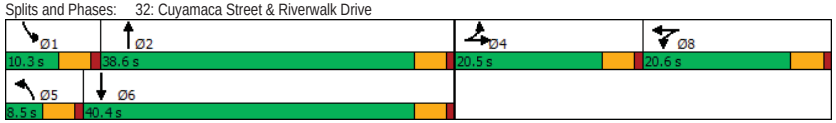
2035 PM
32: Cuyamaca Street & Riverwalk Drive

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 20 | 10 | 20 | 130 | 0 | 40 | 15 | 1210 | 200 | 90 | 1020 | 5 |
| Future Volume (vph) | 20 | 10 | 20 | 130 | 0 | 40 | 15 | 1210 | 200 | 90 | 1020 | 5 |
| Confl. Peds. (#/hr) | | | 7 | | | 5 | | | 15 | | | 5 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | 3 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Split | NA | | Split | NA | | Prot | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | 20.5 | 20.5 | | 20.5 | 20.5 | | 8.5 | 20.5 | | 8.5 | 20.5 | |
| Total Split (s) | 20.5 | 20.5 | | 20.6 | 20.6 | | 8.5 | 38.6 | | 10.3 | 40.4 | |
| Total Split (%) | 22.8% | 22.8% | | 22.9% | 22.9% | | 9.4% | 42.9% | | 11.4% | 44.9% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 90 |
| Actuated Cycle Length: 76.3 |
| Natural Cycle: 100 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 32: Cuyamaca Street & Riverwalk Drive




Timings
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2035 PM
32: Cuyamaca Street & Riverwalk Drive

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 20 | 10 | 20 | 130 | 0 | 40 | 15 | 1210 | 200 | 90 | 1020 | 5 |
| Future Volume (veh/h) | 20 | 10 | 20 | 130 | 0 | 40 | 15 | 1210 | 200 | 90 | 1020 | 5 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.97 | 1.00 | | 0.96 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 22 | 11 | 22 | 141 | 0 | 43 | 16 | 1315 | 217 | 98 | 1109 | 5 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 91 | 28 | 56 | 204 | 0 | 177 | 27 | 1495 | 244 | 126 | 1985 | 9 |
| Arrive On Green | 0.05 | 0.05 | 0.05 | 0.11 | 0.00 | 0.11 | 0.02 | 0.49 | 0.49 | 0.07 | 0.55 | 0.55 |
| Sat Flow, veh/h | 1781 | 543 | 1086 | 1781 | 0 | 1543 | 1781 | 3040 | 496 | 1781 | 3628 | 16 |
| Grp Volume(v), veh/h | 22 | 0 | 33 | 141 | 0 | 43 | 16 | 762 | 770 | 98 | 543 | 571 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1629 | 1781 | 0 | 1543 | 1781 | 1777 | 1759 | 1781 | 1777 | 1867 |
| Q Serve(g_s), s | 0.8 | 0.0 | 1.3 | 5.0 | 0.0 | 1.7 | 0.6 | 25.3 | 26.2 | 3.6 | 13.2 | 13.2 |
| Cycle Q Clear(g_c), s | 0.8 | 0.0 | 1.3 | 5.0 | 0.0 | 1.7 | 0.6 | 25.3 | 26.2 | 3.6 | 13.2 | 13.2 |
| Prop In Lane | 1.00 | | 0.67 | 1.00 | | 1.00 | 1.00 | | 0.28 | 1.00 | | 0.01 |
| Lane Grp Cap(c), veh/h | 91 | 0 | 84 | 204 | 0 | 177 | 27 | 874 | 865 | 126 | 972 | 1022 |
| V/C Ratio(X) | 0.24 | 0.00 | 0.39 | 0.69 | 0.00 | 0.24 | 0.58 | 0.87 | 0.89 | 0.78 | 0.56 | 0.56 |
| Avail Cap(c_a), veh/h | 430 | 0 | 393 | 433 | 0 | 375 | 108 | 915 | 905 | 156 | 972 | 1022 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 30.2 | 0.0 | 30.4 | 28.2 | 0.0 | 26.7 | 32.4 | 15.0 | 15.2 | 30.3 | 9.8 | 9.8 |
| Incr Delay (d2), s/veh | 1.3 | 0.0 | 3.0 | 4.1 | 0.0 | 0.7 | 18.1 | 9.0 | 10.6 | 18.0 | 0.7 | 0.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.4 | 0.0 | 0.6 | 2.3 | 0.0 | 0.6 | 0.4 | 10.5 | 11.1 | 2.1 | 4.3 | 4.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 31.5 | 0.0 | 33.4 | 32.4 | 0.0 | 27.4 | 50.5 | 23.9 | 25.8 | 48.3 | 10.5 | 10.5 |
| LnGrp LOS | C | A | C | C | A | C | D | C | C | D | B | B |
| Approach Vol, veh/h | | 55 | | | 184 | | | 1548 | | | 1212 | |
| Approach Delay, s/veh | | 32.7 | | | 31.2 | | | 25.1 | | | 13.5 | |
| Approach LOS | | C | | | C | | | C | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 9.2 | 37.1 | | 7.9 | 5.5 | 40.7 | | 12.1 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 5.8 | 34.1 | | 16.0 | 4.0 | 35.9 | | 16.1 | | | | |
| Max Q Clear Time (g_c+I1), s | 5.6 | 28.2 | | 3.3 | 2.6 | 15.2 | | 7.0 | | | | |
| Green Ext Time (p_c), s | 0.0 | 4.4 | | 0.1 | 0.0 | 7.4 | | 0.4 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 21.0 | |
| HCM 6th LOS | C | |

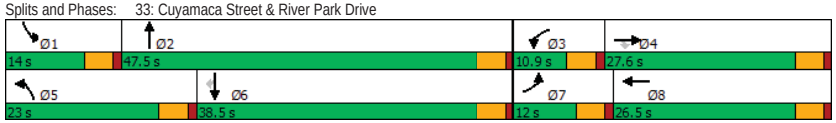
HCM 6th Signalized Intersection Summary
N:\2462\Analysis\Intersections\Synchro\Long-Term\10 2035 PM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 100 | 25 | 110 | 60 | 15 | 40 | 260 | 1220 | 90 | 100 | 1000 | 60 |
| Future Volume (vph) | 100 | 25 | 110 | 60 | 15 | 40 | 260 | 1220 | 90 | 100 | 1000 | 60 |
| Confl. Peds. (#/hr) | | | 3 | | | 5 | | | 6 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | | | | 6 |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 26.5 | 26.5 | 8.5 | 26.5 | | 8.5 | 22.5 | | 8.5 | 26.5 | 26.5 |
| Total Split (s) | 12.0 | 27.6 | 27.6 | 10.9 | 26.5 | | 23.0 | 47.5 | | 14.0 | 38.5 | 38.5 |
| Total Split (%) | 12.0% | 27.6% | 27.6% | 10.9% | 26.5% | | 23.0% | 47.5% | | 14.0% | 38.5% | 38.5% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | | None | Min | | None | Min | Min |

**Intersection Summary**

Cycle Length: 100
Actuated Cycle Length: 81.3
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 33: Cuyamaca Street & River Park Drive








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 100 | 25 | 110 | 60 | 15 | 40 | 260 | 1220 | 90 | 100 | 1000 | 60 |
| Future Volume (veh/h) | 100 | 25 | 110 | 60 | 15 | 40 | 260 | 1220 | 90 | 100 | 1000 | 60 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 109 | 27 | 120 | 65 | 16 | 43 | 283 | 1326 | 98 | 109 | 1087 | 65 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 140 | 229 | 192 | 83 | 40 | 108 | 333 | 1662 | 122 | 140 | 1378 | 613 |
| Arrive On Green | 0.08 | 0.12 | 0.12 | 0.05 | 0.09 | 0.09 | 0.19 | 0.50 | 0.50 | 0.08 | 0.39 | 0.39 |
| Sat Flow, veh/h | 1781 | 1870 | 1573 | 1781 | 443 | 1190 | 1781 | 3348 | 247 | 1781 | 3554 | 1581 |
| Grp Volume(v), veh/h | 109 | 27 | 120 | 65 | 0 | 59 | 283 | 702 | 722 | 109 | 1087 | 65 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1573 | 1781 | 0 | 1633 | 1781 | 1777 | 1818 | 1781 | 1777 | 1581 |
| Q Serve(g_s), s | 4.2 | 0.9 | 5.1 | 2.5 | 0.0 | 2.4 | 10.8 | 23.1 | 23.3 | 4.2 | 19.0 | 1.8 |
| Cycle Q Clear(g_c), s | 4.2 | 0.9 | 5.1 | 2.5 | 0.0 | 2.4 | 10.8 | 23.1 | 23.3 | 4.2 | 19.0 | 1.8 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.73 | 1.00 | | 0.14 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 140 | 229 | 192 | 83 | 0 | 148 | 333 | 882 | 902 | 140 | 1378 | 613 |
| V/C Ratio(X) | 0.78 | 0.12 | 0.62 | 0.78 | 0.00 | 0.40 | 0.85 | 0.80 | 0.80 | 0.78 | 0.79 | 0.11 |
| Avail Cap(c_a), veh/h | 190 | 615 | 517 | 162 | 0 | 511 | 469 | 1087 | 1112 | 241 | 1719 | 765 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 31.8 | 27.5 | 29.3 | 33.2 | 0.0 | 30.2 | 27.6 | 14.7 | 14.8 | 31.8 | 19.0 | 13.7 |
| Incr Delay (d2), s/veh | 13.4 | 0.2 | 3.3 | 14.7 | 0.0 | 1.7 | 10.0 | 3.4 | 3.5 | 8.9 | 2.0 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.3 | 0.4 | 2.0 | 1.4 | 0.0 | 1.0 | 5.2 | 8.7 | 9.0 | 2.1 | 7.3 | 0.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 45.2 | 27.7 | 32.6 | 47.9 | 0.0 | 31.9 | 37.6 | 18.2 | 18.3 | 40.6 | 21.0 | 13.8 |
| LnGrp LOS | D | C | C | D | A | C | D | B | B | D | C | B |
| Approach Vol, veh/h | | 256 | | | 124 | | | 1707 | | | 1261 | |
| Approach Delay, s/veh | | 37.5 | | | 40.3 | | | 21.4 | | | 22.3 | |
| Approach LOS | | D | | | D | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 10.0 | 39.4 | 7.8 | 13.1 | 17.7 | 31.8 | 10.0 | 10.9 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 9.5 | 43.0 | 6.4 | 23.1 | 18.5 | 34.0 | 7.5 | 22.0 |
| Max Q Clear Time (g_c+I1), s | 6.2 | 25.3 | 4.5 | 7.1 | 12.8 | 21.0 | 6.2 | 4.4 |
| Green Ext Time (p_c), s | 0.1 | 9.3 | 0.0 | 0.4 | 0.4 | 6.3 | 0.0 | 0.2 |

**Intersection Summary**

| | | |
|---|---|---|
| HCM 6th Ctrl Delay | 23.7 | |
| HCM 6th LOS | C | |

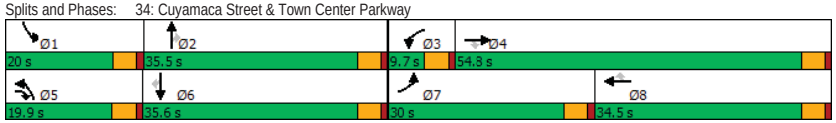
2035 PM
34: Cuyamaca Street & Town Center Parkway

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 665 | 120 | 235 | 50 | 115 | 220 | 380 | 1160 | 140 | 205 | 950 | 390 |
| Future Volume (vph) | 665 | 120 | 235 | 50 | 115 | 220 | 380 | 1160 | 140 | 205 | 950 | 390 |
| Confl. Peds. (#/hr) | | | 12 | | | 9 | | | 17 | | | 4 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | 2 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 7 | 4 | 5 | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | 2 | | | 6 |
| Detector Phase | 7 | 4 | 5 | 3 | 8 | 8 | 5 | 2 | 2 | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 34.5 | 8.5 | 8.5 | 34.5 | 34.5 | 8.5 | 34.5 | 34.5 | 8.5 | 34.5 | 34.5 |
| Total Split (s) | 30.0 | 54.8 | 19.9 | 9.7 | 34.5 | 34.5 | 19.9 | 35.5 | 35.5 | 20.0 | 35.6 | 35.6 |
| Total Split (%) | 25.0% | 45.7% | 16.6% | 8.1% | 28.8% | 28.8% | 16.6% | 29.6% | 29.6% | 16.7% | 29.7% | 29.7% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lead | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | None | None | Min | Min | None | Min | Min |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 102.3 |
| Natural Cycle: 120 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 34: Cuyamaca Street & Town Center Parkway




Timings
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2035 PM
34: Cuyamaca Street & Town Center Parkway

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 665 | 120 | 235 | 50 | 115 | 220 | 380 | 1160 | 140 | 205 | 950 | 390 |
| Future Volume (veh/h) | 665 | 120 | 235 | 50 | 115 | 220 | 380 | 1160 | 140 | 205 | 950 | 390 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.97 | 1.00 | | 0.95 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 723 | 130 | 255 | 54 | 125 | 239 | 413 | 1261 | 152 | 223 | 1033 | 424 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 776 | 743 | 839 | 100 | 716 | 311 | 469 | 1403 | 413 | 246 | 1417 | 432 |
| Arrive On Green | 0.22 | 0.40 | 0.40 | 0.03 | 0.20 | 0.20 | 0.14 | 0.27 | 0.27 | 0.14 | 0.28 | 0.28 |
| Sat Flow, veh/h | 3456 | 1870 | 1571 | 3456 | 3554 | 1544 | 3456 | 5106 | 1501 | 1781 | 5106 | 1558 |
| Grp Volume(v), veh/h | 723 | 130 | 255 | 54 | 125 | 239 | 413 | 1261 | 152 | 223 | 1033 | 424 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1870 | 1571 | 1728 | 1777 | 1544 | 1728 | 1702 | 1501 | 1781 | 1702 | 1558 |
| Q Serve(g_s), s | 23.0 | 5.0 | 10.1 | 1.7 | 3.3 | 16.4 | 13.1 | 26.6 | 9.2 | 13.8 | 20.5 | 30.3 |
| Cycle Q Clear(g_c), s | 23.0 | 5.0 | 10.1 | 1.7 | 3.3 | 16.4 | 13.1 | 26.6 | 9.2 | 13.8 | 20.5 | 30.3 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 776 | 743 | 839 | 100 | 716 | 311 | 469 | 1403 | 413 | 246 | 1417 | 432 |
| V/C Ratio(X) | 0.93 | 0.18 | 0.30 | 0.54 | 0.17 | 0.77 | 0.88 | 0.90 | 0.37 | 0.90 | 0.73 | 0.98 |
| Avail Cap(c_a), veh/h | 787 | 840 | 920 | 160 | 952 | 413 | 475 | 1413 | 415 | 246 | 1417 | 432 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 42.6 | 21.9 | 14.6 | 53.7 | 37.0 | 42.3 | 47.5 | 39.1 | 32.8 | 47.5 | 36.7 | 40.2 |
| Incr Delay (d2), s/veh | 17.5 | 0.1 | 0.2 | 4.4 | 0.1 | 6.1 | 17.2 | 8.0 | 0.5 | 33.3 | 1.9 | 38.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 11.6 | 2.2 | 3.6 | 0.8 | 1.4 | 6.7 | 6.7 | 11.9 | 3.4 | 8.3 | 8.6 | 16.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 60.1 | 22.0 | 14.8 | 58.1 | 37.1 | 48.4 | 64.7 | 47.2 | 33.3 | 80.8 | 38.6 | 78.2 |
| LnGrp LOS | E | C | B | E | D | D | E | D | C | F | D | E |
| Approach Vol, veh/h | | 1108 | | | 418 | | | 1826 | | | 1680 | |
| Approach Delay, s/veh | | 45.2 | | | 46.3 | | | 50.0 | | | 54.2 | |
| Approach LOS | | D | | | D | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 20.0 | 35.3 | 7.8 | 49.0 | 19.7 | 35.6 | 29.7 | 27.1 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 15.5 | 31.0 | 5.2 | 50.3 | 15.4 | 31.1 | 25.5 | 30.0 |
| Max Q Clear Time (g_c+I1), s | 15.8 | 28.6 | 3.7 | 12.1 | 15.1 | 32.3 | 25.0 | 18.4 |
| Green Ext Time (p_c), s | 0.0 | 1.8 | 0.0 | 1.7 | 0.0 | 0.0 | 0.2 | 1.2 |

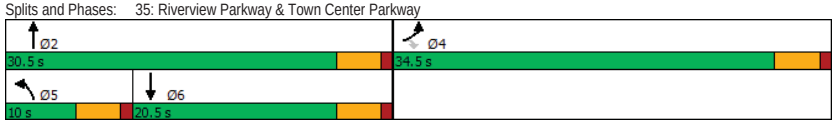
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 50.0 |
| HCM 6th LOS | | D |

HCM 6th Signalized Intersection Summary
N:\2462\Analysis\Intersections\Synchro\Long-Term\10 2035 PM.syn

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 20 | 230 | 200 | 240 | 140 | 10 |
| Future Volume (vph) | 20 | 230 | 200 | 240 | 140 | 10 |
| Confl. Peds. (#/hr) | | | | | | |
| Confl. Bikes (#/hr) | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | Prot | NA | NA | |
| Protected Phases | 4 | | 5 | 2 | 6 | |
| Permitted Phases | | 4 | | | | |
| Detector Phase | 4 | 4 | 5 | 2 | 6 | |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Minimum Split (s) | 34.5 | 34.5 | 8.5 | 25.5 | 20.5 | |
| Total Split (s) | 34.5 | 34.5 | 10.0 | 30.5 | 20.5 | |
| Total Split (%) | 53.1% | 53.1% | 15.4% | 46.9% | 31.5% | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lead/Lag | | | Lead | | Lag | |
| Lead-Lag Optimize? | | | Yes | | Yes | |
| Recall Mode | None | None | None | Min | Min | |

| Intersection Summary |
|---|
| Cycle Length: 65 |
| Actuated Cycle Length: 37.1 |
| Natural Cycle: 70 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 35: Riverview Parkway & Town Center Parkway








| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 20 | 230 | 200 | 240 | 140 | 10 |
| Future Volume (veh/h) | 20 | 230 | 200 | 240 | 140 | 10 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 22 | 250 | 217 | 261 | 152 | 11 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 391 | 348 | 275 | 1629 | 481 | 35 |
| Arrive On Green | 0.22 | 0.22 | 0.15 | 0.46 | 0.14 | 0.14 |
| Sat Flow, veh/h | 1781 | 1585 | 1781 | 3647 | 3456 | 241 |
| Grp Volume(v), veh/h | 22 | 250 | 217 | 261 | 80 | 83 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 1781 | 1777 | 1777 | 1827 |
| Q Serve(g_s), s | 0.3 | 4.1 | 3.3 | 1.2 | 1.1 | 1.1 |
| Cycle Q Clear(g_c), s | 0.3 | 4.1 | 3.3 | 1.2 | 1.1 | 1.1 |
| Prop In Lane | 1.00 | 1.00 | 1.00 | | | 0.13 |
| Lane Grp Cap(c), veh/h | 391 | 348 | 275 | 1629 | 254 | 262 |
| V/C Ratio(X) | 0.06 | 0.72 | 0.79 | 0.16 | 0.31 | 0.32 |
| Avail Cap(c_a), veh/h | 1913 | 1702 | 351 | 3307 | 1018 | 1046 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 8.6 | 10.1 | 11.4 | 4.4 | 10.7 | 10.7 |
| Incr Delay (d2), s/veh | 0.1 | 2.8 | 9.0 | 0.0 | 0.7 | 0.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.1 | 0.3 | 1.6 | 0.2 | 0.4 | 0.4 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 8.7 | 12.9 | 20.4 | 4.5 | 11.4 | 11.4 |
| LnGrp LOS | A | B | C | A | B | B |
| Approach Vol, veh/h | 272 | | | 478 | 163 | |
| Approach Delay, s/veh | 12.6 | | | 11.7 | 11.4 | |
| Approach LOS | B | | | B | B | |

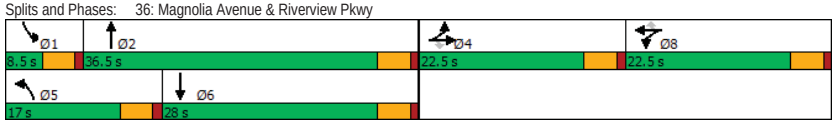
| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 17.3 | | 10.6 | 8.8 | 8.5 |
| Change Period (Y+Rc), s | | 4.5 | | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | | 26.0 | | 30.0 | 5.5 | 16.0 |
| Max Q Clear Time (g_c+I1), s | | 3.2 | | 6.1 | 5.3 | 3.1 |
| Green Ext Time (p_c), s | | 1.6 | | 0.9 | 0.0 | 0.6 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 11.9 | |
| HCM 6th LOS | B | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 5 | 0 | 130 | 90 | 0 | 20 | 270 | 1330 | 90 | 20 | 840 | 30 |
| Future Volume (vph) | 5 | 0 | 130 | 90 | 0 | 20 | 270 | 1330 | 90 | 20 | 840 | 30 |
| Confl. Peds. (#/hr) | | | 8 | | | | | | | | | 1 |
| Confl. Bikes (#/hr) | | | | | | 6 | | | 4 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Split | NA | Perm | Split | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | | | | |
| Detector Phase | 4 | 4 | 4 | 8 | 8 | 8 | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 8.5 | 22.5 | | 8.5 | 22.5 | |
| Total Split (s) | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 17.0 | 36.5 | | 8.5 | 28.0 | |
| Total Split (%) | 25.0% | 25.0% | 25.0% | 25.0% | 25.0% | 25.0% | 18.9% | 40.6% | | 9.4% | 31.1% | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | None | None | None | None | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 90 |
| Actuated Cycle Length: 65.3 |
| Natural Cycle: 100 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 36: Magnolia Avenue & Riverview Pkwy








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 5 | 0 | 130 | 90 | 0 | 20 | 270 | 1330 | 90 | 20 | 840 | 30 |
| Future Volume (veh/h) | 5 | 0 | 130 | 90 | 0 | 20 | 270 | 1330 | 90 | 20 | 840 | 30 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 5 | 0 | 141 | 98 | 0 | 22 | 293 | 1446 | 98 | 22 | 913 | 33 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 224 | 0 | 196 | 143 | 0 | 124 | 340 | 1646 | 111 | 36 | 1111 | 40 |
| Arrive On Green | 0.13 | 0.00 | 0.13 | 0.08 | 0.00 | 0.08 | 0.19 | 0.49 | 0.49 | 0.02 | 0.32 | 0.32 |
| Sat Flow, veh/h | 1781 | 0 | 1555 | 1781 | 0 | 1540 | 1781 | 3372 | 228 | 1781 | 3495 | 126 |
| Grp Volume(v), veh/h | 5 | 0 | 141 | 98 | 0 | 22 | 293 | 759 | 785 | 22 | 464 | 482 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1555 | 1781 | 0 | 1540 | 1781 | 1777 | 1823 | 1781 | 1777 | 1844 |
| Q Serve(g_s), s | 0.2 | 0.0 | 5.5 | 3.4 | 0.0 | 0.8 | 10.1 | 24.1 | 24.4 | 0.8 | 15.2 | 15.2 |
| Cycle Q Clear(g_c), s | 0.2 | 0.0 | 5.5 | 3.4 | 0.0 | 0.8 | 10.1 | 24.1 | 24.4 | 0.8 | 15.2 | 15.2 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.12 | 1.00 | | 0.07 |
| Lane Grp Cap(c), veh/h | 224 | 0 | 196 | 143 | 0 | 124 | 340 | 867 | 890 | 36 | 565 | 586 |
| V/C Ratio(X) | 0.02 | 0.00 | 0.72 | 0.69 | 0.00 | 0.18 | 0.86 | 0.87 | 0.88 | 0.61 | 0.82 | 0.82 |
| Avail Cap(c_a), veh/h | 508 | 0 | 444 | 508 | 0 | 439 | 353 | 901 | 925 | 113 | 662 | 687 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 24.2 | 0.0 | 26.5 | 28.2 | 0.0 | 27.1 | 24.7 | 14.4 | 14.5 | 30.7 | 19.9 | 19.9 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 4.9 | 5.7 | 0.0 | 0.7 | 18.8 | 9.3 | 9.8 | 15.4 | 7.2 | 6.9 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.1 | 0.0 | 2.2 | 1.6 | 0.0 | 0.3 | 5.6 | 9.7 | 10.2 | 0.5 | 6.4 | 6.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 24.2 | 0.0 | 31.4 | 33.9 | 0.0 | 27.7 | 43.5 | 23.8 | 24.3 | 46.1 | 27.0 | 26.8 |
| LnGrp LOS | C | A | C | C | A | C | D | C | C | D | C | C |
| Approach Vol, veh/h | | 146 | | | 120 | | | 1837 | | | 968 | |
| Approach Delay, s/veh | | 31.2 | | | 32.8 | | | 27.1 | | | 27.4 | |
| Approach LOS | | C | | | C | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.8 | 35.3 | | 12.4 | 16.5 | 24.6 | | 9.6 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 4.0 | 32.0 | | 18.0 | 12.5 | 23.5 | | 18.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.8 | 26.4 | | 7.5 | 12.1 | 17.2 | | 5.4 | | | | |
| Green Ext Time (p_c), s | 0.0 | 4.1 | | 0.3 | 0.0 | 2.8 | | 0.4 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 27.6 | |
| HCM 6th LOS | C | |

| Intersection | |
|---|---|
| Int Delay, s/veh | 25.8 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 0 | 20 | 0 | 120 | 300 | 860 | 0 | 0 | 290 | 800 |
| Future Vol, veh/h | 0 | 0 | 0 | 20 | 0 | 120 | 300 | 860 | 0 | 0 | 290 | 800 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| Sign Control | Free | Free | Free | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | 190 | - | - | - | - | - |
| Veh in Median Storage, # | - | 2 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 0 | 22 | 0 | 130 | 326 | 935 | 0 | 0 | 315 | 870 |

| Major/Minor | Minor1 | | | Major1 | | | Major2 | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 2337 | 2772 | 935 | 1185 | 0 | - | - | - | 0 | |
| Stage 1 | 1587 | 1587 | - | - | - | - | - | - | - | |
| Stage 2 | 750 | 1185 | - | - | - | - | - | - | - | |
| Critical Hdwy | 6.42 | 6.52 | 6.22 | 4.12 | - | - | - | - | - | |
| Critical Hdwy Stg 1 | 5.42 | 5.52 | - | - | - | - | - | - | - | |
| Critical Hdwy Stg 2 | 5.42 | 5.52 | - | - | - | - | - | - | - | |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 2.218 | - | - | - | - | - | |
| Pot Cap-1 Maneuver | 40 | 19 | 322 | 589 | - | 0 | 0 | - | - | |
| Stage 1 | 185 | 168 | - | - | - | 0 | 0 | - | - | |
| Stage 2 | 467 | 263 | - | - | - | 0 | 0 | - | - | |
| Platoon blocked, % | | | | | - | | | - | - | |
| Mov Cap-1 Maneuver | ~ 18 | 0 | 322 | 589 | - | - | - | - | - | |
| Mov Cap-2 Maneuver | ~ 18 | 0 | - | - | - | - | - | - | - | |
| Stage 1 | 83 | 0 | - | - | - | - | - | - | - | |
| Stage 2 | 467 | 0 | - | - | - | - | - | - | - | |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | $ 400 | 4.8 | 0 |
| HCM LOS | F | | |

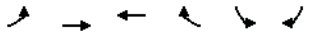
| Minor Lane/Major Mvmt | NBL | NBT | WBLn1 | SBT | SBR |
|---|---|---|---|---|---|
| Capacity (veh/h) | 589 | - | 94 | - | - |
| HCM Lane V/C Ratio | 0.554 | - | 1.619 | - | - |
| HCM Control Delay (s) | 18.4 | - | $ 400 | - | - |
| HCM Lane LOS | C | - | F | - | - |
| HCM 95th %tile Q(veh) | 3.4 | - | 12 | - | - |

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon



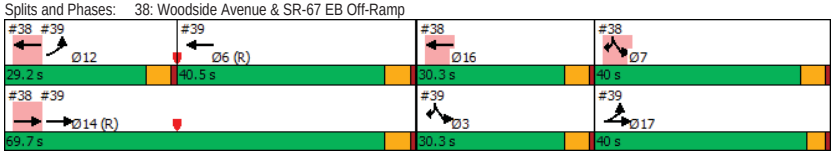




| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR | Ø3 | Ø6 | Ø12 | Ø16 | Ø17 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 650 | 150 | 0 | 820 | 130 | | | | | |
| Future Volume (vph) | 0 | 650 | 150 | 0 | 820 | 130 | | | | | |
| Confl. Peds. (#/hr) | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | | | |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | | | | | |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| Parking (#/hr) | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | | | | | | |
| Shared Lane Traffic (%) | | | | | | | | | | | |
| Turn Type | | NA | NA | | Prot | Prot | | | | | |
| Protected Phases | | 14 | 12 16 | | 7 | 7 | 3 | 6 | 12 | 16 | 17 |
| Permitted Phases | | | | | | | | | | | |
| Detector Phase | | 14 | 12 16 | | 7 | 7 | | | | | |
| Switch Phase | | | | | | | | | | | |
| Minimum Initial (s) | | 4.0 | | | 8.0 | 8.0 | 5.0 | 5.0 | 5.0 | 2.0 | 5.0 |
| Minimum Split (s) | | 20.0 | | | 27.3 | 27.3 | 30.3 | 29.3 | 24.3 | 20.0 | 9.2 |
| Total Split (s) | | 69.7 | | | 40.0 | 40.0 | 30.3 | 40.5 | 29.2 | 30.3 | 40.0 |
| Total Split (%) | | 49.8% | | | 28.6% | 28.6% | 22% | 29% | 21% | 22% | 29% |
| Yellow Time (s) | | 4.3 | | | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 3.2 |
| All-Red Time (s) | | 1.0 | | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | | 0.0 | | | 0.0 | 0.0 | | | | | |
| Total Lost Time (s) | | 5.3 | | | 5.3 | 5.3 | | | | | |
| Lead/Lag | | | | | | | | Lag | Lead | | |
| Lead-Lag Optimize? | | | | | | | | Yes | Yes | | |
| Recall Mode | | C-Max | | | Max | Max | None | C-Max | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 140 |
| Actuated Cycle Length: 140 |
| Offset: 0 (0%), Referenced to phase 6:WBT and 14:EBT, Start of Green |
| Natural Cycle: 145 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 38: Woodside Avenue & SR-67 EB Off-Ramp



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 650 | 150 | 0 | 820 | 130 |
| Future Volume (vph) | 0 | 650 | 150 | 0 | 820 | 130 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 5.3 | 5.3 | | 5.3 | 5.3 |
| Lane Util. Factor | | 0.95 | 1.00 | | 0.97 | 1.00 |
| Frt | | 1.00 | 1.00 | | 1.00 | 0.85 |
| Flt Protected | | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | | 3539 | 1863 | | 3433 | 1583 |
| Flt Permitted | | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (perm) | | 3539 | 1863 | | 3433 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 707 | 163 | 0 | 891 | 141 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 23 |
| Lane Group Flow (vph) | 0 | 707 | 163 | 0 | 891 | 118 |
| Turn Type | | NA | NA | | Prot | Prot |
| Protected Phases | | 14 | 12 16 | | 7 | 7 |
| Permitted Phases | | | | | | |
| Actuated Green, G (s) | | 64.4 | 46.4 | | 37.2 | 37.2 |
| Effective Green, g (s) | | 64.4 | 46.4 | | 37.2 | 37.2 |
| Actuated g/C Ratio | | 0.46 | 0.33 | | 0.27 | 0.27 |
| Clearance Time (s) | | 5.3 | | | 5.3 | 5.3 |
| Vehicle Extension (s) | | 1.0 | | | 3.0 | 3.0 |
| Lane Grp Cap (vph) | | 1627 | 617 | | 912 | 420 |
| v/s Ratio Prot | | c0.20 | c0.09 | | c0.26 | 0.07 |
| v/s Ratio Perm | | | | | | |
| v/c Ratio | | 0.43 | 0.26 | | 0.98 | 0.28 |
| Uniform Delay, d1 | | 25.5 | 34.3 | | 51.0 | 40.8 |
| Progression Factor | | 1.00 | 1.16 | | 1.00 | 1.00 |
| Incremental Delay, d2 | | 0.8 | 0.1 | | 24.7 | 1.7 |
| Delay (s) | | 26.4 | 39.8 | | 75.7 | 42.4 |
| Level of Service | | C | D | | E | D |
| Approach Delay (s) | | 26.4 | 39.8 | | 71.2 | |
| Approach LOS | | C | D | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 51.8 | HCM 2000 Level of Service | D |
| HCM 2000 Volume to Capacity ratio | 0.59 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 21.2 |
| Intersection Capacity Utilization | 50.2% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

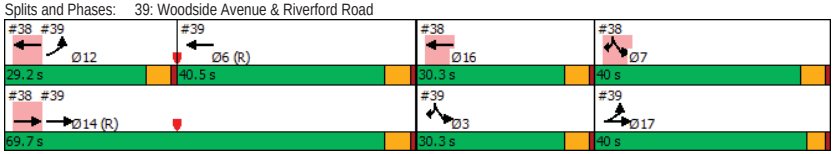




| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR | Ø7 | Ø12 | Ø14 | Ø16 | Ø17 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | |
| Traffic Volume (vph) | 730 | 740 | 110 | 370 | 220 | 40 | | | | | |
| Future Volume (vph) | 730 | 740 | 110 | 370 | 220 | 40 | | | | | |
| Confl. Peds. (#/hr) | | | | | | 2 | | | | | |
| Confl. Bikes (#/hr) | | | | 2 | | 1 | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | | | |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | | | | | |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| Parking (#/hr) | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | | | | | | |
| Shared Lane Traffic (%) | | | | | | | | | | | |
| Turn Type | Prot | NA | NA | | Prot | Prot | | | | | |
| Protected Phases | 12 17 | 14 17 | 6 | | 3 | 3 | 7 | 12 | 14 | 16 | 17 |
| Permitted Phases | | | | | | | | | | | |
| Detector Phase | 12 17 | 14 17 | 6 | | 3 | 3 | | | | | |
| Switch Phase | | | | | | | | | | | |
| Minimum Initial (s) | | | 5.0 | | 5.0 | 5.0 | 8.0 | 5.0 | 4.0 | 2.0 | 5.0 |
| Minimum Split (s) | | | 29.3 | | 30.3 | 30.3 | 27.3 | 24.3 | 20.0 | 20.0 | 9.2 |
| Total Split (s) | | | 40.5 | | 30.3 | 30.3 | 40.0 | 29.2 | 69.7 | 30.3 | 40.0 |
| Total Split (%) | | | 28.9% | | 21.6% | 21.6% | 29% | 21% | 50% | 22% | 29% |
| Yellow Time (s) | | | 4.3 | | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 3.2 |
| All-Red Time (s) | | | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | | | 0.0 | | 0.0 | 0.0 | | | | | |
| Total Lost Time (s) | | | 5.3 | | 5.3 | 5.3 | | | | | |
| Lead/Lag | | | Lag | | | | | Lead | | | |
| Lead-Lag Optimize? | | | Yes | | | | | Yes | | | |
| Recall Mode | | | C-Max | | None | None | Max | None | C-Max | None | None |

| Intersection Summary |
|---|
| Cycle Length: 140 |
| Actuated Cycle Length: 140 |
| Offset: 0 (0%), Referenced to phase 6:WBT and 14:EBT, Start of Green |
| Natural Cycle: 145 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 39: Woodside Avenue & Riverford Road



2035 PM
39: Woodside Avenue & Riverford Road

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 730 | 740 | 110 | 370 | 220 | 40 |
| Future Volume (vph) | 730 | 740 | 110 | 370 | 220 | 40 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.3 | 5.3 | 5.3 | | 5.3 | 5.3 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.98 | | 1.00 | 1.00 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.90 | | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | 1770 | 1863 | 1640 | | 1770 | 1583 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (perm) | 1770 | 1863 | 1640 | | 1770 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 793 | 804 | 120 | 402 | 239 | 43 |
| RTOR Reduction (vph) | 0 | 0 | 86 | 0 | 0 | 29 |
| Lane Group Flow (vph) | 793 | 804 | 436 | 0 | 239 | 14 |
| Confl. Peds. (#/hr) | | | | | | 2 |
| Confl. Bikes (#/hr) | | | | 2 | | 1 |
| Turn Type | Prot | NA | NA | | Prot | Prot |
| Protected Phases | 12 17 | 14 17 | 6 | | 3 | 3 |
| Permitted Phases | | | | | | |
| Actuated Green, G (s) | 66.4 | 106.9 | 35.2 | | 22.5 | 22.5 |
| Effective Green, g (s) | 62.2 | 102.7 | 35.2 | | 22.5 | 22.5 |
| Actuated g/C Ratio | 0.44 | 0.73 | 0.25 | | 0.16 | 0.16 |
| Clearance Time (s) | | | 5.3 | | 5.3 | 5.3 |
| Vehicle Extension (s) | | | 3.0 | | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 786 | 1366 | 412 | | 284 | 254 |
| v/s Ratio Prot | c0.45 | 0.43 | c0.27 | | c0.14 | 0.01 |
| v/s Ratio Perm | | | | | | |
| v/c Ratio | 1.01 | 0.59 | 1.06 | | 0.84 | 0.05 |
| Uniform Delay, d1 | 38.9 | 8.7 | 52.4 | | 57.0 | 49.7 |
| Progression Factor | 0.36 | 0.16 | 1.00 | | 1.00 | 1.00 |
| Incremental Delay, d2 | 28.2 | 0.4 | 60.5 | | 19.6 | 0.1 |
| Delay (s) | 42.3 | 1.8 | 112.9 | | 76.7 | 49.8 |
| Level of Service | D | A | F | | E | D |
| Approach Delay (s) | | 21.9 | 112.9 | | 72.6 | |
| Approach LOS | | C | F | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 47.7 | HCM 2000 Level of Service | D |
| HCM 2000 Volume to Capacity ratio | 1.00 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 21.2 |
| Intersection Capacity Utilization | 95.0% | ICU Level of Service | F |
| Analysis Period (min) | 15 | | |

c Critical Lane Group



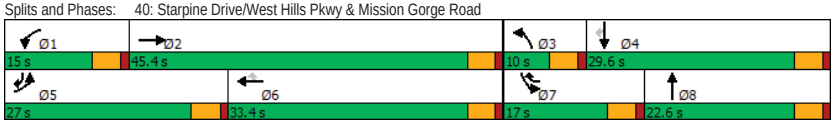
2035 PM
40: Starpine Drive/West Hills Pkwy & Mission Gorge Road

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 570 | 880 | 85 | 85 | 485 | 280 | 30 | 40 | 60 | 260 | 60 | 370 |
| Future Volume (vph) | 570 | 880 | 85 | 85 | 485 | 280 | 30 | 40 | 60 | 260 | 60 | 370 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | 1 |
| Confl. Bikes (#/hr) | | | 5 | | | 6 | | | | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Prot | NA | | Prot | NA | pm+ov |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 5 |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 5 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 29.5 | | 8.5 | 29.5 | 8.5 | 8.5 | 22.5 | | 8.5 | 29.5 | 8.5 |
| Total Split (s) | 27.0 | 45.4 | | 15.0 | 33.4 | 17.0 | 10.0 | 22.6 | | 17.0 | 29.6 | 27.0 |
| Total Split (%) | 27.0% | 45.4% | | 15.0% | 33.4% | 17.0% | 10.0% | 22.6% | | 17.0% | 29.6% | 27.0% |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | Lead |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | Min | | None | Min | None | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 74.5 |
| Natural Cycle: 90 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 40: Starpine Drive/West Hills Pkwy & Mission Gorge Road



2035 PM
40: Starpine Drive/West Hills Pkwy & Mission Gorge Road

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 570 | 880 | 85 | 85 | 485 | 280 | 30 | 40 | 60 | 260 | 60 | 370 |
| Future Volume (veh/h) | 570 | 880 | 85 | 85 | 485 | 280 | 30 | 40 | 60 | 260 | 60 | 370 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 1.00 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 620 | 957 | 92 | 92 | 527 | 304 | 33 | 43 | 65 | 283 | 65 | 402 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 793 | 1351 | 130 | 119 | 892 | 579 | 50 | 69 | 104 | 409 | 361 | 1162 |
| Arrive On Green | 0.23 | 0.41 | 0.41 | 0.07 | 0.25 | 0.25 | 0.03 | 0.10 | 0.10 | 0.12 | 0.19 | 0.19 |
| Sat Flow, veh/h | 3456 | 3267 | 314 | 1781 | 3554 | 1558 | 1781 | 672 | 1016 | 3456 | 1870 | 2705 |
| Grp Volume(v), veh/h | 620 | 520 | 529 | 92 | 527 | 304 | 33 | 0 | 108 | 283 | 65 | 402 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1805 | 1781 | 1777 | 1558 | 1781 | 0 | 1688 | 1728 | 1870 | 1353 |
| Q Serve(g_s), s | 10.2 | 14.6 | 14.6 | 3.1 | 7.9 | 9.2 | 1.1 | 0.0 | 3.7 | 4.7 | 1.8 | 6.1 |
| Cycle Q Clear(g_c), s | 10.2 | 14.6 | 14.6 | 3.1 | 7.9 | 9.2 | 1.1 | 0.0 | 3.7 | 4.7 | 1.8 | 6.1 |
| Prop In Lane | 1.00 | | 0.17 | 1.00 | | 1.00 | 1.00 | | 0.60 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 793 | 735 | 746 | 119 | 892 | 579 | 50 | 0 | 173 | 409 | 361 | 1162 |
| V/C Ratio(X) | 0.78 | 0.71 | 0.71 | 0.77 | 0.59 | 0.53 | 0.66 | 0.00 | 0.62 | 0.69 | 0.18 | 0.35 |
| Avail Cap(c_a), veh/h | 1290 | 1205 | 1224 | 310 | 1704 | 934 | 163 | 0 | 507 | 717 | 779 | 1767 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 21.8 | 14.7 | 14.7 | 27.7 | 19.9 | 14.9 | 29.0 | 0.0 | 25.9 | 25.5 | 20.3 | 11.8 |
| Incr Delay (d2), s/veh | 1.7 | 1.3 | 1.3 | 10.0 | 0.6 | 0.7 | 13.7 | 0.0 | 3.7 | 2.1 | 0.2 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 3.5 | 4.5 | 4.6 | 1.5 | 2.8 | 3.0 | 0.6 | 0.0 | 1.6 | 1.8 | 0.7 | 1.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 23.5 | 15.9 | 15.9 | 37.7 | 20.5 | 15.6 | 42.7 | 0.0 | 29.6 | 27.6 | 20.6 | 12.0 |
| LnGrp LOS | C | B | B | D | C | B | D | A | C | C | C | B |
| Approach Vol, veh/h | | 1669 | | | 923 | | | 141 | | | 750 | |
| Approach Delay, s/veh | | 18.8 | | | 20.6 | | | 32.7 | | | 18.6 | |
| Approach LOS | | B | | | C | | | C | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 8.5 | 29.4 | 6.2 | 16.1 | 18.3 | 19.6 | 11.6 | 10.7 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 10.5 | 40.9 | 5.5 | 25.1 | 22.5 | 28.9 | 12.5 | 18.1 |
| Max Q Clear Time (g_c+I1), s | 5.1 | 16.6 | 3.1 | 8.1 | 12.2 | 11.2 | 6.7 | 5.7 |
| Green Ext Time (p_c), s | 0.1 | 6.2 | 0.0 | 1.8 | 1.7 | 3.9 | 0.5 | 0.4 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 19.8 |
| HCM 6th LOS | B |

HCM 6th Signalized Intersection Summary
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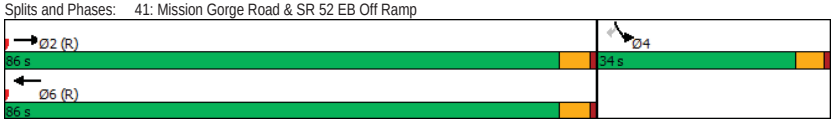
2035 PM
41: Mission Gorge Road & SR 52 EB Off Ramp

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 1195 | 815 | 0 | 345 | 65 |
| Future Volume (vph) | 0 | 1195 | 815 | 0 | 345 | 65 |
| Confl. Peds. (#/hr) | | | | | | |
| Confl. Bikes (#/hr) | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | | NA | NA | | Prot | Perm |
| Protected Phases | | 2 | 6 | | 4 | |
| Permitted Phases | | | | | | 4 |
| Detector Phase | | 2 | 6 | | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | | 6.0 | 11.0 | | 10.0 | 10.0 |
| Minimum Split (s) | | 20.0 | 20.0 | | 20.0 | 20.0 |
| Total Split (s) | | 86.0 | 86.0 | | 34.0 | 34.0 |
| Total Split (%) | | 71.7% | 71.7% | | 28.3% | 28.3% |
| Yellow Time (s) | | 4.4 | 4.4 | | 4.1 | 4.1 |
| All-Red Time (s) | | 1.0 | 1.0 | | 1.0 | 1.0 |
| Lost Time Adjust (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | | 5.4 | 5.4 | | 5.1 | 5.1 |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | | C-Min | C-Min | | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green, Master Intersection |
| Natural Cycle: 45 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 41: Mission Gorge Road & SR 52 EB Off Ramp




Timings
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| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 1195 | 815 | 0 | 345 | 65 |
| Future Volume (veh/h) | 0 | 1195 | 815 | 0 | 345 | 65 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 0 | 1870 | 1870 | 0 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 1299 | 886 | 0 | 375 | 71 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 0 | 2 | 2 | 0 | 2 | 2 |
| Cap, veh/h | 0 | 2768 | 2768 | 0 | 462 | 212 |
| Arrive On Green | 0.00 | 0.78 | 1.00 | 0.00 | 0.13 | 0.13 |
| Sat Flow, veh/h | 0 | 3741 | 3741 | 0 | 3456 | 1585 |
| Grp Volume(v), veh/h | 0 | 1299 | 886 | 0 | 375 | 71 |
| Grp Sat Flow(s),veh/h/ln | 0 | 1777 | 1777 | 0 | 1728 | 1585 |
| Q Serve(g_s), s | 0.0 | 15.3 | 0.0 | 0.0 | 12.7 | 4.9 |
| Cycle Q Clear(g_c), s | 0.0 | 15.3 | 0.0 | 0.0 | 12.7 | 4.9 |
| Prop In Lane | 0.00 | | | 0.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 0 | 2768 | 2768 | 0 | 462 | 212 |
| V/C Ratio(X) | 0.00 | 0.47 | 0.32 | 0.00 | 0.81 | 0.34 |
| Avail Cap(c_a), veh/h | 0 | 2768 | 2768 | 0 | 832 | 382 |
| HCM Platoon Ratio | 1.00 | 1.00 | 2.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.00 | 1.00 | 0.93 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 0.0 | 4.6 | 0.0 | 0.0 | 50.5 | 47.1 |
| Incr Delay (d2), s/veh | 0.0 | 0.6 | 0.3 | 0.0 | 3.5 | 0.9 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 4.8 | 0.1 | 0.0 | 5.7 | 2.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 5.2 | 0.3 | 0.0 | 54.0 | 48.1 |
| LnGrp LOS | A | A | A | A | D | D |
| Approach Vol, veh/h | | 1299 | 886 | | 446 | |
| Approach Delay, s/veh | | 5.2 | 0.3 | | 53.1 | |
| Approach LOS | | A | A | | D | |

| Timer - Assigned Phs | | 2 | | 4 | | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 98.9 | | 21.1 | | 98.9 |
| Change Period (Y+Rc), s | | 5.4 | | 5.1 | | 5.4 |
| Max Green Setting (Gmax), s | | 80.6 | | 28.9 | | 80.6 |
| Max Q Clear Time (g_c+I1), s | | 17.3 | | 14.7 | | 2.0 |
| Green Ext Time (p_c), s | | 14.7 | | 1.4 | | 7.2 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 11.7 |
| HCM 6th LOS | B |

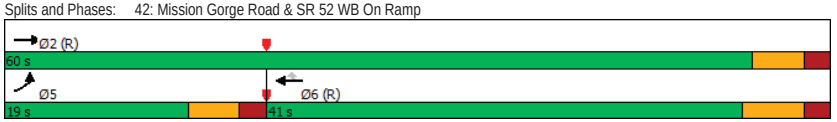




| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 100 | 1440 | 815 | 250 | 0 | 0 |
| Future Volume (vph) | 100 | 1440 | 815 | 250 | 0 | 0 |
| Confl. Peds. (#/hr) | | | | | | |
| Confl. Bikes (#/hr) | | | | 1 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | |
| Shared Lane Traffic (%) | | | | 10% | | |
| Turn Type | Prot | NA | NA | Perm | | |
| Protected Phases | 5 | 2 | 6 | | | |
| Permitted Phases | | | | 6 | | |
| Detector Phase | 5 | 2 | 6 | 6 | | |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 10.0 | 10.0 | | |
| Minimum Split (s) | 10.7 | 21.0 | 22.4 | 22.4 | | |
| Total Split (s) | 19.0 | 60.0 | 41.0 | 41.0 | | |
| Total Split (%) | 31.7% | 100.0% | 68.3% | 68.3% | | |
| Yellow Time (s) | 3.7 | 3.7 | 4.4 | 4.4 | | |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | | |
| Total Lost Time (s) | 5.7 | 5.7 | 6.4 | 6.4 | | |
| Lead/Lag | Lead | | Lag | Lag | | |
| Lead-Lag Optimize? | Yes | | Yes | Yes | | |
| Recall Mode | None | C-Min | C-Min | C-Min | | |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 60 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 40 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 42: Mission Gorge Road & SR 52 WB On Ramp



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 100 | 1440 | 815 | 250 | 0 | 0 |
| Future Volume (veh/h) | 100 | 1440 | 815 | 250 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 0.98 | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Work Zone On Approach | | No | No | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | | |
| Adj Flow Rate, veh/h | 109 | 1565 | 886 | 272 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | | |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | | |
| Cap, veh/h | 141 | 3175 | 2691 | 1117 | | |
| Arrive On Green | 0.16 | 1.00 | 0.96 | 0.96 | | |
| Sat Flow, veh/h | 1781 | 3647 | 3741 | 1553 | | |
| Grp Volume(v), veh/h | 109 | 1565 | 886 | 272 | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1870 | 1553 | | |
| Q Serve(g_s), s | 3.5 | 0.0 | 0.9 | 0.6 | | |
| Cycle Q Clear(g_c), s | 3.5 | 0.0 | 0.9 | 0.6 | | |
| Prop In Lane | 1.00 | | | 1.00 | | |
| Lane Grp Cap(c), veh/h | 141 | 3175 | 2691 | 1117 | | |
| V/C Ratio(X) | 0.78 | 0.49 | 0.33 | 0.24 | | |
| Avail Cap(c_a), veh/h | 395 | 3216 | 2691 | 1117 | | |
| HCM Platoon Ratio | 2.00 | 2.00 | 1.33 | 1.33 | | |
| Upstream Filter(I) | 0.83 | 0.83 | 0.96 | 0.96 | | |
| Uniform Delay (d), s/veh | 24.8 | 0.0 | 0.4 | 0.4 | | |
| Incr Delay (d2), s/veh | 7.4 | 0.5 | 0.3 | 0.5 | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | | |
| %ile BackOfQ(50%),veh/ln | 1.6 | 0.2 | 0.2 | 0.2 | | |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 32.1 | 0.5 | 0.7 | 0.9 | | |
| LnGrp LOS | C | A | A | A | | |
| Approach Vol, veh/h | | 1674 | 1158 | | | |
| Approach Delay, s/veh | | 2.5 | 0.7 | | | |
| Approach LOS | | A | A | | | |

| Timer - Assigned Phs | 2 | | | 5 | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 60.0 | | | 10.4 | 49.6 |
| Change Period (Y+Rc), s | * 6.4 | | | * 5.7 | 6.4 |
| Max Green Setting (Gmax), s | * 54 | | | * 13 | 34.6 |
| Max Q Clear Time (g_c+I1), s | 2.0 | | | 5.5 | 2.9 |
| Green Ext Time (p_c), s | 4.5 | | | 0.1 | 8.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 1.8 |
| HCM 6th LOS | A |

**Notes**

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

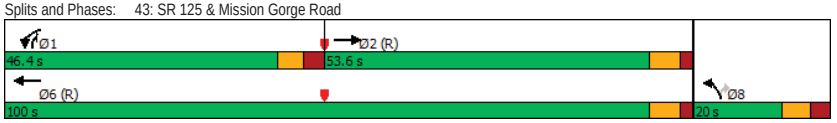




| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 1190 | 250 | 870 | 1020 | 180 | 1120 |
| Future Volume (vph) | 1190 | 250 | 870 | 1020 | 180 | 1120 |
| Confl. Peds. (#/hr) | | 5 | | | | |
| Confl. Bikes (#/hr) | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | NA | | Prot | NA | Prot | pm+ov |
| Protected Phases | 2 | | 1 | 6 | 8 | 1 |
| Permitted Phases | | | | | | 8 |
| Detector Phase | 2 | | 1 | 6 | 8 | 1 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 11.0 | | 5.0 | 10.0 | 5.0 | 5.0 |
| Minimum Split (s) | 17.4 | | 11.7 | 20.0 | 20.0 | 11.7 |
| Total Split (s) | 53.6 | | 46.4 | 100.0 | 20.0 | 46.4 |
| Total Split (%) | 44.7% | | 38.7% | 83.3% | 16.7% | 38.7% |
| Yellow Time (s) | 4.4 | | 3.7 | 4.4 | 4.1 | 3.7 |
| All-Red Time (s) | 2.0 | | 3.0 | 2.0 | 3.0 | 3.0 |
| Lost Time Adjust (s) | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.4 | | 6.7 | 6.4 | 7.1 | 6.7 |
| Lead/Lag | Lag | | Lead | | | Lead |
| Lead-Lag Optimize? | Yes | | Yes | | | Yes |
| Recall Mode | C-Max | | None | C-Max | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 107 (89%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 90 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 43: SR 125 & Mission Gorge Road



2035 PM
43: SR 125 & Mission Gorge Road

Fanita Ranch
06/06/2019

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 1190 | 250 | 870 | 1020 | 180 | 1120 |
| Future Volume (veh/h) | 1190 | 250 | 870 | 1020 | 180 | 1120 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | 0.99 | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 1293 | 272 | 946 | 1109 | 196 | 1217 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 1777 | 374 | 1048 | 3983 | 371 | 1146 |
| Arrive On Green | 0.84 | 0.84 | 0.10 | 0.26 | 0.11 | 0.11 |
| Sat Flow, veh/h | 4389 | 888 | 3456 | 5274 | 3456 | 2790 |
| Grp Volume(v), veh/h | 1043 | 522 | 946 | 1109 | 196 | 1217 |
| Grp Sat Flow(s),veh/h/ln | 1702 | 1704 | 1728 | 1702 | 1728 | 1395 |
| Q Serve(g_s), s | 15.0 | 15.0 | 32.5 | 20.8 | 6.4 | 12.9 |
| Cycle Q Clear(g_c), s | 15.0 | 15.0 | 32.5 | 20.8 | 6.4 | 12.9 |
| Prop In Lane | | 0.52 | 1.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 1433 | 718 | 1048 | 3983 | 371 | 1146 |
| V/C Ratio(X) | 0.73 | 0.73 | 0.90 | 0.28 | 0.53 | 1.06 |
| Avail Cap(c_a), veh/h | 1433 | 718 | 1143 | 3983 | 371 | 1146 |
| HCM Platoon Ratio | 2.00 | 2.00 | 0.33 | 0.33 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.90 | 0.90 | 0.92 | 0.92 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 6.7 | 6.7 | 52.3 | 17.5 | 50.7 | 35.4 |
| Incr Delay (d2), s/veh | 2.9 | 5.8 | 8.9 | 0.2 | 1.4 | 44.8 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 3.1 | 3.6 | 16.3 | 9.5 | 2.9 | 23.4 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 9.6 | 12.4 | 61.2 | 17.7 | 52.1 | 80.2 |
| LnGrp LOS | A | B | E | B | D | F |
| Approach Vol, veh/h | 1565 | | | 2055 | 1413 | |
| Approach Delay, s/veh | 10.6 | | | 37.7 | 76.3 | |
| Approach LOS | B | | | D | E | |

| Timer - Assigned Phs | 1 | 2 | | | | 6 | 8 |
|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 43.1 | 56.9 | | | | 100.0 | 20.0 |
| Change Period (Y+Rc), s | * 6.7 | 6.4 | | | | 6.4 | 7.1 |
| Max Green Setting (Gmax), s | * 40 | 47.2 | | | | 93.6 | 12.9 |
| Max Q Clear Time (g_c+I1), s | 34.5 | 17.0 | | | | 22.8 | 14.9 |
| Green Ext Time (p_c), s | 1.9 | 13.1 | | | | 9.8 | 0.0 |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 40.1 | |
| HCM 6th LOS | | D | |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
N:\2462\Analysis\Intersections\Synchro\Long-Term\10 2035 PM.syn

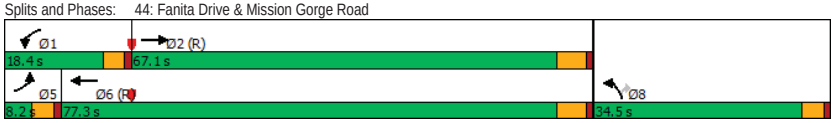
2035 PM
44: Fanita Drive & Mission Gorge Road

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 5 | 1820 | 460 | 330 | 1230 | 0 | 350 | 0 | 410 | 0 | 0 | 0 |
| Future Volume (vph) | 5 | 1820 | 460 | 330 | 1230 | 0 | 350 | 0 | 410 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | | | 6 | | | | | | | | | |
| Confl. Bikes (#/hr) | | | 4 | | | 3 | | | 3 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | | Perm | | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | | | | | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | | 8 | | | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 7.0 | | 7.0 | | | |
| Minimum Split (s) | 8.2 | 33.3 | | 8.2 | 20.0 | | 34.2 | | 34.2 | | | |
| Total Split (s) | 8.2 | 67.1 | | 18.4 | 77.3 | | 34.5 | | 34.5 | | | |
| Total Split (%) | 6.8% | 55.9% | | 15.3% | 64.4% | | 28.8% | | 28.8% | | | |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | | 3.2 | | 3.2 | | | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | | 1.0 | | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | | 0.0 | | | |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | | 4.2 | | 4.2 | | | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | | None | | | |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 9 (8%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 110 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 44: Fanita Drive & Mission Gorge Road




Timings
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2035 PM
44: Fanita Drive & Mission Gorge Road

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 5 | 1820 | 460 | 330 | 1230 | 0 | 350 | 0 | 410 | 0 | 0 | 0 |
| Future Volume (veh/h) | 5 | 1820 | 460 | 330 | 1230 | 0 | 350 | 0 | 410 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 1.00 | 1.00 | | 1.00 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 0 | 1870 | 0 | 1870 | | | |
| Adj Flow Rate, veh/h | 5 | 1978 | 500 | 359 | 1337 | 0 | 380 | 0 | 401 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 0 | 2 | 0 | 2 | | | |
| Cap, veh/h | 9 | 2101 | 507 | 409 | 3208 | 0 | 873 | 0 | 400 | | | |
| Arrive On Green | 0.00 | 0.35 | 0.35 | 0.12 | 0.63 | 0.00 | 0.25 | 0.00 | 0.25 | | | |
| Sat Flow, veh/h | 1781 | 4079 | 984 | 3456 | 5274 | 0 | 3456 | 0 | 1585 | | | |
| Grp Volume(v), veh/h | 5 | 1635 | 843 | 359 | 1337 | 0 | 380 | 0 | 401 | | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1702 | 1659 | 1728 | 1702 | 0 | 1728 | 0 | 1585 | | | |
| Q Serve(g_s), s | 0.3 | 55.7 | 60.6 | 12.3 | 15.8 | 0.0 | 11.1 | 0.0 | 30.3 | | | |
| Cycle Q Clear(g_c), s | 0.3 | 55.7 | 60.6 | 12.3 | 15.8 | 0.0 | 11.1 | 0.0 | 30.3 | | | |
| Prop In Lane | 1.00 | | 0.59 | 1.00 | | 0.00 | 1.00 | | 1.00 | | | |
| Lane Grp Cap(c), veh/h | 9 | 1753 | 854 | 409 | 3208 | 0 | 873 | 0 | 400 | | | |
| V/C Ratio(X) | 0.55 | 0.93 | 0.99 | 0.88 | 0.42 | 0.00 | 0.44 | 0.00 | 1.00 | | | |
| Avail Cap(c_a), veh/h | 59 | 1753 | 854 | 409 | 3208 | 0 | 873 | 0 | 400 | | | |
| HCM Platoon Ratio | 0.67 | 0.67 | 0.67 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 0.45 | 0.45 | 0.45 | 0.59 | 0.59 | 0.00 | 1.00 | 0.00 | 1.00 | | | |
| Uniform Delay (d), s/veh | 59.7 | 37.3 | 38.9 | 52.0 | 11.2 | 0.0 | 37.7 | 0.0 | 44.8 | | | |
| Incr Delay (d2), s/veh | 21.1 | 5.4 | 17.8 | 11.9 | 0.2 | 0.0 | 0.4 | 0.0 | 45.5 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ln | 0.2 | 24.9 | 29.2 | 5.9 | 5.5 | 0.0 | 4.6 | 0.0 | 16.6 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 80.8 | 42.7 | 56.7 | 63.9 | 11.5 | 0.0 | 38.1 | 0.0 | 90.3 | | | |
| LnGrp LOS | F | D | E | E | B | A | D | A | F | | | |
| Approach Vol, veh/h | | 2483 | | | 1696 | | | 781 | | | | |
| Approach Delay, s/veh | | 47.5 | | | 22.6 | | | 64.9 | | | | |
| Approach LOS | | D | | | C | | | E | | | | |

| Timer - Assigned Phs | 1 | 2 | | | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 18.4 | 67.1 | | | 4.8 | 80.7 | | 34.5 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | | | * 4.2 | 5.3 | | 4.2 | | | | |
| Max Green Setting (Gmax), s | * 14 | 61.8 | | | * 4 | 72.0 | | 30.3 | | | | |
| Max Q Clear Time (g_c+I1), s | 14.3 | 62.6 | | | 2.3 | 17.8 | | 32.3 | | | | |
| Green Ext Time (p_c), s | 0.0 | 0.0 | | | 0.0 | 15.3 | | 0.0 | | | | |

| Intersection Summary | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HCM 6th Ctrl Delay | | | 41.7 | | | | | | | | | |
| HCM 6th LOS | | | D | | | | | | | | | |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



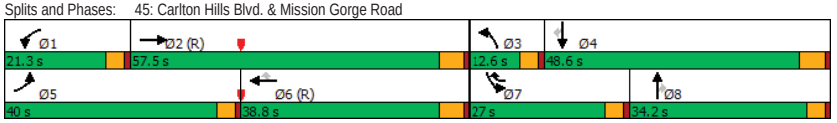
2035 PM
45: Carlton Hills Blvd. & Mission Gorge Road

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 840 | 1300 | 150 | 150 | 995 | 625 | 60 | 90 | 25 | 435 | 140 | 600 |
| Future Volume (vph) | 840 | 1300 | 150 | 150 | 995 | 625 | 60 | 90 | 25 | 435 | 140 | 600 |
| Confl. Peds. (#/hr) | | | 8 | | | | | | 8 | | | 2 |
| Confl. Bikes (#/hr) | | | 1 | | | 2 | | | 1 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | 40% |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | 6 | | | 8 | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | 8 | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 23.3 | | 8.2 | 34.3 | 8.2 | 8.2 | 34.2 | 34.2 | 8.2 | 32.4 | 32.4 |
| Total Split (s) | 40.0 | 57.5 | | 21.3 | 38.8 | 27.0 | 12.6 | 34.2 | 34.2 | 27.0 | 48.6 | 48.6 |
| Total Split (%) | 28.6% | 41.1% | | 15.2% | 27.7% | 19.3% | 9.0% | 24.4% | 24.4% | 19.3% | 34.7% | 34.7% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | 3.2 | 3.2 | 3.2 | 3.2 | 3.2 | 4.4 | 4.4 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | 4.2 | 4.2 | 4.2 | 4.2 | 4.2 | 5.4 | 5.4 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | C-Min | | None | C-Min | None | None | None | None | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 140 |
| Actuated Cycle Length: 140 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 125 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 45: Carlton Hills Blvd. & Mission Gorge Road



2035 PM
45: Carlton Hills Blvd. & Mission Gorge Road

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 840 | 1300 | 150 | 150 | 995 | 625 | 60 | 90 | 25 | 435 | 140 | 600 |
| Future Volume (veh/h) | 840 | 1300 | 150 | 150 | 995 | 625 | 60 | 90 | 25 | 435 | 140 | 600 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.99 | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 913 | 1413 | 163 | 163 | 1082 | 679 | 65 | 98 | 27 | 473 | 479 | 370 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 884 | 2003 | 231 | 186 | 1440 | 674 | 83 | 335 | 276 | 524 | 523 | 442 |
| Arrive On Green | 0.26 | 0.43 | 0.43 | 0.10 | 0.28 | 0.28 | 0.05 | 0.18 | 0.18 | 0.15 | 0.28 | 0.28 |
| Sat Flow, veh/h | 3456 | 4626 | 533 | 1781 | 5106 | 1564 | 1781 | 1870 | 1543 | 3563 | 1870 | 1582 |
| Grp Volume(v), veh/h | 913 | 1040 | 536 | 163 | 1082 | 679 | 65 | 98 | 27 | 473 | 479 | 370 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1702 | 1755 | 1781 | 1702 | 1564 | 1781 | 1870 | 1543 | 1781 | 1870 | 1582 |
| Q Serve(g_s), s | 35.8 | 34.9 | 34.9 | 12.6 | 27.0 | 39.5 | 5.1 | 6.4 | 2.0 | 18.3 | 34.7 | 30.8 |
| Cycle Q Clear(g_c), s | 35.8 | 34.9 | 34.9 | 12.6 | 27.0 | 39.5 | 5.1 | 6.4 | 2.0 | 18.3 | 34.7 | 30.8 |
| Prop In Lane | 1.00 | | 0.30 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 884 | 1474 | 760 | 186 | 1440 | 674 | 83 | 335 | 276 | 524 | 523 | 442 |
| V/C Ratio(X) | 1.03 | 0.71 | 0.71 | 0.87 | 0.75 | 1.01 | 0.79 | 0.29 | 0.10 | 0.90 | 0.92 | 0.84 |
| Avail Cap(c_a), veh/h | 884 | 1474 | 760 | 218 | 1440 | 674 | 107 | 401 | 331 | 580 | 577 | 488 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.25 | 0.25 | 0.25 | 0.73 | 0.73 | 0.73 | 1.00 | 1.00 | 1.00 | 0.74 | 0.74 | 0.74 |
| Uniform Delay (d), s/veh | 52.1 | 32.4 | 32.4 | 61.8 | 45.8 | 40.1 | 66.1 | 49.8 | 48.0 | 58.7 | 48.9 | 47.4 |
| Incr Delay (d2), s/veh | 24.6 | 0.7 | 1.4 | 19.6 | 2.7 | 31.5 | 24.5 | 0.2 | 0.1 | 12.2 | 14.7 | 8.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 18.2 | 14.1 | 14.7 | 6.7 | 11.6 | 28.7 | 2.9 | 3.0 | 0.8 | 9.1 | 18.2 | 13.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 76.7 | 33.1 | 33.8 | 81.4 | 48.5 | 71.5 | 90.6 | 50.0 | 48.1 | 70.9 | 63.6 | 56.1 |
| LnGrp LOS | F | C | C | F | D | F | F | D | D | E | E | E |
| Approach Vol, veh/h | | 2489 | | | 1924 | | | 190 | | | 1322 | |
| Approach Delay, s/veh | | 49.2 | | | 59.4 | | | 63.6 | | | 64.1 | |
| Approach LOS | | D | | | E | | | E | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 18.8 | 65.9 | 10.7 | 44.5 | 40.0 | 44.8 | 24.8 | 30.4 |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | * 4.2 | 5.4 | * 4.2 | 5.3 | * 4.2 | * 5.4 |
| Max Green Setting (Gmax), s | * 17 | 52.2 | * 8.4 | 43.2 | * 36 | 33.5 | * 23 | * 30 |
| Max Q Clear Time (g_c+I1), s | 14.6 | 36.9 | 7.1 | 36.7 | 37.8 | 41.5 | 20.3 | 8.4 |
| Green Ext Time (p_c), s | 0.0 | 9.7 | 0.0 | 2.4 | 0.0 | 0.0 | 0.3 | 0.3 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 56.3 |
| HCM 6th LOS | E |

Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
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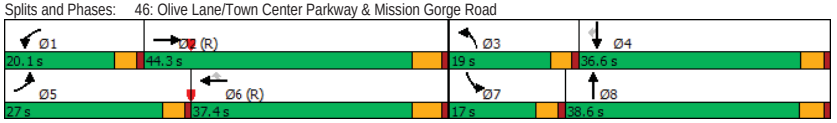
2035 PM
46: Olive Lane/Town Center Parkway & Mission Gorge Road

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 620 | 1110 | 220 | 195 | 680 | 375 | 390 | 290 | 200 | 340 | 190 | 540 |
| Future Volume (vph) | 620 | 1110 | 220 | 195 | 680 | 375 | 390 | 290 | 200 | 340 | 190 | 540 |
| Confl. Peds. (#/hr) | | | 9 | | | 16 | | | 3 | | | 6 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | Perm | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | 10.0 | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 26.3 | | 8.2 | 36.3 | 36.3 | 8.2 | 34.6 | | 8.2 | 36.5 | 36.5 |
| Total Split (s) | 27.0 | 44.3 | | 20.1 | 37.4 | 37.4 | 19.0 | 38.6 | | 17.0 | 36.6 | 36.6 |
| Total Split (%) | 22.5% | 36.9% | | 16.8% | 31.2% | 31.2% | 15.8% | 32.2% | | 14.2% | 30.5% | 30.5% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | 4.3 | 3.2 | 3.6 | | 3.2 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | 5.3 | 4.2 | 4.6 | | 4.2 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | C-Min | | None | C-Min | C-Min | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 61 (51%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 120 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 46: Olive Lane/Town Center Parkway & Mission Gorge Road




Timings
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2035 PM
46: Olive Lane/Town Center Parkway & Mission Gorge Road

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 620 | 1110 | 220 | 195 | 680 | 375 | 390 | 290 | 200 | 340 | 190 | 540 |
| Future Volume (veh/h) | 620 | 1110 | 220 | 195 | 680 | 375 | 390 | 290 | 200 | 340 | 190 | 540 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 1.00 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 674 | 1207 | 239 | 212 | 739 | 408 | 424 | 315 | 217 | 370 | 207 | 587 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 657 | 1386 | 274 | 236 | 1366 | 416 | 426 | 292 | 201 | 369 | 499 | 739 |
| Arrive On Green | 0.19 | 0.33 | 0.33 | 0.13 | 0.27 | 0.27 | 0.12 | 0.28 | 0.28 | 0.11 | 0.27 | 0.27 |
| Sat Flow, veh/h | 3456 | 4264 | 844 | 1781 | 5106 | 1557 | 3456 | 1030 | 710 | 3456 | 1870 | 2771 |
| Grp Volume(v), veh/h | 674 | 964 | 482 | 212 | 739 | 408 | 424 | 0 | 532 | 370 | 207 | 587 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1702 | 1704 | 1781 | 1702 | 1557 | 1728 | 0 | 1740 | 1728 | 1870 | 1385 |
| Q Serve(g_s), s | 22.8 | 32.0 | 32.0 | 14.1 | 14.9 | 31.2 | 14.7 | 0.0 | 34.0 | 12.8 | 11.0 | 23.7 |
| Cycle Q Clear(g_c), s | 22.8 | 32.0 | 32.0 | 14.1 | 14.9 | 31.2 | 14.7 | 0.0 | 34.0 | 12.8 | 11.0 | 23.7 |
| Prop In Lane | 1.00 | | 0.50 | 1.00 | | 1.00 | 1.00 | | 0.41 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 657 | 1106 | 554 | 236 | 1366 | 416 | 426 | 0 | 493 | 369 | 499 | 739 |
| V/C Ratio(X) | 1.03 | 0.87 | 0.87 | 0.90 | 0.54 | 0.98 | 0.99 | 0.00 | 1.08 | 1.00 | 0.42 | 0.79 |
| Avail Cap(c_a), veh/h | 657 | 1106 | 554 | 236 | 1366 | 416 | 426 | 0 | 493 | 369 | 500 | 741 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.58 | 0.58 | 0.58 | 0.55 | 0.55 | 0.55 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 48.6 | 38.1 | 38.1 | 51.3 | 37.6 | 43.6 | 52.6 | 0.0 | 43.0 | 53.6 | 36.3 | 40.9 |
| Incr Delay (d2), s/veh | 33.7 | 5.8 | 10.7 | 20.7 | 0.9 | 28.2 | 42.1 | 0.0 | 63.5 | 47.8 | 1.0 | 6.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 12.6 | 13.8 | 14.5 | 7.5 | 6.2 | 15.2 | 8.9 | 0.0 | 23.1 | 8.0 | 5.2 | 8.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 82.3 | 43.9 | 48.9 | 72.0 | 38.5 | 71.8 | 94.7 | 0.0 | 106.5 | 101.4 | 37.3 | 47.5 |
| LnGrp LOS | F | D | D | E | D | E | F | A | F | F | D | D |
| Approach Vol, veh/h | | 2120 | | | 1359 | | | 956 | | | 1164 | |
| Approach Delay, s/veh | | 57.3 | | | 53.7 | | | 101.3 | | | 62.9 | |
| Approach LOS | | E | | | D | | | F | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 20.1 | 44.3 | 19.0 | 36.6 | 27.0 | 37.4 | 17.0 | 38.6 |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | * 4.2 | * 4.6 | * 4.2 | 5.3 | * 4.2 | 4.6 |
| Max Green Setting (Gmax), s | * 16 | 39.0 | * 15 | * 32 | * 23 | 32.1 | * 13 | 34.0 |
| Max Q Clear Time (g_c+I1), s | 16.1 | 34.0 | 16.7 | 25.7 | 24.8 | 33.2 | 14.8 | 36.0 |
| Green Ext Time (p_c), s | 0.0 | 3.8 | 0.0 | 3.2 | 0.0 | 0.0 | 0.0 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 65.1 |
| HCM 6th LOS | E |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



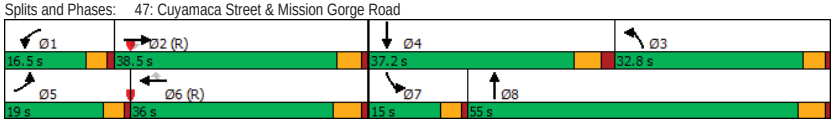
2035 PM
47: Cuyamaca Street & Mission Gorge Road

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 370 | 715 | 350 | 290 | 530 | 215 | 735 | 1025 | 350 | 345 | 870 | 215 |
| Future Volume (vph) | 370 | 715 | 350 | 290 | 530 | 215 | 735 | 1025 | 350 | 345 | 870 | 215 |
| Confl. Peds. (#/hr) | | | 31 | | | 31 | | | 34 | | | 23 |
| Confl. Bikes (#/hr) | | | 4 | | | 2 | | | 3 | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | 10.0 | 4.0 | 7.0 | | 4.0 | 15.0 | |
| Minimum Split (s) | 19.0 | 34.8 | 34.8 | 8.2 | 34.3 | 34.3 | 8.2 | 38.0 | | 8.2 | 37.0 | |
| Total Split (s) | 19.0 | 38.5 | 38.5 | 16.5 | 36.0 | 36.0 | 32.8 | 55.0 | | 15.0 | 37.2 | |
| Total Split (%) | 15.2% | 30.8% | 30.8% | 13.2% | 28.8% | 28.8% | 26.2% | 44.0% | | 12.0% | 29.8% | |
| Yellow Time (s) | 3.2 | 3.8 | 3.8 | 3.2 | 4.3 | 4.3 | 3.2 | 4.0 | | 3.2 | 4.0 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 2.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.2 | 4.8 | 4.8 | 4.2 | 5.3 | 5.3 | 4.2 | 5.0 | | 4.2 | 6.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lag | Lag | | Lead | Lead | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | C-Min | C-Min | None | C-Min | C-Min | None | None | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 125 |
| Actuated Cycle Length: 125 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green, Master Intersection |
| Natural Cycle: 140 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 47: Cuyamaca Street & Mission Gorge Road



2035 PM
47: Cuyamaca Street & Mission Gorge Road

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 370 | 715 | 350 | 290 | 530 | 215 | 735 | 1025 | 350 | 345 | 870 | 215 |
| Future Volume (veh/h) | 370 | 715 | 350 | 290 | 530 | 215 | 735 | 1025 | 350 | 345 | 870 | 215 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.96 | 1.00 | | 0.96 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1683 | 1683 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 402 | 777 | 380 | 315 | 576 | 234 | 799 | 1114 | 380 | 375 | 946 | 234 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 409 | 1325 | 391 | 340 | 1223 | 360 | 791 | 945 | 316 | 299 | 1008 | 248 |
| Arrive On Green | 0.12 | 0.26 | 0.26 | 0.10 | 0.24 | 0.24 | 0.23 | 0.41 | 0.41 | 0.09 | 0.25 | 0.25 |
| Sat Flow, veh/h | 3456 | 5106 | 1505 | 3456 | 5106 | 1503 | 3456 | 2328 | 778 | 3456 | 4046 | 997 |
| Grp Volume(v), veh/h | 402 | 777 | 380 | 315 | 576 | 234 | 799 | 758 | 736 | 375 | 795 | 385 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1702 | 1505 | 1728 | 1702 | 1503 | 1728 | 1599 | 1507 | 1728 | 1702 | 1639 |
| Q Serve(g_s), s | 14.5 | 16.6 | 18.1 | 11.3 | 12.1 | 17.5 | 28.6 | 50.8 | 50.8 | 10.8 | 28.6 | 28.8 |
| Cycle Q Clear(g_c), s | 14.5 | 16.6 | 18.1 | 11.3 | 12.1 | 17.5 | 28.6 | 50.8 | 50.8 | 10.8 | 28.6 | 28.8 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.52 | 1.00 | | 0.61 |
| Lane Grp Cap(c), veh/h | 409 | 1325 | 391 | 340 | 1223 | 360 | 791 | 649 | 612 | 299 | 848 | 408 |
| V/C Ratio(X) | 0.98 | 0.59 | 0.97 | 0.93 | 0.47 | 0.65 | 1.01 | 1.17 | 1.20 | 1.26 | 0.94 | 0.94 |
| Avail Cap(c_a), veh/h | 409 | 1377 | 406 | 340 | 1254 | 369 | 791 | 649 | 612 | 299 | 850 | 409 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.28 | 0.28 | 0.28 | 0.86 | 0.86 | 0.86 | 0.09 | 0.09 | 0.09 | 0.78 | 0.78 | 0.78 |
| Uniform Delay (d), s/veh | 55.0 | 40.4 | 15.4 | 55.9 | 40.7 | 42.8 | 48.2 | 37.1 | 37.1 | 57.1 | 46.0 | 46.0 |
| Incr Delay (d2), s/veh | 19.4 | 0.5 | 18.4 | 27.2 | 1.1 | 7.6 | 12.3 | 76.9 | 93.0 | 134.9 | 15.3 | 26.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 7.3 | 6.9 | 8.0 | 6.1 | 5.1 | 7.2 | 13.5 | 33.0 | 33.9 | 10.3 | 13.7 | 14.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 74.3 | 41.0 | 33.8 | 83.1 | 41.9 | 50.4 | 60.5 | 114.0 | 130.1 | 192.0 | 61.3 | 72.5 |
| LnGrp LOS | E | D | C | F | D | D | F | F | F | F | E | E |
| Approach Vol, veh/h | | 1559 | | | 1125 | | | 2293 | | | 1555 | |
| Approach Delay, s/veh | | 47.8 | | | 55.2 | | | 100.6 | | | 95.6 | |
| Approach LOS | | D | | | E | | | F | | | F | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 16.5 | 37.7 | 33.6 | 37.2 | 19.0 | 35.2 | 15.0 | 55.8 |
| Change Period (Y+Rc), s | * 4.2 | * 5.3 | 5.0 | * 6 | * 4.2 | 5.3 | * 4.2 | 5.0 |
| Max Green Setting (Gmax), s | * 12 | * 34 | 28.6 | * 31 | * 15 | 30.7 | * 11 | 50.0 |
| Max Q Clear Time (g_c+I1), s | 13.3 | 20.1 | 30.6 | 30.8 | 16.5 | 19.5 | 12.8 | 52.8 |
| Green Ext Time (p_c), s | 0.0 | 9.8 | 0.0 | 0.4 | 0.0 | 5.1 | 0.0 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 79.0 |
| HCM 6th LOS | E |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



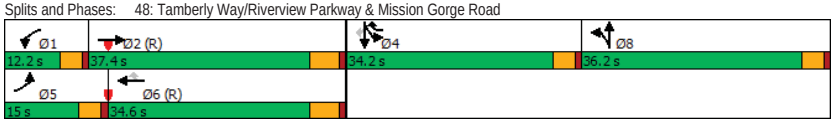
2035 PM
48: Tamberly Way/Riverview Parkway & Mission Gorge Road

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 210 | 1050 | 75 | 90 | 850 | 235 | 55 | 30 | 45 | 350 | 20 | 205 |
| Future Volume (vph) | 210 | 1050 | 75 | 90 | 850 | 235 | 55 | 30 | 45 | 350 | 20 | 205 |
| Confl. Peds. (#/hr) | | | 13 | | | 13 | | | 10 | | | 8 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | 2 | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | 47% | | |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Split | NA | | Split | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 4 | 8 | 8 | | 4 | 4 | |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 4 | 8 | 8 | | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | 7.0 | 4.0 | 4.0 | | 7.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 23.3 | | 8.2 | 34.3 | 34.2 | 36.2 | 36.2 | | 34.2 | 34.2 | 34.2 |
| Total Split (s) | 15.0 | 37.4 | | 12.2 | 34.6 | 34.2 | 36.2 | 36.2 | | 34.2 | 34.2 | 34.2 |
| Total Split (%) | 12.5% | 31.2% | | 10.2% | 28.8% | 28.5% | 30.2% | 30.2% | | 28.5% | 28.5% | 28.5% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | 3.2 | 3.2 | 3.2 | | 3.2 | 3.2 | 3.2 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | 4.2 | 4.2 | 4.2 | | 4.2 | 4.2 | 4.2 |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | None | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 34 (28%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 125 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 48: Tamberly Way/Riverview Parkway & Mission Gorge Road



2035 PM
48: Tamberly Way/Riverview Parkway & Mission Gorge Road

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 210 | 1050 | 75 | 90 | 850 | 235 | 55 | 30 | 45 | 350 | 20 | 205 |
| Future Volume (veh/h) | 210 | 1050 | 75 | 90 | 850 | 235 | 55 | 30 | 45 | 350 | 20 | 205 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.95 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 228 | 1141 | 82 | 98 | 924 | 255 | 60 | 33 | 49 | 396 | 0 | 223 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 160 | 2481 | 178 | 119 | 2489 | 1035 | 174 | 65 | 96 | 625 | 0 | 271 |
| Arrive On Green | 0.09 | 0.51 | 0.51 | 0.07 | 0.49 | 0.49 | 0.10 | 0.10 | 0.10 | 0.18 | 0.00 | 0.18 |
| Sat Flow, veh/h | 1781 | 4857 | 349 | 1781 | 5106 | 1553 | 1781 | 659 | 979 | 3563 | 0 | 1541 |
| Grp Volume(v), veh/h | 228 | 799 | 424 | 98 | 924 | 255 | 60 | 0 | 82 | 396 | 0 | 223 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1702 | 1802 | 1781 | 1702 | 1553 | 1781 | 0 | 1638 | 1781 | 0 | 1541 |
| Q Serve(g_s), s | 10.8 | 18.0 | 18.0 | 6.5 | 13.6 | 7.9 | 3.8 | 0.0 | 5.7 | 12.4 | 0.0 | 16.7 |
| Cycle Q Clear(g_c), s | 10.8 | 18.0 | 18.0 | 6.5 | 13.6 | 7.9 | 3.8 | 0.0 | 5.7 | 12.4 | 0.0 | 16.7 |
| Prop In Lane | 1.00 | | 0.19 | 1.00 | | 1.00 | 1.00 | | 0.60 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 160 | 1739 | 920 | 119 | 2489 | 1035 | 174 | 0 | 160 | 625 | 0 | 271 |
| V/C Ratio(X) | 1.42 | 0.46 | 0.46 | 0.83 | 0.37 | 0.25 | 0.34 | 0.00 | 0.51 | 0.63 | 0.00 | 0.82 |
| Avail Cap(c_a), veh/h | 160 | 1739 | 920 | 119 | 2489 | 1035 | 475 | 0 | 437 | 891 | 0 | 385 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.61 | 0.61 | 0.61 | 0.94 | 0.94 | 0.94 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 54.6 | 18.8 | 18.8 | 55.3 | 19.2 | 8.2 | 50.5 | 0.0 | 51.4 | 45.9 | 0.0 | 47.7 |
| Incr Delay (d2), s/veh | 210.8 | 0.5 | 1.0 | 32.3 | 0.4 | 0.5 | 0.4 | 0.0 | 0.9 | 0.4 | 0.0 | 6.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 14.1 | 6.9 | 7.4 | 3.9 | 5.3 | 4.4 | 1.7 | 0.0 | 2.4 | 5.5 | 0.0 | 6.9 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 265.4 | 19.3 | 19.8 | 87.7 | 19.6 | 8.7 | 51.0 | 0.0 | 52.3 | 46.3 | 0.0 | 54.2 |
| LnGrp LOS | F | B | B | F | B | A | D | A | D | D | A | D |
| Approach Vol, veh/h | | 1451 | | | 1277 | | | 142 | | | 619 | |
| Approach Delay, s/veh | | 58.1 | | | 22.7 | | | 51.8 | | | 49.1 | |
| Approach LOS | | E | | | C | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 12.2 | 66.6 | | 25.3 | 15.0 | 63.8 | | 15.9 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | | * 4.2 | * 4.2 | 5.3 | | 4.2 | | | | |
| Max Green Setting (Gmax), s | * 8 | 32.1 | | * 30 | * 11 | 29.3 | | 32.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 8.5 | 20.0 | | 18.7 | 12.8 | 15.6 | | 7.7 | | | | |
| Green Ext Time (p_c), s | 0.0 | 8.5 | | 1.0 | 0.0 | 8.4 | | 0.4 | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 43.3 | |
| HCM 6th LOS | | D | |

**Notes**

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
N:\2462\Analysis\Intersections\Synchro\Long-Term\10 2035 PM.syn

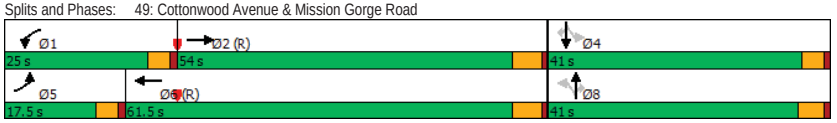
2035 PM
49: Cottonwood Avenue & Mission Gorge Road

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 85 | 1250 | 170 | 155 | 890 | 80 | 155 | 95 | 195 | 20 | 25 | 25 |
| Future Volume (vph) | 85 | 1250 | 170 | 155 | 890 | 80 | 155 | 95 | 195 | 20 | 25 | 25 |
| Confl. Peds. (#/hr) | | | 3 | | | 14 | | | 1 | | | 4 |
| Confl. Bikes (#/hr) | | | 3 | | | 1 | | | 2 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Perm | NA | Perm | Perm | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | 8 | 4 | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | 8 | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 4.0 | 4.0 | 4.0 | 7.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 23.3 | | 8.2 | 24.3 | | 33.8 | 33.8 | 33.8 | 32.2 | 32.2 | 32.2 |
| Total Split (s) | 17.5 | 54.0 | | 25.0 | 61.5 | | 41.0 | 41.0 | 41.0 | 41.0 | 41.0 | 41.0 |
| Total Split (%) | 14.6% | 45.0% | | 20.8% | 51.3% | | 34.2% | 34.2% | 34.2% | 34.2% | 34.2% | 34.2% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | | 3.8 | 3.8 | 3.8 | 3.2 | 3.2 | 3.2 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | | | 4.8 | 4.8 | | 4.2 | 4.2 |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | None | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 44 (37%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 80 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 49: Cottonwood Avenue & Mission Gorge Road




Timings
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2035 PM — Fanita Ranch

## 49: Cottonwood Avenue & Mission Gorge Road

06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 85 | 1250 | 170 | 155 | 890 | 80 | 155 | 95 | 195 | 20 | 25 | 25 |
| Future Volume (veh/h) | 85 | 1250 | 170 | 155 | 890 | 80 | 155 | 95 | 195 | 20 | 25 | 25 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.97 | 1.00 | | 0.99 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 92 | 1359 | 185 | 168 | 967 | 87 | 168 | 103 | 212 | 22 | 27 | 27 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 114 | 2097 | 285 | 198 | 2425 | 218 | 49 | 0 | 479 | 43 | 38 | 478 |
| Arrive On Green | 0.13 | 0.93 | 0.93 | 0.04 | 0.17 | 0.17 | 0.31 | 0.31 | 0.31 | 0.31 | 0.31 | 0.31 |
| Sat Flow, veh/h | 1781 | 4528 | 616 | 1781 | 4753 | 426 | 0 | 0 | 1562 | 0 | 125 | 1559 |
| Grp Volume(v), veh/h | 92 | 1022 | 522 | 168 | 692 | 362 | 271 | 0 | 212 | 49 | 0 | 27 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1702 | 1740 | 1781 | 1702 | 1776 | 0 | 0 | 1562 | 125 | 0 | 1559 |
| Q Serve(g_s), s | 6.0 | 6.6 | 6.7 | 11.3 | 21.7 | 21.8 | 0.0 | 0.0 | 13.1 | 0.0 | 0.0 | 1.5 |
| Cycle Q Clear(g_c), s | 6.0 | 6.6 | 6.7 | 11.3 | 21.7 | 21.8 | 36.8 | 0.0 | 13.1 | 36.8 | 0.0 | 1.5 |
| Prop In Lane | 1.00 | | 0.35 | 1.00 | | 0.24 | 0.62 | | 1.00 | 0.45 | | 1.00 |
| Lane Grp Cap(c), veh/h | 114 | 1576 | 806 | 198 | 1736 | 906 | 49 | 0 | 479 | 82 | 0 | 478 |
| V/C Ratio(X) | 0.81 | 0.65 | 0.65 | 0.85 | 0.40 | 0.40 | 5.58 | 0.00 | 0.44 | 0.60 | 0.00 | 0.06 |
| Avail Cap(c_a), veh/h | 197 | 1576 | 806 | 309 | 1736 | 906 | 49 | 0 | 479 | 82 | 0 | 478 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.84 | 0.84 | 0.84 | 0.38 | 0.38 | 0.38 | 0.97 | 0.00 | 0.97 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 51.6 | 2.6 | 2.6 | 56.8 | 33.5 | 33.5 | 60.0 | 0.0 | 33.4 | 34.5 | 0.0 | 29.4 |
| Incr Delay (d2), s/veh | 4.2 | 1.7 | 3.4 | 3.0 | 0.3 | 0.5 | 2102.3 | 0.0 | 0.2 | 8.3 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.6 | 1.4 | 1.8 | 5.5 | 9.9 | 10.5 | 29.9 | 0.0 | 5.0 | 1.2 | 0.0 | 0.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 55.8 | 4.4 | 6.0 | 59.8 | 33.7 | 34.0 | 2162.3 | 0.0 | 33.6 | 42.8 | 0.0 | 29.4 |
| LnGrp LOS | E | A | A | E | C | C | F | A | C | D | A | C |
| Approach Vol, veh/h | | 1636 | | | 1222 | | | 483 | | | 76 | |
| Approach Delay, s/veh | | 7.8 | | | 37.4 | | | 1227.9 | | | 38.1 | |
| Approach LOS | | A | | | D | | | F | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 17.5 | 60.9 | | 41.6 | 11.9 | 66.5 | | 41.6 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | | * 4.8 | * 4.2 | 5.3 | | * 4.8 | | | | |
| Max Green Setting (Gmax), s | * 21 | 48.7 | | * 37 | * 13 | 56.2 | | * 36 | | | | |
| Max Q Clear Time (g_c+I1), s | 13.3 | 8.7 | | 38.8 | 8.0 | 23.8 | | 38.8 | | | | |
| Green Ext Time (p_c), s | 0.1 | 11.7 | | 0.0 | 0.0 | 11.6 | | 0.0 | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 191.5 | |
| HCM 6th LOS | | F | |

**Notes**

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
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2035 PM — Fanita Ranch

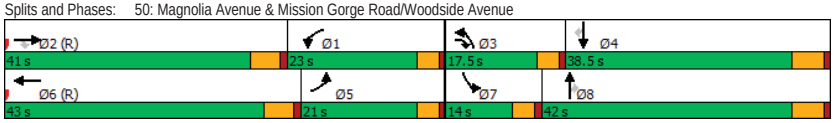
## 50: Magnolia Avenue & Mission Gorge Road/Woodside Avenue

06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 390 | 700 | 435 | 595 | 635 | 340 | 310 | 1110 | 495 | 285 | 650 | 215 |
| Future Volume (vph) | 390 | 700 | 435 | 595 | 635 | 340 | 310 | 1110 | 495 | 285 | 650 | 215 |
| Confl. Peds. (#/hr) | | | 2 | | | 9 | | | 13 | | | 1 |
| Confl. Bikes (#/hr) | | | 2 | | | 1 | | | 3 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | | | | 8 | | | 4 |
| Detector Phase | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | 8 | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 4.0 | 4.0 | 10.0 | | 4.0 | 7.0 | 7.0 | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 38.3 | 8.2 | 8.2 | 35.3 | | 8.2 | 34.7 | 34.7 | 8.2 | 35.7 | 35.7 |
| Total Split (s) | 21.0 | 41.0 | 17.5 | 23.0 | 43.0 | | 17.5 | 42.0 | 42.0 | 14.0 | 38.5 | 38.5 |
| Total Split (%) | 17.5% | 34.2% | 14.6% | 19.2% | 35.8% | | 14.6% | 35.0% | 35.0% | 11.7% | 32.1% | 32.1% |
| Yellow Time (s) | 3.2 | 4.3 | 3.2 | 3.2 | 4.3 | | 3.2 | 4.7 | 4.7 | 3.2 | 4.7 | 4.7 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | 4.2 | 4.2 | 5.3 | | 4.2 | 5.7 | 5.7 | 4.2 | 5.7 | 5.7 |
| Lead/Lag | Lag | Lead | Lead | Lag | Lead | | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | C-Min | None | None | C-Min | | None | None | None | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 79 (66%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 135 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 50: Magnolia Avenue & Mission Gorge Road/Woodside Avenue




Timings
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## 50: Magnolia Avenue & Mission Gorge Road/Woodside Avenue

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 390 | 700 | 435 | 595 | 635 | 340 | 310 | 1110 | 495 | 285 | 650 | 215 |
| Future Volume (veh/h) | 390 | 700 | 435 | 595 | 635 | 340 | 310 | 1110 | 495 | 285 | 650 | 215 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 424 | 761 | 473 | 647 | 690 | 370 | 337 | 1207 | 538 | 310 | 707 | 234 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 484 | 917 | 578 | 678 | 696 | 373 | 383 | 1075 | 467 | 282 | 971 | 433 |
| Arrive On Green | 0.23 | 0.43 | 0.43 | 0.20 | 0.31 | 0.31 | 0.22 | 0.60 | 0.60 | 0.08 | 0.27 | 0.27 |
| Sat Flow, veh/h | 3456 | 3554 | 1560 | 3456 | 2216 | 1187 | 3456 | 3554 | 1543 | 3456 | 3554 | 1583 |
| Grp Volume(v), veh/h | 424 | 761 | 473 | 647 | 553 | 507 | 337 | 1207 | 538 | 310 | 707 | 234 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1560 | 1728 | 1777 | 1626 | 1728 | 1777 | 1543 | 1728 | 1777 | 1583 |
| Q Serve(g_s), s | 14.2 | 22.8 | 18.1 | 22.2 | 37.2 | 37.3 | 11.3 | 36.3 | 21.8 | 9.8 | 21.7 | 10.5 |
| Cycle Q Clear(g_c), s | 14.2 | 22.8 | 18.1 | 22.2 | 37.2 | 37.3 | 11.3 | 36.3 | 21.8 | 9.8 | 21.7 | 10.5 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.73 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 484 | 917 | 578 | 678 | 558 | 511 | 383 | 1075 | 467 | 282 | 971 | 433 |
| V/C Ratio(X) | 0.88 | 0.83 | 0.82 | 0.95 | 0.99 | 0.99 | 0.88 | 1.12 | 1.15 | 1.10 | 0.73 | 0.54 |
| Avail Cap(c_a), veh/h | 484 | 1057 | 640 | 678 | 558 | 511 | 383 | 1075 | 467 | 282 | 971 | 433 |
| HCM Platoon Ratio | 1.67 | 1.67 | 1.67 | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.80 | 0.80 | 0.80 | 1.00 | 1.00 | 1.00 | 0.72 | 0.72 | 0.72 | 0.67 | 0.67 | 0.67 |
| Uniform Delay (d), s/veh | 45.0 | 31.8 | 10.2 | 47.7 | 41.0 | 41.0 | 45.9 | 23.7 | 8.5 | 55.1 | 39.6 | 17.9 |
| Incr Delay (d2), s/veh | 13.2 | 7.0 | 10.0 | 23.7 | 35.9 | 37.9 | 15.1 | 64.7 | 85.6 | 73.2 | 2.0 | 1.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 6.3 | 8.8 | 5.0 | 11.6 | 21.2 | 19.7 | 5.0 | 17.9 | 14.4 | 7.0 | 9.4 | 3.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 58.2 | 38.8 | 20.1 | 71.4 | 76.9 | 78.9 | 61.0 | 88.4 | 94.2 | 128.3 | 41.5 | 19.0 |
| LnGrp LOS | E | D | C | E | E | E | E | F | F | F | D | B |
| Approach Vol, veh/h | | 1658 | | | 1707 | | | 2082 | | | 1251 | |
| Approach Delay, s/veh | | 38.4 | | | 75.4 | | | 85.5 | | | 58.8 | |
| Approach LOS | | D | | | E | | | F | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 27.7 | 36.3 | 17.5 | 38.5 | 21.0 | 43.0 | 14.0 | 42.0 |
| Change Period (Y+Rc), s | 4.2 | * 5.3 | * 4.2 | 5.7 | 4.2 | * 5.3 | * 4.2 | 5.7 |
| Max Green Setting (Gmax), s | 18.8 | * 36 | * 13 | 32.8 | 16.8 | * 38 | * 9.8 | 36.3 |
| Max Q Clear Time (g_c+I1), s | 24.2 | 24.8 | 13.3 | 23.7 | 16.2 | 39.3 | 11.8 | 38.3 |
| Green Ext Time (p_c), s | 0.0 | 5.8 | 0.0 | 4.3 | 0.1 | 0.0 | 0.0 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 66.3 |
| HCM 6th LOS | E |

**Notes**

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.





## 51: Woodside Avenue & SR-67 SB Off-Ramp



| Intersection | |
|---|---|
| Intersection Delay, s/veh | 19.4 |
| Intersection LOS | C |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 35 | 260 | 230 | 5 | 0 | 190 | 0 | 0 | 10 | 550 | 10 |
| Future Vol, veh/h | 0 | 35 | 260 | 230 | 5 | 0 | 190 | 0 | 0 | 10 | 550 | 10 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 38 | 283 | 250 | 5 | 0 | 207 | 0 | 0 | 11 | 598 | 11 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 2 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay | 18.6 | 18.6 | 18.4 | 20.5 |
| HCM LOS | C | C | C | C |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 98% | 4% | 0% |
| Vol Thru, % | 0% | 100% | 12% | 2% | 96% | 96% |
| Vol Right, % | 0% | 0% | 88% | 0% | 0% | 4% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 190 | 0 | 295 | 235 | 285 | 285 |
| LT Vol | 190 | 0 | 0 | 230 | 10 | 0 |
| Through Vol | 0 | 0 | 35 | 5 | 275 | 275 |
| RT Vol | 0 | 0 | 260 | 0 | 0 | 10 |
| Lane Flow Rate | 207 | 0 | 321 | 255 | 310 | 310 |
| Geometry Grp | 7 | 7 | 2 | 2 | 7 | 7 |
| Degree of Util (X) | 0.475 | 0 | 0.586 | 0.527 | 0.613 | 0.609 |
| Departure Headway (Hd) | 8.286 | 7.769 | 6.578 | 7.426 | 7.126 | 7.083 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 434 | 0 | 545 | 483 | 505 | 508 |
| Service Time | 6.071 | 5.554 | 4.649 | 5.502 | 4.901 | 4.858 |
| HCM Lane V/C Ratio | 0.477 | 0 | 0.589 | 0.528 | 0.614 | 0.61 |
| HCM Control Delay | 18.4 | 10.6 | 18.6 | 18.6 | 20.6 | 20.4 |
| HCM Lane LOS | C | N | C | C | C | C |
| HCM 95th-tile Q | 2.5 | 0 | 3.7 | 3 | 4.1 | 4 |

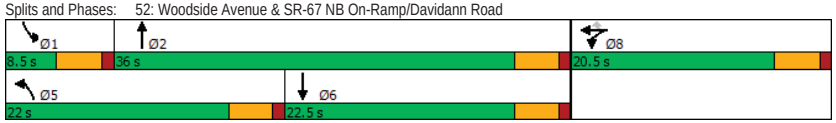
2035 PM
52: Woodside Avenue & SR-67 NB On-Ramp/Davidann Road

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 0 | 30 | 5 | 10 | 420 | 590 | 60 | 5 | 200 | 5 |
| Future Volume (vph) | 0 | 0 | 0 | 30 | 5 | 10 | 420 | 590 | 60 | 5 | 200 | 5 |
| Confl. Peds. (#/hr) | | | 2 | | | | | | 2 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 2 | | | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | | | | Split | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | | | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | 8 | | | | | | |
| Detector Phase | | | | 8 | 8 | 8 | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | | | | 20.5 | 20.5 | 20.5 | 8.5 | 22.5 | | 8.5 | 22.5 | |
| Total Split (s) | | | | 20.5 | 20.5 | 20.5 | 22.0 | 36.0 | | 8.5 | 22.5 | |
| Total Split (%) | | | | 31.5% | 31.5% | 31.5% | 33.8% | 55.4% | | 13.1% | 34.6% | |
| Yellow Time (s) | | | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | | | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | | | | | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | | | | | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | | | | None | None | None | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 65 |
| Actuated Cycle Length: 42 |
| Natural Cycle: 70 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 52: Woodside Avenue & SR-67 NB On-Ramp/Davidann Road






2035 PM
52: Woodside Avenue & SR-67 NB On-Ramp/Davidann Road

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 30 | 5 | 10 | 420 | 590 | 60 | 5 | 200 | 5 |
| Future Volume (veh/h) | 0 | 0 | 0 | 30 | 5 | 10 | 420 | 590 | 60 | 5 | 200 | 5 |
| Initial Q (Qb), veh | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | | | 1.00 | | 1.00 | 1.00 | | 0.98 | 1.00 | | 0.97 |
| Parking Bus, Adj | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | | | | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | | | | 33 | 5 | 11 | 457 | 641 | 65 | 5 | 217 | 5 |
| Peak Hour Factor | | | | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | | | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | | | | 69 | 10 | 70 | 575 | 871 | 88 | 10 | 374 | 9 |
| Arrive On Green | | | | 0.04 | 0.04 | 0.04 | 0.32 | 0.52 | 0.52 | 0.01 | 0.21 | 0.21 |
| Sat Flow, veh/h | | | | 1557 | 236 | 1585 | 1781 | 1666 | 169 | 1781 | 1820 | 42 |
| Grp Volume(v), veh/h | | | | 38 | 0 | 11 | 457 | 0 | 706 | 5 | 0 | 222 |
| Grp Sat Flow(s),veh/h/ln | | | | 1793 | 0 | 1585 | 1781 | 0 | 1835 | 1781 | 0 | 1862 |
| Q Serve(g_s), s | | | | 0.7 | 0.0 | 0.2 | 7.4 | 0.0 | 9.4 | 0.1 | 0.0 | 3.4 |
| Cycle Q Clear(g_c), s | | | | 0.7 | 0.0 | 0.2 | 7.4 | 0.0 | 9.4 | 0.1 | 0.0 | 3.4 |
| Prop In Lane | | | | 0.87 | | 1.00 | 1.00 | | 0.09 | 1.00 | | 0.02 |
| Lane Grp Cap(c), veh/h | | | | 79 | 0 | 70 | 575 | 0 | 960 | 10 | 0 | 382 |
| V/C Ratio(X) | | | | 0.48 | 0.00 | 0.16 | 0.79 | 0.00 | 0.74 | 0.52 | 0.00 | 0.58 |
| Avail Cap(c_a), veh/h | | | | 908 | 0 | 803 | 987 | 0 | 1830 | 226 | 0 | 1061 |
| HCM Platoon Ratio | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | | | | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | | | | 14.7 | 0.0 | 14.5 | 9.7 | 0.0 | 5.8 | 15.7 | 0.0 | 11.3 |
| Incr Delay (d2), s/veh | | | | 4.4 | 0.0 | 1.0 | 2.5 | 0.0 | 1.1 | 36.7 | 0.0 | 1.4 |
| Initial Q Delay(d3),s/veh | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | | 0.3 | 0.0 | 0.1 | 2.3 | 0.0 | 1.8 | 0.1 | 0.0 | 1.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | 19.2 | 0.0 | 15.6 | 12.3 | 0.0 | 7.0 | 52.4 | 0.0 | 12.7 |
| LnGrp LOS | | | | B | A | B | B | A | A | D | A | B |
| Approach Vol, veh/h | | | | | 49 | | | 1163 | | | 227 | |
| Approach Delay, s/veh | | | | | 18.4 | | | 9.1 | | | 13.6 | |
| Approach LOS | | | | | B | | | A | | | B | |

| Timer - Assigned Phs | 1 | 2 | | | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 4.7 | 21.0 | | | 14.7 | 11.0 | | 5.9 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 4.0 | 31.5 | | | 17.5 | 18.0 | | 16.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.1 | 11.4 | | | 9.4 | 5.4 | | 2.7 | | | | |
| Green Ext Time (p_c), s | 0.0 | 5.1 | | | 1.0 | 0.9 | | 0.1 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 10.1 |
| HCM 6th LOS | | B |

| Intersection | |
|---|---|
| Int Delay, s/veh | 5.3 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 170 | 410 | 360 | 0 | 0 | 820 |
| Future Vol, veh/h | 170 | 410 | 360 | 0 | 0 | 820 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 1 | 1 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | 300 | - | - | - | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 185 | 446 | 391 | 0 | 0 | 891 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 837 | 196 | 0 | - | - | - |
| Stage 1 | 391 | - | - | - | - | - |
| Stage 2 | 446 | - | - | - | - | - |
| Critical Hdwy | 6.84 | 6.94 | - | - | - | - |
| Critical Hdwy Stg 1 | 5.84 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.84 | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 3.32 | - | - | - | - |
| Pot Cap-1 Maneuver | 305 | 812 | - | 0 | 0 | - |
| Stage 1 | 653 | - | - | 0 | 0 | - |
| Stage 2 | 612 | - | - | 0 | 0 | - |
| Platoon blocked, % | | | - | | | - |
| Mov Cap-1 Maneuver | 305 | 812 | - | - | - | - |
| Mov Cap-2 Maneuver | 427 | - | - | - | - | - |
| Stage 1 | 653 | - | - | - | - | - |
| Stage 2 | 612 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 16.2 | 0 | 0 |
| HCM LOS | C | | |

| Minor Lane/Major Mvmt | NBT | WBLn1 | WBLn2 | SBT |
|---|---|---|---|---|
| Capacity (veh/h) | - | 427 | 812 | - |
| HCM Lane V/C Ratio | - | 0.433 | 0.549 | - |
| HCM Control Delay (s) | - | 19.7 | 14.7 | - |
| HCM Lane LOS | - | C | B | - |
| HCM 95th %tile Q(veh) | - | 2.1 | 3.4 | - |





| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 360 | 100 | 400 | 600 |
| Future Volume (Veh/h) | 0 | 0 | 360 | 100 | 400 | 600 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 0 | 391 | 109 | 435 | 652 |
| Pedestrians | 1 | | | | | |
| Lane Width (ft) | 0.0 | | | | | |
| Walking Speed (ft/s) | 4.0 | | | | | |
| Percent Blockage | 0 | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | 769 | | | 1029 |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 1642 | 251 | | | 501 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 1642 | 251 | | | 501 | |
| tC, single (s) | 6.8 | 6.9 | | | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 100 | 100 | | | 59 | |
| cM capacity (veh/h) | 53 | 749 | | | 1059 | |

| Direction, Lane # | NB 1 | NB 2 | SB 1 | SB 2 | SB 3 |
|---|---|---|---|---|---|
| Volume Total | 261 | 239 | 435 | 326 | 326 |
| Volume Left | 0 | 0 | 435 | 0 | 0 |
| Volume Right | 0 | 109 | 0 | 0 | 0 |
| cSH | 1700 | 1700 | 1059 | 1700 | 1700 |
| Volume to Capacity | 0.15 | 0.14 | 0.41 | 0.19 | 0.19 |
| Queue Length 95th (ft) | 0 | 0 | 51 | 0 | 0 |
| Control Delay (s) | 0.0 | 0.0 | 10.7 | 0.0 | 0.0 |
| Lane LOS | | | B | | |
| Approach Delay (s) | 0.0 | | 4.3 | | |
| Approach LOS | | | | | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Average Delay | 2.9 | | | |
| Intersection Capacity Utilization | 42.1% | ICU Level of Service | | A |
| Analysis Period (min) | 15 | | | |

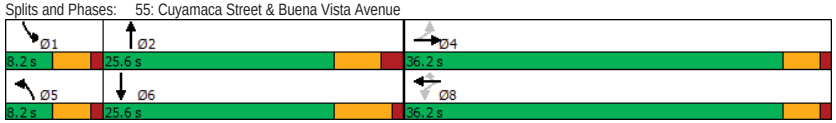
2035 PM
55: Cuyamaca Street & Buena Vista Avenue

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 30 | 20 | 50 | 350 | 5 | 100 | 30 | 1800 | 250 | 80 | 1660 | 20 |
| Future Volume (vph) | 30 | 20 | 50 | 350 | 5 | 100 | 30 | 1800 | 250 | 80 | 1660 | 20 |
| Confl. Peds. (#/hr) | | | 5 | | | 11 | | | 14 | | | 3 |
| Confl. Bikes (#/hr) | | | 1 | | | 1 | | | 2 | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Perm | NA | | Perm | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | 8 | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | 8 | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 10.0 | | 4.0 | 10.0 | |
| Minimum Split (s) | 36.2 | 36.2 | | 34.2 | 34.2 | 34.2 | 8.2 | 24.0 | | 8.2 | 24.0 | |
| Total Split (s) | 36.2 | 36.2 | | 36.2 | 36.2 | 36.2 | 8.2 | 25.6 | | 8.2 | 25.6 | |
| Total Split (%) | 51.7% | 51.7% | | 51.7% | 51.7% | 51.7% | 11.7% | 36.6% | | 11.7% | 36.6% | |
| Yellow Time (s) | 3.2 | 3.2 | | 3.2 | 3.2 | 3.2 | 3.2 | 4.0 | | 3.2 | 4.9 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 2.0 | | 1.0 | 1.1 | |
| Lost Time Adjust (s) | | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | | 4.2 | | | 4.2 | 4.2 | 4.2 | 6.0 | | 4.2 | 6.0 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | None | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 70 |
| Actuated Cycle Length: 60.1 |
| Natural Cycle: 90 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 55: Cuyamaca Street & Buena Vista Avenue






2035 PM
55: Cuyamaca Street & Buena Vista Avenue

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 30 | 20 | 50 | 350 | 5 | 100 | 30 | 1800 | 250 | 80 | 1660 | 20 |
| Future Volume (veh/h) | 30 | 20 | 50 | 350 | 5 | 100 | 30 | 1800 | 250 | 80 | 1660 | 20 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.95 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 33 | 22 | 54 | 380 | 5 | 109 | 33 | 1957 | 272 | 87 | 1804 | 22 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 67 | 56 | 55 | 370 | 4 | 710 | 48 | 1263 | 173 | 102 | 1612 | 20 |
| Arrive On Green | 0.46 | 0.46 | 0.46 | 0.46 | 0.46 | 0.46 | 0.03 | 0.28 | 0.28 | 0.06 | 0.31 | 0.31 |
| Sat Flow, veh/h | 0 | 123 | 121 | 587 | 8 | 1554 | 1781 | 4511 | 617 | 1781 | 5198 | 63 |
| Grp Volume(v), veh/h | 109 | 0 | 0 | 385 | 0 | 109 | 33 | 1469 | 760 | 87 | 1181 | 645 |
| Grp Sat Flow(s),veh/h/ln | 244 | 0 | 0 | 595 | 0 | 1554 | 1781 | 1702 | 1723 | 1781 | 1702 | 1857 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.9 | 1.3 | 19.6 | 19.6 | 3.4 | 21.7 | 21.7 |
| Cycle Q Clear(g_c), s | 32.0 | 0.0 | 0.0 | 32.0 | 0.0 | 2.9 | 1.3 | 19.6 | 19.6 | 3.4 | 21.7 | 21.7 |
| Prop In Lane | 0.30 | | 0.50 | 0.99 | | 1.00 | 1.00 | | 0.36 | 1.00 | | 0.03 |
| Lane Grp Cap(c), veh/h | 179 | 0 | 0 | 374 | 0 | 710 | 48 | 953 | 483 | 102 | 1056 | 576 |
| V/C Ratio(X) | 0.61 | 0.00 | 0.00 | 1.03 | 0.00 | 0.15 | 0.68 | 1.54 | 1.58 | 0.85 | 1.12 | 1.12 |
| Avail Cap(c_a), veh/h | 179 | 0 | 0 | 374 | 0 | 710 | 102 | 953 | 483 | 102 | 1056 | 576 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 16.4 | 0.0 | 0.0 | 23.4 | 0.0 | 11.1 | 33.8 | 25.2 | 25.2 | 32.7 | 24.1 | 24.1 |
| Incr Delay (d2), s/veh | 4.3 | 0.0 | 0.0 | 54.3 | 0.0 | 0.0 | 6.2 | 248.7 | 268.8 | 45.1 | 66.5 | 74.9 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.1 | 0.0 | 0.0 | 11.8 | 0.0 | 0.9 | 0.6 | 40.1 | 43.3 | 2.7 | 17.6 | 20.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 20.7 | 0.0 | 0.0 | 77.7 | 0.0 | 11.1 | 40.0 | 273.9 | 294.0 | 77.8 | 90.7 | 99.0 |
| LnGrp LOS | C | A | A | F | A | B | D | F | F | E | F | F |
| Approach Vol, veh/h | | 109 | | | 494 | | | 2262 | | | 1913 | |
| Approach Delay, s/veh | | 20.7 | | | 63.0 | | | 277.2 | | | 92.9 | |
| Approach LOS | | C | | | E | | | F | | | F | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 8.2 | 25.6 | | 36.2 | 6.1 | 27.7 | | 36.2 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 6.0 | | * 4.2 | * 4.2 | * 6 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | * 4 | 19.6 | | * 32 | * 4 | * 20 | | * 32 | | | | |
| Max Q Clear Time (g_c+I1), s | 5.4 | 21.6 | | 34.0 | 3.3 | 23.7 | | 34.0 | | | | |
| Green Ext Time (p_c), s | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | | 0.0 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 175.4 | |
| HCM 6th LOS | F | |

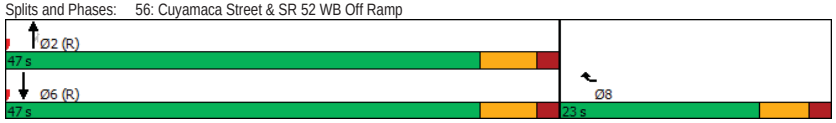
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 680 | 1320 | 440 | 0 | 1920 |
| Future Volume (vph) | 0 | 680 | 1320 | 440 | 0 | 1920 |
| Confl. Peds. (#/hr) | | | | 4 | | |
| Confl. Bikes (#/hr) | | | | 3 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | 0% | | | 0% |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | | Prot | NA | Perm | | NA |
| Protected Phases | | 8 | 2 | | | 6 |
| Permitted Phases | | | | 2 | | |
| Detector Phase | | 8 | 2 | 2 | | 6 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | | 5.0 | 14.0 | 14.0 | | 14.0 |
| Minimum Split (s) | | 20.0 | 45.8 | 45.8 | | 20.8 |
| Total Split (s) | | 23.0 | 47.0 | 47.0 | | 47.0 |
| Total Split (%) | | 32.9% | 67.1% | 67.1% | | 67.1% |
| Yellow Time (s) | | 4.1 | 4.8 | 4.8 | | 4.8 |
| All-Red Time (s) | | 2.0 | 2.0 | 2.0 | | 2.0 |
| Lost Time Adjust (s) | | 0.0 | 0.0 | 0.0 | | 0.0 |
| Total Lost Time (s) | | 6.1 | 6.8 | 6.8 | | 6.8 |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | | None | C-Max | C-Max | | C-Max |

| Intersection Summary |
|---|
| Cycle Length: 70 |
| Actuated Cycle Length: 70 |
| Offset: 22 (31%), Referenced to phase 2:NBT and 6:SBT, Start of Green |
| Natural Cycle: 70 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 56: Cuyamaca Street & SR 52 WB Off Ramp








| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 680 | 1320 | 440 | 0 | 1920 |
| Future Volume (veh/h) | 0 | 680 | 1320 | 440 | 0 | 1920 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | | 0.98 | 1.00 | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | No | | | No |
| Adj Sat Flow, veh/h/ln | 0 | 1870 | 1870 | 1870 | 0 | 1870 |
| Adj Flow Rate, veh/h | 0 | 739 | 1435 | 478 | 0 | 2087 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 0 | 2 | 2 | 2 | 0 | 2 |
| Cap, veh/h | 0 | 0 | 4610 | 1398 | 0 | 4610 |
| Arrive On Green | 0.00 | 0.00 | 0.30 | 0.30 | 0.00 | 0.90 |
| Sat Flow, veh/h | 0 | | 5274 | 1548 | 0 | 5443 |
| Grp Volume(v), veh/h | 0.0 | | 1435 | 478 | 0 | 2087 |
| Grp Sat Flow(s),veh/h/ln | | | 1702 | 1548 | 0 | 1702 |
| Q Serve(g_s), s | | | 15.2 | 16.9 | 0.0 | 4.7 |
| Cycle Q Clear(g_c), s | | | 15.2 | 16.9 | 0.0 | 4.7 |
| Prop In Lane | | | | 1.00 | 0.00 | |
| Lane Grp Cap(c), veh/h | | | 4610 | 1398 | 0 | 4610 |
| V/C Ratio(X) | | | 0.31 | 0.34 | 0.00 | 0.45 |
| Avail Cap(c_a), veh/h | | | 4610 | 1398 | 0 | 4610 |
| HCM Platoon Ratio | | | 0.33 | 0.33 | 1.00 | 1.00 |
| Upstream Filter(I) | | | 1.00 | 1.00 | 0.00 | 0.40 |
| Uniform Delay (d), s/veh | | | 7.7 | 8.3 | 0.0 | 0.6 |
| Incr Delay (d2), s/veh | | | 0.2 | 0.7 | 0.0 | 0.1 |
| Initial Q Delay(d3),s/veh | | | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | 2.6 | 3.5 | 0.0 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | | | 7.9 | 9.0 | 0.0 | 0.7 |
| LnGrp LOS | | | A | A | A | A |
| Approach Vol, veh/h | | | 1913 | | | 2087 |
| Approach Delay, s/veh | | | 8.2 | | | 0.7 |
| Approach LOS | | | A | | | A |

| Timer - Assigned Phs | | 2 | | | | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 70.0 | | | | 70.0 |
| Change Period (Y+Rc), s | | 6.8 | | | | 6.8 |
| Max Green Setting (Gmax), s | | 40.2 | | | | 40.2 |
| Max Q Clear Time (g_c+I1), s | | 18.9 | | | | 6.7 |
| Green Ext Time (p_c), s | | 12.8 | | | | 21.8 |

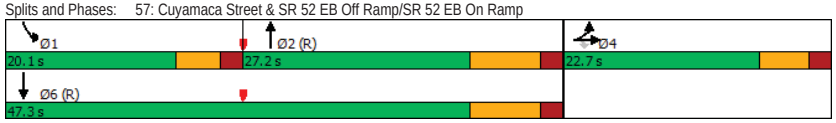
| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 4.3 |
| HCM 6th LOS | A |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 760 | 5 | 360 | 0 | 0 | 0 | 0 | 1000 | 290 | 680 | 630 | 0 |
| Future Volume (vph) | 760 | 5 | 360 | 0 | 0 | 0 | 0 | 1000 | 290 | 680 | 630 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | | | | 9 | | | 13 |
| Confl. Bikes (#/hr) | | | | | | | | | 2 | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | 50% | | | | | | | | | | | |
| Turn Type | Split | NA | Perm | | | | | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | | | | | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | | | | |
| Detector Phase | 4 | 4 | 4 | | | | | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | | | | | 11.0 | | 5.0 | 12.0 | |
| Minimum Split (s) | 22.1 | 22.1 | 22.1 | | | | | 27.0 | | 10.7 | 32.0 | |
| Total Split (s) | 22.7 | 22.7 | 22.7 | | | | | 27.2 | | 20.1 | 47.3 | |
| Total Split (%) | 32.4% | 32.4% | 32.4% | | | | | 38.9% | | 28.7% | 67.6% | |
| Yellow Time (s) | 4.1 | 4.1 | 4.1 | | | | | 6.0 | | 3.7 | 6.0 | |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | | | | | 2.0 | | 2.0 | 2.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | | | | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 6.1 | 6.1 | 6.1 | | | | | 8.0 | | 5.7 | 8.0 | |
| Lead/Lag | | | | | | | | Lag | | Lead | | |
| Lead-Lag Optimize? | | | | | | | | Yes | | Yes | | |
| Recall Mode | None | None | None | | | | | C-Min | | None | C-Min | |

**Intersection Summary**

Cycle Length: 70
Actuated Cycle Length: 70
Offset: 20 (29%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 57: Cuyamaca Street & SR 52 EB Off Ramp/SR 52 EB On Ramp








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 760 | 5 | 360 | 0 | 0 | 0 | 0 | 1000 | 290 | 680 | 630 | 0 |
| Future Volume (veh/h) | 760 | 5 | 360 | 0 | 0 | 0 | 0 | 1000 | 290 | 680 | 630 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | | | | 1.00 | | 0.98 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | | | | 0 | 1870 | 1870 | 1870 | 1870 | 0 |
| Adj Flow Rate, veh/h | 830 | 0 | 339 | | | | 0 | 1087 | 267 | 739 | 685 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | | | | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | | | | 0 | 2 | 2 | 2 | 2 | 0 |
| Cap, veh/h | 845 | 0 | 375 | | | | 0 | 1116 | 274 | 711 | 1995 | 0 |
| Arrive On Green | 0.24 | 0.00 | 0.24 | | | | 0.00 | 0.27 | 0.27 | 0.07 | 0.19 | 0.00 |
| Sat Flow, veh/h | 3563 | 0 | 1581 | | | | 0 | 4236 | 999 | 3456 | 3647 | 0 |
| Grp Volume(v), veh/h | 830 | 0 | 339 | | | | 0 | 910 | 444 | 739 | 685 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1581 | | | | 0 | 1702 | 1663 | 1728 | 1777 | 0 |
| Q Serve(g_s), s | 16.2 | 0.0 | 14.6 | | | | 0.0 | 18.5 | 18.5 | 14.4 | 11.7 | 0.0 |
| Cycle Q Clear(g_c), s | 16.2 | 0.0 | 14.6 | | | | 0.0 | 18.5 | 18.5 | 14.4 | 11.7 | 0.0 |
| Prop In Lane | 1.00 | | 1.00 | | | | 0.00 | | 0.60 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 845 | 0 | 375 | | | | 0 | 934 | 456 | 711 | 1995 | 0 |
| V/C Ratio(X) | 0.98 | 0.00 | 0.90 | | | | 0.00 | 0.97 | 0.97 | 1.04 | 0.34 | 0.00 |
| Avail Cap(c_a), veh/h | 845 | 0 | 375 | | | | 0 | 934 | 456 | 711 | 1995 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 0.33 | 0.33 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | | | | 0.00 | 0.82 | 0.82 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | 26.6 | 0.0 | 25.9 | | | | 0.0 | 25.2 | 25.2 | 32.6 | 17.3 | 0.0 |
| Incr Delay (d2), s/veh | 26.6 | 0.0 | 24.5 | | | | 0.0 | 21.1 | 32.4 | 44.4 | 0.5 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 9.6 | 0.0 | 7.7 | | | | 0.0 | 9.6 | 10.8 | 10.9 | 5.5 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 53.1 | 0.0 | 50.5 | | | | 0.0 | 46.3 | 57.6 | 77.1 | 17.8 | 0.0 |
| LnGrp LOS | D | A | D | | | | A | D | E | F | B | A |
| Approach Vol, veh/h | | 1169 | | | | | | 1354 | | | 1424 | |
| Approach Delay, s/veh | | 52.4 | | | | | | 50.0 | | | 48.5 | |
| Approach LOS | | D | | | | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | 4 | 6 |
|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 20.1 | 27.2 | 22.7 | 47.3 |
| Change Period (Y+Rc), s | * 5.7 | 8.0 | 6.1 | 8.0 |
| Max Green Setting (Gmax), s | * 14 | 19.2 | 16.6 | 39.3 |
| Max Q Clear Time (g_c+I1), s | 16.4 | 20.5 | 18.2 | 13.7 |
| Green Ext Time (p_c), s | 0.0 | 0.0 | 0.0 | 4.8 |

**Intersection Summary**

| | |
|---|---|
| HCM 6th Ctrl Delay | 50.2 |
| HCM 6th LOS | D |

**Notes**

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

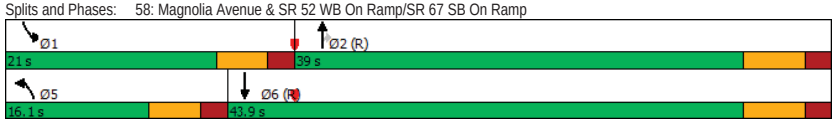
2035 PM — Fanita Ranch

58: Magnolia Avenue & SR 52 WB On Ramp/SR 67 SB On Ramp — 06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 300 | 1650 | 240 | 705 | 650 | 395 |
| Future Volume (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 300 | 1650 | 240 | 705 | 650 | 395 |
| Confl. Peds. (#/hr) | | | | | | | | | 2 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | | | | | | | Prot | NA | Perm | Prot | NA | |
| Protected Phases | | | | | | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | | | 2 | | | |
| Detector Phase | | | | | | | 5 | 2 | 2 | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | | | | | | 5.0 | 6.0 | 6.0 | 5.0 | 7.0 | |
| Minimum Split (s) | | | | | | | 10.7 | 38.4 | 38.4 | 10.7 | 39.4 | |
| Total Split (s) | | | | | | | 16.1 | 39.0 | 39.0 | 21.0 | 43.9 | |
| Total Split (%) | | | | | | | 26.8% | 65.0% | 65.0% | 35.0% | 73.2% | |
| Yellow Time (s) | | | | | | | 3.7 | 4.4 | 4.4 | 3.7 | 4.4 | |
| All-Red Time (s) | | | | | | | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | |
| Lost Time Adjust (s) | | | | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | | | | | | | 5.7 | 6.4 | 6.4 | 5.7 | 6.4 | |
| Lead/Lag | | | | | | | Lead | Lag | Lag | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | Yes | Yes | Yes | |
| Recall Mode | | | | | | | None | C-Max | C-Max | None | C-Max | |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 60 |
| Offset: 17 (28%), Referenced to phase 2:NBT and 6:SBT, Start of Green |
| Natural Cycle: 60 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 58: Magnolia Avenue & SR 52 WB On Ramp/SR 67 SB On Ramp






2035 PM — Fanita Ranch

58: Magnolia Avenue & SR 52 WB On Ramp/SR 67 SB On Ramp — 06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 0 | 0 | 0 | 300 | 1650 | 240 | 705 | 650 | 395 |
| Future Volume (veh/h) | 0 | 0 | 0 | 0 | 0 | 0 | 300 | 1650 | 240 | 705 | 650 | 395 |
| Initial Q (Qb), veh | | | | | | | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | | | | | | 1.00 | | 1.00 | 1.00 | | 0.98 |
| Parking Bus, Adj | | | | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | | | | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | | | | | | | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | | | | | | | 326 | 1793 | 261 | 766 | 707 | 429 |
| Peak Hour Factor | | | | | | | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | | | | | | | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | | | | | | | 428 | 2826 | 876 | 846 | 1421 | 860 |
| Arrive On Green | | | | | | | 0.25 | 1.00 | 1.00 | 0.41 | 1.00 | 1.00 |
| Sat Flow, veh/h | | | | | | | 3456 | 5106 | 1582 | 3456 | 2108 | 1275 |
| Grp Volume(v), veh/h | | | | | | | 326 | 1793 | 261 | 766 | 596 | 540 |
| Grp Sat Flow(s),veh/h/ln | | | | | | | 1728 | 1702 | 1582 | 1728 | 1777 | 1605 |
| Q Serve(g_s), s | | | | | | | 5.2 | 0.0 | 0.0 | 12.5 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | | | | | | | 5.2 | 0.0 | 0.0 | 12.5 | 0.0 | 0.0 |
| Prop In Lane | | | | | | | 1.00 | | 1.00 | 1.00 | | 0.79 |
| Lane Grp Cap(c), veh/h | | | | | | | 428 | 2826 | 876 | 846 | 1198 | 1083 |
| V/C Ratio(X) | | | | | | | 0.76 | 0.63 | 0.30 | 0.91 | 0.50 | 0.50 |
| Avail Cap(c_a), veh/h | | | | | | | 599 | 2826 | 876 | 881 | 1198 | 1083 |
| HCM Platoon Ratio | | | | | | | 2.00 | 2.00 | 2.00 | 1.67 | 1.67 | 1.67 |
| Upstream Filter(I) | | | | | | | 0.09 | 0.09 | 0.09 | 0.47 | 0.47 | 0.47 |
| Uniform Delay (d), s/veh | | | | | | | 21.7 | 0.0 | 0.0 | 17.1 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | | | | | | | 0.2 | 0.1 | 0.1 | 6.3 | 0.7 | 0.8 |
| Initial Q Delay(d3),s/veh | | | | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | | | | | 1.8 | 0.0 | 0.0 | 4.0 | 0.2 | 0.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | | | | 21.9 | 0.1 | 0.1 | 23.4 | 0.7 | 0.8 |
| LnGrp LOS | | | | | | | C | A | A | C | A | A |
| Approach Vol, veh/h | | | | | | | | 2380 | | | 1902 | |
| Approach Delay, s/veh | | | | | | | | 3.1 | | | 9.9 | |
| Approach LOS | | | | | | | | A | | | A | |

| Timer - Assigned Phs | 1 | 2 | | 5 | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 20.4 | 39.6 | | 13.1 | 46.9 |
| Change Period (Y+Rc), s | * 5.7 | 6.4 | | * 5.7 | 6.4 |
| Max Green Setting (Gmax), s | * 15 | 32.6 | | * 10 | 37.5 |
| Max Q Clear Time (g_c+I1), s | 14.5 | 2.0 | | 7.2 | 2.0 |
| Green Ext Time (p_c), s | 0.2 | 19.1 | | 0.2 | 8.7 |

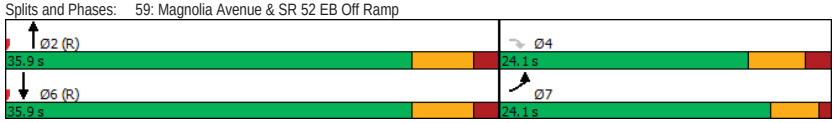
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 6.1 | |
| HCM 6th LOS | A | |

| Notes |
|---|
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. |

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 560 | 490 | 0 | 1700 | 620 | 0 |
| Future Volume (vph) | 560 | 490 | 0 | 1700 | 620 | 0 |
| Confl. Peds. (#/hr) | | | | | | 1 |
| Confl. Bikes (#/hr) | | | | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | | NA | NA | |
| Protected Phases | 7 | | | 2 | 6 | |
| Permitted Phases | | 4 | | | | |
| Detector Phase | 7 | 4 | | 2 | 6 | |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 5.0 | | 5.0 | 5.0 | |
| Minimum Split (s) | 8.5 | 22.1 | | 22.4 | 27.4 | |
| Total Split (s) | 24.1 | 24.1 | | 35.9 | 35.9 | |
| Total Split (%) | 40.2% | 40.2% | | 59.8% | 59.8% | |
| Yellow Time (s) | 3.5 | 4.1 | | 4.4 | 4.4 | |
| All-Red Time (s) | 1.0 | 2.0 | | 2.0 | 2.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 6.1 | | 6.4 | 6.4 | |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | None | None | | C-Max | C-Max | |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 60 |
| Offset: 2 (3%), Referenced to phase 2:NBT and 6:SBT, Start of Green |
| Natural Cycle: 90 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 59: Magnolia Avenue & SR 52 EB Off Ramp






2035 PM
59: Magnolia Avenue & SR 52 EB Off Ramp
Fanita Ranch
06/06/2019

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 560 | 490 | 0 | 1700 | 620 | 0 |
| Future Volume (veh/h) | 560 | 490 | 0 | 1700 | 620 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 0 | 1870 | 1870 | 0 |
| Adj Flow Rate, veh/h | 609 | 533 | 0 | 1848 | 674 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 0 | 2 | 2 | 0 |
| Cap, veh/h | 582 | 518 | 0 | 1747 | 1747 | 0 |
| Arrive On Green | 0.33 | 0.33 | 0.00 | 0.49 | 0.98 | 0.00 |
| Sat Flow, veh/h | 1781 | 1585 | 0 | 3741 | 3741 | 0 |
| Grp Volume(v), veh/h | 609 | 533 | 0 | 1848 | 674 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 0 | 1777 | 1777 | 0 |
| Q Serve(g_s), s | 19.6 | 19.6 | 0.0 | 29.5 | 0.3 | 0.0 |
| Cycle Q Clear(g_c), s | 19.6 | 19.6 | 0.0 | 29.5 | 0.3 | 0.0 |
| Prop In Lane | 1.00 | 1.00 | 0.00 | | | 0.00 |
| Lane Grp Cap(c), veh/h | 582 | 518 | 0 | 1747 | 1747 | 0 |
| V/C Ratio(X) | 1.05 | 1.03 | 0.00 | 1.06 | 0.39 | 0.00 |
| Avail Cap(c_a), veh/h | 582 | 518 | 0 | 1747 | 1747 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 2.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.51 | 0.84 | 0.00 |
| Uniform Delay (d), s/veh | 20.2 | 20.2 | 0.0 | 15.2 | 0.3 | 0.0 |
| Incr Delay (d2), s/veh | 50.1 | 47.3 | 0.0 | 33.4 | 0.5 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 15.3 | 13.2 | 0.0 | 16.6 | 0.2 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 70.3 | 67.5 | 0.0 | 48.7 | 0.8 | 0.0 |
| LnGrp LOS | F | F | A | F | A | A |
| Approach Vol, veh/h | 1142 | | | 1848 | 674 | |
| Approach Delay, s/veh | 69.0 | | | 48.7 | 0.8 | |
| Approach LOS | E | | | D | A | |

| Timer - Assigned Phs | | 2 | | 4 | | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 35.9 | | 24.1 | | 35.9 |
| Change Period (Y+Rc), s | | 6.4 | | 4.5 | | 6.4 |
| Max Green Setting (Gmax), s | | 29.5 | | 19.6 | | 29.5 |
| Max Q Clear Time (g_c+I1), s | | 31.5 | | 21.6 | | 2.3 |
| Green Ext Time (p_c), s | | 0.0 | | 0.0 | | 4.4 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 46.2 | |
| HCM 6th LOS | D | |

2035 PM
60: Fanita Drive & Prospect Avenue

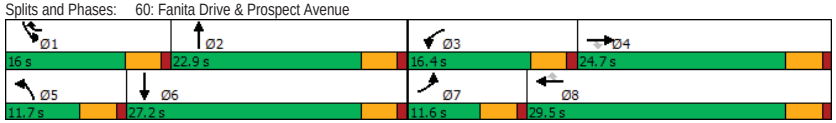
Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 130 | 120 | 40 | 110 | 110 | 150 | 60 | 220 | 90 | 220 | 260 | 130 |
| Future Volume (vph) | 130 | 120 | 40 | 110 | 110 | 150 | 60 | 220 | 90 | 220 | 260 | 130 |
| Confl. Peds. (#/hr) | | | 6 | | | 4 | | | 2 | | | 1 |
| Confl. Bikes (#/hr) | | | 4 | | | 4 | | | 1 | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | pm+ov | Prot | NA | | Prot | NA | |
| Protected Phases | 7 | 4 | | 3 | 8 | 1 | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | | | | |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | 1 | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | 8.5 | 24.5 | 24.5 | 8.5 | 29.5 | 8.5 | 8.5 | 22.5 | | 8.5 | 24.5 | |
| Total Split (s) | 11.6 | 24.7 | 24.7 | 16.4 | 29.5 | 16.0 | 11.7 | 22.9 | | 16.0 | 27.2 | |
| Total Split (%) | 14.5% | 30.9% | 30.9% | 20.5% | 36.9% | 20.0% | 14.6% | 28.6% | | 20.0% | 34.0% | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | None | None | None | None | None | Min | | None | Min | |

**Intersection Summary**

Cycle Length: 80
Actuated Cycle Length: 64.2
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 60: Fanita Drive & Prospect Avenue




Timings
N:\2462\Analysis\Intersections\Synchro\Long-Term\10 2035 PM.syn

2035 PM
60: Fanita Drive & Prospect Avenue

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 130 | 120 | 40 | 110 | 110 | 150 | 60 | 220 | 90 | 220 | 260 | 130 |
| Future Volume (veh/h) | 130 | 120 | 40 | 110 | 110 | 150 | 60 | 220 | 90 | 220 | 260 | 130 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 141 | 130 | 43 | 120 | 120 | 163 | 65 | 239 | 98 | 239 | 283 | 141 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 180 | 325 | 268 | 157 | 301 | 510 | 82 | 298 | 122 | 294 | 822 | 397 |
| Arrive On Green | 0.10 | 0.17 | 0.17 | 0.09 | 0.16 | 0.16 | 0.05 | 0.24 | 0.24 | 0.16 | 0.36 | 0.36 |
| Sat Flow, veh/h | 1781 | 1870 | 1542 | 1781 | 1870 | 1546 | 1781 | 1250 | 512 | 1781 | 2301 | 1111 |
| Grp Volume(v), veh/h | 141 | 130 | 43 | 120 | 120 | 163 | 65 | 0 | 337 | 239 | 216 | 208 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1542 | 1781 | 1870 | 1546 | 1781 | 0 | 1762 | 1781 | 1777 | 1636 |
| Q Serve(g_s), s | 4.2 | 3.3 | 1.3 | 3.5 | 3.1 | 4.3 | 1.9 | 0.0 | 9.7 | 7.0 | 4.8 | 5.0 |
| Cycle Q Clear(g_c), s | 4.2 | 3.3 | 1.3 | 3.5 | 3.1 | 4.3 | 1.9 | 0.0 | 9.7 | 7.0 | 4.8 | 5.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.29 | 1.00 | | 0.68 |
| Lane Grp Cap(c), veh/h | 180 | 325 | 268 | 157 | 301 | 510 | 82 | 0 | 420 | 294 | 635 | 585 |
| V/C Ratio(X) | 0.78 | 0.40 | 0.16 | 0.77 | 0.40 | 0.32 | 0.79 | 0.00 | 0.80 | 0.81 | 0.34 | 0.36 |
| Avail Cap(c_a), veh/h | 235 | 702 | 579 | 394 | 869 | 980 | 238 | 0 | 603 | 381 | 750 | 690 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 23.6 | 19.7 | 18.9 | 24.0 | 20.2 | 13.7 | 25.4 | 0.0 | 19.3 | 21.7 | 12.6 | 12.7 |
| Incr Delay (d2), s/veh | 12.0 | 0.8 | 0.3 | 7.6 | 0.9 | 0.4 | 15.3 | 0.0 | 5.1 | 9.9 | 0.3 | 0.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.2 | 1.4 | 0.4 | 1.7 | 1.3 | 1.3 | 1.1 | 0.0 | 3.9 | 3.3 | 1.6 | 1.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 35.6 | 20.5 | 19.2 | 31.6 | 21.1 | 14.0 | 40.7 | 0.0 | 24.3 | 31.6 | 13.0 | 13.1 |
| LnGrp LOS | D | C | B | C | C | B | D | A | C | C | B | B |
| Approach Vol, veh/h | | 314 | | | 403 | | | 402 | | | 663 | |
| Approach Delay, s/veh | | 27.1 | | | 21.4 | | | 27.0 | | | 19.7 | |
| Approach LOS | | C | | | C | | | C | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 13.4 | 17.3 | 9.2 | 13.9 | 7.0 | 23.7 | 9.9 | 13.1 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 11.5 | 18.4 | 11.9 | 20.2 | 7.2 | 22.7 | 7.1 | 25.0 |
| Max Q Clear Time (g_c+I1), s | 9.0 | 11.7 | 5.5 | 5.3 | 3.9 | 7.0 | 6.2 | 6.3 |
| Green Ext Time (p_c), s | 0.2 | 1.0 | 0.1 | 0.7 | 0.0 | 2.1 | 0.0 | 1.1 |

**Intersection Summary**

| | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 23.0 | |
| HCM 6th LOS | | C | |

HCM 6th Signalized Intersection Summary
N:\2462\Analysis\Intersections\Synchro\Long-Term\10 2035 PM.syn

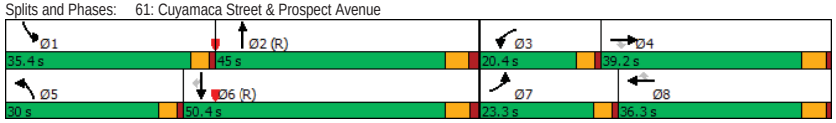
2035 PM
61: Cuyamaca Street & Prospect Avenue

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 130 | 180 | 180 | 100 | 200 | 245 | 180 | 895 | 120 | 235 | 600 | 220 |
| Future Volume (vph) | 130 | 180 | 180 | 100 | 200 | 245 | 180 | 895 | 120 | 235 | 600 | 220 |
| Confl. Peds. (#/hr) | | | 4 | | | 10 | | | 7 | | | 6 |
| Confl. Bikes (#/hr) | | | 2 | | | 2 | | | 4 | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | | | | 6 |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | 8 | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 7.0 | 7.0 | 4.0 | 7.0 | 7.0 | 4.0 | 10.0 | | 4.0 | 10.0 | 10.0 |
| Minimum Split (s) | 8.2 | 35.2 | 35.2 | 8.2 | 36.2 | 36.2 | 8.2 | 33.0 | | 8.2 | 31.0 | 31.0 |
| Total Split (s) | 23.3 | 39.2 | 39.2 | 20.4 | 36.3 | 36.3 | 30.0 | 45.0 | | 35.4 | 50.4 | 50.4 |
| Total Split (%) | 16.6% | 28.0% | 28.0% | 14.6% | 25.9% | 25.9% | 21.4% | 32.1% | | 25.3% | 36.0% | 36.0% |
| Yellow Time (s) | 3.2 | 4.2 | 4.2 | 3.2 | 4.2 | 4.2 | 3.2 | 4.0 | | 3.2 | 4.1 | 4.1 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 2.0 | | 1.0 | 1.9 | 1.9 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.2 | 5.2 | 4.2 | 5.2 | 5.2 | 4.2 | 6.0 | | 4.2 | 6.0 | 6.0 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | None | None | C-Min | | None | C-Min | C-Min |

| Intersection Summary |
|---|
| Cycle Length: 140 |
| Actuated Cycle Length: 140 |
| Offset: 26 (19%), Referenced to phase 2:NBT and 6:SBT, Start of Green |
| Natural Cycle: 100 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 61: Cuyamaca Street & Prospect Avenue







2035 PM
61: Cuyamaca Street & Prospect Avenue


Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 130 | 180 | 180 | 100 | 200 | 245 | 180 | 895 | 120 | 235 | 600 | 220 |
| Future Volume (veh/h) | 130 | 180 | 180 | 100 | 200 | 245 | 180 | 895 | 120 | 235 | 600 | 220 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 0.97 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 141 | 196 | 196 | 109 | 217 | 266 | 196 | 973 | 130 | 255 | 652 | 239 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 165 | 402 | 334 | 132 | 698 | 302 | 220 | 1890 | 252 | 276 | 1589 | 697 |
| Arrive On Green | 0.09 | 0.21 | 0.21 | 0.07 | 0.20 | 0.20 | 0.12 | 0.42 | 0.42 | 0.31 | 0.89 | 0.89 |
| Sat Flow, veh/h | 1781 | 1870 | 1554 | 1781 | 3554 | 1539 | 1781 | 4538 | 604 | 1781 | 3554 | 1558 |
| Grp Volume(v), veh/h | 141 | 196 | 196 | 109 | 217 | 266 | 196 | 729 | 374 | 255 | 652 | 239 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1554 | 1781 | 1777 | 1539 | 1781 | 1702 | 1738 | 1781 | 1777 | 1558 |
| Q Serve(g_s), s | 10.9 | 12.9 | 15.9 | 8.5 | 7.3 | 23.5 | 15.2 | 22.3 | 22.4 | 19.4 | 4.3 | 3.3 |
| Cycle Q Clear(g_c), s | 10.9 | 12.9 | 15.9 | 8.5 | 7.3 | 23.5 | 15.2 | 22.3 | 22.4 | 19.4 | 4.3 | 3.3 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.35 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 165 | 402 | 334 | 132 | 698 | 302 | 220 | 1417 | 724 | 276 | 1589 | 697 |
| V/C Ratio(X) | 0.86 | 0.49 | 0.59 | 0.83 | 0.31 | 0.88 | 0.89 | 0.51 | 0.52 | 0.93 | 0.41 | 0.34 |
| Avail Cap(c_a), veh/h | 243 | 454 | 377 | 206 | 789 | 342 | 328 | 1417 | 724 | 397 | 1589 | 697 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 2.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 0.90 | 0.90 | 0.90 | 1.00 | 1.00 | 1.00 | 0.87 | 0.87 | 0.87 |
| Uniform Delay (d), s/veh | 62.6 | 48.2 | 49.4 | 63.9 | 48.1 | 54.6 | 60.4 | 30.3 | 30.4 | 47.6 | 4.3 | 4.3 |
| Incr Delay (d2), s/veh | 12.4 | 1.0 | 2.0 | 7.2 | 0.1 | 18.1 | 13.3 | 1.3 | 2.6 | 16.3 | 0.7 | 1.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 5.5 | 6.1 | 6.3 | 4.1 | 3.3 | 10.6 | 7.6 | 9.4 | 9.9 | 8.6 | 1.3 | 1.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 75.0 | 49.2 | 51.4 | 71.1 | 48.3 | 72.8 | 73.7 | 31.7 | 33.0 | 63.8 | 5.0 | 5.4 |
| LnGrp LOS | E | D | D | E | D | E | E | C | C | E | A | A |
| Approach Vol, veh/h | | 533 | | | 592 | | | 1299 | | | 1146 | |
| Approach Delay, s/veh | | 56.8 | | | 63.5 | | | 38.4 | | | 18.2 | |
| Approach LOS | | E | | | E | | | D | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 25.9 | 64.3 | 14.6 | 35.3 | 21.5 | 68.6 | 17.2 | 32.7 |
| Change Period (Y+Rc), s | * 4.2 | 6.0 | * 4.2 | 5.2 | * 4.2 | * 6 | * 4.2 | 5.2 |
| Max Green Setting (Gmax), s | * 31 | 39.0 | * 16 | 34.0 | * 26 | * 44 | * 19 | 31.1 |
| Max Q Clear Time (g_c+I1), s | 21.4 | 24.4 | 10.5 | 17.9 | 17.2 | 6.3 | 12.9 | 25.5 |
| Green Ext Time (p_c), s | 0.3 | 8.2 | 0.1 | 1.7 | 0.2 | 8.9 | 0.1 | 0.9 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 38.8 | |
| HCM 6th LOS | D | |

Notes

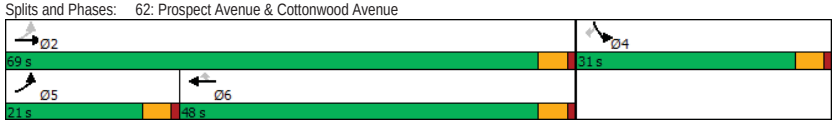
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 160 | 370 | 280 | 170 | 130 | 80 |
| Future Volume (vph) | 160 | 370 | 280 | 170 | 130 | 80 |
| Confl. Peds. (#/hr) | | | | 1 | | 4 |
| Confl. Bikes (#/hr) | | | | 3 | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | pm+pt | NA | NA | Perm | Prot | Perm |
| Protected Phases | 5 | 2 | 6 | | 4 | |
| Permitted Phases | 2 | | | 6 | | 4 |
| Detector Phase | 5 | 2 | 6 | 6 | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 |
| Total Split (s) | 21.0 | 69.0 | 48.0 | 48.0 | 31.0 | 31.0 |
| Total Split (%) | 21.0% | 69.0% | 48.0% | 48.0% | 31.0% | 31.0% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | | Lag | Lag | | |
| Lead-Lag Optimize? | Yes | | Yes | Yes | | |
| Recall Mode | None | Min | Min | Min | None | None |

**Intersection Summary**

Cycle Length: 100
Actuated Cycle Length: 47.1
Natural Cycle: 55
Control Type: Actuated-Uncoordinated

Splits and Phases: 62: Prospect Avenue & Cottonwood Avenue








| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 160 | 370 | 280 | 170 | 130 | 80 |
| Future Volume (veh/h) | 160 | 370 | 280 | 170 | 130 | 80 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 0.97 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 174 | 402 | 304 | 185 | 141 | 87 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 575 | 1034 | 550 | 454 | 247 | 220 |
| Arrive On Green | 0.10 | 0.55 | 0.29 | 0.29 | 0.14 | 0.14 |
| Sat Flow, veh/h | 1781 | 1870 | 1870 | 1545 | 1781 | 1585 |
| Grp Volume(v), veh/h | 174 | 402 | 304 | 185 | 141 | 87 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1870 | 1545 | 1781 | 1585 |
| Q Serve(g_s), s | 1.7 | 3.6 | 4.0 | 2.8 | 2.2 | 1.5 |
| Cycle Q Clear(g_c), s | 1.7 | 3.6 | 4.0 | 2.8 | 2.2 | 1.5 |
| Prop In Lane | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 575 | 1034 | 550 | 454 | 247 | 220 |
| V/C Ratio(X) | 0.30 | 0.39 | 0.55 | 0.41 | 0.57 | 0.40 |
| Avail Cap(c_a), veh/h | 1396 | 4135 | 2789 | 2303 | 1618 | 1440 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 5.4 | 3.7 | 8.7 | 8.3 | 11.7 | 11.4 |
| Incr Delay (d2), s/veh | 0.3 | 0.2 | 0.9 | 0.6 | 2.1 | 1.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.3 | 0.3 | 1.1 | 0.6 | 0.8 | 1.4 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 5.6 | 4.0 | 9.6 | 8.9 | 13.8 | 12.6 |
| LnGrp LOS | A | A | A | A | B | B |
| Approach Vol, veh/h | | 576 | 489 | | 228 | |
| Approach Delay, s/veh | | 4.5 | 9.3 | | 13.4 | |
| Approach LOS | | A | A | | B | |

| Timer - Assigned Phs | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 20.6 | | 8.5 | 7.6 | 13.1 |
| Change Period (Y+Rc), s | 4.5 | | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 64.5 | | 26.5 | 16.5 | 43.5 |
| Max Q Clear Time (g_c+I1), s | 5.6 | | 4.2 | 3.7 | 6.0 |
| Green Ext Time (p_c), s | 2.7 | | 0.6 | 0.4 | 2.5 |

**Intersection Summary**

| | |
|---|---|
| HCM 6th Ctrl Delay | 7.9 |
| HCM 6th LOS | A |

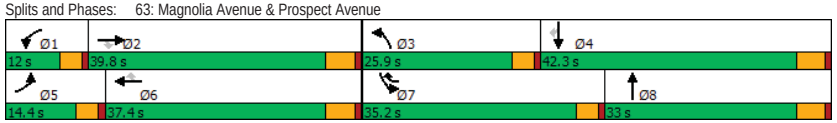
2035 PM
63: Magnolia Avenue & Prospect Avenue

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 195 | 290 | 90 | 65 | 290 | 1005 | 155 | 500 | 150 | 660 | 390 | 90 |
| Future Volume (vph) | 195 | 290 | 90 | 65 | 290 | 1005 | 155 | 500 | 150 | 660 | 390 | 90 |
| Confl. Peds. (#/hr) | | | 9 | | | 1 | | | 5 | | | 4 |
| Confl. Bikes (#/hr) | | | 2 | | | 1 | | | 1 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | pm+ov | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | 4.0 | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 39.3 | 39.3 | 8.2 | 37.4 | 8.2 | 8.2 | 23.2 | | 8.2 | 36.2 | 36.2 |
| Total Split (s) | 14.4 | 39.8 | 39.8 | 12.0 | 37.4 | 35.2 | 25.9 | 33.0 | | 35.2 | 42.3 | 42.3 |
| Total Split (%) | 12.0% | 33.2% | 33.2% | 10.0% | 31.2% | 29.3% | 21.6% | 27.5% | | 29.3% | 35.3% | 35.3% |
| Yellow Time (s) | 3.2 | 4.3 | 4.3 | 3.2 | 4.4 | 3.2 | 3.2 | 4.2 | | 3.2 | 4.2 | 4.2 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | 5.3 | 4.2 | 5.4 | 4.2 | 4.2 | 5.2 | | 4.2 | 5.2 | 5.2 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | Min | Min | None | Min | None | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 103.7 |
| Natural Cycle: 95 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 63: Magnolia Avenue & Prospect Avenue






2035 PM
63: Magnolia Avenue & Prospect Avenue

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 195 | 290 | 90 | 65 | 290 | 1005 | 155 | 500 | 150 | 660 | 390 | 90 |
| Future Volume (veh/h) | 195 | 290 | 90 | 65 | 290 | 1005 | 155 | 500 | 150 | 660 | 390 | 90 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 212 | 315 | 98 | 71 | 315 | 1092 | 168 | 543 | 163 | 717 | 424 | 98 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 273 | 590 | 489 | 91 | 1022 | 1435 | 200 | 615 | 184 | 808 | 1245 | 547 |
| Arrive On Green | 0.08 | 0.32 | 0.32 | 0.05 | 0.29 | 0.29 | 0.11 | 0.23 | 0.23 | 0.23 | 0.35 | 0.35 |
| Sat Flow, veh/h | 3456 | 1870 | 1551 | 1781 | 3554 | 2726 | 1781 | 2682 | 802 | 3456 | 3554 | 1560 |
| Grp Volume(v), veh/h | 212 | 315 | 98 | 71 | 315 | 1092 | 168 | 359 | 347 | 717 | 424 | 98 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1870 | 1551 | 1781 | 1777 | 1363 | 1781 | 1777 | 1707 | 1728 | 1777 | 1560 |
| Q Serve(g_s), s | 6.7 | 15.4 | 5.1 | 4.4 | 7.7 | 32.0 | 10.3 | 21.7 | 21.9 | 22.3 | 9.8 | 4.8 |
| Cycle Q Clear(g_c), s | 6.7 | 15.4 | 5.1 | 4.4 | 7.7 | 32.0 | 10.3 | 21.7 | 21.9 | 22.3 | 9.8 | 4.8 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.47 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 273 | 590 | 489 | 91 | 1022 | 1435 | 200 | 407 | 391 | 808 | 1245 | 547 |
| V/C Ratio(X) | 0.78 | 0.53 | 0.20 | 0.78 | 0.31 | 0.76 | 0.84 | 0.88 | 0.89 | 0.89 | 0.34 | 0.18 |
| Avail Cap(c_a), veh/h | 317 | 590 | 489 | 125 | 1022 | 1435 | 347 | 444 | 426 | 962 | 1245 | 547 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 50.3 | 31.4 | 27.8 | 52.2 | 31.0 | 21.3 | 48.4 | 41.4 | 41.5 | 41.2 | 26.7 | 25.1 |
| Incr Delay (d2), s/veh | 10.0 | 0.9 | 0.2 | 19.1 | 0.2 | 2.4 | 9.0 | 17.4 | 18.7 | 9.0 | 0.2 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 3.3 | 7.1 | 1.9 | 2.4 | 3.3 | 11.3 | 5.1 | 11.4 | 11.2 | 10.4 | 4.2 | 1.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 60.3 | 32.3 | 28.0 | 71.2 | 31.2 | 23.7 | 57.4 | 58.8 | 60.2 | 50.2 | 26.8 | 25.2 |
| LnGrp LOS | E | C | C | E | C | C | E | E | E | D | C | C |
| Approach Vol, veh/h | | 625 | | | 1478 | | | 874 | | | 1239 | |
| Approach Delay, s/veh | | 41.1 | | | 27.6 | | | 59.1 | | | 40.2 | |
| Approach LOS | | D | | | C | | | E | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 9.9 | 40.5 | 16.7 | 44.2 | 13.0 | 37.4 | 30.2 | 30.7 |
| Change Period (Y+Rc), s | * 4.2 | * 5.4 | * 4.2 | 5.2 | * 4.2 | 5.4 | * 4.2 | 5.2 |
| Max Green Setting (Gmax), s | * 7.8 | * 35 | * 22 | 37.1 | * 10 | 32.0 | * 31 | 27.8 |
| Max Q Clear Time (g_c+I1), s | 6.4 | 17.4 | 12.3 | 11.8 | 8.7 | 34.0 | 24.3 | 23.9 |
| Green Ext Time (p_c), s | 0.0 | 2.0 | 0.3 | 3.3 | 0.1 | 0.0 | 1.7 | 1.6 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 39.9 |
| HCM 6th LOS | D |

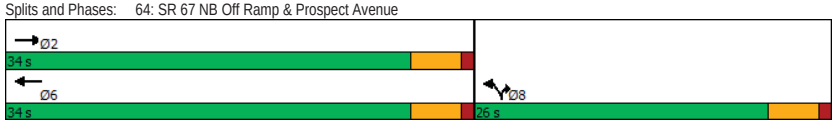
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 1100 | 0 | 0 | 690 | 740 | 180 |
| Future Volume (vph) | 1100 | 0 | 0 | 690 | 740 | 180 |
| Confl. Peds. (#/hr) | | 5 | | | | |
| Confl. Bikes (#/hr) | | 3 | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | NA | | | NA | Prot | Prot |
| Protected Phases | 2 | | | 6 | 8 | 8 |
| Permitted Phases | | | | | | |
| Detector Phase | 2 | | | 6 | 8 | 8 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 5.0 | | | 10.0 | 5.0 | 5.0 |
| Minimum Split (s) | 20.6 | | | 20.6 | 20.6 | 20.6 |
| Total Split (s) | 34.0 | | | 34.0 | 26.0 | 26.0 |
| Total Split (%) | 56.7% | | | 56.7% | 43.3% | 43.3% |
| Yellow Time (s) | 3.6 | | | 3.6 | 3.6 | 3.6 |
| All-Red Time (s) | 1.0 | | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.6 | | | 4.6 | 4.6 | 4.6 |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | Min | | | Min | None | None |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 47.3 |
| Natural Cycle: 50 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 64: SR 67 NB Off Ramp & Prospect Avenue








| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 1100 | 0 | 0 | 690 | 740 | 180 |
| Future Volume (veh/h) | 1100 | 0 | 0 | 690 | 740 | 180 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | 1.00 | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 0 | 0 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 1196 | 0 | 0 | 750 | 804 | 196 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 0 | 0 | 2 | 2 | 2 |
| Cap, veh/h | 1643 | 0 | 0 | 1643 | 1057 | 485 |
| Arrive On Green | 0.46 | 0.00 | 0.00 | 0.46 | 0.31 | 0.31 |
| Sat Flow, veh/h | 3741 | 0 | 0 | 3741 | 3456 | 1585 |
| Grp Volume(v), veh/h | 1196 | 0 | 0 | 750 | 804 | 196 |
| Grp Sat Flow(s),veh/h/ln | 1777 | 0 | 0 | 1777 | 1728 | 1585 |
| Q Serve(g_s), s | 10.8 | 0.0 | 0.0 | 5.7 | 8.4 | 3.9 |
| Cycle Q Clear(g_c), s | 10.8 | 0.0 | 0.0 | 5.7 | 8.4 | 3.9 |
| Prop In Lane | | 0.00 | 0.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 1643 | 0 | 0 | 1643 | 1057 | 485 |
| V/C Ratio(X) | 0.73 | 0.00 | 0.00 | 0.46 | 0.76 | 0.40 |
| Avail Cap(c_a), veh/h | 2632 | 0 | 0 | 2632 | 1863 | 855 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 8.6 | 0.0 | 0.0 | 7.3 | 12.5 | 10.9 |
| Incr Delay (d2), s/veh | 0.2 | 0.0 | 0.0 | 0.2 | 0.4 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.6 | 0.0 | 0.0 | 1.4 | 2.6 | 1.1 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 8.9 | 0.0 | 0.0 | 7.5 | 12.9 | 11.1 |
| LnGrp LOS | A | A | A | A | B | B |
| Approach Vol, veh/h | 1196 | | | 750 | 1000 | |
| Approach Delay, s/veh | 8.9 | | | 7.5 | 12.5 | |
| Approach LOS | A | | | A | B | |

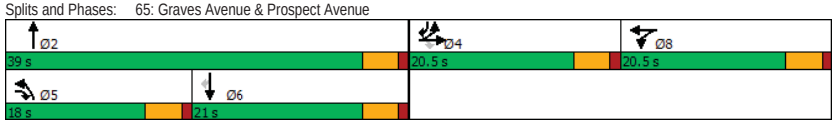
| Timer - Assigned Phs | 2 | | | 6 | 8 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 23.0 | | | 23.0 | 16.7 |
| Change Period (Y+Rc), s | 4.6 | | | 4.6 | 4.6 |
| Max Green Setting (Gmax), s | 29.4 | | | 29.4 | 21.4 |
| Max Q Clear Time (g_c+I1), s | 12.8 | | | 7.7 | 10.4 |
| Green Ext Time (p_c), s | 5.5 | | | 5.1 | 1.8 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 9.8 | |
| HCM 6th LOS | A | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 420 | 20 | 800 | 5 | 15 | 0 | 470 | 40 | 5 | 0 | 60 | 300 |
| Future Volume (vph) | 420 | 20 | 800 | 5 | 15 | 0 | 470 | 40 | 5 | 0 | 60 | 300 |
| Confl. Peds. (#/hr) | | | | | | 1 | | | 6 | | | |
| Confl. Bikes (#/hr) | | | 3 | | | 1 | | | 2 | | | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | 48% | | | | | | | | | | | |
| Turn Type | Split | NA | pm+ov | Split | NA | | Prot | NA | | | NA | pm+ov |
| Protected Phases | 4 | 4 | 5 | 8 | 8 | | 5 | 2 | | | 6 | 4 |
| Permitted Phases | | | 4 | | | | | | | | | 6 |
| Detector Phase | 4 | 4 | 5 | 8 | 8 | | 5 | 2 | | | 6 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | | 4.0 | 4.0 |
| Minimum Split (s) | 20.5 | 20.5 | 8.5 | 20.5 | 20.5 | | 8.5 | 20.5 | | | 20.5 | 20.5 |
| Total Split (s) | 20.5 | 20.5 | 18.0 | 20.5 | 20.5 | | 18.0 | 39.0 | | | 21.0 | 20.5 |
| Total Split (%) | 25.6% | 25.6% | 22.5% | 25.6% | 25.6% | | 22.5% | 48.8% | | | 26.3% | 25.6% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | | | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | | | 4.5 | 4.5 |
| Lead/Lag | | | Lead | | | | Lead | | | | Lag | |
| Lead-Lag Optimize? | | | Yes | | | | Yes | | | | Yes | |
| Recall Mode | None | None | None | None | None | | None | Min | | | Min | None |

| Intersection Summary |
|---|
| Cycle Length: 80 |
| Actuated Cycle Length: 51.8 |
| Natural Cycle: 80 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 65: Graves Avenue & Prospect Avenue








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 420 | 20 | 800 | 5 | 15 | 0 | 470 | 40 | 5 | 0 | 60 | 300 |
| Future Volume (veh/h) | 420 | 20 | 800 | 5 | 15 | 0 | 470 | 40 | 5 | 0 | 60 | 300 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 1.00 | 1.00 | | 0.97 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 0 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 473 | 0 | 870 | 5 | 16 | 0 | 511 | 43 | 5 | 0 | 65 | 326 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 0 | 2 | 2 |
| Cap, veh/h | 1005 | 0 | 735 | 39 | 41 | 0 | 652 | 751 | 87 | 0 | 355 | 744 |
| Arrive On Green | 0.28 | 0.00 | 0.28 | 0.02 | 0.02 | 0.00 | 0.19 | 0.46 | 0.46 | 0.00 | 0.19 | 0.19 |
| Sat Flow, veh/h | 3563 | 0 | 1547 | 1781 | 1870 | 0 | 3456 | 1639 | 191 | 0 | 1870 | 1560 |
| Grp Volume(v), veh/h | 473 | 0 | 870 | 5 | 16 | 0 | 511 | 0 | 48 | 0 | 65 | 326 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1547 | 1781 | 1870 | 0 | 1728 | 0 | 1830 | 0 | 1870 | 1560 |
| Q Serve(g_s), s | 6.2 | 0.0 | 16.0 | 0.2 | 0.5 | 0.0 | 8.0 | 0.0 | 0.8 | 0.0 | 1.7 | 7.9 |
| Cycle Q Clear(g_c), s | 6.2 | 0.0 | 16.0 | 0.2 | 0.5 | 0.0 | 8.0 | 0.0 | 0.8 | 0.0 | 1.7 | 7.9 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.00 | 1.00 | | 0.10 | 0.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 1005 | 0 | 735 | 39 | 41 | 0 | 652 | 0 | 838 | 0 | 355 | 744 |
| V/C Ratio(X) | 0.47 | 0.00 | 1.18 | 0.13 | 0.39 | 0.00 | 0.78 | 0.00 | 0.06 | 0.00 | 0.18 | 0.44 |
| Avail Cap(c_a), veh/h | 1005 | 0 | 735 | 502 | 528 | 0 | 823 | 0 | 1113 | 0 | 544 | 901 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 16.9 | 0.0 | 15.1 | 27.2 | 27.4 | 0.0 | 21.9 | 0.0 | 8.6 | 0.0 | 19.3 | 10.0 |
| Incr Delay (d2), s/veh | 0.3 | 0.0 | 96.0 | 1.5 | 5.9 | 0.0 | 3.9 | 0.0 | 0.0 | 0.0 | 0.2 | 0.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.3 | 0.0 | 27.2 | 0.1 | 0.3 | 0.0 | 3.3 | 0.0 | 0.3 | 0.0 | 0.7 | 4.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 17.2 | 0.0 | 111.1 | 28.7 | 33.3 | 0.0 | 25.8 | 0.0 | 8.6 | 0.0 | 19.5 | 10.4 |
| LnGrp LOS | B | A | F | C | C | A | C | A | A | A | B | B |
| Approach Vol, veh/h | | 1343 | | | 21 | | | 559 | | | 391 | |
| Approach Delay, s/veh | | 78.0 | | | 32.2 | | | 24.3 | | | 11.9 | |
| Approach LOS | | E | | | C | | | C | | | B | |

| Timer - Assigned Phs | 2 | | 4 | 5 | 6 | | 8 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 30.5 | | 20.5 | 15.2 | 15.3 | | 5.7 | | | | | |
| Change Period (Y+Rc), s | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | | |
| Max Green Setting (Gmax), s | 34.5 | | 16.0 | 13.5 | 16.5 | | 16.0 | | | | | |
| Max Q Clear Time (g_c+I1), s | 2.8 | | 18.0 | 10.0 | 9.9 | | 2.5 | | | | | |
| Green Ext Time (p_c), s | 0.2 | | 0.0 | 0.7 | 0.9 | | 0.0 | | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 53.5 | |
| HCM 6th LOS | D | |

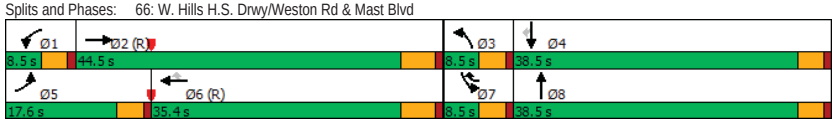
| Notes |
|---|
| User approved volume balancing among the lanes for turning movement. |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 200 | 1910 | 5 | 15 | 680 | 110 | 0 | 10 | 5 | 50 | 5 | 90 |
| Future Volume (vph) | 200 | 1910 | 5 | 15 | 680 | 110 | 0 | 10 | 5 | 50 | 5 | 90 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | 4.0 | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.5 | 22.5 | | 8.5 | 27.3 | 8.5 | 8.5 | 38.5 | | 8.5 | 33.5 | 33.5 |
| Total Split (s) | 17.6 | 44.5 | | 8.5 | 35.4 | 8.5 | 8.5 | 38.5 | | 8.5 | 38.5 | 38.5 |
| Total Split (%) | 17.6% | 44.5% | | 8.5% | 35.4% | 8.5% | 8.5% | 38.5% | | 8.5% | 38.5% | 38.5% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | 3.2 | 3.2 | 3.2 | | 3.2 | 3.2 | 3.2 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | 4.2 | 4.2 | 4.2 | | 4.2 | 4.2 | 4.2 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | C-Min | | None | C-Min | None | None | None | | None | None | None |

**Intersection Summary**

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 81 (81%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 145
Control Type: Actuated-Coordinated

Splits and Phases: 66: W. Hills H.S. Drwy/Weston Rd & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 200 | 1910 | 5 | 15 | 680 | 110 | 0 | 10 | 5 | 50 | 5 | 90 |
| Future Volume (veh/h) | 200 | 1910 | 5 | 15 | 680 | 110 | 0 | 10 | 5 | 50 | 5 | 90 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 217 | 2076 | 5 | 16 | 739 | 120 | 0 | 11 | 5 | 54 | 5 | 98 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 239 | 2547 | 6 | 26 | 2064 | 982 | 2 | 82 | 37 | 69 | 277 | 235 |
| Arrive On Green | 0.18 | 0.93 | 0.93 | 0.03 | 1.00 | 1.00 | 0.00 | 0.07 | 0.07 | 0.04 | 0.15 | 0.15 |
| Sat Flow, veh/h | 1781 | 3637 | 9 | 1781 | 3554 | 1585 | 1781 | 1217 | 553 | 1781 | 1870 | 1585 |
| Grp Volume(v), veh/h | 217 | 1014 | 1067 | 16 | 739 | 120 | 0 | 0 | 16 | 54 | 5 | 98 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1869 | 1781 | 1777 | 1585 | 1781 | 0 | 1771 | 1781 | 1870 | 1585 |
| Q Serve(g_s), s | 11.9 | 16.2 | 16.3 | 0.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.9 | 3.0 | 0.2 | 5.6 |
| Cycle Q Clear(g_c), s | 11.9 | 16.2 | 16.3 | 0.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.9 | 3.0 | 0.2 | 5.6 |
| Prop In Lane | 1.00 | | 0.00 | 1.00 | | 1.00 | 1.00 | | 0.31 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 239 | 1244 | 1309 | 26 | 2064 | 982 | 2 | 0 | 119 | 69 | 277 | 235 |
| V/C Ratio(X) | 0.91 | 0.81 | 0.82 | 0.63 | 0.36 | 0.12 | 0.00 | 0.00 | 0.13 | 0.78 | 0.02 | 0.42 |
| Avail Cap(c_a), veh/h | 239 | 1244 | 1309 | 77 | 2064 | 982 | 77 | 0 | 607 | 77 | 642 | 544 |
| HCM Platoon Ratio | 1.33 | 1.33 | 1.33 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.58 | 0.58 | 0.58 | 0.97 | 0.97 | 0.97 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 40.5 | 1.6 | 1.6 | 48.3 | 0.0 | 0.0 | 0.0 | 0.0 | 43.9 | 47.6 | 36.4 | 38.7 |
| Incr Delay (d2), s/veh | 23.7 | 3.5 | 3.4 | 21.8 | 0.5 | 0.2 | 0.0 | 0.0 | 0.5 | 36.2 | 0.0 | 1.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 6.4 | 2.6 | 2.6 | 0.5 | 0.1 | 0.1 | 0.0 | 0.0 | 0.4 | 2.0 | 0.1 | 2.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 64.2 | 5.1 | 5.0 | 70.1 | 0.5 | 0.2 | 0.0 | 0.0 | 44.4 | 83.8 | 36.4 | 39.8 |
| LnGrp LOS | E | A | A | E | A | A | A | A | D | F | D | D |
| Approach Vol, veh/h | | 2298 | | | 875 | | | 16 | | | 157 | |
| Approach Delay, s/veh | | 10.6 | | | 1.7 | | | 44.4 | | | 54.9 | |
| Approach LOS | | B | | | A | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.6 | 75.3 | 0.0 | 19.0 | 17.6 | 63.4 | 8.1 | 10.9 |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | * 4.2 | * 4.2 | * 4.2 | 5.3 | * 4.2 | * 4.2 |
| Max Green Setting (Gmax), s | * 4.3 | 39.2 | * 4.3 | * 34 | * 13 | 30.1 | * 4.3 | * 34 |
| Max Q Clear Time (g_c+I1), s | 2.9 | 18.3 | 0.0 | 7.6 | 13.9 | 2.0 | 5.0 | 2.9 |
| Green Ext Time (p_c), s | 0.0 | 15.8 | 0.0 | 0.3 | 0.0 | 5.6 | 0.0 | 0.0 |

**Intersection Summary**

| | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 10.5 |
| HCM 6th LOS | | B |

**Notes**

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

# APPENDIX J-2

## YEAR 2035 BASELINE PEAK HOUR HCS FREEWAY SHEETS

# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | 2035 |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-52 EB: Santo Rd to Mast Blvd | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Rolling |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 0.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 73.1 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 2039 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.951 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 760 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.32 |
| Passenger Car Equivalent ($E_T$) | 3.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 73.1 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 10.4 |
| Total Ramp Density Adjustment | 2.3 | Level of Service (LOS) | A |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 73.1 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | 2035 |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-52 EB: Santo Rd to Mast Blvd | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Rolling |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 0.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 73.1 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | Mostly Familiar | Final Speed Adjustment Factor (SAF) | 0.975 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 0.968 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 7410 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.951 |
| Peak Hour Factor (PHF) | 0.92 | Flow Rate ($v_p$), pc/h/ln | 2823 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2323 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 1.22 |
| Passenger Car Equivalent ($E_T$) | 3.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | - |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | - |
| Total Ramp Density Adjustment | 2.3 | Level of Service (LOS) | F |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 71.3 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | 2035 |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-52 WB: Mast Blvd to Santo Rd | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Rolling |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 0.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 73.1 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | Mostly Familiar | Final Speed Adjustment Factor (SAF) | 0.975 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 0.968 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 8012 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.951 |
| Peak Hour Factor (PHF) | 0.92 | Flow Rate ($v_p$), pc/h/ln | 3052 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2323 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 1.31 |
| Passenger Car Equivalent ($E_T$) | 3.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | - |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | - |
| Total Ramp Density Adjustment | 2.3 | Level of Service (LOS) | F |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 71.3 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | 2035 |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-52 WB: Mast Blvd to Santo Rd | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Rolling |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 0.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 73.1 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 3233 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.951 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1206 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.50 |
| Passenger Car Equivalent ($E_T$) | 3.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 72.9 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 16.5 |
| Total Ramp Density Adjustment | 2.3 | Level of Service (LOS) | B |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 73.1 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | 2035 |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-52 EB: Mast Blvd to SR-125 | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 2 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.50 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.9 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 2012 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1098 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.46 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 70.9 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 15.5 |
| Total Ramp Density Adjustment | 4.5 | Level of Service (LOS) | B |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.9 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | 2035 |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-52 EB: Mast Blvd to SR-125 | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 2 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.50 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.9 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 6351 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 3465 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 1.44 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | - |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | - |
| Total Ramp Density Adjustment | 4.5 | Level of Service (LOS) | F |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.9 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | 2035 |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-52 WB: SR-125 to Mast Blvd | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 2 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.4 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 5590 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 3050 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 1.27 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | - |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | - |
| Total Ramp Density Adjustment | 5.0 | Level of Service (LOS) | F |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.4 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | 2035 |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-52 WB: SR-125 to Mast Blvd | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 2 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.4 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 3424 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1868 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.78 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 65.0 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 28.7 |
| Total Ramp Density Adjustment | 5.0 | Level of Service (LOS) | D |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.4 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | 2035 |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-52 EB: SR-125 to Cuyamaca St | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.4 |
| Right-Side Lateral Clearance, ft | 8 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 2563 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 932 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.39 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 70.4 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 13.2 |
| Total Ramp Density Adjustment | 5.0 | Level of Service (LOS) | B |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.4 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | 2035 |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-52 EB: SR-125 to Cuyamaca St | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.4 |
| Right-Side Lateral Clearance, ft | 8 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 6365 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 2315 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.96 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 55.6 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 41.6 |
| Total Ramp Density Adjustment | 5.0 | Level of Service (LOS) | E |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.4 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | 2035 |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-52 WB: Cuyamaca St to SR-125 | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.83 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.1 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 4786 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1741 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.73 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 66.7 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 26.1 |
| Total Ramp Density Adjustment | 5.4 | Level of Service (LOS) | D |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.1 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | 2035 |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-52 WB: Cuyamaca St to SR-125 | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.83 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.1 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 4229 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1538 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.64 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 68.7 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 22.4 |
| Total Ramp Density Adjustment | 5.4 | Level of Service (LOS) | C |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.1 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | 2035 |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-52 EB: Cuyamaca St to SR-67 | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.33 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 71.3 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 1822 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 663 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.28 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 71.3 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 9.3 |
| Total Ramp Density Adjustment | 4.1 | Level of Service (LOS) | A |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 71.3 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | 2035 |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-52 EB: Cuyamaca St to SR-67 | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.33 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 71.3 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 5684 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 2067 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.86 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 61.6 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 33.6 |
| Total Ramp Density Adjustment | 4.1 | Level of Service (LOS) | D |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 71.3 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | 2035 |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-52 WB: SR-67 to Cuyamaca St | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.50 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.9 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 4557 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1657 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.69 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 68.1 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 24.3 |
| Total Ramp Density Adjustment | 4.5 | Level of Service (LOS) | C |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.9 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | 2035 |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-52 WB: SR-67 to Cuyamaca St | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.50 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.9 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 3500 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1273 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.53 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 70.8 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 18.0 |
| Total Ramp Density Adjustment | 4.5 | Level of Service (LOS) | B |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.9 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | 2035 |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-67 NB: SR-52 to Riverford Rd | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 2 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.00 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 69.6 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 2926 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.932 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1670 |
| Total Trucks, % | 7.30 | Capacity (c), pc/h/ln | 2396 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2396 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.70 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 67.2 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 24.9 |
| Total Ramp Density Adjustment | 5.8 | Level of Service (LOS) | C |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 69.6 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | 2035 |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-67 NB: SR-52 to Riverford Rd | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 2 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.00 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 69.6 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 4710 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.932 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 2688 |
| Total Trucks, % | 7.30 | Capacity (c), pc/h/ln | 2396 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2396 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 1.12 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | - |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | - |
| Total Ramp Density Adjustment | 5.8 | Level of Service (LOS) | F |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 69.6 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | 2035 |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-67 SB: Riverford Rd to SR-52 | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 2 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.17 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 69.2 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 4136 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.932 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 2360 |
| Total Trucks, % | 7.30 | Capacity (c), pc/h/ln | 2392 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2392 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.99 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 54.0 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 43.7 |
| Total Ramp Density Adjustment | 6.2 | Level of Service (LOS) | E |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 69.2 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | 2035 |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-67 SB: Riverford Rd to SR-52 | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 2 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.17 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 69.2 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 3477 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.932 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1984 |
| Total Trucks, % | 7.30 | Capacity (c), pc/h/ln | 2392 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2392 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.83 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 62.5 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 31.7 |
| Total Ramp Density Adjustment | 6.2 | Level of Service (LOS) | D |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 69.2 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | 2035 |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-67 NB: Bradley Ave to SR-52 | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 4 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.17 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 69.2 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 4600 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.937 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1306 |
| Total Trucks, % | 6.70 | Capacity (c), pc/h/ln | 2392 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2392 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.55 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 69.1 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 18.9 |
| Total Ramp Density Adjustment | 6.2 | Level of Service (LOS) | C |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 69.2 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | 2035 |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-67 NB: Bradley Ave to SR-52 | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 4 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.17 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 69.2 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 7405 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.937 |
| Peak Hour Factor (PHF) | 0.93 | Flow Rate ($v_p$), pc/h/ln | 2124 |
| Total Trucks, % | 6.70 | Capacity (c), pc/h/ln | 2392 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2392 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.89 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 59.7 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 35.6 |
| Total Ramp Density Adjustment | 6.2 | Level of Service (LOS) | E |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 69.2 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | 2035 |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-67 SB: SR-52 to Bradley Ave | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.16 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 69.3 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 6502 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.937 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 2461 |
| Total Trucks, % | 6.70 | Capacity (c), pc/h/ln | 2393 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2393 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 1.03 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | - |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | - |
| Total Ramp Density Adjustment | 6.1 | Level of Service (LOS) | F |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 69.3 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | 2035 |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-67 SB: SR-52 to Bradley Ave | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.16 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 69.3 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 5466 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.937 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 2069 |
| Total Trucks, % | 6.70 | Capacity (c), pc/h/ln | 2393 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2393 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.86 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 60.9 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 34.0 |
| Total Ramp Density Adjustment | 6.1 | Level of Service (LOS) | D |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 69.3 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | 2035 |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-125 NB: Grossmont College Dr to SR-52 | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 5 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.4 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 4173 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.958 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 927 |
| Total Trucks, % | 4.40 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.39 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 70.4 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 13.2 |
| Total Ramp Density Adjustment | 5.0 | Level of Service (LOS) | B |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.4 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | 2035 |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-125 NB: Grossmont College Dr to SR-52 | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 5 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.4 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 3684 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.958 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 818 |
| Total Trucks, % | 4.40 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.34 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 70.4 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 11.6 |
| Total Ramp Density Adjustment | 5.0 | Level of Service (LOS) | B |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.4 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | 2035 |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-125 SB: SR-52 to Grossmont College Dr | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 4 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.4 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 2681 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.958 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 744 |
| Total Trucks, % | 4.40 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.31 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 70.4 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 10.6 |
| Total Ramp Density Adjustment | 5.0 | Level of Service (LOS) | A |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.4 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | 2035 |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-125 SB: SR-52 to Grossmont College Dr | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 4 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.4 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 4704 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.958 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1306 |
| Total Trucks, % | 4.40 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.54 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 70.2 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 18.6 |
| Total Ramp Density Adjustment | 5.0 | Level of Service (LOS) | C |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.4 | | |

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# APPENDIX K

## YEAR 2035 WITH PROJECT PEAK HOUR ANALYSES

# APPENDIX K-1

## YEAR 2035 WITH PROJECT PEAK HOUR SYNCHRO INTERSECTION SHEETS

| Intersection | |
|---|---|
| Int Delay, s/veh | 10.3 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 220 | 15 | 275 | 80 | 10 | 528 |
| Future Vol, veh/h | 220 | 15 | 275 | 80 | 10 | 528 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | 150 | 50 | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 239 | 16 | 299 | 87 | 11 | 574 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 895 | 299 | 0 | 0 | 386 | 0 |
| Stage 1 | 299 | - | - | - | - | - |
| Stage 2 | 596 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | - | - | 4.12 | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | - | - | 2.218 | - |
| Pot Cap-1 Maneuver | 311 | 741 | - | - | 1172 | - |
| Stage 1 | 752 | - | - | - | - | - |
| Stage 2 | 550 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | |
| Mov Cap-1 Maneuver | 308 | 741 | - | - | 1172 | - |
| Mov Cap-2 Maneuver | 308 | - | - | - | - | - |
| Stage 1 | 745 | - | - | - | - | - |
| Stage 2 | 550 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 49 | 0 | 0.2 |
| HCM LOS | E | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | SBL | SBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 320 | 1172 | - |
| HCM Lane V/C Ratio | - | - | 0.798 | 0.009 | - |
| HCM Control Delay (s) | - | - | 49 | 8.1 | - |
| HCM Lane LOS | - | - | E | A | - |
| HCM 95th %tile Q(veh) | - | - | 6.6 | 0 | - |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 13.5 |
| Intersection LOS | B |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 90 | 35 | 10 | 0 | 40 | 209 | 10 | 0 | 399 | 0 |
| Future Vol, veh/h | 0 | 0 | 90 | 35 | 10 | 0 | 40 | 209 | 10 | 0 | 399 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 98 | 38 | 11 | 0 | 43 | 227 | 11 | 0 | 434 | 0 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 3 | 3 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 3 | 3 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 3 | 3 | 1 | 1 |
| HCM Control Delay | 9.5 | 10.4 | 10.6 | 16.7 |
| HCM LOS | A | B | B | C |

| Lane | NBLn1 | NBLn2 | NBLn3 | EBLn1 | WBLn1 | SBLn1 | SBLn2 | SBLn3 |
|---|---|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 0% | 78% | 0% | 0% | 0% |
| Vol Thru, % | 0% | 100% | 0% | 0% | 22% | 100% | 100% | 100% |
| Vol Right, % | 0% | 0% | 100% | 100% | 0% | 0% | 0% | 0% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 40 | 209 | 10 | 90 | 45 | 0 | 399 | 0 |
| LT Vol | 40 | 0 | 0 | 0 | 35 | 0 | 0 | 0 |
| Through Vol | 0 | 209 | 0 | 0 | 10 | 0 | 399 | 0 |
| RT Vol | 0 | 0 | 10 | 90 | 0 | 0 | 0 | 0 |
| Lane Flow Rate | 43 | 227 | 11 | 98 | 49 | 0 | 434 | 0 |
| Geometry Grp | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| Degree of Util (X) | 0.071 | 0.339 | 0.014 | 0.157 | 0.094 | 0 | 0.632 | 0 |
| Departure Headway (Hd) | 5.883 | 5.379 | 4.672 | 5.767 | 6.955 | 5.244 | 5.244 | 5.244 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 602 | 661 | 755 | 625 | 518 | 0 | 681 | 0 |
| Service Time | 3.683 | 3.178 | 2.47 | 3.469 | 4.659 | 3.031 | 3.031 | 3.031 |
| HCM Lane V/C Ratio | 0.071 | 0.343 | 0.015 | 0.157 | 0.095 | 0 | 0.637 | 0 |
| HCM Control Delay | 9.1 | 11 | 7.5 | 9.5 | 10.4 | 8 | 16.7 | 8 |
| HCM Lane LOS | A | B | A | A | B | N | C | N |
| HCM 95th-tile Q | 0.2 | 1.5 | 0 | 0.6 | 0.3 | 0 | 4.5 | 0 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 23.6 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 5 | 5 | 20 | 128 | 5 | 5 | 15 | 392 | 58 | 5 | 757 | 5 |
| Future Vol, veh/h | 5 | 5 | 20 | 128 | 5 | 5 | 15 | 392 | 58 | 5 | 757 | 5 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 5 | 5 | 22 | 139 | 5 | 5 | 16 | 426 | 63 | 5 | 823 | 5 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1331 | 1357 | 826 | 1339 | 1328 | 458 | 828 | 0 | 0 | 489 | 0 | 0 |
| Stage 1 | 836 | 836 | - | 490 | 490 | - | - | - | - | - | - | - |
| Stage 2 | 495 | 521 | - | 849 | 838 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | 4.12 | - | - | 4.12 | - | - |
| Critical Hdwy Stg 1 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | 2.218 | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 132 | 149 | 372 | ~ 130 | 155 | 603 | 803 | - | - | 1074 | - | - |
| Stage 1 | 362 | 382 | - | 560 | 549 | - | - | - | - | - | - | - |
| Stage 2 | 556 | 532 | - | 356 | 382 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 124 | 143 | 372 | ~ 116 | 149 | 603 | 803 | - | - | 1074 | - | - |
| Mov Cap-2 Maneuver | 124 | 143 | - | ~ 116 | 149 | - | - | - | - | - | - | - |
| Stage 1 | 352 | 379 | - | 544 | 534 | - | - | - | - | - | - | - |
| Stage 2 | 530 | 517 | - | 327 | 379 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 23 | 232.8 | 0.3 | 0.1 |
| HCM LOS | C | F | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 803 | - | - | 232 | 120 | 1074 | - | - |
| HCM Lane V/C Ratio | 0.02 | - | - | 0.141 | 1.25 | 0.005 | - | - |
| HCM Control Delay (s) | 9.6 | 0 | - | 23 | 232.8 | 8.4 | 0 | - |
| HCM Lane LOS | A | A | - | C | F | A | A | - |
| HCM 95th %tile Q(veh) | 0.1 | - | - | 0.5 | 9.6 | 0 | - | - |

| Notes | | | |
|---|---|---|---|
| ~: Volume exceeds capacity | $: Delay exceeds 300s | +: Computation Not Defined | *: All major volume in platoon |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 115 |
| Intersection LOS | F |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 0 | 5 | 15 | 235 | 0 | 5 | 5 | 340 | 70 | 10 | 723 | 0 |
| Future Vol, veh/h | 0 | 5 | 15 | 235 | 0 | 5 | 5 | 340 | 70 | 10 | 723 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 5 | 16 | 255 | 0 | 5 | 5 | 370 | 76 | 11 | 786 | 0 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |

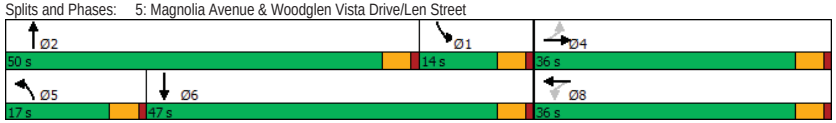
| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay | 11.8 | 18.4 | 29.7 | 197.7 |
| HCM LOS | B | C | D | F |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 98% | 100% | 0% |
| Vol Thru, % | 0% | 83% | 25% | 0% | 0% | 100% |
| Vol Right, % | 0% | 17% | 75% | 2% | 0% | 0% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 5 | 410 | 20 | 240 | 10 | 723 |
| LT Vol | 5 | 0 | 0 | 235 | 10 | 0 |
| Through Vol | 0 | 340 | 5 | 0 | 0 | 723 |
| RT Vol | 0 | 70 | 15 | 5 | 0 | 0 |
| Lane Flow Rate | 5 | 446 | 22 | 261 | 11 | 786 |
| Geometry Grp | 7 | 7 | 2 | 2 | 7 | 7 |
| Degree of Util (X) | 0.01 | 0.783 | 0.045 | 0.508 | 0.021 | 1.379 |
| Departure Headway (Hd) | 7.447 | 6.811 | 8.372 | 7.717 | 6.827 | 6.318 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 483 | 535 | 430 | 470 | 524 | 574 |
| Service Time | 5.147 | 4.511 | 6.372 | 5.717 | 4.575 | 4.065 |
| HCM Lane V/C Ratio | 0.01 | 0.834 | 0.051 | 0.555 | 0.021 | 1.369 |
| HCM Control Delay | 10.2 | 29.9 | 11.8 | 18.4 | 9.7 | 200.3 |
| HCM Lane LOS | B | D | B | C | A | F |
| HCM 95th-tile Q | 0 | 7.2 | 0.1 | 2.8 | 0.1 | 35.1 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 20 | 5 | 115 | 45 | 15 | 10 | 40 | 354 | 15 | 10 | 739 | 15 |
| Future Volume (vph) | 20 | 5 | 115 | 45 | 15 | 10 | 40 | 354 | 15 | 10 | 739 | 15 |
| Confl. Peds. (#/hr) | | | 95 | | | 4 | | | 15 | | | 95 |
| Confl. Bikes (#/hr) | | | 1 | | | 1 | | | | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Perm | NA | | Perm | NA | | Prot | NA | | Prot | NA | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 26.5 | 26.5 | | 26.5 | 26.5 | | 11.5 | 22.5 | | 11.5 | 22.5 | |
| Total Split (s) | 36.0 | 36.0 | | 36.0 | 36.0 | | 17.0 | 50.0 | | 14.0 | 47.0 | |
| Total Split (%) | 36.0% | 36.0% | | 36.0% | 36.0% | | 17.0% | 50.0% | | 14.0% | 47.0% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | | | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lead | | Lag | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 43.9 |
| Natural Cycle: 65 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 5: Magnolia Avenue & Woodglen Vista Drive/Len Street








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 20 | 5 | 115 | 45 | 15 | 10 | 40 | 354 | 15 | 10 | 739 | 15 |
| Future Volume (veh/h) | 20 | 5 | 115 | 45 | 15 | 10 | 40 | 354 | 15 | 10 | 739 | 15 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.89 | 0.93 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 0.85 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 22 | 5 | 125 | 49 | 16 | 11 | 43 | 385 | 16 | 11 | 803 | 16 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 589 | 16 | 406 | 316 | 98 | 49 | 113 | 982 | 41 | 249 | 1274 | 25 |
| Arrive On Green | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | 0.06 | 0.28 | 0.28 | 0.14 | 0.36 | 0.36 |
| Sat Flow, veh/h | 1379 | 55 | 1374 | 649 | 333 | 166 | 1781 | 3473 | 144 | 1781 | 3549 | 71 |
| Grp Volume(v), veh/h | 22 | 0 | 130 | 76 | 0 | 0 | 43 | 196 | 205 | 11 | 402 | 417 |
| Grp Sat Flow(s),veh/h/ln | 1379 | 0 | 1429 | 1149 | 0 | 0 | 1781 | 1777 | 1840 | 1781 | 1777 | 1843 |
| Q Serve(g_s), s | 0.0 | 0.0 | 3.4 | 0.7 | 0.0 | 0.0 | 1.1 | 4.3 | 4.3 | 0.3 | 9.0 | 9.0 |
| Cycle Q Clear(g_c), s | 0.4 | 0.0 | 3.4 | 4.0 | 0.0 | 0.0 | 1.1 | 4.3 | 4.3 | 0.3 | 9.0 | 9.0 |
| Prop In Lane | 1.00 | | 0.96 | 0.64 | | 0.14 | 1.00 | | 0.08 | 1.00 | | 0.04 |
| Lane Grp Cap(c), veh/h | 589 | 0 | 422 | 463 | 0 | 0 | 113 | 503 | 520 | 249 | 638 | 661 |
| V/C Ratio(X) | 0.04 | 0.00 | 0.31 | 0.16 | 0.00 | 0.00 | 0.38 | 0.39 | 0.39 | 0.04 | 0.63 | 0.63 |
| Avail Cap(c_a), veh/h | 1088 | 0 | 939 | 942 | 0 | 0 | 465 | 1687 | 1747 | 353 | 1576 | 1635 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 12.0 | 0.0 | 13.1 | 12.9 | 0.0 | 0.0 | 21.5 | 13.9 | 13.9 | 17.8 | 12.7 | 12.7 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 0.4 | 0.2 | 0.0 | 0.0 | 2.1 | 0.5 | 0.5 | 0.1 | 1.0 | 1.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.2 | 0.0 | 1.0 | 0.6 | 0.0 | 0.0 | 0.5 | 1.4 | 1.5 | 0.1 | 2.9 | 3.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 12.1 | 0.0 | 13.5 | 13.1 | 0.0 | 0.0 | 23.6 | 14.3 | 14.3 | 17.9 | 13.8 | 13.7 |
| LnGrp LOS | B | A | B | B | A | A | C | B | B | B | B | B |
| Approach Vol, veh/h | | 152 | | | 76 | | | 444 | | | 830 | |
| Approach Delay, s/veh | | 13.3 | | | 13.1 | | | 15.2 | | | 13.8 | |
| Approach LOS | | B | | | B | | | B | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 11.2 | 18.1 | | 18.7 | 7.6 | 21.7 | | 18.7 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 9.5 | 45.5 | | 31.5 | 12.5 | 42.5 | | 31.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.3 | 6.3 | | 5.4 | 3.1 | 11.0 | | 6.0 | | | | |
| Green Ext Time (p_c), s | 0.0 | 2.3 | | 0.9 | 0.0 | 5.3 | | 0.4 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 14.1 | |
| HCM 6th LOS | B | |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 263.3 |
| Intersection LOS | F |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 5 | 10 | 265 | 5 | 5 | 5 | 405 | 50 | 5 | 958 | 5 |
| Future Vol, veh/h | 0 | 5 | 10 | 265 | 5 | 5 | 5 | 405 | 50 | 5 | 958 | 5 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 5 | 11 | 288 | 5 | 5 | 5 | 440 | 54 | 5 | 1041 | 5 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay | 13.4 | 23.4 | 47.6 | 437.8 |
| HCM LOS | B | C | E | F |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 96% | 100% | 0% |
| Vol Thru, % | 0% | 89% | 33% | 2% | 0% | 99% |
| Vol Right, % | 0% | 11% | 67% | 2% | 0% | 1% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 5 | 455 | 15 | 275 | 5 | 963 |
| LT Vol | 5 | 0 | 0 | 265 | 5 | 0 |
| Through Vol | 0 | 405 | 5 | 5 | 0 | 958 |
| RT Vol | 0 | 50 | 10 | 5 | 0 | 5 |
| Lane Flow Rate | 5 | 495 | 16 | 299 | 5 | 1047 |
| Geometry Grp | 7 | 7 | 2 | 2 | 7 | 7 |
| Degree of Util (X) | 0.011 | 0.901 | 0.036 | 0.593 | 0.011 | 1.927 |
| Departure Headway (Hd) | 8.224 | 7.626 | 10.071 | 8.595 | 7.142 | 6.627 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 438 | 480 | 358 | 424 | 501 | 555 |
| Service Time | 5.924 | 5.326 | 8.071 | 6.595 | 4.892 | 4.376 |
| HCM Lane V/C Ratio | 0.011 | 1.031 | 0.045 | 0.705 | 0.01 | 1.886 |
| HCM Control Delay | 11 | 48 | 13.4 | 23.4 | 10 | 440 |
| HCM Lane LOS | B | E | B | C | A | F |
| HCM 95th-tile Q | 0 | 10 | 0.1 | 3.7 | 0 | 68.2 |

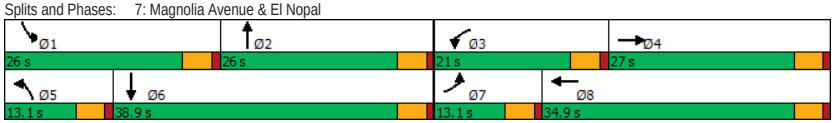




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 50 | 65 | 95 | 140 | 125 | 189 | 50 | 390 | 55 | 284 | 700 | 85 |
| Future Volume (vph) | 50 | 65 | 95 | 140 | 125 | 189 | 50 | 390 | 55 | 284 | 700 | 85 |
| Confl. Peds. (#/hr) | | | | | | 2 | | | | | | |
| Confl. Bikes (#/hr) | | | 2 | | | 2 | | | 1 | | | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | | Prot | NA | |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 11.5 | 26.5 | | 11.5 | 25.5 | | 11.5 | 22.5 | | 11.5 | 22.5 | |
| Total Split (s) | 13.1 | 27.0 | | 21.0 | 34.9 | | 13.1 | 26.0 | | 26.0 | 38.9 | |
| Total Split (%) | 13.1% | 27.0% | | 21.0% | 34.9% | | 13.1% | 26.0% | | 26.0% | 38.9% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | | None | Max | | None | Max | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 84.9 |
| Natural Cycle: 80 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 7: Magnolia Avenue & El Nopal



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 50 | 65 | 95 | 140 | 125 | 189 | 50 | 390 | 55 | 284 | 700 | 85 |
| Future Volume (veh/h) | 50 | 65 | 95 | 140 | 125 | 189 | 50 | 390 | 55 | 284 | 700 | 85 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 54 | 71 | 103 | 152 | 136 | 205 | 54 | 424 | 60 | 309 | 761 | 92 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 108 | 133 | 193 | 191 | 161 | 242 | 108 | 877 | 123 | 353 | 1333 | 161 |
| Arrive On Green | 0.06 | 0.19 | 0.19 | 0.11 | 0.24 | 0.24 | 0.06 | 0.28 | 0.28 | 0.20 | 0.42 | 0.42 |
| Sat Flow, veh/h | 1781 | 683 | 991 | 1781 | 666 | 1004 | 1781 | 3119 | 438 | 1781 | 3183 | 385 |
| Grp Volume(v), veh/h | 54 | 0 | 174 | 152 | 0 | 341 | 54 | 240 | 244 | 309 | 425 | 428 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1675 | 1781 | 0 | 1670 | 1781 | 1777 | 1780 | 1781 | 1777 | 1791 |
| Q Serve(g_s), s | 2.4 | 0.0 | 7.7 | 6.8 | 0.0 | 16.0 | 2.4 | 9.2 | 9.4 | 13.8 | 15.0 | 15.0 |
| Cycle Q Clear(g_c), s | 2.4 | 0.0 | 7.7 | 6.8 | 0.0 | 16.0 | 2.4 | 9.2 | 9.4 | 13.8 | 15.0 | 15.0 |
| Prop In Lane | 1.00 | | 0.59 | 1.00 | | 0.60 | 1.00 | | 0.25 | 1.00 | | 0.21 |
| Lane Grp Cap(c), veh/h | 108 | 0 | 326 | 191 | 0 | 403 | 108 | 499 | 500 | 353 | 744 | 750 |
| V/C Ratio(X) | 0.50 | 0.00 | 0.53 | 0.80 | 0.00 | 0.85 | 0.50 | 0.48 | 0.49 | 0.88 | 0.57 | 0.57 |
| Avail Cap(c_a), veh/h | 187 | 0 | 459 | 358 | 0 | 618 | 187 | 499 | 500 | 466 | 744 | 750 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 37.4 | 0.0 | 29.7 | 35.8 | 0.0 | 29.7 | 37.4 | 24.5 | 24.6 | 32.0 | 18.2 | 18.2 |
| Incr Delay (d2), s/veh | 3.6 | 0.0 | 1.4 | 7.4 | 0.0 | 6.7 | 3.6 | 3.3 | 3.4 | 13.6 | 3.2 | 3.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.2 | 0.0 | 3.2 | 3.3 | 0.0 | 7.0 | 1.1 | 4.1 | 4.2 | 6.9 | 6.2 | 6.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 41.0 | 0.0 | 31.1 | 43.3 | 0.0 | 36.4 | 41.0 | 27.8 | 28.0 | 45.6 | 21.4 | 21.4 |
| LnGrp LOS | D | A | C | D | A | D | D | C | C | D | C | C |
| Approach Vol, veh/h | | 228 | | | 493 | | | 538 | | | 1162 | |
| Approach Delay, s/veh | | 33.4 | | | 38.5 | | | 29.2 | | | 27.8 | |
| Approach LOS | | C | | | D | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 20.8 | 27.6 | 13.3 | 20.5 | 9.5 | 38.9 | 9.5 | 24.3 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 21.5 | 21.5 | 16.5 | 22.5 | 8.6 | 34.4 | 8.6 | 30.4 |
| Max Q Clear Time (g_c+I1), s | 15.8 | 11.4 | 8.8 | 9.7 | 4.4 | 17.0 | 4.4 | 18.0 |
| Green Ext Time (p_c), s | 0.5 | 1.9 | 0.2 | 0.8 | 0.0 | 4.8 | 0.0 | 1.8 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 30.8 |
| HCM 6th LOS | C |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 28.4 |
| Intersection LOS | D |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 409 | 20 | 190 | 315 | 15 | 250 |
| Future Vol, veh/h | 409 | 20 | 190 | 315 | 15 | 250 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 445 | 22 | 207 | 342 | 16 | 272 |
| Number of Lanes | 1 | 1 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB |
|---|---|---|---|
| Opposing Approach | WB | EB | |
| Opposing Lanes | 1 | 2 | 0 |
| Conflicting Approach Left | | NB | EB |
| Conflicting Lanes Left | 0 | 1 | 2 |
| Conflicting Approach Right | NB | | WB |
| Conflicting Lanes Right | 1 | 0 | 1 |
| HCM Control Delay | 25.8 | 37.7 | 14.7 |
| HCM LOS | D | E | B |

| Lane | NBLn1 | EBLn1 | EBLn2 | WBLn1 |
|---|---|---|---|---|
| Vol Left, % | 6% | 0% | 0% | 38% |
| Vol Thru, % | 0% | 100% | 0% | 62% |
| Vol Right, % | 94% | 0% | 100% | 0% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 265 | 409 | 20 | 505 |
| LT Vol | 15 | 0 | 0 | 190 |
| Through Vol | 0 | 409 | 0 | 315 |
| RT Vol | 250 | 0 | 20 | 0 |
| Lane Flow Rate | 288 | 445 | 22 | 549 |
| Geometry Grp | 2 | 7 | 7 | 5 |
| Degree of Util (X) | 0.483 | 0.766 | 0.033 | 0.884 |
| Departure Headway (Hd) | 6.04 | 6.202 | 5.49 | 5.8 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 590 | 578 | 647 | 620 |
| Service Time | 4.131 | 3.98 | 3.266 | 3.873 |
| HCM Lane V/C Ratio | 0.488 | 0.77 | 0.034 | 0.885 |
| HCM Control Delay | 14.7 | 26.6 | 8.5 | 37.7 |
| HCM Lane LOS | B | D | A | E |
| HCM 95th-tile Q | 2.6 | 6.9 | 0.1 | 10.5 |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 20.3 |
| Intersection LOS | F |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 90 | 38 | 425 | 75 | 59 | 825 |
| Future Vol, veh/h | 90 | 38 | 425 | 75 | 59 | 825 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 98 | 41 | 462 | 82 | 64 | 897 |
| Number of Lanes | 1 | 0 | 1 | 0 | 0 | 1 |

| Approach | WB | NB | SB |
|---|---|---|---|
| Opposing Approach | | SB | NB |
| Opposing Lanes | 0 | 1 | 1 |
| Conflicting Approach Left | NB | | WB |
| Conflicting Lanes Left | 1 | 0 | 1 |
| Conflicting Approach Right | SB | WB | |
| Conflicting Lanes Right | 1 | 1 | 0 |
| HCM Control Delay | 12.9 | 26 | 189.2 |
| HCM LOS | B | D | F |

| Lane | NBLn1 | WBLn1 | SBLn1 |
|---|---|---|---|
| Vol Left, % | 0% | 70% | 7% |
| Vol Thru, % | 85% | 0% | 93% |
| Vol Right, % | 15% | 30% | 0% |
| Sign Control | Stop | Stop | Stop |
| Traffic Vol by Lane | 500 | 128 | 884 |
| LT Vol | 0 | 90 | 59 |
| Through Vol | 425 | 0 | 825 |
| RT Vol | 75 | 38 | 0 |
| Lane Flow Rate | 543 | 139 | 961 |
| Geometry Grp | 1 | 1 | 1 |
| Degree of Util (X) | 0.784 | 0.258 | 1.363 |
| Departure Headway (Hd) | 5.636 | 7.359 | 5.107 |
| Convergence, Y/N | Yes | Yes | Yes |
| Cap | 647 | 491 | 711 |
| Service Time | 3.636 | 5.359 | 3.196 |
| HCM Lane V/C Ratio | 0.839 | 0.283 | 1.352 |
| HCM Control Delay | 26 | 12.9 | 189.2 |
| HCM Lane LOS | D | B | F |
| HCM 95th-tile Q | 7.6 | 1 | 40.2 |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 11.9 |
| Intersection LOS | B |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 5 | 20 | 256 | 10 | 30 | 10 | 242 | 47 | 5 | 5 | 36 | 5 |
| Future Vol, veh/h | 5 | 20 | 256 | 10 | 30 | 10 | 242 | 47 | 5 | 5 | 36 | 5 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 5 | 22 | 278 | 11 | 33 | 11 | 263 | 51 | 5 | 5 | 39 | 5 |
| Number of Lanes | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 2 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 2 | 2 | 3 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 3 | 2 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 3 | 2 | 1 | 2 |
| HCM Control Delay | 11.2 | 9.8 | 13.2 | 9.7 |
| HCM LOS | B | A | B | A |

| Lane | NBLn1 | NBLn2 | NBLn3 | EBLn1 | EBLn2 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 20% | 0% | 20% | 100% | 0% |
| Vol Thru, % | 0% | 100% | 76% | 80% | 0% | 60% | 0% | 88% |
| Vol Right, % | 0% | 0% | 24% | 0% | 100% | 20% | 0% | 12% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 242 | 31 | 21 | 25 | 256 | 50 | 5 | 41 |
| LT Vol | 242 | 0 | 0 | 5 | 0 | 10 | 5 | 0 |
| Through Vol | 0 | 31 | 16 | 20 | 0 | 30 | 0 | 36 |
| RT Vol | 0 | 0 | 5 | 0 | 256 | 10 | 0 | 5 |
| Lane Flow Rate | 263 | 34 | 22 | 27 | 278 | 54 | 5 | 45 |
| Geometry Grp | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| Degree of Util (X) | 0.459 | 0.055 | 0.035 | 0.045 | 0.403 | 0.096 | 0.011 | 0.079 |
| Departure Headway (Hd) | 6.277 | 5.773 | 5.602 | 6.021 | 5.219 | 6.38 | 6.958 | 6.363 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 576 | 621 | 640 | 598 | 693 | 561 | 514 | 563 |
| Service Time | 4.005 | 3.5 | 3.329 | 3.721 | 2.919 | 4.123 | 4.7 | 4.105 |
| HCM Lane V/C Ratio | 0.457 | 0.055 | 0.034 | 0.045 | 0.401 | 0.096 | 0.01 | 0.08 |
| HCM Control Delay | 14.2 | 8.8 | 8.5 | 9 | 11.4 | 9.8 | 9.8 | 9.7 |
| HCM Lane LOS | B | A | A | A | B | A | A | A |
| HCM 95th-tile Q | 2.4 | 0.2 | 0.1 | 0.1 | 2 | 0.3 | 0 | 0.3 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 5 |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 10 | 45 | 25 | 20 | 0 | 35 |
| Future Vol, veh/h | 10 | 45 | 25 | 20 | 0 | 35 |
| Conflicting Peds, #/hr | 1 | 1 | 1 | 0 | 0 | 1 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | 150 | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 11 | 49 | 27 | 22 | 0 | 38 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 97 | 21 | 39 | 0 | - | 0 |
| Stage 1 | 20 | - | - | - | - | - |
| Stage 2 | 77 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | 4.12 | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | 2.218 | - | - | - |
| Pot Cap-1 Maneuver | 902 | 1056 | 1571 | - | - | - |
| Stage 1 | 1003 | - | - | - | - | - |
| Stage 2 | 946 | - | - | - | - | - |
| Platoon blocked, % | | | | | - | - |
| Mov Cap-1 Maneuver | 885 | 1054 | 1570 | | - | - |
| Mov Cap-2 Maneuver | 885 | - | - | | - | - |
| Stage 1 | 985 | - | - | | - | - |
| Stage 2 | 945 | - | - | | - | - |

| Approach | EB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 8.8 | 4.1 | 0 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1570 | - | 1019 | - | - |
| HCM Lane V/C Ratio | 0.017 | - | 0.059 | - | - |
| HCM Control Delay (s) | 7.3 | - | 8.8 | - | - |
| HCM Lane LOS | A | - | A | - | - |
| HCM 95th %tile Q(veh) | 0.1 | - | 0.2 | - | - |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 399.6 |
| Intersection LOS | F |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 15 | 95 | 5 | 5 | 5 | 440 | 35 | 5 | 1183 | 0 |
| Future Vol, veh/h | 0 | 0 | 15 | 95 | 5 | 5 | 5 | 440 | 35 | 5 | 1183 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 16 | 103 | 5 | 5 | 5 | 478 | 38 | 5 | 1286 | 0 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 3 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 3 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 3 | 2 | 1 | 1 |
| HCM Control Delay | 12.3 | 15.7 | 26.2 | 589.3 |
| HCM LOS | B | C | D | F |

| Lane | NBLn1 | NBLn2 | NBLn3 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 0% | 90% | 100% | 0% |
| Vol Thru, % | 0% | 100% | 0% | 0% | 5% | 0% | 100% |
| Vol Right, % | 0% | 0% | 100% | 100% | 5% | 0% | 0% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 5 | 440 | 35 | 15 | 105 | 5 | 1183 |
| LT Vol | 5 | 0 | 0 | 0 | 95 | 5 | 0 |
| Through Vol | 0 | 440 | 0 | 0 | 5 | 0 | 1183 |
| RT Vol | 0 | 0 | 35 | 15 | 5 | 0 | 0 |
| Lane Flow Rate | 5 | 478 | 38 | 16 | 114 | 5 | 1286 |
| Geometry Grp | 7 | 7 | 7 | 7 | 7 | 8 | 8 |
| Degree of Util (X) | 0.009 | 0.759 | 0.053 | 0.032 | 0.246 | 0.01 | 2.27 |
| Departure Headway (Hd) | 7.273 | 6.761 | 6.043 | 9.289 | 9.788 | 6.862 | 6.356 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 495 | 540 | 596 | 388 | 370 | 525 | 592 |
| Service Time | 4.973 | 4.461 | 3.743 | 6.989 | 7.488 | 4.562 | 4.056 |
| HCM Lane V/C Ratio | 0.01 | 0.885 | 0.064 | 0.041 | 0.308 | 0.01 | 2.172 |
| HCM Control Delay | 10 | 27.7 | 9.1 | 12.3 | 15.7 | 9.6 | 591.7 |
| HCM Lane LOS | A | D | A | B | C | A | F |
| HCM 95th-tile Q | 0 | 6.7 | 0.2 | 0.1 | 1 | 0 | 95 |

| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 165 | 35 | 485 | 140 | 115 | 965 |
| Future Volume (vph) | 165 | 35 | 485 | 140 | 115 | 965 |
| Confl. Peds. (#/hr) | | 4 | | 11 | | |
| Confl. Bikes (#/hr) | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | 0% | | | 0% |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | NA | | Prot | NA |
| Protected Phases | 8 | | 2 | | 1 | 6 |
| Permitted Phases | | 8 | | | | |
| Detector Phase | 8 | 8 | 2 | | 1 | 6 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | | 8.5 | 20.5 |
| Total Split (s) | 22.5 | 22.5 | 22.5 | | 10.0 | 32.5 |
| Total Split (%) | 40.9% | 40.9% | 40.9% | | 18.2% | 59.1% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Lead/Lag | | | Lag | | Lead | |
| Lead-Lag Optimize? | | | Yes | | Yes | |
| Recall Mode | None | None | Min | | None | Min |

| Intersection Summary |
|---|
| Cycle Length: 55 |
| Actuated Cycle Length: 42.2 |
| Natural Cycle: 55 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 13: Magnolia Avenue & 2nd Street

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 165 | 35 | 485 | 140 | 115 | 965 |
| Future Volume (veh/h) | 165 | 35 | 485 | 140 | 115 | 965 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | | 0.98 | 1.00 | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | No | | | No |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 179 | 38 | 527 | 152 | 125 | 1049 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 264 | 235 | 903 | 259 | 158 | 2008 |
| Arrive On Green | 0.15 | 0.15 | 0.33 | 0.33 | 0.09 | 0.57 |
| Sat Flow, veh/h | 1781 | 1585 | 2807 | 779 | 1781 | 3647 |
| Grp Volume(v), veh/h | 179 | 38 | 344 | 335 | 125 | 1049 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 1777 | 1715 | 1781 | 1777 |
| Q Serve(g_s), s | 3.0 | 0.7 | 5.0 | 5.1 | 2.2 | 5.7 |
| Cycle Q Clear(g_c), s | 3.0 | 0.7 | 5.0 | 5.1 | 2.2 | 5.7 |
| Prop In Lane | 1.00 | 1.00 | | 0.45 | 1.00 | |
| Lane Grp Cap(c), veh/h | 264 | 235 | 592 | 571 | 158 | 2008 |
| V/C Ratio(X) | 0.68 | 0.16 | 0.58 | 0.59 | 0.79 | 0.52 |
| Avail Cap(c_a), veh/h | 1022 | 909 | 1019 | 983 | 312 | 3170 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 12.7 | 11.7 | 8.7 | 8.7 | 14.0 | 4.2 |
| Incr Delay (d2), s/veh | 3.0 | 0.3 | 0.9 | 1.0 | 8.6 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.1 | 0.2 | 1.2 | 1.2 | 1.0 | 0.4 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 15.7 | 12.0 | 9.6 | 9.6 | 22.6 | 4.4 |
| LnGrp LOS | B | B | A | A | C | A |
| Approach Vol, veh/h | 217 | | 679 | | | 1174 |
| Approach Delay, s/veh | 15.0 | | 9.6 | | | 6.4 |
| Approach LOS | B | | A | | | A |

| Timer - Assigned Phs | 1 | 2 | | | 6 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.3 | 15.0 | | | 22.2 | 9.2 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 5.5 | 18.0 | | | 28.0 | 18.0 |
| Max Q Clear Time (g_c+I1), s | 4.2 | 7.1 | | | 7.7 | 5.0 |
| Green Ext Time (p_c), s | 0.0 | 3.0 | | | 7.2 | 0.5 |

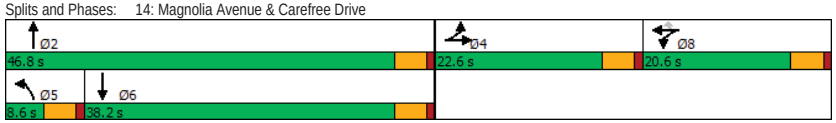
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 8.3 | |
| HCM 6th LOS | A | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 14 | 0 | 80 | 190 | 0 | 35 | 20 | 611 | 0 | 0 | 1202 | 18 |
| Future Volume (vph) | 14 | 0 | 80 | 190 | 0 | 35 | 20 | 611 | 0 | 0 | 1202 | 18 |
| Confl. Peds. (#/hr) | | | 115 | | | | | | 13 | | | 18 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | 50% | | | | | | | | |
| Turn Type | Split | NA | | Split | NA | Perm | Prot | NA | | | NA | |
| Protected Phases | 4 | 4 | | 8 | 8 | | 5 | 2 | | | 6 | |
| Permitted Phases | | | | | | 8 | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | 8 | 5 | 2 | | | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | | 4.0 | |
| Minimum Split (s) | 22.5 | 22.5 | | 20.5 | 20.5 | 20.5 | 8.5 | 22.5 | | | 22.5 | |
| Total Split (s) | 22.6 | 22.6 | | 20.6 | 20.6 | 20.6 | 8.6 | 46.8 | | | 38.2 | |
| Total Split (%) | 25.1% | 25.1% | | 22.9% | 22.9% | 22.9% | 9.6% | 52.0% | | | 42.4% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | 0.0 | |
| Total Lost Time (s) | | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | | 4.5 | |
| Lead/Lag | | | | | | | Lead | | | | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | | | | Yes | |
| Recall Mode | None | None | | None | None | None | None | Min | | | Min | |

**Intersection Summary**

Cycle Length: 90
Actuated Cycle Length: 68.5
Natural Cycle: 90
Control Type: Semi Act-Uncoord

Splits and Phases: 14: Magnolia Avenue & Carefree Drive








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 14 | 0 | 80 | 190 | 0 | 35 | 20 | 611 | 0 | 0 | 1202 | 18 |
| Future Volume (veh/h) | 14 | 0 | 80 | 190 | 0 | 35 | 20 | 611 | 0 | 0 | 1202 | 18 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.83 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.96 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 0 | 0 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 15 | 0 | 87 | 207 | 0 | 38 | 22 | 664 | 0 | 0 | 1307 | 20 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 0 | 0 | 2 | 2 |
| Cap, veh/h | 41 | 0 | 235 | 327 | 0 | 146 | 35 | 1826 | 0 | 0 | 1539 | 24 |
| Arrive On Green | 0.20 | 0.00 | 0.20 | 0.09 | 0.00 | 0.09 | 0.02 | 0.51 | 0.00 | 0.00 | 0.43 | 0.43 |
| Sat Flow, veh/h | 201 | 0 | 1166 | 3563 | 0 | 1585 | 1781 | 3647 | 0 | 0 | 3673 | 55 |
| Grp Volume(v), veh/h | 102 | 0 | 0 | 207 | 0 | 38 | 22 | 664 | 0 | 0 | 648 | 679 |
| Grp Sat Flow(s),veh/h/ln | 1367 | 0 | 0 | 1781 | 0 | 1585 | 1781 | 1777 | 0 | 0 | 1777 | 1858 |
| Q Serve(g_s), s | 4.5 | 0.0 | 0.0 | 3.9 | 0.0 | 1.6 | 0.9 | 7.8 | 0.0 | 0.0 | 23.0 | 23.0 |
| Cycle Q Clear(g_c), s | 4.5 | 0.0 | 0.0 | 3.9 | 0.0 | 1.6 | 0.9 | 7.8 | 0.0 | 0.0 | 23.0 | 23.0 |
| Prop In Lane | 0.15 | | 0.85 | 1.00 | | 1.00 | 1.00 | | 0.00 | 0.00 | | 0.03 |
| Lane Grp Cap(c), veh/h | 276 | 0 | 0 | 327 | 0 | 146 | 35 | 1826 | 0 | 0 | 764 | 799 |
| V/C Ratio(X) | 0.37 | 0.00 | 0.00 | 0.63 | 0.00 | 0.26 | 0.62 | 0.36 | 0.00 | 0.00 | 0.85 | 0.85 |
| Avail Cap(c_a), veh/h | 352 | 0 | 0 | 817 | 0 | 364 | 104 | 2142 | 0 | 0 | 853 | 892 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 24.2 | 0.0 | 0.0 | 30.7 | 0.0 | 29.7 | 34.1 | 10.2 | 0.0 | 0.0 | 18.0 | 18.0 |
| Incr Delay (d2), s/veh | 0.8 | 0.0 | 0.0 | 2.0 | 0.0 | 0.9 | 16.4 | 0.1 | 0.0 | 0.0 | 7.4 | 7.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.5 | 0.0 | 0.0 | 1.7 | 0.0 | 0.6 | 0.5 | 2.5 | 0.0 | 0.0 | 9.5 | 9.9 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 25.0 | 0.0 | 0.0 | 32.7 | 0.0 | 30.6 | 50.6 | 10.3 | 0.0 | 0.0 | 25.4 | 25.2 |
| LnGrp LOS | C | A | A | C | A | C | D | B | A | A | C | C |
| Approach Vol, veh/h | | 102 | | | 245 | | | 686 | | | 1327 | |
| Approach Delay, s/veh | | 25.0 | | | 32.4 | | | 11.6 | | | 25.3 | |
| Approach LOS | | C | | | C | | | B | | | C | |

| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 40.6 | | 18.7 | 5.9 | 34.7 | | 11.0 | | | | |
| Change Period (Y+Rc), s | | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | | 42.3 | | 18.1 | 4.1 | 33.7 | | 16.1 | | | | |
| Max Q Clear Time (g_c+I1), s | | 9.8 | | 6.5 | 2.9 | 25.0 | | 5.9 | | | | |
| Green Ext Time (p_c), s | | 4.7 | | 0.4 | 0.0 | 5.2 | | 0.6 | | | | |

**Intersection Summary**

| | | |
|---|---|---|
| HCM 6th Ctrl Delay | 22.0 | |
| HCM 6th LOS | C | |

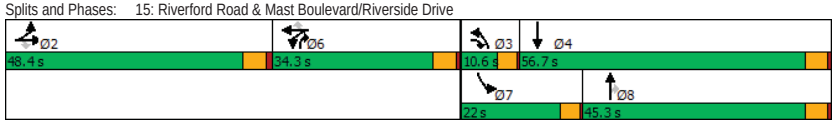
**Notes**

User approved volume balancing among the lanes for turning movement.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 70 | 70 | 110 | 580 | 20 | 312 | 40 | 262 | 420 | 390 | 439 | 30 |
| Future Volume (vph) | 70 | 70 | 110 | 580 | 20 | 312 | 40 | 262 | 420 | 390 | 439 | 30 |
| Confl. Peds. (#/hr) | | | 4 | | | 3 | | | 7 | | | |
| Confl. Bikes (#/hr) | | | 1 | | | 2 | | | 2 | | | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Split | NA | pm+ov | Split | NA | Perm | Prot | NA | pm+ov | Prot | NA | |
| Protected Phases | 2 | 2 | 3 | 6 | 6 | | 3 | 8 | 6 | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | 8 | | | |
| Detector Phase | 2 | 2 | 3 | 6 | 6 | 6 | 3 | 8 | 6 | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 6.0 | 6.0 | 5.0 | 4.0 | 4.0 | 4.0 | 5.0 | 6.0 | 4.0 | 4.0 | 6.0 | |
| Minimum Split (s) | 45.3 | 45.3 | 9.1 | 34.3 | 34.3 | 34.3 | 9.1 | 45.3 | 34.3 | 8.6 | 49.9 | |
| Total Split (s) | 48.4 | 48.4 | 10.6 | 34.3 | 34.3 | 34.3 | 10.6 | 45.3 | 34.3 | 22.0 | 56.7 | |
| Total Split (%) | 32.3% | 32.3% | 7.1% | 22.9% | 22.9% | 22.9% | 7.1% | 30.2% | 22.9% | 14.7% | 37.8% | |
| Yellow Time (s) | 4.3 | 4.3 | 3.6 | 4.3 | 4.3 | 4.3 | 3.6 | 3.9 | 4.3 | 3.6 | 3.9 | |
| All-Red Time (s) | 1.0 | 1.0 | 0.5 | 1.0 | 1.0 | 1.0 | 0.5 | 1.0 | 1.0 | 0.5 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 5.3 | 5.3 | 4.1 | 5.3 | 5.3 | 5.3 | 4.1 | 4.9 | 5.3 | 4.1 | 4.9 | |
| Lead/Lag | | | Lead | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | Yes | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | None | None | None | None | None | Min | None | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 150 |
| Actuated Cycle Length: 104.4 |
| Natural Cycle: 150 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 15: Riverford Road & Mast Boulevard/Riverside Drive








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 70 | 70 | 110 | 580 | 20 | 312 | 40 | 262 | 420 | 390 | 439 | 30 |
| Future Volume (veh/h) | 70 | 70 | 110 | 580 | 20 | 312 | 40 | 262 | 420 | 390 | 439 | 30 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.95 | 1.00 | | 0.97 | 1.00 | | 0.98 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 76 | 76 | 120 | 630 | 22 | 339 | 43 | 285 | 457 | 424 | 477 | 33 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 163 | 325 | 342 | 883 | 908 | 393 | 63 | 501 | 821 | 327 | 719 | 50 |
| Arrive On Green | 0.09 | 0.09 | 0.09 | 0.26 | 0.26 | 0.26 | 0.04 | 0.27 | 0.27 | 0.18 | 0.42 | 0.42 |
| Sat Flow, veh/h | 1781 | 3554 | 2663 | 3456 | 3554 | 1540 | 1781 | 1870 | 1551 | 1781 | 1727 | 120 |
| Grp Volume(v), veh/h | 76 | 76 | 120 | 630 | 22 | 339 | 43 | 285 | 457 | 424 | 0 | 510 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1332 | 1728 | 1777 | 1540 | 1781 | 1870 | 1551 | 1781 | 0 | 1847 |
| Q Serve(g_s), s | 3.9 | 1.9 | 4.0 | 16.2 | 0.5 | 20.5 | 2.3 | 12.8 | 19.4 | 17.9 | 0.0 | 21.7 |
| Cycle Q Clear(g_c), s | 3.9 | 1.9 | 4.0 | 16.2 | 0.5 | 20.5 | 2.3 | 12.8 | 19.4 | 17.9 | 0.0 | 21.7 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.06 |
| Lane Grp Cap(c), veh/h | 163 | 325 | 342 | 883 | 908 | 393 | 63 | 501 | 821 | 327 | 0 | 769 |
| V/C Ratio(X) | 0.47 | 0.23 | 0.35 | 0.71 | 0.02 | 0.86 | 0.68 | 0.57 | 0.56 | 1.30 | 0.00 | 0.66 |
| Avail Cap(c_a), veh/h | 788 | 1573 | 1277 | 1029 | 1058 | 458 | 119 | 776 | 1049 | 327 | 0 | 982 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 42.0 | 41.1 | 38.9 | 33.0 | 27.2 | 34.6 | 46.4 | 30.8 | 15.7 | 39.7 | 0.0 | 22.9 |
| Incr Delay (d2), s/veh | 2.1 | 0.4 | 0.6 | 2.0 | 0.0 | 13.8 | 12.3 | 1.0 | 0.6 | 153.6 | 0.0 | 1.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.8 | 0.8 | 1.3 | 6.7 | 0.2 | 9.0 | 1.2 | 5.8 | 11.1 | 21.7 | 0.0 | 9.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 44.0 | 41.4 | 39.5 | 35.0 | 27.2 | 48.4 | 58.8 | 31.8 | 16.3 | 193.4 | 0.0 | 24.0 |
| LnGrp LOS | D | D | D | C | C | D | E | C | B | F | A | C |
| Approach Vol, veh/h | | 272 | | | 991 | | | 785 | | | 934 | |
| Approach Delay, s/veh | | 41.3 | | | 39.4 | | | 24.2 | | | 100.9 | |
| Approach LOS | | D | | | D | | | C | | | F | |

| Timer - Assigned Phs | 2 | 3 | 4 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 14.2 | 7.5 | 45.4 | 30.2 | 22.0 | 31.0 |
| Change Period (Y+Rc), s | 5.3 | 4.1 | 4.9 | 5.3 | 4.1 | 4.9 |
| Max Green Setting (Gmax), s | 43.1 | 6.5 | 51.8 | 29.0 | 17.9 | 40.4 |
| Max Q Clear Time (g_c+I1), s | 6.0 | 4.3 | 23.7 | 22.5 | 19.9 | 21.4 |
| Green Ext Time (p_c), s | 1.1 | 0.0 | 3.6 | 2.2 | 0.0 | 3.4 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 54.8 | |
| HCM 6th LOS | D | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 10 | 15 | 265 | 35 | 0 | 0 | 0 | 0 | 588 | 0 | 5 |
| Future Volume (vph) | 0 | 10 | 15 | 265 | 35 | 0 | 0 | 0 | 0 | 588 | 0 | 5 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | 1 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | 50% | | |
| Turn Type | | NA | | Split | NA | | | | | Split | NA | |
| Protected Phases | | 8 | | 4 | 4 | | | | | 2 | 2 | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | | 8 | | 4 | 4 | | | | | 2 | 2 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | 7.0 | | 8.0 | 8.0 | | | | | 5.0 | 5.0 | |
| Minimum Split (s) | | 25.1 | | 28.4 | 28.4 | | | | | 32.3 | 32.3 | |
| Total Split (s) | | 25.1 | | 31.0 | 31.0 | | | | | 33.9 | 33.9 | |
| Total Split (%) | | 27.9% | | 34.4% | 34.4% | | | | | 37.7% | 37.7% | |
| Yellow Time (s) | | 4.1 | | 4.4 | 4.4 | | | | | 4.1 | 4.1 | |
| All-Red Time (s) | | 1.0 | | 1.0 | 1.0 | | | | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | | 0.0 | 0.0 | | | | | 0.0 | 0.0 | |
| Total Lost Time (s) | | 5.1 | | 5.4 | 5.4 | | | | | 5.1 | 5.1 | |
| Lead/Lag | | | | | | | | | | | | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Recall Mode | | None | | None | None | | | | | None | None | |

**Intersection Summary**

Cycle Length: 90
Actuated Cycle Length: 49.6
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 16: SR 52 EB Ramps & Mast Blvd

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 10 | 15 | 265 | 35 | 0 | 0 | 0 | 0 | 588 | 0 | 5 |
| Future Volume (veh/h) | 0 | 10 | 15 | 265 | 35 | 0 | 0 | 0 | 0 | 588 | 0 | 5 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | | | | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | | | | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | | | | No | |
| Adj Sat Flow, veh/h/ln | 0 | 1870 | 1870 | 1870 | 1870 | 0 | | | | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 11 | 16 | 288 | 38 | 0 | | | | 644 | 0 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 0 | 2 | 2 | 2 | 2 | 0 | | | | 2 | 2 | 2 |
| Cap, veh/h | 0 | 32 | 46 | 399 | 419 | 0 | | | | 1016 | 533 | 0 |
| Arrive On Green | 0.00 | 0.05 | 0.05 | 0.22 | 0.22 | 0.00 | | | | 0.29 | 0.00 | 0.00 |
| Sat Flow, veh/h | 0 | 689 | 1002 | 1781 | 1870 | 0 | | | | 3563 | 1870 | 0 |
| Grp Volume(v), veh/h | 0 | 0 | 27 | 288 | 38 | 0 | | | | 644 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 0 | 0 | 1690 | 1781 | 1870 | 0 | | | | 1781 | 1870 | 0 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.5 | 5.3 | 0.6 | 0.0 | | | | 5.5 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 0.0 | 0.0 | 0.5 | 5.3 | 0.6 | 0.0 | | | | 5.5 | 0.0 | 0.0 |
| Prop In Lane | 0.00 | | 0.59 | 1.00 | | 0.00 | | | | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 0 | 0 | 78 | 399 | 419 | 0 | | | | 1016 | 533 | 0 |
| V/C Ratio(X) | 0.00 | 0.00 | 0.35 | 0.72 | 0.09 | 0.00 | | | | 0.63 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 0 | 0 | 963 | 1299 | 1364 | 0 | | | | 2923 | 1535 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.00 | | | | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 0.0 | 0.0 | 16.2 | 12.6 | 10.8 | 0.0 | | | | 10.9 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 1.0 | 2.5 | 0.1 | 0.0 | | | | 0.7 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.0 | 0.2 | 1.8 | 0.2 | 0.0 | | | | 1.7 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 0.0 | 17.2 | 15.1 | 10.9 | 0.0 | | | | 11.6 | 0.0 | 0.0 |
| LnGrp LOS | A | A | B | B | B | A | | | | B | A | A |
| Approach Vol, veh/h | | 27 | | | 326 | | | | | | 644 | |
| Approach Delay, s/veh | | 17.2 | | | 14.6 | | | | | | 11.6 | |
| Approach LOS | | B | | | B | | | | | | B | |

| Timer - Assigned Phs | | 2 | | 4 | | | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 15.1 | | 13.3 | | | | 6.7 | | | | |
| Change Period (Y+Rc), s | | 5.1 | | 5.4 | | | | 5.1 | | | | |
| Max Green Setting (Gmax), s | | 28.8 | | 25.6 | | | | 20.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 7.5 | | 7.3 | | | | 2.5 | | | | |
| Green Ext Time (p_c), s | | 2.4 | | 1.0 | | | | 0.0 | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 12.7 | |
| HCM 6th LOS | | B | |

**Notes**

User approved volume balancing among the lanes for turning movement.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 20 | 578 | 0 | 0 | 290 | 2912 | 10 | 0 | 75 | 0 | 0 | 0 |
| Future Volume (vph) | 20 | 578 | 0 | 0 | 290 | 2912 | 10 | 0 | 75 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | 46% | | | 44% | | | |
| Turn Type | Prot | NA | | | NA | Perm | Perm | NA | Perm | | | |
| Protected Phases | 5 | 2 | | | 6 | | | 8 | | | | |
| Permitted Phases | | | | | | 6 | 8 | | 8 | | | |
| Detector Phase | 5 | 2 | | | 6 | 6 | 8 | 8 | 8 | | | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 10.0 | | | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | | | |
| Minimum Split (s) | 11.7 | 38.6 | | | 28.4 | 28.4 | 43.1 | 43.1 | 43.1 | | | |
| Total Split (s) | 11.7 | 86.9 | | | 75.2 | 75.2 | 43.1 | 43.1 | 43.1 | | | |
| Total Split (%) | 9.0% | 66.8% | | | 57.8% | 57.8% | 33.2% | 33.2% | 33.2% | | | |
| Yellow Time (s) | 3.7 | 4.1 | | | 4.4 | 4.4 | 4.1 | 4.1 | 4.1 | | | |
| All-Red Time (s) | 1.0 | 1.0 | | | 1.0 | 1.0 | 2.0 | 2.0 | 2.0 | | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | 0.0 | | | |
| Total Lost Time (s) | 4.7 | 5.1 | | | 5.4 | 5.4 | | 6.1 | 6.1 | | | |
| Lead/Lag | Lead | | | | Lag | Lag | | | | | | |
| Lead-Lag Optimize? | Yes | | | | Yes | Yes | | | | | | |
| Recall Mode | None | Min | | | Min | Min | None | None | None | | | |

**Intersection Summary**

Cycle Length: 130
Actuated Cycle Length: 105.2
Natural Cycle: 145
Control Type: Actuated-Uncoordinated

Splits and Phases: 17: SR-52 WB Ramps & Mast Blvd

2035 + Proj AM
17: SR-52 WB Ramps & Mast Blvd
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 20 | 578 | 0 | 0 | 290 | 2912 | 10 | 0 | 75 | 0 | 0 | 0 |
| Future Volume (veh/h) | 20 | 578 | 0 | 0 | 290 | 2912 | 10 | 0 | 75 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.98 | 1.00 | | 1.00 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.99 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 0 | 0 | 1870 | 1945 | 1870 | 1870 | 1870 | | | |
| Adj Flow Rate, veh/h | 22 | 628 | 0 | 0 | 0 | 3375 | 0 | 0 | 94 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | |
| Percent Heavy Veh, % | 2 | 2 | 0 | 0 | 2 | 2 | 2 | 2 | 2 | | | |
| Cap, veh/h | 57 | 2805 | 0 | 0 | 1327 | 2291 | 0 | 173 | 297 | | | |
| Arrive On Green | 0.03 | 0.79 | 0.00 | 0.00 | 0.00 | 0.71 | 0.00 | 0.00 | 0.09 | | | |
| Sat Flow, veh/h | 1781 | 3647 | 0 | 0 | 1870 | 3229 | 0 | 1848 | 3170 | | | |
| Grp Volume(v), veh/h | 22 | 628 | 0 | 0 | 0 | 3375 | 0 | 0 | 94 | | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 0 | 0 | 1870 | 1615 | 0 | 1848 | 1585 | | | |
| Q Serve(g_s), s | 1.2 | 4.5 | 0.0 | 0.0 | 0.0 | 69.8 | 0.0 | 0.0 | 2.7 | | | |
| Cycle Q Clear(g_c), s | 1.2 | 4.5 | 0.0 | 0.0 | 0.0 | 69.8 | 0.0 | 0.0 | 2.7 | | | |
| Prop In Lane | 1.00 | | 0.00 | 0.00 | | 1.00 | 0.00 | | 1.00 | | | |
| Lane Grp Cap(c), veh/h | 57 | 2805 | 0 | 0 | 1327 | 2291 | 0 | 173 | 297 | | | |
| V/C Ratio(X) | 0.38 | 0.22 | 0.00 | 0.00 | 0.00 | 1.47 | 0.00 | 0.00 | 0.32 | | | |
| Avail Cap(c_a), veh/h | 127 | 2954 | 0 | 0 | 1327 | 2291 | 0 | 695 | 1192 | | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | | | |
| Uniform Delay (d), s/veh | 46.7 | 2.7 | 0.0 | 0.0 | 0.0 | 14.3 | 0.0 | 0.0 | 41.6 | | | |
| Incr Delay (d2), s/veh | 1.6 | 0.0 | 0.0 | 0.0 | 0.0 | 215.4 | 0.0 | 0.0 | 0.2 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ln | 0.5 | 1.0 | 0.0 | 0.0 | 0.0 | 87.6 | 0.0 | 0.0 | 1.1 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 48.2 | 2.7 | 0.0 | 0.0 | 0.0 | 229.7 | 0.0 | 0.0 | 41.9 | | | |
| LnGrp LOS | D | A | A | A | A | F | A | A | D | | | |
| Approach Vol, veh/h | | 650 | | | 3375 | | | 94 | | | | |
| Approach Delay, s/veh | | 4.2 | | | 229.7 | | | 41.9 | | | | |
| Approach LOS | | A | | | F | | | D | | | | |

| Timer - Assigned Phs | 2 | 5 | 6 | 8 |
|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 83.1 | 7.9 | 75.2 | 15.3 |
| Change Period (Y+Rc), s | * 5.4 | * 4.7 | 5.4 | 6.1 |
| Max Green Setting (Gmax), s | * 82 | * 7 | 69.8 | 37.0 |
| Max Q Clear Time (g_c+I1), s | 6.5 | 3.2 | 71.8 | 4.7 |
| Green Ext Time (p_c), s | 4.8 | 0.0 | 0.0 | 0.2 |

**Intersection Summary**

| | |
|---|---|
| HCM 6th Ctrl Delay | 189.8 |
| HCM 6th LOS | F |

**Notes**

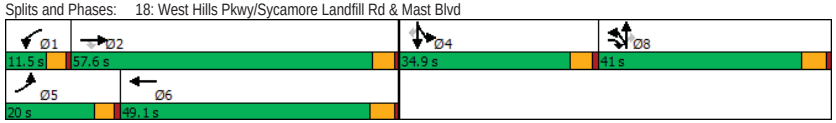
User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\Long-Term\11 2035+P AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 120 | 423 | 110 | 203 | 1902 | 20 | 1200 | 15 | 460 | 10 | 10 | 100 |
| Future Volume (vph) | 120 | 423 | 110 | 203 | 1902 | 20 | 1200 | 15 | 460 | 10 | 10 | 100 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | 49% | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | | Split | NA | Perm | Split | NA | Perm |
| Protected Phases | 5 | 2 | 8 | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Permitted Phases | | | 2 | | | | | | 8 | | | 4 |
| Detector Phase | 5 | 2 | 8 | 1 | 6 | | 8 | 8 | 8 | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 10.0 | 10.0 | 4.0 | 10.0 | | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| Minimum Split (s) | 20.0 | 34.9 | 33.4 | 8.4 | 35.2 | | 33.4 | 33.4 | 33.4 | 34.9 | 34.9 | 34.9 |
| Total Split (s) | 20.0 | 57.6 | 41.0 | 11.5 | 49.1 | | 41.0 | 41.0 | 41.0 | 34.9 | 34.9 | 34.9 |
| Total Split (%) | 13.8% | 39.7% | 28.3% | 7.9% | 33.9% | | 28.3% | 28.3% | 28.3% | 24.1% | 24.1% | 24.1% |
| Yellow Time (s) | 3.4 | 3.9 | 4.4 | 3.4 | 4.2 | | 4.4 | 4.4 | 4.4 | 3.9 | 3.9 | 3.9 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.4 | 4.9 | 5.4 | 4.4 | 5.2 | | 5.4 | 5.4 | 5.4 | | 4.9 | 4.9 |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | Min | None | None | Min | | None | None | None | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 145 |
| Actuated Cycle Length: 122.3 |
| Natural Cycle: 145 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 18: West Hills Pkwy/Sycamore Landfill Rd & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 120 | 423 | 110 | 203 | 1902 | 20 | 1200 | 15 | 460 | 10 | 10 | 100 |
| Future Volume (veh/h) | 120 | 423 | 110 | 203 | 1902 | 20 | 1200 | 15 | 460 | 10 | 10 | 100 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.98 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 130 | 460 | 120 | 221 | 2067 | 22 | 1315 | 0 | 500 | 11 | 11 | 109 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 158 | 1401 | 1093 | 204 | 1312 | 14 | 1053 | 0 | 468 | 78 | 78 | 136 |
| Arrive On Green | 0.09 | 0.39 | 0.39 | 0.06 | 0.36 | 0.36 | 0.30 | 0.00 | 0.30 | 0.09 | 0.09 | 0.09 |
| Sat Flow, veh/h | 1781 | 3554 | 1585 | 3456 | 3601 | 38 | 3563 | 0 | 1585 | 912 | 912 | 1585 |
| Grp Volume(v), veh/h | 130 | 460 | 120 | 221 | 1018 | 1071 | 1315 | 0 | 500 | 22 | 0 | 109 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1585 | 1728 | 1777 | 1863 | 1781 | 0 | 1585 | 1825 | 0 | 1585 |
| Q Serve(g_s), s | 8.6 | 10.8 | 3.1 | 7.1 | 43.9 | 43.9 | 35.6 | 0.0 | 35.6 | 1.3 | 0.0 | 8.1 |
| Cycle Q Clear(g_c), s | 8.6 | 10.8 | 3.1 | 7.1 | 43.9 | 43.9 | 35.6 | 0.0 | 35.6 | 1.3 | 0.0 | 8.1 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.02 | 1.00 | | 1.00 | 0.50 | | 1.00 |
| Lane Grp Cap(c), veh/h | 158 | 1401 | 1093 | 204 | 648 | 679 | 1053 | 0 | 468 | 157 | 0 | 136 |
| V/C Ratio(X) | 0.82 | 0.33 | 0.11 | 1.09 | 1.57 | 1.58 | 1.25 | 0.00 | 1.07 | 0.14 | 0.00 | 0.80 |
| Avail Cap(c_a), veh/h | 231 | 1555 | 1162 | 204 | 648 | 679 | 1053 | 0 | 468 | 454 | 0 | 395 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 53.9 | 25.4 | 6.3 | 56.7 | 38.3 | 38.3 | 42.4 | 0.0 | 42.4 | 50.9 | 0.0 | 54.0 |
| Incr Delay (d2), s/veh | 9.2 | 0.2 | 0.1 | 87.6 | 264.7 | 267.3 | 120.1 | 0.0 | 60.7 | 0.4 | 0.0 | 10.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 4.2 | 4.5 | 2.2 | 5.5 | 65.9 | 69.5 | 32.5 | 0.0 | 21.2 | 0.6 | 0.0 | 3.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 63.2 | 25.6 | 6.3 | 144.2 | 303.0 | 305.6 | 162.5 | 0.0 | 103.2 | 51.3 | 0.0 | 64.3 |
| LnGrp LOS | E | C | A | F | F | F | F | A | F | D | A | E |
| Approach Vol, veh/h | | 710 | | | 2310 | | | 1815 | | | 131 | |
| Approach Delay, s/veh | | 29.2 | | | 289.0 | | | 146.1 | | | 62.1 | |
| Approach LOS | | C | | | F | | | F | | | E | |

| Timer - Assigned Phs | 1 | 2 | 4 | 5 | 6 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 11.5 | 52.7 | 15.3 | 15.1 | 49.1 | 41.0 |
| Change Period (Y+Rc), s | 4.4 | * 5.2 | 4.9 | 4.4 | 5.2 | 5.4 |
| Max Green Setting (Gmax), s | 7.1 | * 53 | 30.0 | 15.6 | 43.9 | 35.6 |
| Max Q Clear Time (g_c+I1), s | 9.1 | 12.8 | 10.1 | 10.6 | 45.9 | 37.6 |
| Green Ext Time (p_c), s | 0.0 | 4.7 | 0.4 | 0.1 | 0.0 | 0.0 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 193.7 | |
| HCM 6th LOS | F | |

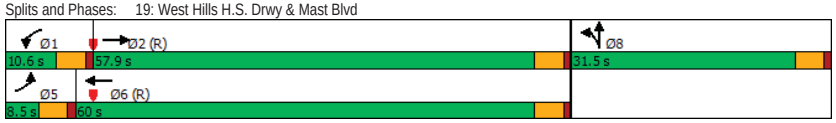
Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 5 | 743 | 50 | 83 | 1960 | 0 | 30 | 0 | 43 | 0 | 0 | 0 |
| Future Volume (vph) | 5 | 743 | 50 | 83 | 1960 | 0 | 30 | 0 | 43 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | 9 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Split | NA | | | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | | | | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | | | | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | | | | |
| Minimum Split (s) | 8.5 | 22.5 | | 8.5 | 20.5 | | 31.5 | 31.5 | | | | |
| Total Split (s) | 8.5 | 57.9 | | 10.6 | 60.0 | | 31.5 | 31.5 | | | | |
| Total Split (%) | 8.5% | 57.9% | | 10.6% | 60.0% | | 31.5% | 31.5% | | | | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | | | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | | |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | | 4.5 | | | | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | | | | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 110 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 19: West Hills H.S. Drwy & Mast Blvd






2035 + Proj AM
19: West Hills H.S. Drwy & Mast Blvd
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 5 | 743 | 50 | 83 | 1960 | 0 | 30 | 0 | 43 | 0 | 0 | 0 |
| Future Volume (veh/h) | 5 | 743 | 50 | 83 | 1960 | 0 | 30 | 0 | 43 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 0 | 1900 | 1870 | 1900 | | | |
| Adj Flow Rate, veh/h | 5 | 808 | 54 | 90 | 2130 | 0 | 33 | 0 | 47 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 0 | 0 | 2 | 0 | | | |
| Cap, veh/h | 9 | 2504 | 167 | 109 | 2831 | 0 | 43 | 0 | 62 | | | |
| Arrive On Green | 0.01 | 0.74 | 0.74 | 0.12 | 1.00 | 0.00 | 0.06 | 0.00 | 0.06 | | | |
| Sat Flow, veh/h | 1781 | 3381 | 226 | 1781 | 3647 | 0 | 685 | 0 | 976 | | | |
| Grp Volume(v), veh/h | 5 | 425 | 437 | 90 | 2130 | 0 | 80 | 0 | 0 | | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1830 | 1781 | 1777 | 0 | 1661 | 0 | 0 | | | |
| Q Serve(g_s), s | 0.3 | 8.1 | 8.1 | 4.9 | 0.0 | 0.0 | 4.7 | 0.0 | 0.0 | | | |
| Cycle Q Clear(g_c), s | 0.3 | 8.1 | 8.1 | 4.9 | 0.0 | 0.0 | 4.7 | 0.0 | 0.0 | | | |
| Prop In Lane | 1.00 | | 0.12 | 1.00 | | 0.00 | 0.41 | | 0.59 | | | |
| Lane Grp Cap(c), veh/h | 9 | 1316 | 1355 | 109 | 2831 | 0 | 105 | 0 | 0 | | | |
| V/C Ratio(X) | 0.54 | 0.32 | 0.32 | 0.83 | 0.75 | 0.00 | 0.76 | 0.00 | 0.00 | | | |
| Avail Cap(c_a), veh/h | 71 | 1316 | 1355 | 109 | 2831 | 0 | 448 | 0 | 0 | | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 0.82 | 0.82 | 0.82 | 0.12 | 0.12 | 0.00 | 1.00 | 0.00 | 0.00 | | | |
| Uniform Delay (d), s/veh | 49.6 | 4.4 | 4.4 | 43.4 | 0.0 | 0.0 | 46.1 | 0.0 | 0.0 | | | |
| Incr Delay (d2), s/veh | 34.8 | 0.5 | 0.5 | 6.5 | 0.2 | 0.0 | 10.8 | 0.0 | 0.0 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ln | 0.2 | 2.3 | 2.4 | 2.2 | 0.1 | 0.0 | 2.3 | 0.0 | 0.0 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 84.5 | 4.9 | 4.9 | 49.9 | 0.2 | 0.0 | 56.9 | 0.0 | 0.0 | | | |
| LnGrp LOS | F | A | A | D | A | A | E | A | A | | | |
| Approach Vol, veh/h | | 867 | | | 2220 | | | 80 | | | | |
| Approach Delay, s/veh | | 5.4 | | | 2.2 | | | 56.9 | | | | |
| Approach LOS | | A | | | A | | | E | | | | |

| Timer - Assigned Phs | 1 | 2 | | | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 10.6 | 78.6 | | | 5.0 | 84.2 | | 10.8 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 6.1 | 53.4 | | | 4.0 | 55.5 | | 27.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 6.9 | 10.1 | | | 2.3 | 2.0 | | 6.7 | | | | |
| Green Ext Time (p_c), s | 0.0 | 5.9 | | | 0.0 | 31.3 | | 0.3 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 4.5 | |
| HCM 6th LOS | A | |

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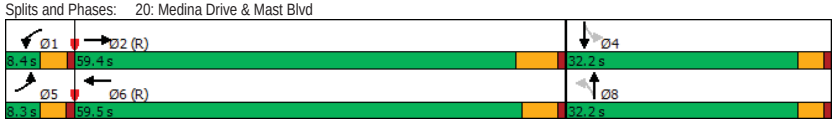
N:\2462\Analysis\Intersections\Synchro\Long-Term\11 2035+P AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 10 | 896 | 40 | 15 | 1983 | 10 | 40 | 5 | 10 | 25 | 15 | 30 |
| Future Volume (vph) | 10 | 896 | 40 | 15 | 1983 | 10 | 40 | 5 | 10 | 25 | 15 | 30 |
| Confl. Peds. (#/hr) | | | 2 | | | | | | 1 | | | 10 |
| Confl. Bikes (#/hr) | | | 1 | | | 1 | | | 2 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Perm | NA | | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | | 4 | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 22.0 | | 8.2 | 22.0 | | 32.2 | 32.2 | | 32.2 | 32.2 | |
| Total Split (s) | 8.3 | 59.4 | | 8.4 | 59.5 | | 32.2 | 32.2 | | 32.2 | 32.2 | |
| Total Split (%) | 8.3% | 59.4% | | 8.4% | 59.5% | | 32.2% | 32.2% | | 32.2% | 32.2% | |
| Yellow Time (s) | 3.2 | 5.1 | | 3.2 | 4.3 | | 3.2 | 3.2 | | 3.2 | 3.2 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | 0.0 | |
| Total Lost Time (s) | 4.2 | 6.1 | | 4.2 | 5.3 | | | 4.2 | | | 4.2 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 110 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 20: Medina Drive & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 10 | 896 | 40 | 15 | 1983 | 10 | 40 | 5 | 10 | 25 | 15 | 30 |
| Future Volume (veh/h) | 10 | 896 | 40 | 15 | 1983 | 10 | 40 | 5 | 10 | 25 | 15 | 30 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 0.98 | | 0.98 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 11 | 974 | 43 | 16 | 2155 | 11 | 43 | 5 | 11 | 27 | 16 | 33 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 19 | 2569 | 113 | 26 | 2703 | 14 | 165 | 23 | 29 | 88 | 50 | 68 |
| Arrive On Green | 0.00 | 0.24 | 0.24 | 0.03 | 1.00 | 1.00 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 |
| Sat Flow, veh/h | 1781 | 3463 | 153 | 1781 | 3625 | 18 | 1041 | 231 | 292 | 393 | 509 | 693 |
| Grp Volume(v), veh/h | 11 | 500 | 517 | 16 | 1055 | 1111 | 59 | 0 | 0 | 76 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1839 | 1781 | 1777 | 1867 | 1564 | 0 | 0 | 1595 | 0 | 0 |
| Q Serve(g_s), s | 0.6 | 23.4 | 23.4 | 0.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.2 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 0.6 | 23.4 | 23.4 | 0.9 | 0.0 | 0.0 | 3.1 | 0.0 | 0.0 | 4.3 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | | 0.08 | 1.00 | | 0.01 | 0.73 | | 0.19 | 0.36 | | 0.43 |
| Lane Grp Cap(c), veh/h | 19 | 1318 | 1364 | 26 | 1325 | 1392 | 217 | 0 | 0 | 207 | 0 | 0 |
| V/C Ratio(X) | 0.59 | 0.38 | 0.38 | 0.63 | 0.80 | 0.80 | 0.27 | 0.00 | 0.00 | 0.37 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 73 | 1318 | 1364 | 75 | 1325 | 1392 | 470 | 0 | 0 | 485 | 0 | 0 |
| HCM Platoon Ratio | 0.33 | 0.33 | 0.33 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.90 | 0.90 | 0.90 | 0.32 | 0.32 | 0.32 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 49.6 | 18.6 | 18.6 | 48.3 | 0.0 | 0.0 | 42.0 | 0.0 | 0.0 | 42.5 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 23.5 | 0.7 | 0.7 | 3.0 | 1.7 | 1.6 | 0.2 | 0.0 | 0.0 | 0.4 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.4 | 11.3 | 11.6 | 0.4 | 0.6 | 0.6 | 1.4 | 0.0 | 0.0 | 1.8 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 73.1 | 19.3 | 19.3 | 51.3 | 1.7 | 1.6 | 42.2 | 0.0 | 0.0 | 42.9 | 0.0 | 0.0 |
| LnGrp LOS | E | B | B | D | A | A | D | A | A | D | A | A |
| Approach Vol, veh/h | | 1028 | | | 2182 | | | 59 | | | 76 | |
| Approach Delay, s/veh | | 19.9 | | | 2.0 | | | 42.2 | | | 42.9 | |
| Approach LOS | | B | | | A | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.6 | 80.3 | | 14.1 | 5.3 | 80.7 | | 14.1 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 6.1 | | * 4.2 | * 4.2 | * 6.1 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | * 4.2 | 53.3 | | * 28 | * 4.1 | * 54 | | * 28 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.9 | 25.4 | | 6.3 | 2.6 | 2.0 | | 5.1 | | | | |
| Green Ext Time (p_c), s | 0.0 | 11.4 | | 0.2 | 0.0 | 44.4 | | 0.2 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 9.1 | |
| HCM 6th LOS | A | |

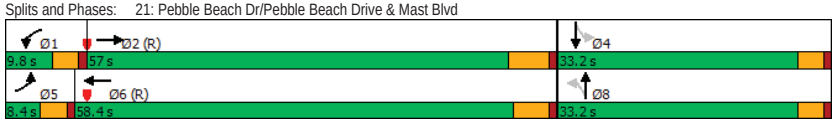
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 20 | 886 | 30 | 20 | 2003 | 30 | 20 | 10 | 40 | 100 | 30 | 30 |
| Future Volume (vph) | 20 | 886 | 30 | 20 | 2003 | 30 | 20 | 10 | 40 | 100 | 30 | 30 |
| Confl. Peds. (#/hr) | | | 8 | | | 1 | | | 2 | | | 11 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Perm | NA | | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | | 4 | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 23.9 | | 8.2 | 23.3 | | 33.2 | 33.2 | | 32.2 | 32.2 | |
| Total Split (s) | 8.4 | 57.0 | | 9.8 | 58.4 | | 33.2 | 33.2 | | 33.2 | 33.2 | |
| Total Split (%) | 8.4% | 57.0% | | 9.8% | 58.4% | | 33.2% | 33.2% | | 33.2% | 33.2% | |
| Yellow Time (s) | 3.2 | 4.9 | | 3.2 | 4.3 | | 3.2 | 3.2 | | 3.2 | 3.2 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | 0.0 | |
| Total Lost Time (s) | 4.2 | 5.9 | | 4.2 | 5.3 | | | 4.2 | | | 4.2 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 120 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 21: Pebble Beach Dr/Pebble Beach Drive & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 20 | 886 | 30 | 20 | 2003 | 30 | 20 | 10 | 40 | 100 | 30 | 30 |
| Future Volume (veh/h) | 20 | 886 | 30 | 20 | 2003 | 30 | 20 | 10 | 40 | 100 | 30 | 30 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 1.00 | 0.99 | | 1.00 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 22 | 963 | 33 | 22 | 2177 | 33 | 22 | 11 | 43 | 109 | 33 | 33 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 33 | 2395 | 82 | 33 | 2449 | 37 | 98 | 59 | 145 | 200 | 54 | 45 |
| Arrive On Green | 0.04 | 1.00 | 1.00 | 0.02 | 0.68 | 0.68 | 0.16 | 0.16 | 0.16 | 0.16 | 0.16 | 0.16 |
| Sat Flow, veh/h | 1781 | 3505 | 120 | 1781 | 3583 | 54 | 334 | 383 | 933 | 909 | 347 | 292 |
| Grp Volume(v), veh/h | 22 | 488 | 508 | 22 | 1077 | 1133 | 76 | 0 | 0 | 175 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1848 | 1781 | 1777 | 1861 | 1650 | 0 | 0 | 1549 | 0 | 0 |
| Q Serve(g_s), s | 1.2 | 0.0 | 0.0 | 1.2 | 48.7 | 49.3 | 0.0 | 0.0 | 0.0 | 6.5 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 1.2 | 0.0 | 0.0 | 1.2 | 48.7 | 49.3 | 4.0 | 0.0 | 0.0 | 10.4 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | | 0.06 | 1.00 | | 0.03 | 0.29 | | 0.57 | 0.62 | | 0.19 |
| Lane Grp Cap(c), veh/h | 33 | 1214 | 1263 | 33 | 1214 | 1271 | 303 | 0 | 0 | 299 | 0 | 0 |
| V/C Ratio(X) | 0.68 | 0.40 | 0.40 | 0.68 | 0.89 | 0.89 | 0.25 | 0.00 | 0.00 | 0.59 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 75 | 1214 | 1263 | 100 | 1214 | 1271 | 508 | 0 | 0 | 496 | 0 | 0 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.94 | 0.94 | 0.94 | 0.09 | 0.09 | 0.09 | 0.99 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 47.9 | 0.0 | 0.0 | 48.8 | 12.7 | 12.8 | 37.3 | 0.0 | 0.0 | 39.8 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 8.2 | 0.9 | 0.9 | 0.8 | 1.0 | 1.0 | 0.2 | 0.0 | 0.0 | 0.7 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.6 | 0.3 | 0.3 | 0.5 | 15.2 | 16.2 | 1.7 | 0.0 | 0.0 | 4.1 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 56.1 | 0.9 | 0.9 | 49.6 | 13.7 | 13.8 | 37.5 | 0.0 | 0.0 | 40.5 | 0.0 | 0.0 |
| LnGrp LOS | E | A | A | D | B | B | D | A | A | D | A | A |
| Approach Vol, veh/h | | 1018 | | | 2232 | | | 76 | | | 175 | |
| Approach Delay, s/veh | | 2.1 | | | 14.2 | | | 37.5 | | | 40.5 | |
| Approach LOS | | A | | | B | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 6.0 | 74.2 | | 19.7 | 6.0 | 74.2 | | 19.7 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 5.9 | | * 4.2 | * 4.2 | * 5.9 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | * 5.6 | 51.1 | | * 29 | * 4.2 | * 53 | | * 29 | | | | |
| Max Q Clear Time (g_c+I1), s | 3.2 | 2.0 | | 12.4 | 3.2 | 51.3 | | 6.0 | | | | |
| Green Ext Time (p_c), s | 0.0 | 15.8 | | 0.6 | 0.0 | 1.7 | | 0.2 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 12.5 | |
| HCM 6th LOS | B | |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 311 | 575 | 180 | 120 | 1523 | 89 | 70 | 146 | 50 | 76 | 273 | 570 |
| Future Volume (vph) | 311 | 575 | 180 | 120 | 1523 | 89 | 70 | 146 | 50 | 76 | 273 | 570 |
| Confl. Peds. (#/hr) | | | 8 | | | | | | 6 | | | 2 |
| Confl. Bikes (#/hr) | | | 2 | | | 2 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | | | | | | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 27.5 | 27.5 | 8.2 | 28.1 | | 8.2 | 35.1 | | 8.2 | 28.1 | 28.1 |
| Total Split (s) | 13.0 | 37.7 | 37.7 | 19.0 | 43.7 | | 11.4 | 35.1 | | 8.2 | 31.9 | 31.9 |
| Total Split (%) | 13.0% | 37.7% | 37.7% | 19.0% | 43.7% | | 11.4% | 35.1% | | 8.2% | 31.9% | 31.9% |
| Yellow Time (s) | 3.2 | 4.5 | 4.5 | 3.2 | 4.1 | | 3.2 | 4.1 | | 3.2 | 4.1 | 4.1 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.5 | 5.5 | 4.2 | 5.1 | | 4.2 | 5.1 | | 4.2 | 5.1 | 5.1 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | C-Max | C-Max | None | C-Max | | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 14.1 (14%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 150 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 22: Fanita Parkway & Mast Blvd

2035 + Proj AM
22: Fanita Parkway & Mast Blvd
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 311 | 575 | 180 | 120 | 1523 | 89 | 70 | 146 | 50 | 76 | 273 | 570 |
| Future Volume (veh/h) | 311 | 575 | 180 | 120 | 1523 | 89 | 70 | 146 | 50 | 76 | 273 | 570 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.98 | 1.00 | | 0.99 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 338 | 625 | 196 | 130 | 1655 | 97 | 76 | 159 | 54 | 83 | 297 | 620 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 157 | 1411 | 610 | 161 | 1361 | 79 | 97 | 377 | 128 | 71 | 501 | 424 |
| Arrive On Green | 0.18 | 0.79 | 0.79 | 0.09 | 0.40 | 0.40 | 0.05 | 0.28 | 0.28 | 0.04 | 0.27 | 0.27 |
| Sat Flow, veh/h | 1781 | 3554 | 1535 | 1781 | 3408 | 198 | 1781 | 1333 | 453 | 1781 | 1870 | 1582 |
| Grp Volume(v), veh/h | 338 | 625 | 196 | 130 | 857 | 895 | 76 | 0 | 213 | 83 | 297 | 620 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1535 | 1781 | 1777 | 1829 | 1781 | 0 | 1785 | 1781 | 1870 | 1582 |
| Q Serve(g_s), s | 8.8 | 5.6 | 3.5 | 7.2 | 39.9 | 39.9 | 4.2 | 0.0 | 9.7 | 4.0 | 13.8 | 26.8 |
| Cycle Q Clear(g_c), s | 8.8 | 5.6 | 3.5 | 7.2 | 39.9 | 39.9 | 4.2 | 0.0 | 9.7 | 4.0 | 13.8 | 26.8 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.11 | 1.00 | | 0.25 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 157 | 1411 | 610 | 161 | 710 | 731 | 97 | 0 | 505 | 71 | 501 | 424 |
| V/C Ratio(X) | 2.16 | 0.44 | 0.32 | 0.81 | 1.21 | 1.23 | 0.78 | 0.00 | 0.42 | 1.16 | 0.59 | 1.46 |
| Avail Cap(c_a), veh/h | 157 | 1411 | 610 | 264 | 710 | 731 | 128 | 0 | 536 | 71 | 501 | 424 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.92 | 0.92 | 0.92 | 0.17 | 0.17 | 0.17 | 0.98 | 0.00 | 0.98 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 41.2 | 6.8 | 6.6 | 44.7 | 30.0 | 30.0 | 46.7 | 0.0 | 29.2 | 48.0 | 31.8 | 36.6 |
| Incr Delay (d2), s/veh | 539.3 | 0.9 | 1.3 | 1.3 | 96.0 | 103.5 | 17.3 | 0.0 | 2.0 | 158.0 | 3.9 | 220.9 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 26.9 | 1.7 | 1.2 | 3.2 | 35.0 | 37.5 | 2.3 | 0.0 | 4.3 | 4.9 | 6.5 | 35.9 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 580.5 | 7.7 | 7.8 | 45.9 | 126.0 | 133.6 | 64.0 | 0.0 | 31.2 | 206.0 | 35.7 | 257.5 |
| LnGrp LOS | F | A | A | D | F | F | E | A | C | F | D | F |
| Approach Vol, veh/h | | 1159 | | | 1882 | | | 289 | | | 1000 | |
| Approach Delay, s/veh | | 174.8 | | | 124.1 | | | 39.8 | | | 187.4 | |
| Approach LOS | | F | | | F | | | D | | | F | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 13.2 | 45.2 | 9.7 | 31.9 | 13.0 | 45.4 | 8.2 | 33.4 |
| Change Period (Y+Rc), s | * 4.2 | 5.5 | * 4.2 | 5.1 | * 4.2 | * 5.5 | * 4.2 | 5.1 |
| Max Green Setting (Gmax), s | * 15 | 32.2 | * 7.2 | 26.8 | * 8.8 | * 39 | * 4 | 30.0 |
| Max Q Clear Time (g_c+I1), s | 9.2 | 7.6 | 6.2 | 28.8 | 10.8 | 41.9 | 6.0 | 11.7 |
| Green Ext Time (p_c), s | 0.1 | 11.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.4 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 146.6 | |
| HCM 6th LOS | F | |

Notes

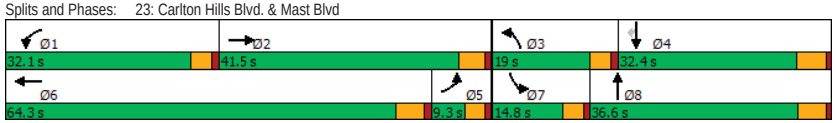
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\Long-Term\11 2035+P AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 55 | 435 | 246 | 225 | 1508 | 120 | 194 | 187 | 95 | 120 | 271 | 95 |
| Future Volume (vph) | 55 | 435 | 246 | 225 | 1508 | 120 | 194 | 187 | 95 | 120 | 271 | 95 |
| Confl. Peds. (#/hr) | | | 5 | | | 6 | | | 22 | | | 8 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 33.1 | | 8.2 | 32.4 | | 8.2 | 34.2 | | 8.2 | 32.4 | 32.4 |
| Total Split (s) | 9.3 | 41.5 | | 32.1 | 64.3 | | 19.0 | 36.6 | | 14.8 | 32.4 | 32.4 |
| Total Split (%) | 7.4% | 33.2% | | 25.7% | 51.4% | | 15.2% | 29.3% | | 11.8% | 25.9% | 25.9% |
| Yellow Time (s) | 3.2 | 4.1 | | 3.2 | 4.4 | | 3.2 | 4.2 | | 3.2 | 4.4 | 4.4 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.1 | | 4.2 | 5.4 | | 4.2 | 5.2 | | 4.2 | 5.4 | 5.4 |
| Lead/Lag | Lag | Lag | | Lead | Lead | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | Min | | None | Min | | None | Min | | None | Min | Min |

| Intersection Summary |
|---|
| Cycle Length: 125 |
| Actuated Cycle Length: 117.7 |
| Natural Cycle: 135 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 23: Carlton Hills Blvd. & Mast Blvd






2035 + Proj AM
23: Carlton Hills Blvd. & Mast Blvd
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 55 | 435 | 246 | 225 | 1508 | 120 | 194 | 187 | 95 | 120 | 271 | 95 |
| Future Volume (veh/h) | 55 | 435 | 246 | 225 | 1508 | 120 | 194 | 187 | 95 | 120 | 271 | 95 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.97 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 60 | 473 | 267 | 245 | 1639 | 130 | 211 | 203 | 103 | 130 | 295 | 103 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 76 | 864 | 485 | 274 | 1652 | 130 | 222 | 472 | 228 | 156 | 600 | 260 |
| Arrive On Green | 0.04 | 0.39 | 0.39 | 0.15 | 0.50 | 0.50 | 0.12 | 0.21 | 0.21 | 0.09 | 0.17 | 0.17 |
| Sat Flow, veh/h | 1781 | 2191 | 1230 | 1781 | 3337 | 262 | 1781 | 2295 | 1109 | 1781 | 3554 | 1542 |
| Grp Volume(v), veh/h | 60 | 383 | 357 | 245 | 866 | 903 | 211 | 155 | 151 | 130 | 295 | 103 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1643 | 1781 | 1777 | 1822 | 1781 | 1777 | 1627 | 1781 | 1777 | 1542 |
| Q Serve(g_s), s | 4.0 | 19.8 | 20.0 | 16.1 | 57.1 | 58.9 | 14.0 | 9.0 | 9.7 | 8.5 | 9.0 | 6.0 |
| Cycle Q Clear(g_c), s | 4.0 | 19.8 | 20.0 | 16.1 | 57.1 | 58.9 | 14.0 | 9.0 | 9.7 | 8.5 | 9.0 | 6.0 |
| Prop In Lane | 1.00 | | 0.75 | 1.00 | | 0.14 | 1.00 | | 0.68 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 76 | 700 | 648 | 274 | 880 | 902 | 222 | 366 | 335 | 156 | 600 | 260 |
| V/C Ratio(X) | 0.79 | 0.55 | 0.55 | 0.89 | 0.98 | 1.00 | 0.95 | 0.42 | 0.45 | 0.83 | 0.49 | 0.40 |
| Avail Cap(c_a), veh/h | 76 | 700 | 648 | 418 | 880 | 902 | 222 | 469 | 429 | 159 | 806 | 350 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 56.4 | 27.8 | 27.9 | 49.4 | 29.6 | 30.0 | 51.7 | 41.1 | 41.4 | 53.4 | 44.8 | 31.2 |
| Incr Delay (d2), s/veh | 37.7 | 2.0 | 2.2 | 10.9 | 26.7 | 30.3 | 46.6 | 2.3 | 2.8 | 28.2 | 2.7 | 4.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.6 | 8.5 | 8.0 | 7.8 | 29.0 | 31.4 | 9.0 | 4.2 | 4.1 | 5.0 | 4.1 | 3.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 94.1 | 29.9 | 30.1 | 60.3 | 56.2 | 60.4 | 98.4 | 43.4 | 44.1 | 81.7 | 47.5 | 35.4 |
| LnGrp LOS | F | C | C | E | E | F | F | D | D | F | D | D |
| Approach Vol, veh/h | | 800 | | | 2014 | | | 517 | | | 528 | |
| Approach Delay, s/veh | | 34.8 | | | 58.6 | | | 66.0 | | | 53.5 | |
| Approach LOS | | C | | | E | | | E | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 22.5 | 52.0 | 19.0 | 25.5 | 10.2 | 64.3 | 14.6 | 29.9 |
| Change Period (Y+Rc), s | * 4.2 | 5.1 | * 4.2 | 5.4 | 5.1 | * 5.4 | * 4.2 | * 5.4 |
| Max Green Setting (Gmax), s | * 28 | 36.4 | * 15 | 27.0 | 5.1 | * 59 | * 11 | * 31 |
| Max Q Clear Time (g_c+I1), s | 18.1 | 22.0 | 16.0 | 11.0 | 6.0 | 60.9 | 10.5 | 11.7 |
| Green Ext Time (p_c), s | 0.2 | 7.3 | 0.0 | 4.6 | 0.0 | 0.0 | 0.0 | 3.5 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 54.0 | |
| HCM 6th LOS | D | |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Fanita Ranch
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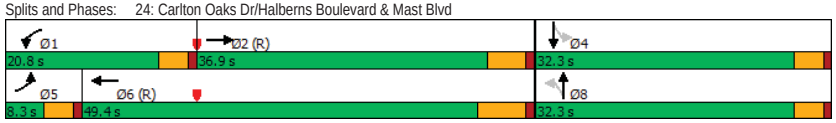
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 10 | 695 | 30 | 160 | 1693 | 30 | 70 | 40 | 130 | 60 | 60 | 60 |
| Future Volume (vph) | 10 | 695 | 30 | 160 | 1693 | 30 | 70 | 40 | 130 | 60 | 60 | 60 |
| Confl. Peds. (#/hr) | | | 6 | | | | | | 8 | | | 1 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Perm | NA | | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | | 4 | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 29.2 | | 8.2 | 28.3 | | 32.2 | 32.2 | | 32.2 | 32.2 | |
| Total Split (s) | 8.3 | 36.9 | | 20.8 | 49.4 | | 32.3 | 32.3 | | 32.3 | 32.3 | |
| Total Split (%) | 9.2% | 41.0% | | 23.1% | 54.9% | | 35.9% | 35.9% | | 35.9% | 35.9% | |
| Yellow Time (s) | 3.2 | 4.2 | | 3.2 | 5.3 | | 3.2 | 3.2 | | 3.2 | 3.2 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.2 | 5.2 | | 4.2 | 6.3 | | 4.2 | 4.2 | | 4.2 | 4.2 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 90 |
| Actuated Cycle Length: 90 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 100 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 24: Carlton Oaks Dr/Halberns Boulevard & Mast Blvd






2035 + Proj AM
24: Carlton Oaks Dr/Halberns Boulevard & Mast Blvd
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 10 | 695 | 30 | 160 | 1693 | 30 | 70 | 40 | 130 | 60 | 60 | 60 |
| Future Volume (veh/h) | 10 | 695 | 30 | 160 | 1693 | 30 | 70 | 40 | 130 | 60 | 60 | 60 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.99 | 0.99 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 11 | 755 | 33 | 174 | 1840 | 33 | 76 | 43 | 141 | 65 | 65 | 65 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 19 | 1815 | 79 | 209 | 2251 | 40 | 243 | 74 | 244 | 191 | 168 | 168 |
| Arrive On Green | 0.01 | 0.52 | 0.52 | 0.12 | 0.63 | 0.63 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 |
| Sat Flow, veh/h | 1781 | 3468 | 152 | 1781 | 3572 | 64 | 1259 | 380 | 1247 | 1191 | 857 | 857 |
| Grp Volume(v), veh/h | 11 | 387 | 401 | 174 | 913 | 960 | 76 | 0 | 184 | 65 | 0 | 130 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1842 | 1781 | 1777 | 1859 | 1259 | 0 | 1628 | 1191 | 0 | 1715 |
| Q Serve(g_s), s | 0.6 | 11.9 | 11.9 | 8.6 | 35.2 | 35.6 | 5.0 | 0.0 | 9.2 | 4.7 | 0.0 | 5.9 |
| Cycle Q Clear(g_c), s | 0.6 | 11.9 | 11.9 | 8.6 | 35.2 | 35.6 | 11.0 | 0.0 | 9.2 | 13.9 | 0.0 | 5.9 |
| Prop In Lane | 1.00 | | 0.08 | 1.00 | | 0.03 | 1.00 | | 0.77 | 1.00 | | 0.50 |
| Lane Grp Cap(c), veh/h | 19 | 930 | 964 | 209 | 1120 | 1171 | 243 | 0 | 319 | 191 | 0 | 336 |
| V/C Ratio(X) | 0.58 | 0.42 | 0.42 | 0.83 | 0.82 | 0.82 | 0.31 | 0.00 | 0.58 | 0.34 | 0.00 | 0.39 |
| Avail Cap(c_a), veh/h | 81 | 930 | 964 | 329 | 1120 | 1171 | 390 | 0 | 508 | 330 | 0 | 535 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.76 | 0.76 | 0.76 | 0.33 | 0.33 | 0.33 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 44.3 | 13.1 | 13.1 | 38.8 | 12.7 | 12.7 | 36.3 | 0.0 | 32.8 | 39.1 | 0.0 | 31.5 |
| Incr Delay (d2), s/veh | 7.6 | 1.0 | 1.0 | 1.8 | 2.3 | 2.2 | 0.3 | 0.0 | 0.6 | 0.4 | 0.0 | 0.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.3 | 4.5 | 4.7 | 3.7 | 11.8 | 12.4 | 1.5 | 0.0 | 3.6 | 1.4 | 0.0 | 2.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 51.9 | 14.1 | 14.1 | 40.7 | 14.9 | 15.0 | 36.5 | 0.0 | 33.4 | 39.5 | 0.0 | 31.8 |
| LnGrp LOS | D | B | B | D | B | B | D | A | C | D | A | C |
| Approach Vol, veh/h | | 799 | | | 2047 | | | 260 | | | 195 | |
| Approach Delay, s/veh | | 14.6 | | | 17.1 | | | 34.3 | | | 34.3 | |
| Approach LOS | | B | | | B | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 14.8 | 53.4 | | 21.8 | 5.2 | 63.0 | | 21.8 | | | | |
| Change Period (Y+Rc), s | * 4.2 | * 6.3 | | * 4.2 | * 4.2 | 6.3 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | * 17 | * 32 | | * 28 | * 4.1 | 43.1 | | * 28 | | | | |
| Max Q Clear Time (g_c+I1), s | 10.6 | 13.9 | | 15.9 | 2.6 | 37.6 | | 13.0 | | | | |
| Green Ext Time (p_c), s | 0.1 | 8.1 | | 0.4 | 0.0 | 5.3 | | 0.7 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 18.9 | |
| HCM 6th LOS | B | |

| Notes |
|---|
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. |

Fanita Ranch
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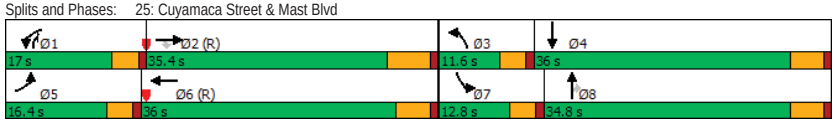
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 185 | 445 | 260 | 383 | 790 | 75 | 210 | 280 | 199 | 90 | 665 | 508 |
| Future Volume (vph) | 185 | 445 | 260 | 383 | 790 | 75 | 210 | 280 | 199 | 90 | 665 | 508 |
| Confl. Peds. (#/hr) | | | 8 | | | 5 | | | 3 | | | 3 |
| Confl. Bikes (#/hr) | | | 4 | | | 1 | | | 3 | | | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | | Prot | NA | pm+ov | Prot | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | 1 | 7 | 4 | |
| Permitted Phases | | | 2 | | | | | | 8 | | | |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | | 3 | 8 | 1 | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | | 4.0 | 7.0 | 4.0 | 4.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 34.3 | 34.3 | 8.2 | 32.3 | | 8.2 | 33.1 | 8.2 | 8.2 | 34.0 | |
| Total Split (s) | 16.4 | 35.4 | 35.4 | 17.0 | 36.0 | | 11.6 | 34.8 | 17.0 | 12.8 | 36.0 | |
| Total Split (%) | 16.4% | 35.4% | 35.4% | 17.0% | 36.0% | | 11.6% | 34.8% | 17.0% | 12.8% | 36.0% | |
| Yellow Time (s) | 3.2 | 5.3 | 5.3 | 3.2 | 4.3 | | 3.2 | 4.1 | 3.2 | 3.2 | 4.0 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.2 | 6.3 | 6.3 | 4.2 | 5.3 | | 4.2 | 5.1 | 4.2 | 4.2 | 5.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | |
| Recall Mode | None | C-Min | C-Min | None | C-Min | | None | None | None | None | None | |

**Intersection Summary**

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 31 (31%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 105
Control Type: Actuated-Coordinated

Splits and Phases: 25: Cuyamaca Street & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 185 | 445 | 260 | 383 | 790 | 75 | 210 | 280 | 199 | 90 | 665 | 508 |
| Future Volume (veh/h) | 185 | 445 | 260 | 383 | 790 | 75 | 210 | 280 | 199 | 90 | 665 | 508 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 201 | 484 | 283 | 416 | 859 | 82 | 228 | 304 | 216 | 98 | 723 | 552 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 217 | 1031 | 449 | 442 | 969 | 92 | 256 | 1118 | 693 | 124 | 594 | 447 |
| Arrive On Green | 0.12 | 0.29 | 0.29 | 0.13 | 0.30 | 0.30 | 0.07 | 0.31 | 0.31 | 0.07 | 0.31 | 0.31 |
| Sat Flow, veh/h | 1781 | 3554 | 1548 | 3456 | 3272 | 312 | 3456 | 3554 | 1558 | 1781 | 1916 | 1442 |
| Grp Volume(v), veh/h | 201 | 484 | 283 | 416 | 466 | 475 | 228 | 304 | 216 | 98 | 670 | 605 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1548 | 1728 | 1777 | 1807 | 1728 | 1777 | 1558 | 1781 | 1777 | 1581 |
| Q Serve(g_s), s | 11.2 | 11.2 | 15.9 | 11.9 | 25.1 | 25.1 | 6.5 | 6.4 | 9.0 | 5.4 | 31.0 | 31.0 |
| Cycle Q Clear(g_c), s | 11.2 | 11.2 | 15.9 | 11.9 | 25.1 | 25.1 | 6.5 | 6.4 | 9.0 | 5.4 | 31.0 | 31.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.17 | 1.00 | | 1.00 | 1.00 | | 0.91 |
| Lane Grp Cap(c), veh/h | 217 | 1031 | 449 | 442 | 526 | 535 | 256 | 1118 | 693 | 124 | 551 | 490 |
| V/C Ratio(X) | 0.92 | 0.47 | 0.63 | 0.94 | 0.89 | 0.89 | 0.89 | 0.27 | 0.31 | 0.79 | 1.22 | 1.23 |
| Avail Cap(c_a), veh/h | 217 | 1034 | 451 | 442 | 545 | 555 | 256 | 1118 | 693 | 153 | 551 | 490 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.92 | 0.92 | 0.92 | 0.90 | 0.90 | 0.90 | 0.83 | 0.83 | 0.83 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 43.4 | 29.2 | 30.8 | 43.2 | 33.6 | 33.6 | 45.9 | 25.7 | 18.0 | 45.8 | 34.5 | 34.5 |
| Incr Delay (d2), s/veh | 38.1 | 1.4 | 6.1 | 26.1 | 17.9 | 17.6 | 25.3 | 0.2 | 0.3 | 16.0 | 113.1 | 122.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 7.1 | 4.8 | 6.5 | 6.5 | 12.9 | 13.0 | 3.7 | 2.7 | 3.2 | 2.9 | 30.1 | 28.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 81.5 | 30.6 | 36.9 | 69.3 | 51.5 | 51.2 | 71.2 | 25.8 | 18.3 | 61.8 | 147.6 | 156.7 |
| LnGrp LOS | F | C | D | E | D | D | E | C | B | E | F | F |
| Approach Vol, veh/h | | 968 | | | 1357 | | | 748 | | | 1373 | |
| Approach Delay, s/veh | | 43.0 | | | 56.9 | | | 37.5 | | | 145.5 | |
| Approach LOS | | D | | | E | | | D | | | F | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 17.0 | 35.3 | 11.6 | 36.1 | 16.4 | 35.9 | 11.1 | 36.6 |
| Change Period (Y+Rc), s | * 4.2 | 6.3 | * 4.2 | * 5.1 | * 4.2 | * 6.3 | * 4.2 | 5.1 |
| Max Green Setting (Gmax), s | * 13 | 29.1 | * 7.4 | * 31 | * 12 | * 31 | * 8.6 | 29.7 |
| Max Q Clear Time (g_c+I1), s | 13.9 | 17.9 | 8.5 | 33.0 | 13.2 | 27.1 | 7.4 | 11.0 |
| Green Ext Time (p_c), s | 0.0 | 4.3 | 0.0 | 0.0 | 0.0 | 2.2 | 0.0 | 3.6 |

**Intersection Summary**

| | | |
|---|---|---|
| HCM 6th Ctrl Delay | 78.0 | |
| HCM 6th LOS | E | |

**Notes**

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 504 | 90 | 150 | 1033 | 30 | 120 |
| Future Volume (vph) | 504 | 90 | 150 | 1033 | 30 | 120 |
| Confl. Peds. (#/hr) | | 17 | | | | 29 |
| Confl. Bikes (#/hr) | | 3 | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | NA | | Prot | NA | Prot | Perm |
| Protected Phases | 2 | | 1 | 6 | 8 | |
| Permitted Phases | | | | | | 8 |
| Detector Phase | 2 | | 1 | 6 | 8 | 8 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 22.5 | | 8.5 | 20.5 | 22.5 | 22.5 |
| Total Split (s) | 22.5 | | 15.0 | 37.5 | 22.5 | 22.5 |
| Total Split (%) | 37.5% | | 25.0% | 62.5% | 37.5% | 37.5% |
| Yellow Time (s) | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lag | | Lead | | | |
| Lead-Lag Optimize? | Yes | | Yes | | | |
| Recall Mode | Min | | None | Min | None | None |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 43.7 |
| Natural Cycle: 60 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 26: Park Center Drive & Mast Blvd

2035 + Proj AM
26: Park Center Drive & Mast Blvd
Fanita Ranch
06/06/2019

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 504 | 90 | 150 | 1033 | 30 | 120 |
| Future Volume (veh/h) | 504 | 90 | 150 | 1033 | 30 | 120 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | 0.95 | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 548 | 98 | 163 | 1123 | 33 | 130 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 980 | 174 | 214 | 2107 | 209 | 186 |
| Arrive On Green | 0.33 | 0.33 | 0.12 | 0.59 | 0.12 | 0.12 |
| Sat Flow, veh/h | 3081 | 532 | 1781 | 3647 | 1781 | 1585 |
| Grp Volume(v), veh/h | 325 | 321 | 163 | 1123 | 33 | 130 |
| Grp Sat Flow(s),veh/h/ln | 1777 | 1743 | 1781 | 1777 | 1781 | 1585 |
| Q Serve(g_s), s | 4.7 | 4.7 | 2.8 | 5.8 | 0.5 | 2.4 |
| Cycle Q Clear(g_c), s | 4.7 | 4.7 | 2.8 | 5.8 | 0.5 | 2.4 |
| Prop In Lane | | 0.31 | 1.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 583 | 572 | 214 | 2107 | 209 | 186 |
| V/C Ratio(X) | 0.56 | 0.56 | 0.76 | 0.53 | 0.16 | 0.70 |
| Avail Cap(c_a), veh/h | 1030 | 1010 | 602 | 3775 | 1032 | 919 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 8.6 | 8.6 | 13.2 | 3.8 | 12.3 | 13.2 |
| Incr Delay (d2), s/veh | 0.8 | 0.9 | 5.5 | 0.2 | 0.3 | 4.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.1 | 1.1 | 1.1 | 0.2 | 0.2 | 0.9 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 9.4 | 9.5 | 18.8 | 4.0 | 12.7 | 17.9 |
| LnGrp LOS | A | A | B | A | B | B |
| Approach Vol, veh/h | 646 | | | 1286 | 163 | |
| Approach Delay, s/veh | 9.4 | | | 5.8 | 16.8 | |
| Approach LOS | A | | | A | B | |

| Timer - Assigned Phs | 1 | 2 | | | 6 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 8.2 | 14.7 | | | 22.9 | 8.1 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 10.5 | 18.0 | | | 33.0 | 18.0 |
| Max Q Clear Time (g_c+I1), s | 4.8 | 6.7 | | | 7.8 | 4.4 |
| Green Ext Time (p_c), s | 0.2 | 2.9 | | | 8.6 | 0.4 |

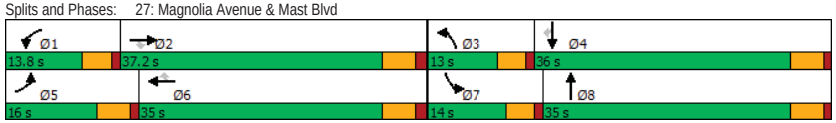
| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 7.8 | |
| HCM 6th LOS | | A | |

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\Long-Term\11 2035+P AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 289 | 165 | 240 | 135 | 300 | 85 | 320 | 647 | 115 | 145 | 819 | 563 |
| Future Volume (vph) | 289 | 165 | 240 | 135 | 300 | 85 | 320 | 647 | 115 | 145 | 819 | 563 |
| Confl. Peds. (#/hr) | | | 14 | | | 31 | | | 11 | | | 8 |
| Confl. Bikes (#/hr) | | | 5 | | | 5 | | | 3 | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 11.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 9.0 | | 7.0 | 9.0 | 9.0 |
| Minimum Split (s) | 16.0 | 34.5 | 34.5 | 11.5 | 34.5 | 34.5 | 11.5 | 35.0 | | 11.5 | 36.0 | 36.0 |
| Total Split (s) | 16.0 | 37.2 | 37.2 | 13.8 | 35.0 | 35.0 | 13.0 | 35.0 | | 14.0 | 36.0 | 36.0 |
| Total Split (%) | 16.0% | 37.2% | 37.2% | 13.8% | 35.0% | 35.0% | 13.0% | 35.0% | | 14.0% | 36.0% | 36.0% |
| Yellow Time (s) | 4.0 | 4.0 | 4.0 | 3.5 | 4.0 | 4.0 | 3.5 | 4.0 | | 3.5 | 4.0 | 4.0 |
| All-Red Time (s) | 1.0 | 1.5 | 1.5 | 1.0 | 1.5 | 1.5 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 5.0 | 5.5 | 5.5 | 4.5 | 5.5 | 5.5 | 4.5 | 5.0 | | 4.5 | 5.0 | 5.0 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | Min | Min | None | Min | Min | None | Min | | None | Min | Min |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 81.2 |
| Natural Cycle: 100 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 27: Magnolia Avenue & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 289 | 165 | 240 | 135 | 300 | 85 | 320 | 647 | 115 | 145 | 819 | 563 |
| Future Volume (veh/h) | 289 | 165 | 240 | 135 | 300 | 85 | 320 | 647 | 115 | 145 | 819 | 563 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.94 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 314 | 179 | 261 | 147 | 326 | 92 | 348 | 703 | 125 | 158 | 890 | 612 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 417 | 894 | 386 | 179 | 802 | 337 | 323 | 989 | 176 | 186 | 1210 | 529 |
| Arrive On Green | 0.12 | 0.25 | 0.25 | 0.10 | 0.23 | 0.23 | 0.09 | 0.33 | 0.33 | 0.10 | 0.34 | 0.34 |
| Sat Flow, veh/h | 3456 | 3554 | 1533 | 1781 | 3554 | 1495 | 3456 | 3002 | 533 | 1781 | 3554 | 1553 |
| Grp Volume(v), veh/h | 314 | 179 | 261 | 147 | 326 | 92 | 348 | 416 | 412 | 158 | 890 | 612 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1533 | 1781 | 1777 | 1495 | 1728 | 1777 | 1759 | 1781 | 1777 | 1553 |
| Q Serve(g_s), s | 8.0 | 3.6 | 14.0 | 7.4 | 7.1 | 4.6 | 8.5 | 18.7 | 18.7 | 7.9 | 20.1 | 31.0 |
| Cycle Q Clear(g_c), s | 8.0 | 3.6 | 14.0 | 7.4 | 7.1 | 4.6 | 8.5 | 18.7 | 18.7 | 7.9 | 20.1 | 31.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.30 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 417 | 894 | 386 | 179 | 802 | 337 | 323 | 585 | 580 | 186 | 1210 | 529 |
| V/C Ratio(X) | 0.75 | 0.20 | 0.68 | 0.82 | 0.41 | 0.27 | 1.08 | 0.71 | 0.71 | 0.85 | 0.74 | 1.16 |
| Avail Cap(c_a), veh/h | 418 | 1237 | 534 | 182 | 1151 | 484 | 323 | 585 | 580 | 186 | 1210 | 529 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 38.7 | 26.9 | 30.7 | 40.2 | 30.0 | 29.1 | 41.3 | 26.7 | 26.7 | 40.1 | 26.4 | 30.0 |
| Incr Delay (d2), s/veh | 7.8 | 0.1 | 2.5 | 23.3 | 0.4 | 0.5 | 72.7 | 4.0 | 4.1 | 28.1 | 2.4 | 90.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 3.7 | 1.5 | 5.2 | 4.3 | 3.0 | 1.6 | 6.7 | 8.0 | 8.0 | 4.8 | 8.3 | 24.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 46.5 | 27.0 | 33.2 | 63.5 | 30.4 | 29.6 | 113.9 | 30.7 | 30.8 | 68.2 | 28.8 | 120.4 |
| LnGrp LOS | D | C | C | E | C | C | F | C | C | E | C | F |
| Approach Vol, veh/h | | 754 | | | 565 | | | 1176 | | | 1660 | |
| Approach Delay, s/veh | | 37.3 | | | 38.9 | | | 55.4 | | | 66.3 | |
| Approach LOS | | D | | | D | | | E | | | E | |

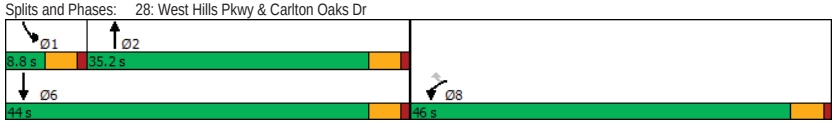
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 13.6 | 28.4 | 13.0 | 36.0 | 16.0 | 26.0 | 14.0 | 35.0 |
| Change Period (Y+Rc), s | 4.5 | 5.5 | 4.5 | 5.0 | 5.0 | 5.5 | 4.5 | 5.0 |
| Max Green Setting (Gmax), s | 9.3 | 31.7 | 8.5 | 31.0 | 11.0 | 29.5 | 9.5 | 30.0 |
| Max Q Clear Time (g_c+I1), s | 9.4 | 16.0 | 10.5 | 33.0 | 10.0 | 9.1 | 9.9 | 20.7 |
| Green Ext Time (p_c), s | 0.0 | 2.1 | 0.0 | 0.0 | 0.1 | 2.7 | 0.0 | 3.4 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 54.2 |
| HCM 6th LOS | | D |

| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 456 | 740 | 935 | 128 | 50 | 283 |
| Future Volume (vph) | 456 | 740 | 935 | 128 | 50 | 283 |
| Confl. Peds. (#/hr) | | 9 | | 6 | | |
| Confl. Bikes (#/hr) | | | | 2 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | 0% | | | 0% |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | NA | | Prot | NA |
| Protected Phases | 8 | | 2 | | 1 | 6 |
| Permitted Phases | | 8 | | | | |
| Detector Phase | 8 | 8 | 2 | | 1 | 6 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | | 8.5 | 20.5 |
| Total Split (s) | 46.0 | 46.0 | 35.2 | | 8.8 | 44.0 |
| Total Split (%) | 51.1% | 51.1% | 39.1% | | 9.8% | 48.9% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Lead/Lag | | | Lag | | Lead | |
| Lead-Lag Optimize? | | | Yes | | Yes | |
| Recall Mode | None | None | Min | | None | Min |

| Intersection Summary |
|---|
| Cycle Length: 90 |
| Actuated Cycle Length: 73.5 |
| Natural Cycle: 65 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 28: West Hills Pkwy & Carlton Oaks Dr








| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 456 | 740 | 935 | 128 | 50 | 283 |
| Future Volume (veh/h) | 456 | 740 | 935 | 128 | 50 | 283 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | | 0.97 | 1.00 | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | No | | | No |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 496 | 777 | 1016 | 139 | 54 | 308 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 643 | 1006 | 1235 | 169 | 68 | 1783 |
| Arrive On Green | 0.36 | 0.36 | 0.39 | 0.39 | 0.04 | 0.50 |
| Sat Flow, veh/h | 1781 | 2790 | 3221 | 427 | 1781 | 3647 |
| Grp Volume(v), veh/h | 496 | 777 | 577 | 578 | 54 | 308 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1395 | 1777 | 1778 | 1781 | 1777 |
| Q Serve(g_s), s | 16.1 | 16.2 | 19.0 | 19.1 | 2.0 | 3.1 |
| Cycle Q Clear(g_c), s | 16.1 | 16.2 | 19.0 | 19.1 | 2.0 | 3.1 |
| Prop In Lane | 1.00 | 1.00 | | 0.24 | 1.00 | |
| Lane Grp Cap(c), veh/h | 643 | 1006 | 701 | 702 | 68 | 1783 |
| V/C Ratio(X) | 0.77 | 0.77 | 0.82 | 0.82 | 0.79 | 0.17 |
| Avail Cap(c_a), veh/h | 1129 | 1769 | 833 | 834 | 117 | 2145 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 18.5 | 18.5 | 17.7 | 17.8 | 31.2 | 8.9 |
| Incr Delay (d2), s/veh | 2.0 | 1.3 | 5.7 | 5.8 | 18.3 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 6.4 | 4.9 | 7.5 | 7.5 | 1.1 | 0.9 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 20.5 | 19.8 | 23.5 | 23.6 | 49.5 | 8.9 |
| LnGrp LOS | C | B | C | C | D | A |
| Approach Vol, veh/h | 1273 | | 1155 | | | 362 |
| Approach Delay, s/veh | 20.1 | | 23.5 | | | 15.0 |
| Approach LOS | C | | C | | | B |

| Timer - Assigned Phs | 1 | 2 | | | 6 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.0 | 30.3 | | | 37.3 | 28.1 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 4.3 | 30.7 | | | 39.5 | 41.5 |
| Max Q Clear Time (g_c+I1), s | 4.0 | 21.1 | | | 5.1 | 18.2 |
| Green Ext Time (p_c), s | 0.0 | 4.8 | | | 1.9 | 5.5 |

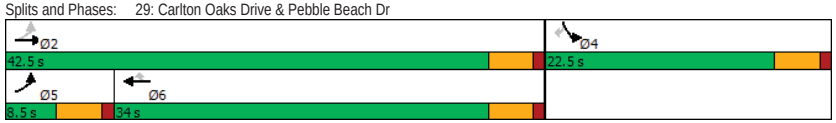
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 20.9 | |
| HCM 6th LOS | C | |

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 10 | 398 | 756 | 180 | 190 | 60 |
| Future Volume (vph) | 10 | 398 | 756 | 180 | 190 | 60 |
| Confl. Peds. (#/hr) | | | | 13 | | |
| Confl. Bikes (#/hr) | | | | 8 | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | pm+pt | NA | NA | Perm | Prot | Perm |
| Protected Phases | 5 | 2 | 6 | | 4 | |
| Permitted Phases | 2 | | | 6 | | 4 |
| Detector Phase | 5 | 2 | 6 | 6 | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 |
| Total Split (s) | 8.5 | 42.5 | 34.0 | 34.0 | 22.5 | 22.5 |
| Total Split (%) | 13.1% | 65.4% | 52.3% | 52.3% | 34.6% | 34.6% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | | Lag | Lag | | |
| Lead-Lag Optimize? | Yes | | Yes | Yes | | |
| Recall Mode | None | Min | Min | Min | None | None |

**Intersection Summary**

Cycle Length: 65
Actuated Cycle Length: 54.7
Natural Cycle: 70
Control Type: Semi Act-Uncoord

Splits and Phases: 29: Carlton Oaks Drive & Pebble Beach Dr








| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 10 | 398 | 756 | 180 | 190 | 60 |
| Future Volume (veh/h) | 10 | 398 | 756 | 180 | 190 | 60 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 0.96 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 11 | 433 | 822 | 196 | 207 | 65 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 266 | 1193 | 984 | 803 | 289 | 257 |
| Arrive On Green | 0.01 | 0.64 | 0.53 | 0.53 | 0.16 | 0.16 |
| Sat Flow, veh/h | 1781 | 1870 | 1870 | 1525 | 1781 | 1585 |
| Grp Volume(v), veh/h | 11 | 433 | 822 | 196 | 207 | 65 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1870 | 1525 | 1781 | 1585 |
| Q Serve(g_s), s | 0.1 | 4.9 | 16.7 | 3.1 | 5.0 | 1.6 |
| Cycle Q Clear(g_c), s | 0.1 | 4.9 | 16.7 | 3.1 | 5.0 | 1.6 |
| Prop In Lane | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 266 | 1193 | 984 | 803 | 289 | 257 |
| V/C Ratio(X) | 0.04 | 0.36 | 0.84 | 0.24 | 0.72 | 0.25 |
| Avail Cap(c_a), veh/h | 404 | 1579 | 1226 | 1000 | 712 | 634 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 7.9 | 3.8 | 9.0 | 5.8 | 17.9 | 16.5 |
| Incr Delay (d2), s/veh | 0.1 | 0.2 | 4.2 | 0.2 | 3.3 | 0.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.9 | 5.6 | 0.7 | 2.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 8.0 | 4.0 | 13.2 | 6.0 | 21.2 | 17.0 |
| LnGrp LOS | A | A | B | A | C | B |
| Approach Vol, veh/h | | 444 | 1018 | | 272 | |
| Approach Delay, s/veh | | 4.1 | 11.8 | | 20.2 | |
| Approach LOS | | A | B | | C | |

| Timer - Assigned Phs | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 33.2 | | 11.8 | 5.0 | 28.2 |
| Change Period (Y+Rc), s | 4.5 | | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 38.0 | | 18.0 | 4.0 | 29.5 |
| Max Q Clear Time (g_c+I1), s | 6.9 | | 7.0 | 2.1 | 18.7 |
| Green Ext Time (p_c), s | 2.8 | | 0.6 | 0.0 | 5.0 |

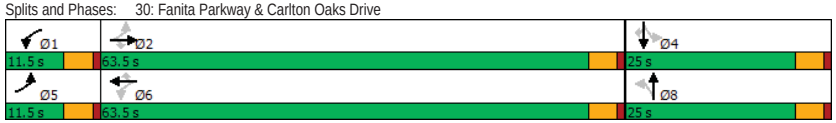
**Intersection Summary**

| | |
|---|---|
| HCM 6th Ctrl Delay | 11.2 |
| HCM 6th LOS | B |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 53 | 400 | 0 | 0 | 760 | 208 | 5 | 0 | 10 | 347 | 0 | 151 |
| Future Volume (vph) | 53 | 400 | 0 | 0 | 760 | 208 | 5 | 0 | 10 | 347 | 0 | 151 |
| Confl. Peds. (#/hr) | | | 4 | | | 4 | | | 14 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | 6 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | pm+pt | NA | Perm | pm+pt | NA | Perm | Perm | NA | | Perm | | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | 2 | | 2 | 6 | | 6 | 8 | | | 4 | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 8 | 8 | | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | | 7.0 | 7.0 | 7.0 |
| Minimum Split (s) | 11.5 | 26.5 | 26.5 | 11.5 | 20.5 | 20.5 | 22.5 | 22.5 | | 22.5 | 22.5 | 22.5 |
| Total Split (s) | 11.5 | 63.5 | 63.5 | 11.5 | 63.5 | 63.5 | 25.0 | 25.0 | | 25.0 | 25.0 | 25.0 |
| Total Split (%) | 11.5% | 63.5% | 63.5% | 11.5% | 63.5% | 63.5% | 25.0% | 25.0% | | 25.0% | 25.0% | 25.0% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | | | | | | |
| Recall Mode | None | Min | Min | None | Min | Min | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 79.7 |
| Natural Cycle: 90 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 30: Fanita Parkway & Carlton Oaks Drive






2035 + Proj AM
30: Fanita Parkway & Carlton Oaks Drive
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 53 | 400 | 0 | 0 | 760 | 208 | 5 | 0 | 10 | 347 | 0 | 151 |
| Future Volume (veh/h) | 53 | 400 | 0 | 0 | 760 | 208 | 5 | 0 | 10 | 347 | 0 | 151 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.97 | 1.00 | | 0.97 | 0.97 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 58 | 435 | 0 | 0 | 826 | 226 | 5 | 0 | 11 | 377 | 0 | 164 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 268 | 1176 | 997 | 578 | 951 | 783 | 150 | 28 | 260 | 446 | 482 | 407 |
| Arrive On Green | 0.06 | 0.63 | 0.00 | 0.00 | 0.51 | 0.51 | 0.26 | 0.00 | 0.26 | 0.26 | 0.00 | 0.26 |
| Sat Flow, veh/h | 1781 | 1870 | 1585 | 1781 | 1870 | 1540 | 351 | 107 | 1009 | 1367 | 1870 | 1579 |
| Grp Volume(v), veh/h | 58 | 435 | 0 | 0 | 826 | 226 | 16 | 0 | 0 | 377 | 0 | 164 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1585 | 1781 | 1870 | 1540 | 1467 | 0 | 0 | 1367 | 1870 | 1579 |
| Q Serve(g_s), s | 1.1 | 8.9 | 0.0 | 0.0 | 30.9 | 6.7 | 0.0 | 0.0 | 0.0 | 19.9 | 0.0 | 6.8 |
| Cycle Q Clear(g_c), s | 1.1 | 8.9 | 0.0 | 0.0 | 30.9 | 6.7 | 0.6 | 0.0 | 0.0 | 20.5 | 0.0 | 6.8 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 0.31 | | 0.69 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 268 | 1176 | 997 | 578 | 951 | 783 | 438 | 0 | 0 | 446 | 482 | 407 |
| V/C Ratio(X) | 0.22 | 0.37 | 0.00 | 0.00 | 0.87 | 0.29 | 0.04 | 0.00 | 0.00 | 0.85 | 0.00 | 0.40 |
| Avail Cap(c_a), veh/h | 312 | 1388 | 1177 | 732 | 1388 | 1143 | 438 | 0 | 0 | 446 | 482 | 407 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 14.3 | 7.1 | 0.0 | 0.0 | 17.2 | 11.2 | 22.1 | 0.0 | 0.0 | 30.0 | 0.0 | 24.4 |
| Incr Delay (d2), s/veh | 0.4 | 0.2 | 0.0 | 0.0 | 4.2 | 0.2 | 0.0 | 0.0 | 0.0 | 14.0 | 0.0 | 0.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.4 | 2.9 | 0.0 | 0.0 | 12.6 | 2.1 | 0.2 | 0.0 | 0.0 | 8.6 | 0.0 | 2.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 14.7 | 7.3 | 0.0 | 0.0 | 21.4 | 11.4 | 22.1 | 0.0 | 0.0 | 44.0 | 0.0 | 25.1 |
| LnGrp LOS | B | A | A | A | C | B | C | A | A | D | A | C |
| Approach Vol, veh/h | | 493 | | | 1052 | | | 16 | | | 541 | |
| Approach Delay, s/veh | | 8.2 | | | 19.3 | | | 22.1 | | | 38.2 | |
| Approach LOS | | A | | | B | | | C | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 0.0 | 54.5 | | 25.0 | 9.6 | 44.9 | | 25.0 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 7.0 | 59.0 | | 20.5 | 7.0 | 59.0 | | 20.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 0.0 | 10.9 | | 22.5 | 3.1 | 32.9 | | 2.6 | | | | |
| Green Ext Time (p_c), s | 0.0 | 2.9 | | 0.0 | 0.0 | 7.5 | | 0.0 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 21.6 | |
| HCM 6th LOS | C | |

Fanita Ranch
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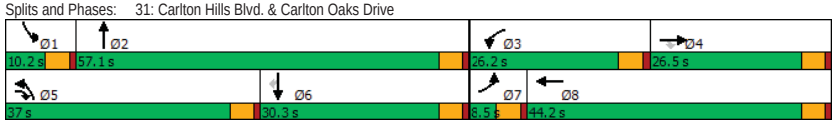
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 10 | 170 | 697 | 290 | 210 | 15 | 698 | 381 | 240 | 20 | 647 | 90 |
| Future Volume (vph) | 10 | 170 | 697 | 290 | 210 | 15 | 698 | 381 | 240 | 20 | 647 | 90 |
| Confl. Peds. (#/hr) | | | 16 | | | 2 | | | 3 | | | 4 |
| Confl. Bikes (#/hr) | | | 1 | | | 1 | | | 1 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 7 | 4 | 5 | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | | | | 6 |
| Detector Phase | 7 | 4 | 5 | 3 | 8 | | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 26.5 | 8.5 | 8.5 | 26.5 | | 8.5 | 22.5 | | 8.5 | 22.5 | 22.5 |
| Total Split (s) | 8.5 | 26.5 | 37.0 | 26.2 | 44.2 | | 37.0 | 57.1 | | 10.2 | 30.3 | 30.3 |
| Total Split (%) | 7.1% | 22.1% | 30.8% | 21.8% | 36.8% | | 30.8% | 47.6% | | 8.5% | 25.3% | 25.3% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | | None | Min | | None | Min | Min |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 113.9 |
| Natural Cycle: 120 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 31: Carlton Hills Blvd. & Carlton Oaks Drive






2035 + Proj AM
31: Carlton Hills Blvd. & Carlton Oaks Drive
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 10 | 170 | 697 | 290 | 210 | 15 | 698 | 381 | 240 | 20 | 647 | 90 |
| Future Volume (veh/h) | 10 | 170 | 697 | 290 | 210 | 15 | 698 | 381 | 240 | 20 | 647 | 90 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.96 | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 11 | 185 | 725 | 315 | 228 | 16 | 759 | 414 | 261 | 22 | 703 | 98 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 18 | 359 | 680 | 337 | 1248 | 87 | 845 | 929 | 579 | 31 | 773 | 339 |
| Arrive On Green | 0.01 | 0.19 | 0.19 | 0.19 | 0.37 | 0.37 | 0.24 | 0.44 | 0.44 | 0.02 | 0.22 | 0.22 |
| Sat Flow, veh/h | 1781 | 1870 | 1525 | 1781 | 3366 | 235 | 3456 | 2088 | 1302 | 1781 | 3554 | 1556 |
| Grp Volume(v), veh/h | 11 | 185 | 725 | 315 | 120 | 124 | 759 | 352 | 323 | 22 | 703 | 98 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1525 | 1781 | 1777 | 1824 | 1728 | 1777 | 1613 | 1781 | 1777 | 1556 |
| Q Serve(g_s), s | 0.7 | 10.2 | 22.0 | 20.0 | 5.2 | 5.3 | 24.4 | 15.7 | 16.0 | 1.4 | 22.1 | 6.0 |
| Cycle Q Clear(g_c), s | 0.7 | 10.2 | 22.0 | 20.0 | 5.2 | 5.3 | 24.4 | 15.7 | 16.0 | 1.4 | 22.1 | 6.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.13 | 1.00 | | 0.81 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 18 | 359 | 680 | 337 | 658 | 676 | 845 | 790 | 717 | 31 | 773 | 339 |
| V/C Ratio(X) | 0.60 | 0.52 | 1.07 | 0.93 | 0.18 | 0.18 | 0.90 | 0.45 | 0.45 | 0.70 | 0.91 | 0.29 |
| Avail Cap(c_a), veh/h | 62 | 359 | 680 | 337 | 658 | 676 | 979 | 815 | 740 | 88 | 799 | 350 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 56.5 | 41.6 | 32.6 | 45.8 | 24.4 | 24.4 | 41.9 | 22.1 | 22.1 | 56.1 | 43.8 | 37.5 |
| Incr Delay (d2), s/veh | 27.5 | 1.3 | 53.4 | 32.6 | 0.1 | 0.1 | 10.0 | 0.4 | 0.4 | 24.8 | 14.0 | 0.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.5 | 4.8 | 28.3 | 11.8 | 2.2 | 2.3 | 11.4 | 6.5 | 6.0 | 0.8 | 11.1 | 2.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 84.0 | 42.9 | 86.0 | 78.4 | 24.5 | 24.5 | 51.9 | 22.5 | 22.6 | 80.9 | 57.8 | 37.9 |
| LnGrp LOS | F | D | F | E | C | C | D | C | C | F | E | D |
| Approach Vol, veh/h | | 921 | | | 559 | | | 1434 | | | 823 | |
| Approach Delay, s/veh | | 77.3 | | | 54.9 | | | 38.1 | | | 56.1 | |
| Approach LOS | | E | | | D | | | D | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 6.5 | 55.5 | 26.2 | 26.5 | 32.6 | 29.5 | 5.7 | 47.0 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 5.7 | 52.6 | 21.7 | 22.0 | 32.5 | 25.8 | 4.0 | 39.7 |
| Max Q Clear Time (g_c+I1), s | 3.4 | 18.0 | 22.0 | 24.0 | 26.4 | 24.1 | 2.7 | 7.3 |
| Green Ext Time (p_c), s | 0.0 | 4.7 | 0.0 | 0.0 | 1.7 | 0.8 | 0.0 | 1.5 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 54.2 |
| HCM 6th LOS | D |

Fanita Ranch
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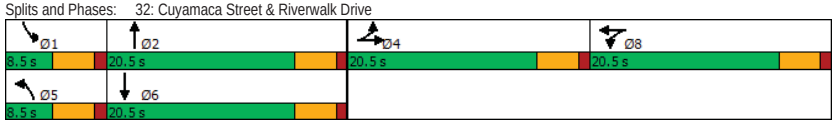
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 5 | 0 | 0 | 100 | 5 | 60 | 20 | 634 | 90 | 110 | 1293 | 5 |
| Future Volume (vph) | 5 | 0 | 0 | 100 | 5 | 60 | 20 | 634 | 90 | 110 | 1293 | 5 |
| Confl. Peds. (#/hr) | | | 17 | | | 2 | | | 1 | | | 7 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Split | | | Split | NA | | Prot | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | 20.5 | 20.5 | | 20.5 | 20.5 | | 8.5 | 20.5 | | 8.5 | 20.5 | |
| Total Split (s) | 20.5 | 20.5 | | 20.5 | 20.5 | | 8.5 | 20.5 | | 8.5 | 20.5 | |
| Total Split (%) | 29.3% | 29.3% | | 29.3% | 29.3% | | 12.1% | 29.3% | | 12.1% | 29.3% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 70 |
| Actuated Cycle Length: 47.1 |
| Natural Cycle: 90 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 32: Cuyamaca Street & Riverwalk Drive








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 5 | 0 | 0 | 100 | 5 | 60 | 20 | 634 | 90 | 110 | 1293 | 5 |
| Future Volume (veh/h) | 5 | 0 | 0 | 100 | 5 | 60 | 20 | 634 | 90 | 110 | 1293 | 5 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.99 | 1.00 | | 1.00 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 5 | 0 | 0 | 109 | 5 | 65 | 22 | 689 | 98 | 120 | 1405 | 5 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 74 | 78 | 0 | 190 | 12 | 158 | 39 | 1020 | 145 | 152 | 1419 | 5 |
| Arrive On Green | 0.04 | 0.00 | 0.00 | 0.11 | 0.11 | 0.11 | 0.02 | 0.33 | 0.33 | 0.09 | 0.39 | 0.39 |
| Sat Flow, veh/h | 1781 | 1870 | 0 | 1781 | 114 | 1480 | 1781 | 3123 | 444 | 1781 | 3632 | 13 |
| Grp Volume(v), veh/h | 5 | 0 | 0 | 109 | 0 | 70 | 22 | 392 | 395 | 120 | 687 | 723 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 0 | 1781 | 0 | 1594 | 1781 | 1777 | 1790 | 1781 | 1777 | 1868 |
| Q Serve(g_s), s | 0.1 | 0.0 | 0.0 | 2.4 | 0.0 | 1.7 | 0.5 | 7.8 | 7.8 | 2.7 | 15.7 | 15.8 |
| Cycle Q Clear(g_c), s | 0.1 | 0.0 | 0.0 | 2.4 | 0.0 | 1.7 | 0.5 | 7.8 | 7.8 | 2.7 | 15.7 | 15.8 |
| Prop In Lane | 1.00 | | 0.00 | 1.00 | | 0.93 | 1.00 | | 0.25 | 1.00 | | 0.01 |
| Lane Grp Cap(c), veh/h | 74 | 78 | 0 | 190 | 0 | 170 | 39 | 580 | 585 | 152 | 694 | 730 |
| V/C Ratio(X) | 0.07 | 0.00 | 0.00 | 0.57 | 0.00 | 0.41 | 0.57 | 0.67 | 0.68 | 0.79 | 0.99 | 0.99 |
| Avail Cap(c_a), veh/h | 696 | 731 | 0 | 696 | 0 | 623 | 174 | 694 | 699 | 174 | 694 | 730 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 18.9 | 0.0 | 0.0 | 17.4 | 0.0 | 17.1 | 19.9 | 11.9 | 11.9 | 18.4 | 12.4 | 12.4 |
| Incr Delay (d2), s/veh | 0.4 | 0.0 | 0.0 | 2.7 | 0.0 | 1.6 | 12.6 | 2.0 | 2.0 | 18.8 | 31.6 | 30.9 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.6 | 0.3 | 2.6 | 2.6 | 1.7 | 10.4 | 10.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 19.2 | 0.0 | 0.0 | 20.1 | 0.0 | 18.7 | 32.5 | 13.9 | 13.9 | 37.2 | 44.0 | 43.3 |
| LnGrp LOS | B | A | A | C | A | B | C | B | B | D | D | D |
| Approach Vol, veh/h | | 5 | | | 179 | | | 809 | | | 1530 | |
| Approach Delay, s/veh | | 19.2 | | | 19.6 | | | 14.4 | | | 43.1 | |
| Approach LOS | | B | | | B | | | B | | | D | |

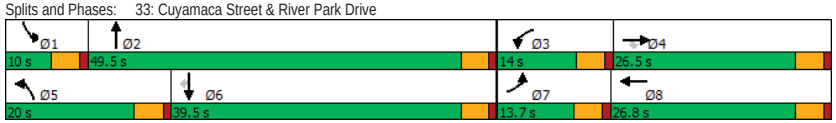
| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 8.0 | 17.9 | | 6.2 | 5.4 | 20.5 | | 8.9 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 4.0 | 16.0 | | 16.0 | 4.0 | 16.0 | | 16.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 4.7 | 9.8 | | 2.1 | 2.5 | 17.8 | | 4.4 | | | | |
| Green Ext Time (p_c), s | 0.0 | 2.5 | | 0.0 | 0.0 | 0.0 | | 0.5 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 32.2 | |
| HCM 6th LOS | C | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 69 | 30 | 110 | 80 | 35 | 30 | 140 | 750 | 90 | 20 | 1115 | 58 |
| Future Volume (vph) | 69 | 30 | 110 | 80 | 35 | 30 | 140 | 750 | 90 | 20 | 1115 | 58 |
| Confl. Peds. (#/hr) | | | 10 | | | 6 | | | 10 | | | 6 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | | | | 6 |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 26.5 | 26.5 | 8.5 | 26.5 | | 8.5 | 22.5 | | 8.5 | 26.5 | 26.5 |
| Total Split (s) | 13.7 | 26.5 | 26.5 | 14.0 | 26.8 | | 20.0 | 49.5 | | 10.0 | 39.5 | 39.5 |
| Total Split (%) | 13.7% | 26.5% | 26.5% | 14.0% | 26.8% | | 20.0% | 49.5% | | 10.0% | 39.5% | 39.5% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | | None | Min | | None | Min | Min |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 78.6 |
| Natural Cycle: 90 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 33: Cuyamaca Street & River Park Drive








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 69 | 30 | 110 | 80 | 35 | 30 | 140 | 750 | 90 | 20 | 1115 | 58 |
| Future Volume (veh/h) | 69 | 30 | 110 | 80 | 35 | 30 | 140 | 750 | 90 | 20 | 1115 | 58 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 75 | 33 | 120 | 87 | 38 | 33 | 152 | 815 | 98 | 22 | 1212 | 63 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 97 | 258 | 214 | 113 | 135 | 117 | 194 | 1645 | 198 | 36 | 1516 | 671 |
| Arrive On Green | 0.05 | 0.14 | 0.14 | 0.06 | 0.15 | 0.15 | 0.11 | 0.52 | 0.52 | 0.02 | 0.43 | 0.43 |
| Sat Flow, veh/h | 1781 | 1870 | 1551 | 1781 | 918 | 797 | 1781 | 3190 | 384 | 1781 | 3554 | 1574 |
| Grp Volume(v), veh/h | 75 | 33 | 120 | 87 | 0 | 71 | 152 | 454 | 459 | 22 | 1212 | 63 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1551 | 1781 | 0 | 1715 | 1781 | 1777 | 1797 | 1781 | 1777 | 1574 |
| Q Serve(g_s), s | 2.8 | 1.1 | 4.9 | 3.3 | 0.0 | 2.5 | 5.7 | 11.4 | 11.4 | 0.8 | 20.3 | 1.6 |
| Cycle Q Clear(g_c), s | 2.8 | 1.1 | 4.9 | 3.3 | 0.0 | 2.5 | 5.7 | 11.4 | 11.4 | 0.8 | 20.3 | 1.6 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.46 | 1.00 | | 0.21 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 97 | 258 | 214 | 113 | 0 | 252 | 194 | 916 | 927 | 36 | 1516 | 671 |
| V/C Ratio(X) | 0.78 | 0.13 | 0.56 | 0.77 | 0.00 | 0.28 | 0.78 | 0.50 | 0.50 | 0.62 | 0.80 | 0.09 |
| Avail Cap(c_a), veh/h | 239 | 601 | 498 | 247 | 0 | 559 | 403 | 1168 | 1181 | 143 | 1816 | 804 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 32.0 | 25.9 | 27.6 | 31.6 | 0.0 | 26.0 | 29.7 | 10.8 | 10.8 | 33.3 | 17.1 | 11.7 |
| Incr Delay (d2), s/veh | 12.4 | 0.2 | 2.3 | 10.6 | 0.0 | 0.6 | 6.7 | 0.4 | 0.4 | 16.2 | 2.2 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.5 | 0.5 | 1.9 | 1.7 | 0.0 | 1.0 | 2.7 | 3.8 | 3.9 | 0.5 | 7.6 | 0.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 44.3 | 26.1 | 29.8 | 42.2 | 0.0 | 26.6 | 36.4 | 11.2 | 11.2 | 49.5 | 19.3 | 11.8 |
| LnGrp LOS | D | C | C | D | A | C | D | B | B | D | B | B |
| Approach Vol, veh/h | | 228 | | | 158 | | | 1065 | | | 1297 | |
| Approach Delay, s/veh | | 34.1 | | | 35.2 | | | 14.8 | | | 19.4 | |
| Approach LOS | | C | | | D | | | B | | | B | |

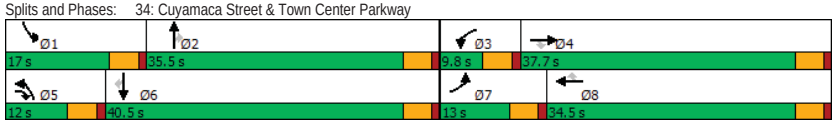
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.9 | 39.8 | 8.8 | 14.0 | 12.0 | 33.7 | 8.2 | 14.6 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 5.5 | 45.0 | 9.5 | 22.0 | 15.5 | 35.0 | 9.2 | 22.3 |
| Max Q Clear Time (g_c+I1), s | 2.8 | 13.4 | 5.3 | 6.9 | 7.7 | 22.3 | 4.8 | 4.5 |
| Green Ext Time (p_c), s | 0.0 | 6.5 | 0.1 | 0.4 | 0.2 | 6.9 | 0.0 | 0.3 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 19.8 |
| HCM 6th LOS | | B |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 184 | 60 | 90 | 60 | 100 | 184 | 115 | 517 | 75 | 153 | 749 | 308 |
| Future Volume (vph) | 184 | 60 | 90 | 60 | 100 | 184 | 115 | 517 | 75 | 153 | 749 | 308 |
| Confl. Peds. (#/hr) | | | 7 | | | 1 | | | 5 | | | 3 |
| Confl. Bikes (#/hr) | | | 1 | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 7 | 4 | 5 | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | 2 | | | 6 |
| Detector Phase | 7 | 4 | 5 | 3 | 8 | 8 | 5 | 2 | 2 | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 34.5 | 8.5 | 8.5 | 34.5 | 34.5 | 8.5 | 34.5 | 34.5 | 8.5 | 34.5 | 34.5 |
| Total Split (s) | 13.0 | 37.7 | 12.0 | 9.8 | 34.5 | 34.5 | 12.0 | 35.5 | 35.5 | 17.0 | 40.5 | 40.5 |
| Total Split (%) | 13.0% | 37.7% | 12.0% | 9.8% | 34.5% | 34.5% | 12.0% | 35.5% | 35.5% | 17.0% | 40.5% | 40.5% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lead | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | None | None | Min | Min | None | Min | Min |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 66 |
| Natural Cycle: 90 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 34: Cuyamaca Street & Town Center Parkway








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 184 | 60 | 90 | 60 | 100 | 184 | 115 | 517 | 75 | 153 | 749 | 308 |
| Future Volume (veh/h) | 184 | 60 | 90 | 60 | 100 | 184 | 115 | 517 | 75 | 153 | 749 | 308 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 1.00 | 1.00 | | 0.99 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 200 | 65 | 98 | 65 | 109 | 200 | 125 | 562 | 82 | 166 | 814 | 335 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 310 | 448 | 470 | 154 | 691 | 308 | 214 | 1471 | 453 | 212 | 1764 | 546 |
| Arrive On Green | 0.09 | 0.24 | 0.24 | 0.04 | 0.19 | 0.19 | 0.06 | 0.29 | 0.29 | 0.12 | 0.35 | 0.35 |
| Sat Flow, veh/h | 3456 | 1870 | 1551 | 3456 | 3554 | 1583 | 3456 | 5106 | 1571 | 1781 | 5106 | 1581 |
| Grp Volume(v), veh/h | 200 | 65 | 98 | 65 | 109 | 200 | 125 | 562 | 82 | 166 | 814 | 335 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1870 | 1551 | 1728 | 1777 | 1583 | 1728 | 1702 | 1571 | 1781 | 1702 | 1581 |
| Q Serve(g_s), s | 3.3 | 1.6 | 2.7 | 1.1 | 1.5 | 6.8 | 2.1 | 5.1 | 2.3 | 5.3 | 7.2 | 10.3 |
| Cycle Q Clear(g_c), s | 3.3 | 1.6 | 2.7 | 1.1 | 1.5 | 6.8 | 2.1 | 5.1 | 2.3 | 5.3 | 7.2 | 10.3 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 310 | 448 | 470 | 154 | 691 | 308 | 214 | 1471 | 453 | 212 | 1764 | 546 |
| V/C Ratio(X) | 0.64 | 0.14 | 0.21 | 0.42 | 0.16 | 0.65 | 0.59 | 0.38 | 0.18 | 0.78 | 0.46 | 0.61 |
| Avail Cap(c_a), veh/h | 503 | 1064 | 980 | 314 | 1826 | 813 | 444 | 2712 | 834 | 381 | 3149 | 975 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 25.7 | 17.5 | 15.2 | 27.1 | 19.5 | 21.7 | 26.7 | 16.6 | 15.6 | 25.0 | 14.9 | 15.9 |
| Incr Delay (d2), s/veh | 2.2 | 0.1 | 0.2 | 1.8 | 0.1 | 2.3 | 2.5 | 0.2 | 0.2 | 6.2 | 0.2 | 1.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.4 | 0.7 | 0.9 | 0.5 | 0.6 | 2.5 | 0.9 | 1.8 | 0.8 | 2.4 | 2.5 | 3.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 27.9 | 17.6 | 15.4 | 29.0 | 19.6 | 24.0 | 29.2 | 16.8 | 15.8 | 31.1 | 15.1 | 17.0 |
| LnGrp LOS | C | B | B | C | B | C | C | B | B | C | B | B |
| Approach Vol, veh/h | | 363 | | | 374 | | | 769 | | | 1315 | |
| Approach Delay, s/veh | | 22.7 | | | 23.6 | | | 18.7 | | | 17.6 | |
| Approach LOS | | C | | | C | | | B | | | B | |

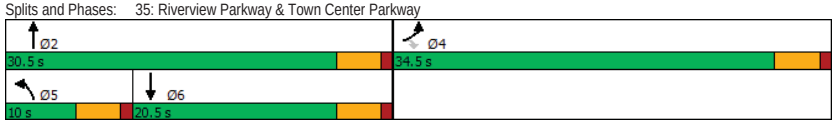
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 11.5 | 21.3 | 7.1 | 18.5 | 8.1 | 24.7 | 9.7 | 15.9 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 12.5 | 31.0 | 5.3 | 33.2 | 7.5 | 36.0 | 8.5 | 30.0 |
| Max Q Clear Time (g_c+I1), s | 7.3 | 7.1 | 3.1 | 4.7 | 4.1 | 12.3 | 5.3 | 8.8 |
| Green Ext Time (p_c), s | 0.2 | 4.1 | 0.0 | 0.7 | 0.1 | 7.2 | 0.2 | 1.3 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 19.3 |
| HCM 6th LOS | B |

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 5 | 134 | 148 | 470 | 170 | 40 |
| Future Volume (vph) | 5 | 134 | 148 | 470 | 170 | 40 |
| Confl. Peds. (#/hr) | | 4 | | | | 1 |
| Confl. Bikes (#/hr) | | 2 | | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | Prot | NA | NA | |
| Protected Phases | 4 | | 5 | 2 | 6 | |
| Permitted Phases | | 4 | | | | |
| Detector Phase | 4 | 4 | 5 | 2 | 6 | |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Minimum Split (s) | 34.5 | 34.5 | 8.5 | 25.5 | 20.5 | |
| Total Split (s) | 34.5 | 34.5 | 10.0 | 30.5 | 20.5 | |
| Total Split (%) | 53.1% | 53.1% | 15.4% | 46.9% | 31.5% | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lead/Lag | | | Lead | | Lag | |
| Lead-Lag Optimize? | | | Yes | | Yes | |
| Recall Mode | None | None | None | Min | Min | |

| Intersection Summary |
|---|
| Cycle Length: 65 |
| Actuated Cycle Length: 38.2 |
| Natural Cycle: 65 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 35: Riverview Parkway & Town Center Parkway








| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 5 | 134 | 148 | 470 | 170 | 40 |
| Future Volume (veh/h) | 5 | 134 | 148 | 470 | 170 | 40 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 5 | 146 | 161 | 511 | 185 | 43 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 216 | 192 | 203 | 1753 | 534 | 121 |
| Arrive On Green | 0.12 | 0.12 | 0.11 | 0.49 | 0.19 | 0.19 |
| Sat Flow, veh/h | 1781 | 1585 | 1781 | 3647 | 2957 | 648 |
| Grp Volume(v), veh/h | 5 | 146 | 161 | 511 | 113 | 115 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 1781 | 1777 | 1777 | 1734 |
| Q Serve(g_s), s | 0.1 | 2.1 | 2.1 | 2.0 | 1.3 | 1.4 |
| Cycle Q Clear(g_c), s | 0.1 | 2.1 | 2.1 | 2.0 | 1.3 | 1.4 |
| Prop In Lane | 1.00 | 1.00 | 1.00 | | | 0.37 |
| Lane Grp Cap(c), veh/h | 216 | 192 | 203 | 1753 | 331 | 323 |
| V/C Ratio(X) | 0.02 | 0.76 | 0.79 | 0.29 | 0.34 | 0.36 |
| Avail Cap(c_a), veh/h | 2288 | 2036 | 419 | 3956 | 1217 | 1188 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 9.0 | 9.9 | 10.1 | 3.5 | 8.3 | 8.3 |
| Incr Delay (d2), s/veh | 0.0 | 6.0 | 6.8 | 0.1 | 0.6 | 0.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 2.1 | 0.9 | 0.1 | 0.3 | 0.4 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 9.1 | 15.9 | 16.9 | 3.6 | 8.9 | 8.9 |
| LnGrp LOS | A | B | B | A | A | A |
| Approach Vol, veh/h | 151 | | | 672 | 228 | |
| Approach Delay, s/veh | 15.7 | | | 6.8 | 8.9 | |
| Approach LOS | B | | | A | A | |

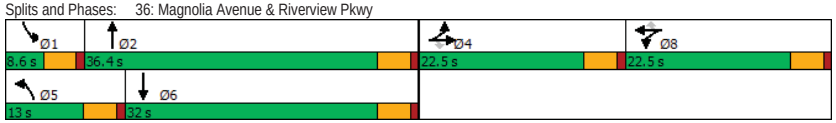
| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 16.0 | | 7.3 | 7.2 | 8.9 |
| Change Period (Y+Rc), s | | 4.5 | | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | | 26.0 | | 30.0 | 5.5 | 16.0 |
| Max Q Clear Time (g_c+I1), s | | 4.0 | | 4.1 | 4.1 | 3.4 |
| Green Ext Time (p_c), s | | 3.5 | | 0.5 | 0.1 | 1.0 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 8.5 | |
| HCM 6th LOS | A | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 5 | 0 | 30 | 70 | 0 | 20 | 220 | 1102 | 40 | 20 | 1464 | 10 |
| Future Volume (vph) | 5 | 0 | 30 | 70 | 0 | 20 | 220 | 1102 | 40 | 20 | 1464 | 10 |
| Confl. Peds. (#/hr) | | | 8 | | | | | | | | | 8 |
| Confl. Bikes (#/hr) | | | 1 | | | | | | 5 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Split | NA | Perm | Split | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | | | | |
| Detector Phase | 4 | 4 | 4 | 8 | 8 | 8 | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 8.5 | 22.5 | | 8.5 | 22.5 | |
| Total Split (s) | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 13.0 | 36.4 | | 8.6 | 32.0 | |
| Total Split (%) | 25.0% | 25.0% | 25.0% | 25.0% | 25.0% | 25.0% | 14.4% | 40.4% | | 9.6% | 35.6% | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | None | None | None | None | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 90 |
| Actuated Cycle Length: 62.3 |
| Natural Cycle: 130 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 36: Magnolia Avenue & Riverview Pkwy








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 5 | 0 | 30 | 70 | 0 | 20 | 220 | 1102 | 40 | 20 | 1464 | 10 |
| Future Volume (veh/h) | 5 | 0 | 30 | 70 | 0 | 20 | 220 | 1102 | 40 | 20 | 1464 | 10 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.95 | 1.00 | | 1.00 | 1.00 | | 0.98 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 5 | 0 | 33 | 76 | 0 | 22 | 239 | 1198 | 43 | 22 | 1591 | 11 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 87 | 0 | 73 | 115 | 0 | 102 | 249 | 1996 | 72 | 36 | 1634 | 11 |
| Arrive On Green | 0.05 | 0.00 | 0.05 | 0.06 | 0.00 | 0.06 | 0.14 | 0.57 | 0.57 | 0.02 | 0.45 | 0.45 |
| Sat Flow, veh/h | 1781 | 0 | 1504 | 1781 | 0 | 1585 | 1781 | 3496 | 125 | 1781 | 3617 | 25 |
| Grp Volume(v), veh/h | 5 | 0 | 33 | 76 | 0 | 22 | 239 | 609 | 632 | 22 | 781 | 821 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1504 | 1781 | 0 | 1585 | 1781 | 1777 | 1844 | 1781 | 1777 | 1865 |
| Q Serve(g_s), s | 0.2 | 0.0 | 1.3 | 2.5 | 0.0 | 0.8 | 8.1 | 13.6 | 13.6 | 0.7 | 26.2 | 26.2 |
| Cycle Q Clear(g_c), s | 0.2 | 0.0 | 1.3 | 2.5 | 0.0 | 0.8 | 8.1 | 13.6 | 13.6 | 0.7 | 26.2 | 26.2 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.07 | 1.00 | | 0.01 |
| Lane Grp Cap(c), veh/h | 87 | 0 | 73 | 115 | 0 | 102 | 249 | 1014 | 1053 | 36 | 803 | 842 |
| V/C Ratio(X) | 0.06 | 0.00 | 0.45 | 0.66 | 0.00 | 0.22 | 0.96 | 0.60 | 0.60 | 0.61 | 0.97 | 0.97 |
| Avail Cap(c_a), veh/h | 527 | 0 | 445 | 527 | 0 | 469 | 249 | 1014 | 1053 | 120 | 803 | 842 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 27.6 | 0.0 | 28.2 | 27.8 | 0.0 | 27.0 | 26.0 | 8.5 | 8.5 | 29.6 | 16.3 | 16.4 |
| Incr Delay (d2), s/veh | 0.3 | 0.0 | 4.3 | 6.4 | 0.0 | 1.0 | 46.2 | 1.0 | 1.0 | 15.1 | 25.3 | 24.8 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.1 | 0.0 | 0.5 | 1.2 | 0.0 | 0.3 | 6.3 | 3.9 | 4.1 | 0.4 | 13.6 | 14.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 27.9 | 0.0 | 32.4 | 34.3 | 0.0 | 28.1 | 72.2 | 9.5 | 9.5 | 44.7 | 41.6 | 41.2 |
| LnGrp LOS | C | A | C | C | A | C | E | A | A | D | D | D |
| Approach Vol, veh/h | | 38 | | | 98 | | | 1480 | | | 1624 | |
| Approach Delay, s/veh | | 31.8 | | | 32.9 | | | 19.6 | | | 41.4 | |
| Approach LOS | | C | | | C | | | B | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.7 | 39.3 | | 7.5 | 13.0 | 32.0 | | 8.4 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 4.1 | 31.9 | | 18.0 | 8.5 | 27.5 | | 18.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.7 | 15.6 | | 3.3 | 10.1 | 28.2 | | 4.5 | | | | |
| Green Ext Time (p_c), s | 0.0 | 7.2 | | 0.1 | 0.0 | 0.0 | | 0.3 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 31.1 | |
| HCM 6th LOS | C | |

| Intersection | |
|---|---|
| Int Delay, s/veh | 186.2 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 0 | 20 | 0 | 208 | 460 | 634 | 0 | 0 | 419 | 670 |
| Future Vol, veh/h | 0 | 0 | 0 | 20 | 0 | 208 | 460 | 634 | 0 | 0 | 419 | 670 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 9 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | 190 | - | - | - | - | - |
| Veh in Median Storage, # | - | 2 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 0 | 22 | 0 | 226 | 500 | 689 | 0 | 0 | 455 | 728 |

| Major/Minor | Minor1 | | | Major1 | | | Major2 | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 2508 | 2872 | 689 | 1183 | 0 | - | - | - | 0 | |
| Stage 1 | 1689 | 1689 | - | - | - | - | - | - | - | |
| Stage 2 | 819 | 1183 | - | - | - | - | - | - | - | |
| Critical Hdwy | 6.42 | 6.52 | 6.22 | 4.12 | - | - | - | - | - | |
| Critical Hdwy Stg 1 | 5.42 | 5.52 | - | - | - | - | - | - | - | |
| Critical Hdwy Stg 2 | 5.42 | 5.52 | - | - | - | - | - | - | - | |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 2.218 | - | - | - | - | - | |
| Pot Cap-1 Maneuver | 31 | 16 | 446 | 590 | - | 0 | 0 | - | - | |
| Stage 1 | 164 | 149 | - | - | - | 0 | 0 | - | - | |
| Stage 2 | 433 | 263 | - | - | - | 0 | 0 | - | - | |
| Platoon blocked, % | | | | | - | | | - | - | |
| Mov Cap-1 Maneuver | ~ 5 | 0 | 446 | 590 | - | - | - | - | - | |
| Mov Cap-2 Maneuver | ~ 5 | 0 | - | - | - | - | - | - | - | |
| Stage 1 | 25 | 0 | - | - | - | - | - | - | - | |
| Stage 2 | 433 | 0 | - | - | - | - | - | - | - | |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | $ 1897 | 15.1 | 0 |
| HCM LOS | F | | |

| Minor Lane/Major Mvmt | NBL | NBTWBLn1 | SBT | SBR |
|---|---|---|---|---|
| Capacity (veh/h) | 590 | - 51 | - | - |
| HCM Lane V/C Ratio | 0.847 | - 4.859 | - | - |
| HCM Control Delay (s) | 36 | -$ 1897 | - | - |
| HCM Lane LOS | E | - F | - | - |
| HCM 95th %tile Q(veh) | 9.2 | - 27.9 | - | - |

| Notes |
|---|
| ~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon |

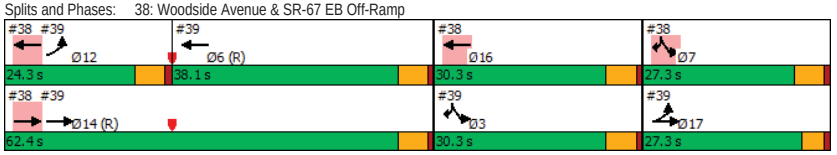




| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR | Ø3 | Ø6 | Ø12 | Ø16 | Ø17 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 320 | 180 | 0 | 550 | 140 | | | | | |
| Future Volume (vph) | 0 | 320 | 180 | 0 | 550 | 140 | | | | | |
| Confl. Peds. (#/hr) | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | | | |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | | | | | |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| Parking (#/hr) | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | | | | | | |
| Shared Lane Traffic (%) | | | | | | | | | | | |
| Turn Type | | NA | NA | | Prot | Prot | | | | | |
| Protected Phases | | 14 | 12 16 | | 7 | 7 | 3 | 6 | 12 | 16 | 17 |
| Permitted Phases | | | | | | | | | | | |
| Detector Phase | | 14 | 12 16 | | 7 | 7 | | | | | |
| Switch Phase | | | | | | | | | | | |
| Minimum Initial (s) | | 4.0 | | | 8.0 | 8.0 | 5.0 | 5.0 | 5.0 | 2.0 | 5.0 |
| Minimum Split (s) | | 20.0 | | | 27.3 | 27.3 | 30.3 | 29.3 | 24.3 | 20.0 | 9.2 |
| Total Split (s) | | 62.4 | | | 27.3 | 27.3 | 30.3 | 38.1 | 24.3 | 30.3 | 27.3 |
| Total Split (%) | | 52.0% | | | 22.8% | 22.8% | 25% | 32% | 20% | 25% | 23% |
| Yellow Time (s) | | 4.3 | | | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 3.2 |
| All-Red Time (s) | | 1.0 | | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | | 0.0 | | | 0.0 | 0.0 | | | | | |
| Total Lost Time (s) | | 5.3 | | | 5.3 | 5.3 | | | | | |
| Lead/Lag | | | | | | | | Lag | Lead | | |
| Lead-Lag Optimize? | | | | | | | | Yes | Yes | | |
| Recall Mode | | C-Max | | | Max | Max | None | C-Max | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 0 (0%), Referenced to phase 6:WBT and 14:EBT, Start of Green |
| Natural Cycle: 135 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 38: Woodside Avenue & SR-67 EB Off-Ramp



2035 + Proj AM
38: Woodside Avenue & SR-67 EB Off-Ramp

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 320 | 180 | 0 | 550 | 140 |
| Future Volume (vph) | 0 | 320 | 180 | 0 | 550 | 140 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 5.3 | 5.3 | | 5.3 | 5.3 |
| Lane Util. Factor | | 0.95 | 1.00 | | 0.97 | 1.00 |
| Frt | | 1.00 | 1.00 | | 1.00 | 0.85 |
| Flt Protected | | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | | 3539 | 1863 | | 3433 | 1583 |
| Flt Permitted | | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (perm) | | 3539 | 1863 | | 3433 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 348 | 196 | 0 | 598 | 152 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 44 |
| Lane Group Flow (vph) | 0 | 348 | 196 | 0 | 598 | 108 |
| Turn Type | | NA | NA | | Prot | Prot |
| Protected Phases | | 14 | 12 16 | | 7 | 7 |
| Permitted Phases | | | | | | |
| Actuated Green, G (s) | | 57.1 | 42.5 | | 22.0 | 22.0 |
| Effective Green, g (s) | | 57.1 | 42.5 | | 22.0 | 22.0 |
| Actuated g/C Ratio | | 0.48 | 0.35 | | 0.18 | 0.18 |
| Clearance Time (s) | | 5.3 | | | 5.3 | 5.3 |
| Vehicle Extension (s) | | 1.0 | | | 3.0 | 3.0 |
| Lane Grp Cap (vph) | | 1683 | 659 | | 629 | 290 |
| v/s Ratio Prot | | c0.10 | c0.11 | | c0.17 | 0.07 |
| v/s Ratio Perm | | | | | | |
| v/c Ratio | | 0.21 | 0.30 | | 0.95 | 0.37 |
| Uniform Delay, d1 | | 18.3 | 28.0 | | 48.5 | 42.9 |
| Progression Factor | | 1.00 | 1.20 | | 1.00 | 1.00 |
| Incremental Delay, d2 | | 0.3 | 0.1 | | 25.6 | 3.6 |
| Delay (s) | | 18.6 | 33.6 | | 74.1 | 46.6 |
| Level of Service | | B | C | | E | D |
| Approach Delay (s) | | 18.6 | 33.6 | | 68.5 | |
| Approach LOS | | B | C | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 49.8 | HCM 2000 Level of Service | D |
| HCM 2000 Volume to Capacity ratio | 0.42 | | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 21.2 |
| Intersection Capacity Utilization | 34.0% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group



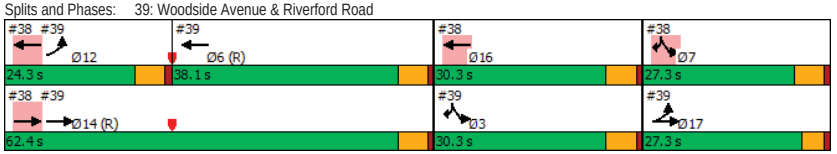
2035 + Proj AM
39: Woodside Avenue & Riverford Road

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR | Ø7 | Ø12 | Ø14 | Ø16 | Ø17 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | |
| Traffic Volume (vph) | 520 | 350 | 130 | 574 | 339 | 50 | | | | | |
| Future Volume (vph) | 520 | 350 | 130 | 574 | 339 | 50 | | | | | |
| Confl. Peds. (#/hr) | | | | | | 1 | | | | | |
| Confl. Bikes (#/hr) | | | | 1 | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | | | |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | | | | | |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| Parking (#/hr) | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | | | | | | |
| Shared Lane Traffic (%) | | | | | | | | | | | |
| Turn Type | Prot | NA | NA | | Prot | Prot | | | | | |
| Protected Phases | 12 17 | 14 17 | 6 | | 3 | 3 | 7 | 12 | 14 | 16 | 17 |
| Permitted Phases | | | | | | | | | | | |
| Detector Phase | 12 17 | 14 17 | 6 | | 3 | 3 | | | | | |
| Switch Phase | | | | | | | | | | | |
| Minimum Initial (s) | | | 5.0 | | 5.0 | 5.0 | 8.0 | 5.0 | 4.0 | 2.0 | 5.0 |
| Minimum Split (s) | | | 29.3 | | 30.3 | 30.3 | 27.3 | 24.3 | 20.0 | 20.0 | 9.2 |
| Total Split (s) | | | 38.1 | | 30.3 | 30.3 | 27.3 | 24.3 | 62.4 | 30.3 | 27.3 |
| Total Split (%) | | | 31.8% | | 25.3% | 25.3% | 23% | 20% | 52% | 25% | 23% |
| Yellow Time (s) | | | 4.3 | | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 3.2 |
| All-Red Time (s) | | | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | | | 0.0 | | 0.0 | 0.0 | | | | | |
| Total Lost Time (s) | | | 5.3 | | 5.3 | 5.3 | | | | | |
| Lead/Lag | | | Lag | | | | | Lead | | | |
| Lead-Lag Optimize? | | | Yes | | | | | Yes | | | |
| Recall Mode | | | C-Max | | None | None | Max | None | C-Max | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 0 (0%), Referenced to phase 6:WBT and 14:EBT, Start of Green |
| Natural Cycle: 135 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 39: Woodside Avenue & Riverford Road



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 520 | 350 | 130 | 574 | 339 | 50 |
| Future Volume (vph) | 520 | 350 | 130 | 574 | 339 | 50 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.3 | 5.3 | 5.3 | | 5.3 | 5.3 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.98 | | 1.00 | 1.00 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.89 | | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | 1770 | 1863 | 1629 | | 1770 | 1583 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (perm) | 1770 | 1863 | 1629 | | 1770 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 565 | 380 | 141 | 624 | 368 | 54 |
| RTOR Reduction (vph) | 0 | 0 | 131 | 0 | 0 | 27 |
| Lane Group Flow (vph) | 565 | 380 | 634 | 0 | 368 | 27 |
| Confl. Peds. (#/hr) | | | | | | 1 |
| Confl. Bikes (#/hr) | | | | 1 | | |
| Turn Type | Prot | NA | NA | | Prot | Prot |
| Protected Phases | 12 17 | 14 17 | 6 | | 3 | 3 |
| Permitted Phases | | | | | | |
| Actuated Green, G (s) | 44.8 | 84.4 | 34.3 | | 25.0 | 25.0 |
| Effective Green, g (s) | 40.6 | 80.2 | 34.3 | | 25.0 | 25.0 |
| Actuated g/C Ratio | 0.34 | 0.67 | 0.29 | | 0.21 | 0.21 |
| Clearance Time (s) | | | 5.3 | | 5.3 | 5.3 |
| Vehicle Extension (s) | | | 3.0 | | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 598 | 1245 | 465 | | 368 | 329 |
| v/s Ratio Prot | c0.32 | 0.20 | c0.39 | | c0.21 | 0.02 |
| v/s Ratio Perm | | | | | | |
| v/c Ratio | 0.94 | 0.31 | 1.36 | | 1.00 | 0.08 |
| Uniform Delay, d1 | 38.6 | 8.3 | 42.9 | | 47.5 | 38.3 |
| Progression Factor | 0.27 | 0.08 | 1.00 | | 1.00 | 1.00 |
| Incremental Delay, d2 | 19.1 | 0.1 | 177.3 | | 46.9 | 0.1 |
| Delay (s) | 29.7 | 0.8 | 220.1 | | 94.4 | 38.4 |
| Level of Service | C | A | F | | F | D |
| Approach Delay (s) | | 18.1 | 220.1 | | 87.2 | |
| Approach LOS | | B | F | | F | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| HCM 2000 Control Delay | 104.3 | HCM 2000 Level of Service | F | |
| HCM 2000 Volume to Capacity ratio | 1.11 | | | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 21.2 | |
| Intersection Capacity Utilization | 103.1% | ICU Level of Service | G | |
| Analysis Period (min) | 15 | | | |

c Critical Lane Group

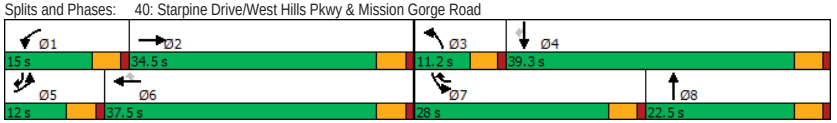




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 358 | 410 | 80 | 80 | 1090 | 1235 | 40 | 60 | 80 | 175 | 60 | 489 |
| Future Volume (vph) | 358 | 410 | 80 | 80 | 1090 | 1235 | 40 | 60 | 80 | 175 | 60 | 489 |
| Confl. Peds. (#/hr) | | | 3 | | | 1 | | | 1 | | | |
| Confl. Bikes (#/hr) | | | 2 | | | 6 | | | | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Prot | NA | | Prot | NA | pm+ov |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 5 |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 5 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 29.5 | | 8.5 | 29.5 | 8.5 | 8.5 | 22.5 | | 8.5 | 29.5 | 8.5 |
| Total Split (s) | 12.0 | 34.5 | | 15.0 | 37.5 | 28.0 | 11.2 | 22.5 | | 28.0 | 39.3 | 12.0 |
| Total Split (%) | 12.0% | 34.5% | | 15.0% | 37.5% | 28.0% | 11.2% | 22.5% | | 28.0% | 39.3% | 12.0% |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | Lead |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | Min | | None | Min | None | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 93.1 |
| Natural Cycle: 120 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 40: Starpine Drive/West Hills Pkwy & Mission Gorge Road



2035 + Proj AM
40: Starpine Drive/West Hills Pkwy & Mission Gorge Road

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 358 | 410 | 80 | 80 | 1090 | 1235 | 40 | 60 | 80 | 175 | 60 | 489 |
| Future Volume (veh/h) | 358 | 410 | 80 | 80 | 1090 | 1235 | 40 | 60 | 80 | 175 | 60 | 489 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 1.00 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 389 | 446 | 87 | 87 | 1185 | 1342 | 43 | 65 | 87 | 190 | 65 | 532 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 331 | 1340 | 259 | 113 | 1496 | 790 | 55 | 123 | 165 | 290 | 417 | 874 |
| Arrive On Green | 0.10 | 0.45 | 0.45 | 0.06 | 0.42 | 0.42 | 0.03 | 0.17 | 0.17 | 0.08 | 0.22 | 0.22 |
| Sat Flow, veh/h | 3456 | 2955 | 572 | 1781 | 3554 | 1560 | 1781 | 724 | 969 | 3456 | 1870 | 2725 |
| Grp Volume(v), veh/h | 389 | 267 | 266 | 87 | 1185 | 1342 | 43 | 0 | 152 | 190 | 65 | 532 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1750 | 1781 | 1777 | 1560 | 1781 | 0 | 1694 | 1728 | 1870 | 1362 |
| Q Serve(g_s), s | 7.5 | 7.6 | 7.7 | 3.8 | 22.7 | 33.0 | 1.9 | 0.0 | 6.4 | 4.2 | 2.2 | 13.0 |
| Cycle Q Clear(g_c), s | 7.5 | 7.6 | 7.7 | 3.8 | 22.7 | 33.0 | 1.9 | 0.0 | 6.4 | 4.2 | 2.2 | 13.0 |
| Prop In Lane | 1.00 | | 0.33 | 1.00 | | 1.00 | 1.00 | | 0.57 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 331 | 805 | 793 | 113 | 1496 | 790 | 55 | 0 | 288 | 290 | 417 | 874 |
| V/C Ratio(X) | 1.18 | 0.33 | 0.34 | 0.77 | 0.79 | 1.70 | 0.78 | 0.00 | 0.53 | 0.65 | 0.16 | 0.61 |
| Avail Cap(c_a), veh/h | 331 | 805 | 793 | 239 | 1496 | 790 | 152 | 0 | 389 | 1036 | 830 | 1476 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 35.5 | 13.8 | 13.8 | 36.2 | 19.7 | 19.5 | 37.7 | 0.0 | 29.7 | 34.8 | 24.5 | 22.6 |
| Incr Delay (d2), s/veh | 106.6 | 0.2 | 0.2 | 10.6 | 3.0 | 320.1 | 20.5 | 0.0 | 1.5 | 2.5 | 0.2 | 0.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 7.8 | 2.5 | 2.5 | 1.9 | 8.5 | 82.8 | 1.1 | 0.0 | 2.7 | 1.7 | 0.9 | 4.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 142.1 | 14.0 | 14.1 | 46.8 | 22.7 | 339.6 | 58.2 | 0.0 | 31.2 | 37.3 | 24.7 | 23.3 |
| LnGrp LOS | F | B | B | D | C | F | E | A | C | D | C | C |
| Approach Vol, veh/h | | 922 | | | 2614 | | | 195 | | | 787 | |
| Approach Delay, s/veh | | 68.1 | | | 186.2 | | | 37.1 | | | 26.8 | |
| Approach LOS | | E | | | F | | | D | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 9.5 | 40.0 | 6.9 | 22.0 | 12.0 | 37.5 | 11.1 | 17.8 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 10.5 | 30.0 | 6.7 | 34.8 | 7.5 | 33.0 | 23.5 | 18.0 |
| Max Q Clear Time (g_c+I1), s | 5.8 | 9.7 | 3.9 | 15.0 | 9.5 | 35.0 | 6.2 | 8.4 |
| Green Ext Time (p_c), s | 0.1 | 2.6 | 0.0 | 2.4 | 0.0 | 0.0 | 0.5 | 0.5 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 127.9 |
| HCM 6th LOS | F |



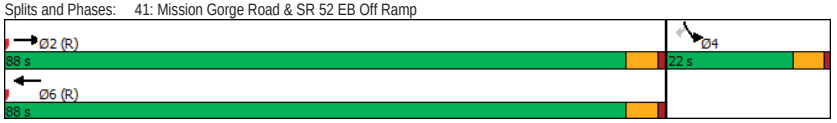
2035 + Proj AM
41: Mission Gorge Road & SR 52 EB Off Ramp

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 940 | 1680 | 0 | 169 | 15 |
| Future Volume (vph) | 0 | 940 | 1680 | 0 | 169 | 15 |
| Confl. Peds. (#/hr) | | | | | | |
| Confl. Bikes (#/hr) | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | | NA | NA | | Prot | Perm |
| Protected Phases | | 2 | 6 | | 4 | |
| Permitted Phases | | | | | | 4 |
| Detector Phase | | 2 | 6 | | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | | 6.0 | 11.0 | | 10.0 | 10.0 |
| Minimum Split (s) | | 20.0 | 20.0 | | 20.0 | 20.0 |
| Total Split (s) | | 88.0 | 88.0 | | 22.0 | 22.0 |
| Total Split (%) | | 80.0% | 80.0% | | 20.0% | 20.0% |
| Yellow Time (s) | | 4.4 | 4.4 | | 4.1 | 4.1 |
| All-Red Time (s) | | 1.0 | 1.0 | | 1.0 | 1.0 |
| Lost Time Adjust (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | | 5.4 | 5.4 | | 5.1 | 5.1 |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | | C-Min | C-Min | | None | None |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 110 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green, Master Intersection |
| Natural Cycle: 60 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 41: Mission Gorge Road & SR 52 EB Off Ramp



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 940 | 1680 | 0 | 169 | 15 |
| Future Volume (veh/h) | 0 | 940 | 1680 | 0 | 169 | 15 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 0 | 1870 | 1870 | 0 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 1022 | 1826 | 0 | 184 | 16 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 0 | 2 | 2 | 0 | 2 | 2 |
| Cap, veh/h | 0 | 2892 | 2892 | 0 | 313 | 144 |
| Arrive On Green | 0.00 | 0.81 | 1.00 | 0.00 | 0.09 | 0.09 |
| Sat Flow, veh/h | 0 | 3741 | 3741 | 0 | 3456 | 1585 |
| Grp Volume(v), veh/h | 0 | 1022 | 1826 | 0 | 184 | 16 |
| Grp Sat Flow(s),veh/h/ln | 0 | 1777 | 1777 | 0 | 1728 | 1585 |
| Q Serve(g_s), s | 0.0 | 8.3 | 0.0 | 0.0 | 5.6 | 1.0 |
| Cycle Q Clear(g_c), s | 0.0 | 8.3 | 0.0 | 0.0 | 5.6 | 1.0 |
| Prop In Lane | 0.00 | | | 0.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 0 | 2892 | 2892 | 0 | 313 | 144 |
| V/C Ratio(X) | 0.00 | 0.35 | 0.63 | 0.00 | 0.59 | 0.11 |
| Avail Cap(c_a), veh/h | 0 | 2892 | 2892 | 0 | 531 | 244 |
| HCM Platoon Ratio | 1.00 | 1.00 | 2.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.00 | 1.00 | 0.52 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 0.0 | 2.7 | 0.0 | 0.0 | 48.0 | 45.9 |
| Incr Delay (d2), s/veh | 0.0 | 0.3 | 0.6 | 0.0 | 1.7 | 0.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 2.1 | 0.2 | 0.0 | 2.5 | 0.4 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 3.0 | 0.6 | 0.0 | 49.8 | 46.3 |
| LnGrp LOS | A | A | A | A | D | D |
| Approach Vol, veh/h | | 1022 | 1826 | | 200 | |
| Approach Delay, s/veh | | 3.0 | 0.6 | | 49.5 | |
| Approach LOS | | A | A | | D | |

| Timer - Assigned Phs | 2 | | 4 | | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 94.9 | | 15.1 | | 94.9 |
| Change Period (Y+Rc), s | 5.4 | | 5.1 | | 5.4 |
| Max Green Setting (Gmax), s | 82.6 | | 16.9 | | 82.6 |
| Max Q Clear Time (g_c+I1), s | 10.3 | | 7.6 | | 2.0 |
| Green Ext Time (p_c), s | 9.9 | | 0.4 | | 26.9 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 4.6 |
| HCM 6th LOS | A |

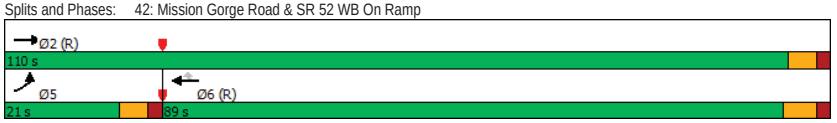




| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 125 | 959 | 1680 | 1006 | 0 | 0 |
| Future Volume (vph) | 125 | 959 | 1680 | 1006 | 0 | 0 |
| Confl. Peds. (#/hr) | | | | | | |
| Confl. Bikes (#/hr) | | | | 2 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | |
| Shared Lane Traffic (%) | | | | 19% | | |
| Turn Type | Prot | NA | NA | Perm | | |
| Protected Phases | 5 | 2 | 6 | | | |
| Permitted Phases | | | | 6 | | |
| Detector Phase | 5 | 2 | 6 | 6 | | |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 10.0 | 10.0 | | |
| Minimum Split (s) | 10.7 | 21.0 | 22.4 | 22.4 | | |
| Total Split (s) | 21.0 | 110.0 | 89.0 | 89.0 | | |
| Total Split (%) | 19.1% | 100.0% | 80.9% | 80.9% | | |
| Yellow Time (s) | 3.7 | 3.7 | 4.4 | 4.4 | | |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | | |
| Total Lost Time (s) | 5.7 | 5.7 | 6.4 | 6.4 | | |
| Lead/Lag | Lead | | Lag | Lag | | |
| Lead-Lag Optimize? | Yes | | Yes | Yes | | |
| Recall Mode | None | C-Min | C-Min | C-Min | | |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 110 |
| Offset: 32 (29%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 60 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 42: Mission Gorge Road & SR 52 WB On Ramp



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 125 | 959 | 1680 | 1006 | 0 | 0 |
| Future Volume (veh/h) | 125 | 959 | 1680 | 1006 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 0.98 | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Work Zone On Approach | | No | No | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | | |
| Adj Flow Rate, veh/h | 136 | 1042 | 2006 | 973 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | | |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | | |
| Cap, veh/h | 163 | 3347 | 2987 | 1239 | | |
| Arrive On Green | 0.18 | 1.00 | 1.00 | 1.00 | | |
| Sat Flow, veh/h | 1781 | 3647 | 3741 | 1552 | | |
| Grp Volume(v), veh/h | 136 | 1042 | 2006 | 973 | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1870 | 1552 | | |
| Q Serve(g_s), s | 8.1 | 0.0 | 0.0 | 0.0 | | |
| Cycle Q Clear(g_c), s | 8.1 | 0.0 | 0.0 | 0.0 | | |
| Prop In Lane | 1.00 | | | 1.00 | | |
| Lane Grp Cap(c), veh/h | 163 | 3347 | 2987 | 1239 | | |
| V/C Ratio(X) | 0.83 | 0.31 | 0.67 | 0.79 | | |
| Avail Cap(c_a), veh/h | 248 | 3370 | 2987 | 1239 | | |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 2.00 | | |
| Upstream Filter(I) | 0.93 | 0.93 | 0.59 | 0.59 | | |
| Uniform Delay (d), s/veh | 44.1 | 0.0 | 0.0 | 0.0 | | |
| Incr Delay (d2), s/veh | 12.9 | 0.2 | 0.7 | 3.0 | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | | |
| %ile BackOfQ(50%),veh/ln | 3.8 | 0.1 | 0.3 | 1.0 | | |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 57.0 | 0.2 | 0.7 | 3.0 | | |
| LnGrp LOS | E | A | A | A | | |
| Approach Vol, veh/h | | 1178 | 2979 | | | |
| Approach Delay, s/veh | | 6.8 | 1.5 | | | |
| Approach LOS | | A | A | | | |

| Timer - Assigned Phs | 2 | | | 5 | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 110.0 | | | 15.8 | 94.2 |
| Change Period (Y+Rc), s | * 6.4 | | | * 5.7 | 6.4 |
| Max Green Setting (Gmax), s | * 1E2 | | | * 15 | 82.6 |
| Max Q Clear Time (g_c+I1), s | 2.0 | | | 10.1 | 2.0 |
| Green Ext Time (p_c), s | 2.5 | | | 0.1 | 52.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 3.0 |
| HCM 6th LOS | A |

**Notes**

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

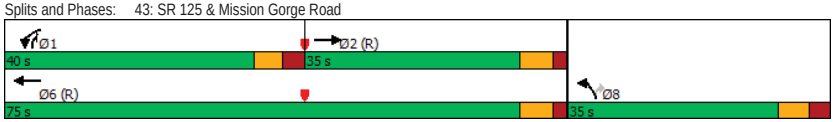




| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 709 | 320 | 1137 | 2046 | 690 | 1016 |
| Future Volume (vph) | 709 | 320 | 1137 | 2046 | 690 | 1016 |
| Confl. Peds. (#/hr) | | 11 | | | | |
| Confl. Bikes (#/hr) | | 3 | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | NA | | Prot | NA | Prot | pm+ov |
| Protected Phases | 2 | | 1 | 6 | 8 | 1 |
| Permitted Phases | | | | | | 8 |
| Detector Phase | 2 | | 1 | 6 | 8 | 1 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 11.0 | | 5.0 | 10.0 | 5.0 | 5.0 |
| Minimum Split (s) | 17.4 | | 11.7 | 20.0 | 20.0 | 11.7 |
| Total Split (s) | 35.0 | | 40.0 | 75.0 | 35.0 | 40.0 |
| Total Split (%) | 31.8% | | 36.4% | 68.2% | 31.8% | 36.4% |
| Yellow Time (s) | 4.4 | | 3.7 | 4.4 | 4.1 | 3.7 |
| All-Red Time (s) | 2.0 | | 3.0 | 2.0 | 3.0 | 3.0 |
| Lost Time Adjust (s) | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.4 | | 6.7 | 6.4 | 7.1 | 6.7 |
| Lead/Lag | Lag | | Lead | | | Lead |
| Lead-Lag Optimize? | Yes | | Yes | | | Yes |
| Recall Mode | C-Max | | None | C-Max | None | None |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 110 |
| Offset: 29 (26%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 100 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 43: SR 125 & Mission Gorge Road



2035 + Proj AM
43: SR 125 & Mission Gorge Road

Fanita Ranch
06/06/2019

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 709 | 320 | 1137 | 2046 | 690 | 1016 |
| Future Volume (veh/h) | 709 | 320 | 1137 | 2046 | 690 | 1016 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | 0.96 | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 771 | 348 | 1236 | 2224 | 750 | 1104 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 885 | 394 | 1046 | 3184 | 876 | 1552 |
| Arrive On Green | 0.52 | 0.52 | 0.30 | 0.62 | 0.25 | 0.25 |
| Sat Flow, veh/h | 3572 | 1514 | 3456 | 5274 | 3456 | 2790 |
| Grp Volume(v), veh/h | 771 | 348 | 1236 | 2224 | 750 | 1104 |
| Grp Sat Flow(s),veh/h/ln | 1702 | 1514 | 1728 | 1702 | 1728 | 1395 |
| Q Serve(g_s), s | 21.9 | 22.5 | 33.3 | 31.9 | 22.8 | 27.9 |
| Cycle Q Clear(g_c), s | 21.9 | 22.5 | 33.3 | 31.9 | 22.8 | 27.9 |
| Prop In Lane | | 1.00 | 1.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 885 | 394 | 1046 | 3184 | 876 | 1552 |
| V/C Ratio(X) | 0.87 | 0.88 | 1.18 | 0.70 | 0.86 | 0.71 |
| Avail Cap(c_a), veh/h | 885 | 394 | 1046 | 3184 | 876 | 1552 |
| HCM Platoon Ratio | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.97 | 0.97 | 0.50 | 0.50 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 24.8 | 24.9 | 38.3 | 13.8 | 39.1 | 17.9 |
| Incr Delay (d2), s/veh | 11.2 | 23.4 | 86.9 | 0.7 | 8.3 | 1.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 7.0 | 7.7 | 26.1 | 10.9 | 10.5 | 10.1 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 36.0 | 48.3 | 125.3 | 14.5 | 47.5 | 19.5 |
| LnGrp LOS | D | D | F | B | D | B |
| Approach Vol, veh/h | 1119 | | | 3460 | 1854 | |
| Approach Delay, s/veh | 39.8 | | | 54.0 | 30.8 | |
| Approach LOS | D | | | D | C | |

| Timer - Assigned Phs | 1 | 2 | 6 | 8 |
|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 40.0 | 35.0 | 75.0 | 35.0 |
| Change Period (Y+Rc), s | * 6.7 | 6.4 | 6.4 | 7.1 |
| Max Green Setting (Gmax), s | * 33 | 28.6 | 68.6 | 27.9 |
| Max Q Clear Time (g_c+I1), s | 35.3 | 24.5 | 33.9 | 29.9 |
| Green Ext Time (p_c), s | 0.0 | 2.5 | 23.3 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 44.9 |
| HCM 6th LOS | D |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



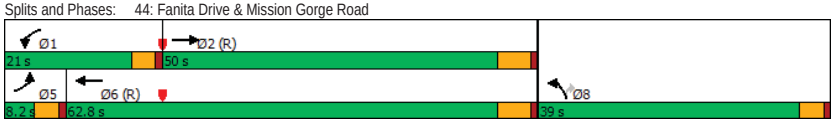
2035 + Proj AM
44: Fanita Drive & Mission Gorge Road

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 10 | 1235 | 420 | 379 | 2098 | 0 | 870 | 0 | 413 | 0 | 0 | 0 |
| Future Volume (vph) | 10 | 1235 | 420 | 379 | 2098 | 0 | 870 | 0 | 413 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | | | 4 | | | | | | | | | |
| Confl. Bikes (#/hr) | | | 2 | | | | | | 2 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | | Perm | | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | | | | | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | | 8 | | | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 7.0 | | 7.0 | | | |
| Minimum Split (s) | 8.2 | 33.3 | | 8.2 | 20.0 | | 34.2 | | 34.2 | | | |
| Total Split (s) | 8.2 | 50.0 | | 21.0 | 62.8 | | 39.0 | | 39.0 | | | |
| Total Split (%) | 7.5% | 45.5% | | 19.1% | 57.1% | | 35.5% | | 35.5% | | | |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | | 3.2 | | 3.2 | | | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | | 1.0 | | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | | 0.0 | | | |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | | 4.2 | | 4.2 | | | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | | None | | | |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 110 |
| Offset: 52 (47%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 90 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 44: Fanita Drive & Mission Gorge Road



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 10 | 1235 | 420 | 379 | 2098 | 0 | 870 | 0 | 413 | 0 | 0 | 0 |
| Future Volume (veh/h) | 10 | 1235 | 420 | 379 | 2098 | 0 | 870 | 0 | 413 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 1.00 | 1.00 | | 1.00 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 0 | 1870 | 0 | 1870 | | | |
| Adj Flow Rate, veh/h | 11 | 1342 | 457 | 412 | 2280 | 0 | 946 | 0 | 449 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 0 | 2 | 0 | 2 | | | |
| Cap, veh/h | 18 | 1607 | 543 | 478 | 2846 | 0 | 1063 | 0 | 488 | | | |
| Arrive On Green | 0.00 | 0.14 | 0.14 | 0.05 | 0.18 | 0.00 | 0.31 | 0.00 | 0.31 | | | |
| Sat Flow, veh/h | 1781 | 3741 | 1265 | 3456 | 5274 | 0 | 3456 | 0 | 1585 | | | |
| Grp Volume(v), veh/h | 11 | 1220 | 579 | 412 | 2280 | 0 | 946 | 0 | 449 | | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1702 | 1602 | 1728 | 1702 | 0 | 1728 | 0 | 1585 | | | |
| Q Serve(g_s), s | 0.7 | 38.4 | 38.7 | 13.0 | 47.0 | 0.0 | 28.7 | 0.0 | 30.1 | | | |
| Cycle Q Clear(g_c), s | 0.7 | 38.4 | 38.7 | 13.0 | 47.0 | 0.0 | 28.7 | 0.0 | 30.1 | | | |
| Prop In Lane | 1.00 | | 0.79 | 1.00 | | 0.00 | 1.00 | | 1.00 | | | |
| Lane Grp Cap(c), veh/h | 18 | 1462 | 688 | 478 | 2846 | 0 | 1063 | 0 | 488 | | | |
| V/C Ratio(X) | 0.59 | 0.83 | 0.84 | 0.86 | 0.80 | 0.00 | 0.89 | 0.00 | 0.92 | | | |
| Avail Cap(c_a), veh/h | 65 | 1462 | 688 | 528 | 2846 | 0 | 1093 | 0 | 501 | | | |
| HCM Platoon Ratio | 0.33 | 0.33 | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 0.59 | 0.59 | 0.59 | 0.09 | 0.09 | 0.00 | 1.00 | 0.00 | 1.00 | | | |
| Uniform Delay (d), s/veh | 54.6 | 43.4 | 43.5 | 51.4 | 39.0 | 0.0 | 36.3 | 0.0 | 36.8 | | | |
| Incr Delay (d2), s/veh | 16.7 | 3.5 | 7.4 | 1.2 | 0.2 | 0.0 | 9.2 | 0.0 | 22.3 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ln | 0.4 | 18.1 | 17.9 | 6.1 | 21.3 | 0.0 | 12.9 | 0.0 | 14.2 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 71.3 | 46.9 | 51.0 | 52.7 | 39.3 | 0.0 | 45.5 | 0.0 | 59.1 | | | |
| LnGrp LOS | E | D | D | D | D | A | D | A | E | | | |
| Approach Vol, veh/h | | 1810 | | | 2692 | | | 1395 | | | | |
| Approach Delay, s/veh | | 48.3 | | | 41.3 | | | 49.9 | | | | |
| Approach LOS | | D | | | D | | | D | | | | |

| Timer - Assigned Phs | 1 | 2 | | | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 19.4 | 52.5 | | | 5.3 | 66.6 | | 38.0 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | | | * 4.2 | 5.3 | | 4.2 | | | | |
| Max Green Setting (Gmax), s | * 17 | 44.7 | | | * 4 | 57.5 | | 34.8 | | | | |
| Max Q Clear Time (g_c+I1), s | 15.0 | 40.7 | | | 2.7 | 49.0 | | 32.1 | | | | |
| Green Ext Time (p_c), s | 0.2 | 3.4 | | | 0.0 | 7.7 | | 1.8 | | | | |

| Intersection Summary | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HCM 6th Ctrl Delay | | | 45.5 | | | | | | | | | |
| HCM 6th LOS | | | D | | | | | | | | | |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



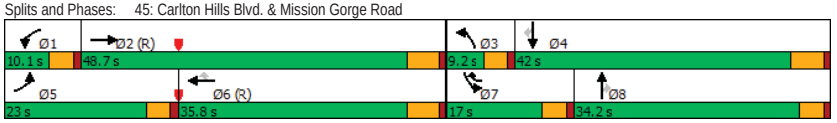


| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 805 | 818 | 90 | 25 | 1399 | 434 | 40 | 40 | 10 | 441 | 80 | 1128 |
| Future Volume (vph) | 805 | 818 | 90 | 25 | 1399 | 434 | 40 | 40 | 10 | 441 | 80 | 1128 |
| Confl. Peds. (#/hr) | | | 13 | | | 3 | | | 5 | | | 5 |
| Confl. Bikes (#/hr) | | | 2 | | | 2 | | | 3 | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | 47% |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | 6 | | | 8 | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | 8 | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 23.3 | | 8.2 | 34.3 | 8.2 | 8.2 | 34.2 | 34.2 | 8.2 | 32.4 | 32.4 |
| Total Split (s) | 23.0 | 48.7 | | 10.1 | 35.8 | 17.0 | 9.2 | 34.2 | 34.2 | 17.0 | 42.0 | 42.0 |
| Total Split (%) | 20.9% | 44.3% | | 9.2% | 32.5% | 15.5% | 8.4% | 31.1% | 31.1% | 15.5% | 38.2% | 38.2% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | 3.2 | 3.2 | 3.2 | 3.2 | 3.2 | 4.4 | 4.4 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | 4.2 | 4.2 | 4.2 | 4.2 | 4.2 | 5.4 | 5.4 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | C-Min | | None | C-Min | None | None | None | None | None | None | None |

Intersection Summary

Cycle Length: 110
Actuated Cycle Length: 110
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 145
Control Type: Actuated-Coordinated

Splits and Phases: 45: Carlton Hills Blvd. & Mission Gorge Road



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 805 | 818 | 90 | 25 | 1399 | 434 | 40 | 40 | 10 | 441 | 80 | 1128 |
| Future Volume (veh/h) | 805 | 818 | 90 | 25 | 1399 | 434 | 40 | 40 | 10 | 441 | 80 | 1128 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.96 | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 875 | 889 | 98 | 27 | 1521 | 472 | 43 | 43 | 11 | 479 | 0 | 1169 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 591 | 2057 | 226 | 36 | 1490 | 639 | 55 | 462 | 384 | 415 | 0 | 1035 |
| Arrive On Green | 0.06 | 0.15 | 0.15 | 0.01 | 0.10 | 0.10 | 0.03 | 0.25 | 0.25 | 0.12 | 0.00 | 0.33 |
| Sat Flow, veh/h | 3456 | 4650 | 510 | 1781 | 5106 | 1559 | 1781 | 1870 | 1552 | 3563 | 0 | 3110 |
| Grp Volume(v), veh/h | 875 | 650 | 337 | 27 | 1521 | 472 | 43 | 43 | 11 | 479 | 0 | 1169 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1702 | 1756 | 1781 | 1702 | 1559 | 1781 | 1870 | 1552 | 1781 | 0 | 1555 |
| Q Serve(g_s), s | 18.8 | 19.1 | 19.3 | 1.7 | 32.1 | 27.9 | 2.6 | 1.9 | 0.6 | 12.8 | 0.0 | 36.6 |
| Cycle Q Clear(g_c), s | 18.8 | 19.1 | 19.3 | 1.7 | 32.1 | 27.9 | 2.6 | 1.9 | 0.6 | 12.8 | 0.0 | 36.6 |
| Prop In Lane | 1.00 | | 0.29 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 591 | 1506 | 777 | 36 | 1490 | 639 | 55 | 462 | 384 | 415 | 0 | 1035 |
| V/C Ratio(X) | 1.48 | 0.43 | 0.43 | 0.74 | 1.02 | 0.74 | 0.78 | 0.09 | 0.03 | 1.16 | 0.00 | 1.13 |
| Avail Cap(c_a), veh/h | 591 | 1506 | 777 | 96 | 1490 | 639 | 81 | 510 | 423 | 415 | 0 | 1035 |
| HCM Platoon Ratio | 0.33 | 0.33 | 0.33 | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.46 | 0.46 | 0.46 | 0.88 | 0.88 | 0.88 | 1.00 | 1.00 | 1.00 | 0.17 | 0.00 | 0.17 |
| Uniform Delay (d), s/veh | 51.9 | 34.4 | 34.4 | 54.3 | 49.7 | 35.1 | 52.9 | 31.9 | 31.4 | 48.6 | 0.0 | 36.7 |
| Incr Delay (d2), s/veh | 220.9 | 0.4 | 0.8 | 9.3 | 27.2 | 6.6 | 24.9 | 0.0 | 0.0 | 75.1 | 0.0 | 60.9 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 26.8 | 8.8 | 9.2 | 0.8 | 18.3 | 12.8 | 1.6 | 0.9 | 0.2 | 9.9 | 0.0 | 22.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 272.8 | 34.8 | 35.2 | 63.6 | 76.9 | 41.7 | 77.9 | 31.9 | 31.4 | 123.7 | 0.0 | 97.6 |
| LnGrp LOS | F | C | D | E | F | D | E | C | C | F | A | F |
| Approach Vol, veh/h | | 1862 | | | 2020 | | | 97 | | | 1648 | |
| Approach Delay, s/veh | | 146.7 | | | 68.5 | | | 52.2 | | | 105.2 | |
| Approach LOS | | F | | | E | | | D | | | F | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 6.4 | 54.0 | 7.6 | 42.0 | 23.0 | 37.4 | 17.0 | 32.6 |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | * 4.2 | 5.4 | * 4.2 | 5.3 | * 4.2 | * 5.4 |
| Max Green Setting (Gmax), s | * 5.9 | 43.4 | * 5 | 36.6 | * 19 | 30.5 | * 13 | * 30 |
| Max Q Clear Time (g_c+I1), s | 3.7 | 21.3 | 4.6 | 38.6 | 20.8 | 34.1 | 14.8 | 3.9 |
| Green Ext Time (p_c), s | 0.0 | 7.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 104.8 |
| HCM 6th LOS | F |

**Notes**

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

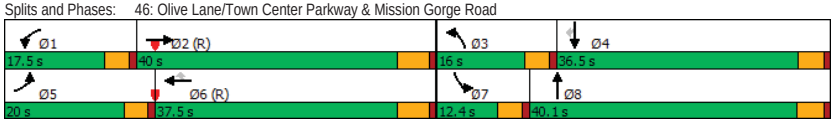




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 300 | 643 | 220 | 100 | 909 | 140 | 210 | 120 | 65 | 110 | 100 | 310 |
| Future Volume (vph) | 300 | 643 | 220 | 100 | 909 | 140 | 210 | 120 | 65 | 110 | 100 | 310 |
| Confl. Peds. (#/hr) | | | 5 | | | 8 | | | 11 | | | 3 |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | Perm | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | 10.0 | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 26.3 | | 8.2 | 36.3 | 36.3 | 8.2 | 34.6 | | 8.2 | 36.5 | 36.5 |
| Total Split (s) | 20.0 | 40.0 | | 17.5 | 37.5 | 37.5 | 16.0 | 40.1 | | 12.4 | 36.5 | 36.5 |
| Total Split (%) | 18.2% | 36.4% | | 15.9% | 34.1% | 34.1% | 14.5% | 36.5% | | 11.3% | 33.2% | 33.2% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | 4.3 | 3.2 | 3.6 | | 3.2 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | 5.3 | 4.2 | 4.6 | | 4.2 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | C-Min | | None | C-Min | C-Min | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 110 |
| Offset: 40 (36%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 90 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 46: Olive Lane/Town Center Parkway & Mission Gorge Road



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 300 | 643 | 220 | 100 | 909 | 140 | 210 | 120 | 65 | 110 | 100 | 310 |
| Future Volume (veh/h) | 300 | 643 | 220 | 100 | 909 | 140 | 210 | 120 | 65 | 110 | 100 | 310 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 326 | 699 | 239 | 109 | 988 | 152 | 228 | 130 | 71 | 120 | 109 | 337 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 388 | 1835 | 618 | 135 | 2302 | 711 | 290 | 247 | 135 | 177 | 349 | 518 |
| Arrive On Green | 0.15 | 0.65 | 0.65 | 0.08 | 0.45 | 0.45 | 0.08 | 0.22 | 0.22 | 0.05 | 0.19 | 0.19 |
| Sat Flow, veh/h | 3456 | 3768 | 1270 | 1781 | 5106 | 1577 | 3456 | 1125 | 614 | 3456 | 1870 | 2776 |
| Grp Volume(v), veh/h | 326 | 630 | 308 | 109 | 988 | 152 | 228 | 0 | 201 | 120 | 109 | 337 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1702 | 1634 | 1781 | 1702 | 1577 | 1728 | 0 | 1739 | 1728 | 1870 | 1388 |
| Q Serve(g_s), s | 10.1 | 9.5 | 9.7 | 6.6 | 14.5 | 6.4 | 7.1 | 0.0 | 11.2 | 3.8 | 5.5 | 12.4 |
| Cycle Q Clear(g_c), s | 10.1 | 9.5 | 9.7 | 6.6 | 14.5 | 6.4 | 7.1 | 0.0 | 11.2 | 3.8 | 5.5 | 12.4 |
| Prop In Lane | 1.00 | | 0.78 | 1.00 | | 1.00 | 1.00 | | 0.35 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 388 | 1658 | 796 | 135 | 2302 | 711 | 290 | 0 | 381 | 177 | 349 | 518 |
| V/C Ratio(X) | 0.84 | 0.38 | 0.39 | 0.81 | 0.43 | 0.21 | 0.79 | 0.00 | 0.53 | 0.68 | 0.31 | 0.65 |
| Avail Cap(c_a), veh/h | 496 | 1658 | 796 | 215 | 2302 | 711 | 371 | 0 | 561 | 258 | 544 | 808 |
| HCM Platoon Ratio | 1.33 | 1.33 | 1.33 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.77 | 0.77 | 0.77 | 0.69 | 0.69 | 0.69 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 45.8 | 11.6 | 11.6 | 50.0 | 20.6 | 18.4 | 49.4 | 0.0 | 37.9 | 51.3 | 38.6 | 41.4 |
| Incr Delay (d2), s/veh | 6.4 | 0.5 | 1.1 | 3.3 | 0.4 | 0.5 | 6.3 | 0.0 | 1.6 | 1.7 | 0.9 | 2.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 4.4 | 3.2 | 3.2 | 3.0 | 5.6 | 2.4 | 3.3 | 0.0 | 4.9 | 1.7 | 2.6 | 4.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 52.3 | 12.1 | 12.7 | 53.4 | 21.0 | 18.8 | 55.7 | 0.0 | 39.5 | 53.0 | 39.6 | 44.0 |
| LnGrp LOS | D | B | B | D | C | B | E | A | D | D | D | D |
| Approach Vol, veh/h | | 1264 | | | 1249 | | | 429 | | | 566 | |
| Approach Delay, s/veh | | 22.6 | | | 23.5 | | | 48.1 | | | 45.0 | |
| Approach LOS | | C | | | C | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 12.6 | 58.9 | 13.4 | 25.1 | 16.5 | 54.9 | 9.8 | 28.7 |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | * 4.2 | * 4.6 | * 4.2 | 5.3 | * 4.2 | 4.6 |
| Max Green Setting (Gmax), s | * 13 | 34.7 | * 12 | * 32 | * 16 | 32.2 | * 8.2 | 35.5 |
| Max Q Clear Time (g_c+I1), s | 8.6 | 11.7 | 9.1 | 14.4 | 12.1 | 16.5 | 5.8 | 13.2 |
| Green Ext Time (p_c), s | 0.0 | 7.2 | 0.1 | 3.4 | 0.2 | 8.6 | 0.0 | 1.6 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 29.7 |
| HCM 6th LOS | C |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

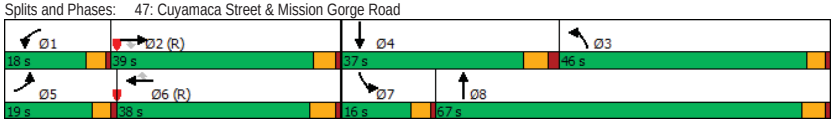




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 200 | 448 | 320 | 198 | 584 | 164 | 700 | 599 | 154 | 153 | 626 | 195 |
| Future Volume (vph) | 200 | 448 | 320 | 198 | 584 | 164 | 700 | 599 | 154 | 153 | 626 | 195 |
| Confl. Peds. (#/hr) | | | 11 | | | 14 | | | 19 | | | 16 |
| Confl. Bikes (#/hr) | | | 4 | | | | | | | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | 10.0 | 4.0 | 7.0 | | 4.0 | 15.0 | |
| Minimum Split (s) | 19.0 | 34.8 | 34.8 | 8.2 | 34.3 | 34.3 | 8.2 | 38.0 | | 8.2 | 37.0 | |
| Total Split (s) | 19.0 | 39.0 | 39.0 | 18.0 | 38.0 | 38.0 | 46.0 | 67.0 | | 16.0 | 37.0 | |
| Total Split (%) | 13.6% | 27.9% | 27.9% | 12.9% | 27.1% | 27.1% | 32.9% | 47.9% | | 11.4% | 26.4% | |
| Yellow Time (s) | 3.2 | 3.8 | 3.8 | 3.2 | 4.3 | 4.3 | 3.2 | 4.0 | | 3.2 | 4.0 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 2.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.2 | 4.8 | 4.8 | 4.2 | 5.3 | 5.3 | 4.2 | 5.0 | | 4.2 | 6.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lag | Lag | | Lead | Lead | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | C-Min | C-Min | None | C-Min | C-Min | None | None | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 140 |
| Actuated Cycle Length: 140 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green, Master Intersection |
| Natural Cycle: 120 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 47: Cuyamaca Street & Mission Gorge Road



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 200 | 448 | 320 | 198 | 584 | 164 | 700 | 599 | 154 | 153 | 626 | 195 |
| Future Volume (veh/h) | 200 | 448 | 320 | 198 | 584 | 164 | 700 | 599 | 154 | 153 | 626 | 195 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 0.96 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1683 | 1683 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 217 | 487 | 348 | 215 | 635 | 178 | 761 | 651 | 167 | 166 | 680 | 212 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 267 | 1645 | 498 | 264 | 1641 | 503 | 824 | 1019 | 261 | 215 | 831 | 254 |
| Arrive On Green | 0.08 | 0.32 | 0.32 | 0.08 | 0.32 | 0.32 | 0.24 | 0.41 | 0.41 | 0.06 | 0.22 | 0.22 |
| Sat Flow, veh/h | 3456 | 5106 | 1546 | 3456 | 5106 | 1564 | 3456 | 2512 | 644 | 3456 | 3836 | 1173 |
| Grp Volume(v), veh/h | 217 | 487 | 348 | 215 | 635 | 178 | 761 | 414 | 404 | 166 | 602 | 290 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1702 | 1546 | 1728 | 1702 | 1564 | 1728 | 1599 | 1557 | 1728 | 1702 | 1605 |
| Q Serve(g_s), s | 8.7 | 10.0 | 14.9 | 8.6 | 13.5 | 12.2 | 30.1 | 29.1 | 29.1 | 6.6 | 23.6 | 24.2 |
| Cycle Q Clear(g_c), s | 8.7 | 10.0 | 14.9 | 8.6 | 13.5 | 12.2 | 30.1 | 29.1 | 29.1 | 6.6 | 23.6 | 24.2 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.41 | 1.00 | | 0.73 |
| Lane Grp Cap(c), veh/h | 267 | 1645 | 498 | 264 | 1641 | 503 | 824 | 649 | 632 | 215 | 737 | 348 |
| V/C Ratio(X) | 0.81 | 0.30 | 0.70 | 0.81 | 0.39 | 0.35 | 0.92 | 0.64 | 0.64 | 0.77 | 0.82 | 0.83 |
| Avail Cap(c_a), veh/h | 365 | 1645 | 498 | 341 | 1641 | 503 | 1032 | 708 | 689 | 291 | 754 | 355 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.92 | 0.92 | 0.92 | 0.91 | 0.91 | 0.91 | 0.50 | 0.50 | 0.50 | 0.89 | 0.89 | 0.89 |
| Uniform Delay (d), s/veh | 63.6 | 35.6 | 12.1 | 63.7 | 36.8 | 36.4 | 52.1 | 33.4 | 33.4 | 64.7 | 52.2 | 52.4 |
| Incr Delay (d2), s/veh | 6.4 | 0.4 | 7.3 | 8.0 | 0.6 | 1.8 | 5.9 | 1.1 | 1.1 | 5.1 | 7.5 | 16.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 4.0 | 4.2 | 6.0 | 4.0 | 5.7 | 4.9 | 13.6 | 11.4 | 11.1 | 3.1 | 10.8 | 11.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 70.0 | 36.0 | 19.4 | 71.7 | 37.4 | 38.1 | 57.9 | 34.4 | 34.5 | 69.8 | 59.7 | 68.8 |
| LnGrp LOS | E | D | B | E | D | D | E | C | C | E | E | E |
| Approach Vol, veh/h | | 1052 | | | 1028 | | | 1579 | | | 1058 | |
| Approach Delay, s/veh | | 37.5 | | | 44.7 | | | 45.8 | | | 63.8 | |
| Approach LOS | | D | | | D | | | D | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 14.9 | 50.4 | 38.4 | 36.3 | 15.0 | 50.3 | 12.9 | 61.8 |
| Change Period (Y+Rc), s | * 4.2 | * 5.3 | 5.0 | * 6 | * 4.2 | 5.3 | * 4.2 | 5.0 |
| Max Green Setting (Gmax), s | * 14 | * 34 | 41.8 | * 31 | * 15 | 32.7 | * 12 | 62.0 |
| Max Q Clear Time (g_c+I1), s | 10.6 | 16.9 | 32.1 | 26.2 | 10.7 | 15.5 | 8.6 | 31.1 |
| Green Ext Time (p_c), s | 0.1 | 8.9 | 1.3 | 3.5 | 0.1 | 6.8 | 0.1 | 8.9 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 47.7 |
| HCM 6th LOS | D |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

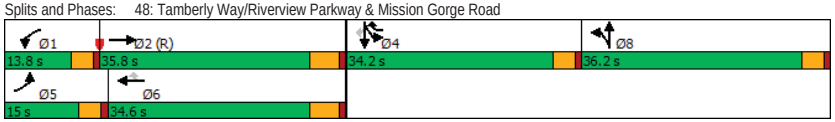




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 208 | 492 | 55 | 55 | 809 | 255 | 50 | 100 | 50 | 130 | 20 | 79 |
| Future Volume (vph) | 208 | 492 | 55 | 55 | 809 | 255 | 50 | 100 | 50 | 130 | 20 | 79 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | 1 | | | 3 | | | | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | 43% | | |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Split | NA | | Split | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 4 | 8 | 8 | | 4 | 4 | |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 4 | 8 | 8 | | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | 7.0 | 4.0 | 4.0 | | 7.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 23.3 | | 8.2 | 34.3 | 34.2 | 36.2 | 36.2 | | 34.2 | 34.2 | 34.2 |
| Total Split (s) | 15.0 | 35.8 | | 13.8 | 34.6 | 34.2 | 36.2 | 36.2 | | 34.2 | 34.2 | 34.2 |
| Total Split (%) | 12.5% | 29.8% | | 11.5% | 28.8% | 28.5% | 30.2% | 30.2% | | 28.5% | 28.5% | 28.5% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | 3.2 | 3.2 | 3.2 | | 3.2 | 3.2 | 3.2 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | 4.2 | 4.2 | 4.2 | | 4.2 | 4.2 | 4.2 |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | Min | None | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 0 (0%), Referenced to phase 2:EBT, Start of Green |
| Natural Cycle: 125 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 48: Tamberly Way/Riverview Parkway & Mission Gorge Road



2035 + Proj AM
48: Tamberly Way/Riverview Parkway & Mission Gorge Road

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 208 | 492 | 55 | 55 | 809 | 255 | 50 | 100 | 50 | 130 | 20 | 79 |
| Future Volume (veh/h) | 208 | 492 | 55 | 55 | 809 | 255 | 50 | 100 | 50 | 130 | 20 | 79 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.99 | 1.00 | | 1.00 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 226 | 535 | 60 | 60 | 879 | 277 | 54 | 109 | 54 | 157 | 0 | 86 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 160 | 2892 | 320 | 77 | 2935 | 1016 | 200 | 132 | 66 | 264 | 0 | 116 |
| Arrive On Green | 0.09 | 0.62 | 0.62 | 0.04 | 0.57 | 0.57 | 0.11 | 0.11 | 0.11 | 0.07 | 0.00 | 0.07 |
| Sat Flow, veh/h | 1781 | 4655 | 514 | 1781 | 5106 | 1564 | 1781 | 1180 | 585 | 3563 | 0 | 1561 |
| Grp Volume(v), veh/h | 226 | 389 | 206 | 60 | 879 | 277 | 54 | 0 | 163 | 157 | 0 | 86 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1702 | 1765 | 1781 | 1702 | 1564 | 1781 | 0 | 1765 | 1781 | 0 | 1561 |
| Q Serve(g_s), s | 10.8 | 5.9 | 6.0 | 4.0 | 10.6 | 9.1 | 3.3 | 0.0 | 10.8 | 5.1 | 0.0 | 6.5 |
| Cycle Q Clear(g_c), s | 10.8 | 5.9 | 6.0 | 4.0 | 10.6 | 9.1 | 3.3 | 0.0 | 10.8 | 5.1 | 0.0 | 6.5 |
| Prop In Lane | 1.00 | | 0.29 | 1.00 | | 1.00 | 1.00 | | 0.33 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 160 | 2115 | 1097 | 77 | 2935 | 1016 | 200 | 0 | 198 | 264 | 0 | 116 |
| V/C Ratio(X) | 1.41 | 0.18 | 0.19 | 0.78 | 0.30 | 0.27 | 0.27 | 0.00 | 0.82 | 0.60 | 0.00 | 0.74 |
| Avail Cap(c_a), veh/h | 160 | 2115 | 1097 | 143 | 2935 | 1016 | 475 | 0 | 471 | 891 | 0 | 390 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.93 | 0.93 | 0.93 | 0.95 | 0.95 | 0.95 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 54.6 | 9.7 | 9.7 | 56.8 | 13.1 | 9.0 | 48.8 | 0.0 | 52.1 | 53.8 | 0.0 | 54.4 |
| Incr Delay (d2), s/veh | 215.2 | 0.2 | 0.4 | 5.9 | 0.1 | 0.2 | 0.3 | 0.0 | 3.3 | 0.8 | 0.0 | 3.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 14.3 | 2.1 | 2.3 | 1.9 | 3.9 | 3.7 | 1.5 | 0.0 | 5.0 | 2.3 | 0.0 | 2.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 269.8 | 9.9 | 10.1 | 62.7 | 13.2 | 9.2 | 49.1 | 0.0 | 55.4 | 54.6 | 0.0 | 58.0 |
| LnGrp LOS | F | A | B | E | B | A | D | A | E | D | A | E |
| Approach Vol, veh/h | | 821 | | | 1216 | | | 217 | | | 243 | |
| Approach Delay, s/veh | | 81.5 | | | 14.7 | | | 53.8 | | | 55.8 | |
| Approach LOS | | F | | | B | | | D | | | E | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 9.4 | 79.9 | | 13.1 | 15.0 | 74.3 | | 17.6 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | | * 4.2 | * 4.2 | 5.3 | | 4.2 | | | | |
| Max Green Setting (Gmax), s | * 9.6 | 30.5 | | * 30 | * 11 | 29.3 | | 32.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 6.0 | 8.0 | | 8.5 | 12.8 | 12.6 | | 12.8 | | | | |
| Green Ext Time (p_c), s | 0.0 | 6.3 | | 0.4 | 0.0 | 9.3 | | 0.6 | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 44.1 | |
| HCM 6th LOS | | D | |

**Notes**

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



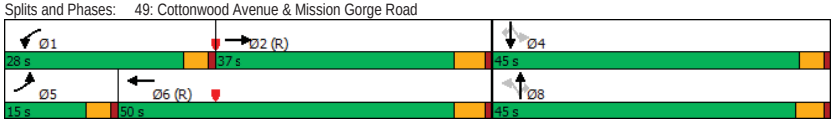
2035 + Proj AM
49: Cottonwood Avenue & Mission Gorge Road

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 35 | 472 | 125 | 130 | 979 | 55 | 120 | 65 | 125 | 30 | 15 | 50 |
| Future Volume (vph) | 35 | 472 | 125 | 130 | 979 | 55 | 120 | 65 | 125 | 30 | 15 | 50 |
| Confl. Peds. (#/hr) | | | 6 | | | 19 | | | 1 | | | 4 |
| Confl. Bikes (#/hr) | | | 2 | | | 1 | | | | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Perm | NA | Perm | Perm | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | 8 | 4 | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | 8 | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 4.0 | 4.0 | 4.0 | 7.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 23.3 | | 8.2 | 24.3 | | 33.8 | 33.8 | 33.8 | 32.2 | 32.2 | 32.2 |
| Total Split (s) | 15.0 | 37.0 | | 28.0 | 50.0 | | 45.0 | 45.0 | 45.0 | 45.0 | 45.0 | 45.0 |
| Total Split (%) | 13.6% | 33.6% | | 25.5% | 45.5% | | 40.9% | 40.9% | 40.9% | 40.9% | 40.9% | 40.9% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | | 3.8 | 3.8 | 3.8 | 3.2 | 3.2 | 3.2 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | | | 4.8 | 4.8 | | 4.2 | 4.2 |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | None | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 110 |
| Offset: 21 (19%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 70 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 49: Cottonwood Avenue & Mission Gorge Road



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 35 | 472 | 125 | 130 | 979 | 55 | 120 | 65 | 125 | 30 | 15 | 50 |
| Future Volume (veh/h) | 35 | 472 | 125 | 130 | 979 | 55 | 120 | 65 | 125 | 30 | 15 | 50 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.96 | 1.00 | | 1.00 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 38 | 513 | 136 | 141 | 1064 | 60 | 130 | 71 | 136 | 33 | 16 | 54 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 48 | 1627 | 418 | 168 | 2328 | 131 | 54 | 19 | 587 | 55 | 16 | 578 |
| Arrive On Green | 0.03 | 0.40 | 0.40 | 0.19 | 0.94 | 0.94 | 0.37 | 0.37 | 0.37 | 0.37 | 0.37 | 0.37 |
| Sat Flow, veh/h | 1781 | 4020 | 1033 | 1781 | 4933 | 278 | 0 | 50 | 1584 | 0 | 44 | 1557 |
| Grp Volume(v), veh/h | 38 | 432 | 217 | 141 | 734 | 390 | 201 | 0 | 136 | 49 | 0 | 54 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1702 | 1648 | 1781 | 1702 | 1807 | 50 | 0 | 1584 | 44 | 0 | 1557 |
| Q Serve(g_s), s | 2.3 | 9.5 | 9.9 | 8.4 | 2.3 | 2.3 | 0.0 | 0.0 | 6.5 | 0.0 | 0.0 | 2.5 |
| Cycle Q Clear(g_c), s | 2.3 | 9.5 | 9.9 | 8.4 | 2.3 | 2.3 | 40.8 | 0.0 | 6.5 | 40.8 | 0.0 | 2.5 |
| Prop In Lane | 1.00 | | 0.63 | 1.00 | | 0.15 | 0.65 | | 1.00 | 0.67 | | 1.00 |
| Lane Grp Cap(c), veh/h | 48 | 1378 | 667 | 168 | 1607 | 853 | 72 | 0 | 587 | 71 | 0 | 578 |
| V/C Ratio(X) | 0.79 | 0.31 | 0.33 | 0.84 | 0.46 | 0.46 | 2.77 | 0.00 | 0.23 | 0.69 | 0.00 | 0.09 |
| Avail Cap(c_a), veh/h | 175 | 1378 | 667 | 385 | 1607 | 853 | 72 | 0 | 587 | 71 | 0 | 578 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.98 | 0.98 | 0.98 | 0.47 | 0.47 | 0.47 | 0.98 | 0.00 | 0.98 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 53.2 | 22.3 | 22.4 | 43.8 | 1.7 | 1.7 | 44.7 | 0.0 | 23.8 | 41.4 | 0.0 | 22.5 |
| Incr Delay (d2), s/veh | 9.8 | 0.6 | 1.3 | 2.0 | 0.4 | 0.8 | 834.5 | 0.0 | 0.1 | 20.6 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.2 | 3.8 | 3.9 | 3.4 | 0.6 | 0.7 | 18.8 | 0.0 | 2.5 | 1.8 | 0.0 | 0.9 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 63.0 | 22.9 | 23.7 | 45.8 | 2.1 | 2.5 | 879.2 | 0.0 | 23.9 | 62.1 | 0.0 | 22.6 |
| LnGrp LOS | E | C | C | D | A | A | F | A | C | E | A | C |
| Approach Vol, veh/h | | 687 | | | 1265 | | | 337 | | | 103 | |
| Approach Delay, s/veh | | 25.4 | | | 7.1 | | | 534.0 | | | 41.4 | |
| Approach LOS | | C | | | A | | | F | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 14.6 | 49.8 | | 45.6 | 7.2 | 57.2 | | 45.6 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | | * 4.8 | * 4.2 | 5.3 | | * 4.8 | | | | |
| Max Green Setting (Gmax), s | * 24 | 31.7 | | * 41 | * 11 | 44.7 | | * 40 | | | | |
| Max Q Clear Time (g_c+I1), s | 10.4 | 11.9 | | 42.8 | 4.3 | 4.3 | | 42.8 | | | | |
| Green Ext Time (p_c), s | 0.1 | 3.3 | | 0.0 | 0.0 | 13.5 | | 0.0 | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 88.1 | |
| HCM 6th LOS | | F | |

**Notes**

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

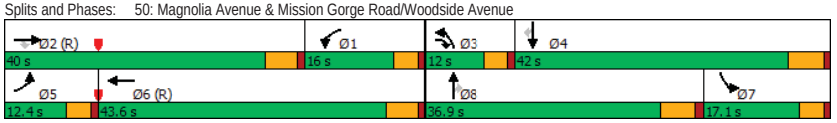




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 177 | 220 | 180 | 430 | 630 | 304 | 270 | 831 | 430 | 343 | 1247 | 324 |
| Future Volume (vph) | 177 | 220 | 180 | 430 | 630 | 304 | 270 | 831 | 430 | 343 | 1247 | 324 |
| Confl. Peds. (#/hr) | | | 6 | | | 11 | | | 19 | | | 6 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | | | | 8 | | | 4 |
| Detector Phase | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | 8 | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 4.0 | 4.0 | 10.0 | | 4.0 | 7.0 | 7.0 | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 38.3 | 8.2 | 8.2 | 35.3 | | 8.2 | 34.7 | 34.7 | 8.2 | 35.7 | 35.7 |
| Total Split (s) | 12.4 | 40.0 | 12.0 | 16.0 | 43.6 | | 12.0 | 36.9 | 36.9 | 17.1 | 42.0 | 42.0 |
| Total Split (%) | 11.3% | 36.4% | 10.9% | 14.5% | 39.6% | | 10.9% | 33.5% | 33.5% | 15.5% | 38.2% | 38.2% |
| Yellow Time (s) | 3.2 | 4.3 | 3.2 | 3.2 | 4.3 | | 3.2 | 4.7 | 4.7 | 3.2 | 4.7 | 4.7 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | 4.2 | 4.2 | 5.3 | | 4.2 | 5.7 | 5.7 | 4.2 | 5.7 | 5.7 |
| Lead/Lag | Lead | Lead | Lead | Lag | Lag | | Lead | Lead | Lead | Lag | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | C-Min | None | None | C-Min | | None | None | None | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 110 |
| Offset: 46 (42%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 135 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 50: Magnolia Avenue & Mission Gorge Road/Woodside Avenue



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 177 | 220 | 180 | 430 | 630 | 304 | 270 | 831 | 430 | 343 | 1247 | 324 |
| Future Volume (veh/h) | 177 | 220 | 180 | 430 | 630 | 304 | 270 | 831 | 430 | 343 | 1247 | 324 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 192 | 239 | 196 | 467 | 685 | 297 | 293 | 903 | 420 | 373 | 1355 | 323 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 249 | 518 | 341 | 881 | 815 | 353 | 245 | 1002 | 438 | 405 | 1215 | 539 |
| Arrive On Green | 0.12 | 0.24 | 0.24 | 0.25 | 0.34 | 0.34 | 0.14 | 0.56 | 0.56 | 0.12 | 0.34 | 0.34 |
| Sat Flow, veh/h | 3456 | 3554 | 1565 | 3456 | 2405 | 1043 | 3456 | 3554 | 1553 | 3456 | 3554 | 1577 |
| Grp Volume(v), veh/h | 192 | 239 | 196 | 467 | 506 | 476 | 293 | 903 | 420 | 373 | 1355 | 323 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1565 | 1728 | 1777 | 1671 | 1728 | 1777 | 1553 | 1728 | 1777 | 1577 |
| Q Serve(g_s), s | 5.9 | 6.3 | 6.1 | 12.8 | 29.0 | 29.0 | 7.8 | 24.8 | 28.3 | 11.7 | 37.6 | 18.7 |
| Cycle Q Clear(g_c), s | 5.9 | 6.3 | 6.1 | 12.8 | 29.0 | 29.0 | 7.8 | 24.8 | 28.3 | 11.7 | 37.6 | 18.7 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.62 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 249 | 518 | 341 | 881 | 602 | 566 | 245 | 1002 | 438 | 405 | 1215 | 539 |
| V/C Ratio(X) | 0.77 | 0.46 | 0.58 | 0.53 | 0.84 | 0.84 | 1.20 | 0.90 | 0.96 | 0.92 | 1.12 | 0.60 |
| Avail Cap(c_a), veh/h | 258 | 1121 | 606 | 881 | 619 | 582 | 245 | 1008 | 440 | 405 | 1215 | 539 |
| HCM Platoon Ratio | 1.67 | 1.67 | 1.67 | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.98 | 0.98 | 0.98 | 1.00 | 1.00 | 1.00 | 0.88 | 0.88 | 0.88 | 0.29 | 0.29 | 0.29 |
| Uniform Delay (d), s/veh | 47.5 | 37.9 | 13.6 | 35.3 | 33.6 | 33.6 | 47.2 | 22.6 | 23.4 | 48.0 | 36.2 | 30.0 |
| Incr Delay (d2), s/veh | 11.5 | 2.9 | 6.8 | 0.3 | 13.3 | 14.0 | 117.6 | 10.1 | 30.2 | 9.9 | 55.7 | 0.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.8 | 2.8 | 2.8 | 5.3 | 14.2 | 13.4 | 7.0 | 7.4 | 9.3 | 5.5 | 24.7 | 6.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 59.0 | 40.8 | 20.4 | 35.6 | 46.9 | 47.6 | 164.8 | 32.7 | 53.5 | 58.0 | 91.9 | 30.6 |
| LnGrp LOS | E | D | C | D | D | D | F | C | D | E | F | C |
| Approach Vol, veh/h | | 627 | | | 1449 | | | 1616 | | | 2051 | |
| Approach Delay, s/veh | | 40.0 | | | 43.5 | | | 62.1 | | | 76.1 | |
| Approach LOS | | D | | | D | | | E | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 33.3 | 21.3 | 12.0 | 43.3 | 12.1 | 42.6 | 18.6 | 36.7 |
| Change Period (Y+Rc), s | 5.3 | * 5.3 | * 4.2 | 5.7 | * 4.2 | 5.3 | 5.7 | * 5.7 |
| Max Green Setting (Gmax), s | 11.8 | * 35 | * 7.8 | 36.3 | * 8.2 | 38.3 | 12.9 | * 31 |
| Max Q Clear Time (g_c+I1), s | 14.8 | 8.3 | 9.8 | 39.6 | 7.9 | 31.0 | 13.7 | 30.3 |
| Green Ext Time (p_c), s | 0.0 | 2.6 | 0.0 | 0.0 | 0.0 | 4.7 | 0.0 | 0.7 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 60.0 |
| HCM 6th LOS | E |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 39.9 |
| Intersection LOS | E |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 10 | 150 | 360 | 10 | 0 | 320 | 0 | 0 | 10 | 594 | 40 |
| Future Vol, veh/h | 0 | 10 | 150 | 360 | 10 | 0 | 320 | 0 | 0 | 10 | 594 | 40 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 11 | 163 | 391 | 11 | 0 | 348 | 0 | 0 | 11 | 646 | 43 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 2 | 0 |

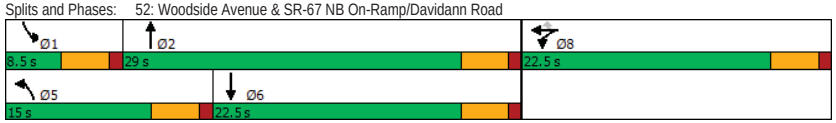
| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay | 17.3 | 50.4 | 47.9 | 35.5 |
| HCM LOS | C | F | E | E |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 97% | 3% | 0% |
| Vol Thru, % | 0% | 100% | 6% | 3% | 97% | 88% |
| Vol Right, % | 0% | 0% | 94% | 0% | 0% | 12% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 320 | 0 | 160 | 370 | 307 | 337 |
| LT Vol | 320 | 0 | 0 | 360 | 10 | 0 |
| Through Vol | 0 | 0 | 10 | 10 | 297 | 297 |
| RT Vol | 0 | 0 | 150 | 0 | 0 | 40 |
| Lane Flow Rate | 348 | 0 | 174 | 402 | 334 | 366 |
| Geometry Grp | 7 | 7 | 2 | 2 | 7 | 7 |
| Degree of Util (X) | 0.865 | 0 | 0.408 | 0.901 | 0.756 | 0.82 |
| Departure Headway (Hd) | 8.955 | 8.435 | 8.451 | 8.066 | 8.158 | 8.056 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 403 | 0 | 424 | 450 | 444 | 447 |
| Service Time | 6.716 | 6.195 | 6.534 | 6.122 | 5.929 | 5.826 |
| HCM Lane V/C Ratio | 0.864 | 0 | 0.41 | 0.893 | 0.752 | 0.819 |
| HCM Control Delay | 47.9 | 11.2 | 17.3 | 50.4 | 32.3 | 38.4 |
| HCM Lane LOS | E | N | C | F | D | E |
| HCM 95th-tile Q | 8.5 | 0 | 1.9 | 9.8 | 6.3 | 7.7 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 0 | 50 | 5 | 5 | 228 | 210 | 20 | 5 | 300 | 5 |
| Future Volume (vph) | 0 | 0 | 0 | 50 | 5 | 5 | 228 | 210 | 20 | 5 | 300 | 5 |
| Confl. Peds. (#/hr) | | | | | | | | | 1 | | | |
| Confl. Bikes (#/hr) | | | | | | 2 | | | 2 | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | | | | Split | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | | | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | 8 | | | | | | |
| Detector Phase | | | | 8 | 8 | 8 | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | | | | 22.5 | 22.5 | 22.5 | 8.5 | 22.5 | | 8.5 | 22.5 | |
| Total Split (s) | | | | 22.5 | 22.5 | 22.5 | 15.0 | 29.0 | | 8.5 | 22.5 | |
| Total Split (%) | | | | 37.5% | 37.5% | 37.5% | 25.0% | 48.3% | | 14.2% | 37.5% | |
| Yellow Time (s) | | | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | | | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | | | | | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | | | | | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | | | | None | None | None | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 42 |
| Natural Cycle: 60 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 52: Woodside Avenue & SR-67 NB On-Ramp/Davidann Road








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 50 | 5 | 5 | 228 | 210 | 20 | 5 | 300 | 5 |
| Future Volume (veh/h) | 0 | 0 | 0 | 50 | 5 | 5 | 228 | 210 | 20 | 5 | 300 | 5 |
| Initial Q (Qb), veh | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | | | 1.00 | | 0.97 | 1.00 | | 0.98 | 1.00 | | 0.97 |
| Parking Bus, Adj | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | | | | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | | | | 54 | 5 | 5 | 248 | 228 | 22 | 5 | 326 | 5 |
| Peak Hour Factor | | | | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | | | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | | | | 92 | 8 | 87 | 327 | 767 | 74 | 10 | 514 | 8 |
| Arrive On Green | | | | 0.06 | 0.06 | 0.06 | 0.18 | 0.46 | 0.46 | 0.01 | 0.28 | 0.28 |
| Sat Flow, veh/h | | | | 1637 | 152 | 1545 | 1781 | 1675 | 162 | 1781 | 1836 | 28 |
| Grp Volume(v), veh/h | | | | 59 | 0 | 5 | 248 | 0 | 250 | 5 | 0 | 331 |
| Grp Sat Flow(s),veh/h/ln | | | | 1789 | 0 | 1545 | 1781 | 0 | 1837 | 1781 | 0 | 1864 |
| Q Serve(g_s), s | | | | 0.9 | 0.0 | 0.1 | 3.7 | 0.0 | 2.4 | 0.1 | 0.0 | 4.4 |
| Cycle Q Clear(g_c), s | | | | 0.9 | 0.0 | 0.1 | 3.7 | 0.0 | 2.4 | 0.1 | 0.0 | 4.4 |
| Prop In Lane | | | | 0.92 | | 1.00 | 1.00 | | 0.09 | 1.00 | | 0.02 |
| Lane Grp Cap(c), veh/h | | | | 100 | 0 | 87 | 327 | 0 | 841 | 10 | 0 | 521 |
| V/C Ratio(X) | | | | 0.59 | 0.00 | 0.06 | 0.76 | 0.00 | 0.30 | 0.52 | 0.00 | 0.63 |
| Avail Cap(c_a), veh/h | | | | 1147 | 0 | 991 | 666 | 0 | 1603 | 254 | 0 | 1196 |
| HCM Platoon Ratio | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | | | | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | | | | 12.9 | 0.0 | 12.5 | 10.9 | 0.0 | 4.8 | 13.9 | 0.0 | 8.9 |
| Incr Delay (d2), s/veh | | | | 5.4 | 0.0 | 0.3 | 3.6 | 0.0 | 0.2 | 36.5 | 0.0 | 1.3 |
| Initial Q Delay(d3),s/veh | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | | 0.4 | 0.0 | 0.0 | 1.3 | 0.0 | 0.4 | 0.1 | 0.0 | 1.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | 18.3 | 0.0 | 12.8 | 14.5 | 0.0 | 5.0 | 50.4 | 0.0 | 10.1 |
| LnGrp LOS | | | | B | A | B | B | A | A | D | A | B |
| Approach Vol, veh/h | | | | | 64 | | | 498 | | | 336 | |
| Approach Delay, s/veh | | | | | 17.9 | | | 9.7 | | | 10.7 | |
| Approach LOS | | | | | B | | | A | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 5 | 6 | | 8 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 4.7 | 17.3 | | 9.6 | 12.4 | | 6.1 | | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | | | | | |
| Max Green Setting (Gmax), s | 4.0 | 24.5 | | 10.5 | 18.0 | | 18.0 | | | | | |
| Max Q Clear Time (g_c+I1), s | 2.1 | 4.4 | | 5.7 | 6.4 | | 2.9 | | | | | |
| Green Ext Time (p_c), s | 0.0 | 1.4 | | 0.3 | 1.5 | | 0.2 | | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 10.7 | |
| HCM 6th LOS | B | |

| Intersection | |
|---|---|
| Int Delay, s/veh | 16.8 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 110 | 589 | 654 | 0 | 0 | 804 |
| Future Vol, veh/h | 110 | 589 | 654 | 0 | 0 | 804 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | 300 | - | - | - | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 120 | 640 | 711 | 0 | 0 | 874 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 1148 | 356 | 0 | - | - | - |
| Stage 1 | 711 | - | - | - | - | - |
| Stage 2 | 437 | - | - | - | - | - |
| Critical Hdwy | 6.84 | 6.8 | - | - | - | - |
| Critical Hdwy Stg 1 | 5.84 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.84 | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 3.32 | - | - | - | - |
| Pot Cap-1 Maneuver | 192 | 649 | - | 0 | 0 | - |
| Stage 1 | 448 | - | - | 0 | 0 | - |
| Stage 2 | 619 | - | - | 0 | 0 | - |
| Platoon blocked, % | | | - | | | - |
| Mov Cap-1 Maneuver | 192 | 649 | - | - | - | - |
| Mov Cap-2 Maneuver | 321 | - | - | - | - | - |
| Stage 1 | 448 | - | - | - | - | - |
| Stage 2 | 619 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 51.8 | 0 | 0 |
| HCM LOS | F | | |

| Minor Lane/Major Mvmt | NBT | WBLn1 | WBLn2 | SBT |
|---|---|---|---|---|
| Capacity (veh/h) | - | 321 | 649 | - |
| HCM Lane V/C Ratio | - | 0.372 | 0.986 | - |
| HCM Control Delay (s) | - | 22.7 | 57.2 | - |
| HCM Lane LOS | - | C | F | - |
| HCM 95th %tile Q(veh) | - | 1.7 | 15 | - |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 674 | 230 | 476 | 458 |
| Future Volume (Veh/h) | 0 | 0 | 674 | 230 | 476 | 458 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 0 | 733 | 250 | 517 | 498 |
| Pedestrians | 2 | | | | | |
| Lane Width (ft) | 0.0 | | | | | |
| Walking Speed (ft/s) | 4.0 | | | | | |
| Percent Blockage | 0 | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | 769 | | | 1029 |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 2143 | 494 | | | 985 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 2143 | 494 | | | 985 | |
| tC, single (s) | 6.8 | 6.9 | | | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 100 | 100 | | | 26 | |
| cM capacity (veh/h) | 11 | 521 | | | 697 | |

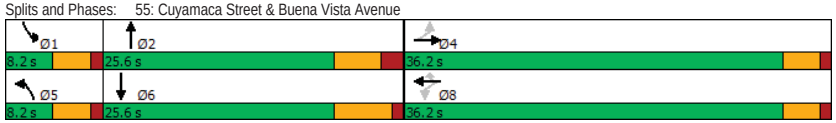
| Direction, Lane # | NB 1 | NB 2 | SB 1 | SB 2 | SB 3 |
|---|---|---|---|---|---|
| Volume Total | 489 | 494 | 517 | 249 | 249 |
| Volume Left | 0 | 0 | 517 | 0 | 0 |
| Volume Right | 0 | 250 | 0 | 0 | 0 |
| cSH | 1700 | 1700 | 697 | 1700 | 1700 |
| Volume to Capacity | 0.29 | 0.29 | 0.74 | 0.15 | 0.15 |
| Queue Length 95th (ft) | 0 | 0 | 166 | 0 | 0 |
| Control Delay (s) | 0.0 | 0.0 | 23.5 | 0.0 | 0.0 |
| Lane LOS | | | C | | |
| Approach Delay (s) | 0.0 | | 12.0 | | |
| Approach LOS | | | | | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Average Delay | 6.1 | | | |
| Intersection Capacity Utilization | 61.2% | ICU Level of Service | | B |
| Analysis Period (min) | 15 | | | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 10 | 10 | 15 | 210 | 5 | 70 | 55 | 1395 | 180 | 70 | 1183 | 30 |
| Future Volume (vph) | 10 | 10 | 15 | 210 | 5 | 70 | 55 | 1395 | 180 | 70 | 1183 | 30 |
| Confl. Peds. (#/hr) | | | 3 | | | 7 | | | 5 | | | 2 |
| Confl. Bikes (#/hr) | | | 1 | | | 4 | | | 3 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Perm | NA | | Perm | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | 8 | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | 8 | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 10.0 | | 4.0 | 10.0 | |
| Minimum Split (s) | 36.2 | 36.2 | | 34.2 | 34.2 | 34.2 | 8.2 | 24.0 | | 8.2 | 24.0 | |
| Total Split (s) | 36.2 | 36.2 | | 36.2 | 36.2 | 36.2 | 8.2 | 25.6 | | 8.2 | 25.6 | |
| Total Split (%) | 51.7% | 51.7% | | 51.7% | 51.7% | 51.7% | 11.7% | 36.6% | | 11.7% | 36.6% | |
| Yellow Time (s) | 3.2 | 3.2 | | 3.2 | 3.2 | 3.2 | 3.2 | 4.0 | | 3.2 | 4.9 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 2.0 | | 1.0 | 1.1 | |
| Lost Time Adjust (s) | | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | | 4.2 | | | 4.2 | 4.2 | 4.2 | 6.0 | | 4.2 | 6.0 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | None | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 70 |
| Actuated Cycle Length: 54.3 |
| Natural Cycle: 80 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 55: Cuyamaca Street & Buena Vista Avenue






2035 + Proj AM
55: Cuyamaca Street & Buena Vista Avenue
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 10 | 10 | 15 | 210 | 5 | 70 | 55 | 1395 | 180 | 70 | 1183 | 30 |
| Future Volume (veh/h) | 10 | 10 | 15 | 210 | 5 | 70 | 55 | 1395 | 180 | 70 | 1183 | 30 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 11 | 11 | 16 | 228 | 5 | 76 | 60 | 1516 | 196 | 76 | 1286 | 33 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 98 | 100 | 89 | 393 | 7 | 605 | 74 | 1464 | 189 | 96 | 1705 | 44 |
| Arrive On Green | 0.39 | 0.39 | 0.39 | 0.39 | 0.39 | 0.39 | 0.04 | 0.32 | 0.32 | 0.05 | 0.33 | 0.33 |
| Sat Flow, veh/h | 55 | 258 | 228 | 709 | 19 | 1554 | 1781 | 4558 | 588 | 1781 | 5119 | 131 |
| Grp Volume(v), veh/h | 38 | 0 | 0 | 233 | 0 | 76 | 60 | 1132 | 580 | 76 | 855 | 464 |
| Grp Sat Flow(s),veh/h/ln | 541 | 0 | 0 | 728 | 0 | 1554 | 1781 | 1702 | 1742 | 1781 | 1702 | 1846 |
| Q Serve(g_s), s | 0.4 | 0.0 | 0.0 | 0.2 | 0.0 | 1.9 | 2.0 | 19.6 | 19.6 | 2.6 | 13.7 | 13.7 |
| Cycle Q Clear(g_c), s | 21.2 | 0.0 | 0.0 | 21.1 | 0.0 | 1.9 | 2.0 | 19.6 | 19.6 | 2.6 | 13.7 | 13.7 |
| Prop In Lane | 0.29 | | 0.42 | 0.98 | | 1.00 | 1.00 | | 0.34 | 1.00 | | 0.07 |
| Lane Grp Cap(c), veh/h | 287 | 0 | 0 | 400 | 0 | 605 | 74 | 1093 | 560 | 96 | 1134 | 615 |
| V/C Ratio(X) | 0.13 | 0.00 | 0.00 | 0.58 | 0.00 | 0.13 | 0.81 | 1.03 | 1.04 | 0.79 | 0.75 | 0.75 |
| Avail Cap(c_a), veh/h | 497 | 0 | 0 | 588 | 0 | 815 | 117 | 1093 | 560 | 117 | 1134 | 615 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 13.8 | 0.0 | 0.0 | 17.9 | 0.0 | 12.0 | 29.0 | 20.7 | 20.7 | 28.5 | 18.1 | 18.1 |
| Incr Delay (d2), s/veh | 0.1 | 0.0 | 0.0 | 0.5 | 0.0 | 0.0 | 9.5 | 36.6 | 48.0 | 21.1 | 3.1 | 5.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.3 | 0.0 | 0.0 | 2.8 | 0.0 | 0.6 | 1.0 | 12.3 | 14.4 | 1.6 | 5.2 | 6.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 13.9 | 0.0 | 0.0 | 18.4 | 0.0 | 12.0 | 38.5 | 57.4 | 68.7 | 49.7 | 21.3 | 23.8 |
| LnGrp LOS | B | A | A | B | A | B | D | F | F | D | C | C |
| Approach Vol, veh/h | | 38 | | | 309 | | | 1772 | | | 1395 | |
| Approach Delay, s/veh | | 13.9 | | | 16.8 | | | 60.4 | | | 23.7 | |
| Approach LOS | | B | | | B | | | E | | | C | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.5 | 25.6 | | 28.2 | 6.8 | 26.3 | | 28.2 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 6.0 | | * 4.2 | * 4.2 | * 6 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | * 4 | 19.6 | | * 32 | * 4 | * 20 | | * 32 | | | | |
| Max Q Clear Time (g_c+I1), s | 4.6 | 21.6 | | 23.2 | 4.0 | 15.7 | | 23.1 | | | | |
| Green Ext Time (p_c), s | 0.0 | 0.0 | | 0.0 | 0.0 | 3.1 | | 0.7 | | | | |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 41.5 |
| HCM 6th LOS | D |

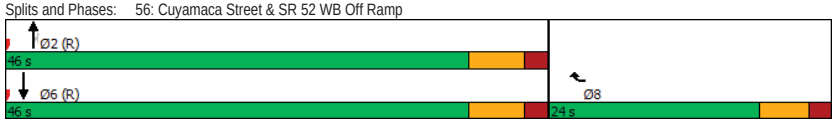
| Notes |
|---|
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. |

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\Long-Term\11 2035+P AM.syn

| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 904 | 946 | 215 | 0 | 1523 |
| Future Volume (vph) | 0 | 904 | 946 | 215 | 0 | 1523 |
| Confl. Peds. (#/hr) | | | | 9 | | |
| Confl. Bikes (#/hr) | | | | 3 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | 0% | | | 0% |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | | Prot | NA | Perm | | NA |
| Protected Phases | | 8 | 2 | | | 6 |
| Permitted Phases | | | | 2 | | |
| Detector Phase | | 8 | 2 | 2 | | 6 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | | 5.0 | 14.0 | 14.0 | | 14.0 |
| Minimum Split (s) | | 20.0 | 45.8 | 45.8 | | 45.8 |
| Total Split (s) | | 24.0 | 46.0 | 46.0 | | 46.0 |
| Total Split (%) | | 34.3% | 65.7% | 65.7% | | 65.7% |
| Yellow Time (s) | | 4.1 | 4.8 | 4.8 | | 4.8 |
| All-Red Time (s) | | 2.0 | 2.0 | 2.0 | | 2.0 |
| Lost Time Adjust (s) | | 0.0 | 0.0 | 0.0 | | 0.0 |
| Total Lost Time (s) | | 6.1 | 6.8 | 6.8 | | 6.8 |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | | None | C-Max | C-Max | | C-Max |

| Intersection Summary |
|---|
| Cycle Length: 70 |
| Actuated Cycle Length: 70 |
| Offset: 22 (31%), Referenced to phase 2:NBT and 6:SBT, Start of Green |
| Natural Cycle: 80 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 56: Cuyamaca Street & SR 52 WB Off Ramp








| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 904 | 946 | 215 | 0 | 1523 |
| Future Volume (veh/h) | 0 | 904 | 946 | 215 | 0 | 1523 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | | 0.97 | 1.00 | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | No | | | No |
| Adj Sat Flow, veh/h/ln | 0 | 1870 | 1870 | 1870 | 0 | 1870 |
| Adj Flow Rate, veh/h | 0 | 983 | 1028 | 234 | 0 | 1655 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 0 | 2 | 2 | 2 | 0 | 2 |
| Cap, veh/h | 0 | 0 | 4610 | 1394 | 0 | 4610 |
| Arrive On Green | 0.00 | 0.00 | 0.30 | 0.30 | 0.00 | 0.90 |
| Sat Flow, veh/h | 0 | | 5274 | 1544 | 0 | 5443 |
| Grp Volume(v), veh/h | 0.0 | | 1028 | 234 | 0 | 1655 |
| Grp Sat Flow(s),veh/h/ln | | | 1702 | 1544 | 0 | 1702 |
| Q Serve(g_s), s | | | 10.6 | 7.8 | 0.0 | 3.3 |
| Cycle Q Clear(g_c), s | | | 10.6 | 7.8 | 0.0 | 3.3 |
| Prop In Lane | | | | 1.00 | 0.00 | |
| Lane Grp Cap(c), veh/h | | | 4610 | 1394 | 0 | 4610 |
| V/C Ratio(X) | | | 0.22 | 0.17 | 0.00 | 0.36 |
| Avail Cap(c_a), veh/h | | | 4610 | 1394 | 0 | 4610 |
| HCM Platoon Ratio | | | 0.33 | 0.33 | 1.00 | 1.00 |
| Upstream Filter(I) | | | 1.00 | 1.00 | 0.00 | 0.78 |
| Uniform Delay (d), s/veh | | | 6.1 | 5.1 | 0.0 | 0.5 |
| Incr Delay (d2), s/veh | | | 0.1 | 0.3 | 0.0 | 0.2 |
| Initial Q Delay(d3),s/veh | | | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | 0.0 | 0.1 | 0.0 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | | | 6.2 | 5.4 | 0.0 | 0.7 |
| LnGrp LOS | | | A | A | A | A |
| Approach Vol, veh/h | | | 1262 | | | 1655 |
| Approach Delay, s/veh | | | 6.1 | | | 0.7 |
| Approach LOS | | | A | | | A |

| Timer - Assigned Phs | 2 | | | | | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 70.0 | | | | | 70.0 |
| Change Period (Y+Rc), s | 6.8 | | | | | 6.8 |
| Max Green Setting (Gmax), s | 39.2 | | | | | 39.2 |
| Max Q Clear Time (g_c+I1), s | 12.6 | | | | | 5.3 |
| Green Ext Time (p_c), s | 9.0 | | | | | 16.2 |

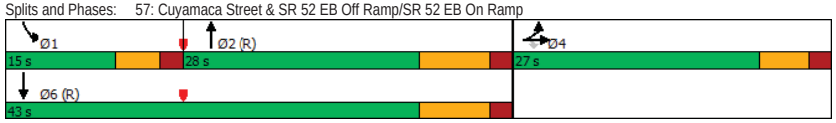
| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 3.0 |
| HCM 6th LOS | A |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 409 | 5 | 490 | 0 | 0 | 0 | 0 | 797 | 160 | 336 | 801 | 0 |
| Future Volume (vph) | 409 | 5 | 490 | 0 | 0 | 0 | 0 | 797 | 160 | 336 | 801 | 0 |
| Confl. Peds. (#/hr) | | | | | | | | | 5 | | | 24 |
| Confl. Bikes (#/hr) | | | | | | | | | 2 | | | 9 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | 49% | | | | | | | | | | | |
| Turn Type | Split | NA | Perm | | | | | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | | | | | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | | | | |
| Detector Phase | 4 | 4 | 4 | | | | | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | | | | | 11.0 | | 5.0 | 12.0 | |
| Minimum Split (s) | 22.1 | 22.1 | 22.1 | | | | | 27.0 | | 10.7 | 32.0 | |
| Total Split (s) | 27.0 | 27.0 | 27.0 | | | | | 28.0 | | 15.0 | 43.0 | |
| Total Split (%) | 38.6% | 38.6% | 38.6% | | | | | 40.0% | | 21.4% | 61.4% | |
| Yellow Time (s) | 4.1 | 4.1 | 4.1 | | | | | 6.0 | | 3.7 | 6.0 | |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | | | | | 2.0 | | 2.0 | 2.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | | | | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 6.1 | 6.1 | 6.1 | | | | | 8.0 | | 5.7 | 8.0 | |
| Lead/Lag | | | | | | | | Lag | | Lead | | |
| Lead-Lag Optimize? | | | | | | | | Yes | | Yes | | |
| Recall Mode | None | None | None | | | | | C-Min | | None | C-Min | |

**Intersection Summary**

Cycle Length: 70
Actuated Cycle Length: 70
Offset: 10 (14%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 57: Cuyamaca Street & SR 52 EB Off Ramp/SR 52 EB On Ramp






2035 + Proj AM
57: Cuyamaca Street & SR 52 EB Off Ramp/SR 52 EB On Ramp
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 409 | 5 | 490 | 0 | 0 | 0 | 0 | 797 | 160 | 336 | 801 | 0 |
| Future Volume (veh/h) | 409 | 5 | 490 | 0 | 0 | 0 | 0 | 797 | 160 | 336 | 801 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | | | | 1.00 | | 0.98 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | | | | 0 | 1870 | 1870 | 1870 | 1870 | 0 |
| Adj Flow Rate, veh/h | 449 | 0 | 533 | | | | 0 | 866 | 174 | 365 | 871 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | | | | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | | | | 0 | 2 | 2 | 2 | 2 | 0 |
| Cap, veh/h | 1064 | 0 | 473 | | | | 0 | 1215 | 243 | 459 | 1777 | 0 |
| Arrive On Green | 0.30 | 0.00 | 0.30 | | | | 0.00 | 0.57 | 0.57 | 0.04 | 0.17 | 0.00 |
| Sat Flow, veh/h | 3563 | 0 | 1585 | | | | 0 | 4421 | 849 | 3456 | 3647 | 0 |
| Grp Volume(v), veh/h | 449 | 0 | 533 | | | | 0 | 692 | 348 | 365 | 871 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1585 | | | | 0 | 1702 | 1698 | 1728 | 1777 | 0 |
| Q Serve(g_s), s | 7.1 | 0.0 | 20.9 | | | | 0.0 | 10.3 | 10.4 | 7.3 | 15.6 | 0.0 |
| Cycle Q Clear(g_c), s | 7.1 | 0.0 | 20.9 | | | | 0.0 | 10.3 | 10.4 | 7.3 | 15.6 | 0.0 |
| Prop In Lane | 1.00 | | 1.00 | | | | 0.00 | | 0.50 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 1064 | 0 | 473 | | | | 0 | 973 | 485 | 459 | 1777 | 0 |
| V/C Ratio(X) | 0.42 | 0.00 | 1.13 | | | | 0.00 | 0.71 | 0.72 | 0.80 | 0.49 | 0.00 |
| Avail Cap(c_a), veh/h | 1064 | 0 | 473 | | | | 0 | 973 | 485 | 459 | 1777 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | | | | 1.00 | 2.00 | 2.00 | 0.33 | 0.33 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | | | | 0.00 | 0.87 | 0.87 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | 19.7 | 0.0 | 24.5 | | | | 0.0 | 12.9 | 12.9 | 32.5 | 21.1 | 0.0 |
| Incr Delay (d2), s/veh | 0.3 | 0.0 | 80.7 | | | | 0.0 | 3.9 | 7.7 | 8.7 | 1.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.8 | 0.0 | 17.9 | | | | 0.0 | 3.1 | 3.6 | 3.7 | 7.4 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 20.0 | 0.0 | 105.3 | | | | 0.0 | 16.8 | 20.7 | 41.2 | 22.1 | 0.0 |
| LnGrp LOS | B | A | F | | | | A | B | C | D | C | A |
| Approach Vol, veh/h | | 982 | | | | | | 1040 | | | 1236 | |
| Approach Delay, s/veh | | 66.3 | | | | | | 18.1 | | | 27.7 | |
| Approach LOS | | E | | | | | | B | | | C | |

| Timer - Assigned Phs | 1 | 2 | 4 | 6 |
|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 15.0 | 28.0 | 27.0 | 43.0 |
| Change Period (Y+Rc), s | * 5.7 | 8.0 | 6.1 | 8.0 |
| Max Green Setting (Gmax), s | * 9.3 | 20.0 | 20.9 | 35.0 |
| Max Q Clear Time (g_c+I1), s | 9.3 | 12.4 | 22.9 | 17.6 |
| Green Ext Time (p_c), s | 0.0 | 3.9 | 0.0 | 5.6 |

**Intersection Summary**

| | |
|---|---|
| HCM 6th Ctrl Delay | 36.3 |
| HCM 6th LOS | D |

**Notes**

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Fanita Ranch
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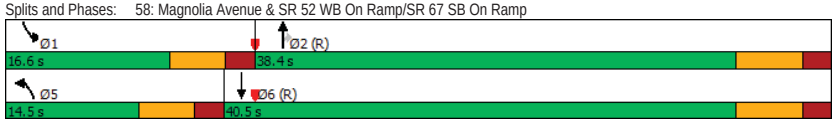
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 445 | 1286 | 250 | 651 | 656 | 370 |
| Future Volume (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 445 | 1286 | 250 | 651 | 656 | 370 |
| Confl. Peds. (#/hr) | | | | | | | | | 5 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | | | | | | | Prot | NA | Perm | Prot | NA | |
| Protected Phases | | | | | | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | | | 2 | | | |
| Detector Phase | | | | | | | 5 | 2 | 2 | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | | | | | | 5.0 | 6.0 | 6.0 | 5.0 | 7.0 | |
| Minimum Split (s) | | | | | | | 10.7 | 38.4 | 38.4 | 10.7 | 39.4 | |
| Total Split (s) | | | | | | | 14.5 | 38.4 | 38.4 | 16.6 | 40.5 | |
| Total Split (%) | | | | | | | 26.4% | 69.8% | 69.8% | 30.2% | 73.6% | |
| Yellow Time (s) | | | | | | | 3.7 | 4.4 | 4.4 | 3.7 | 4.4 | |
| All-Red Time (s) | | | | | | | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | |
| Lost Time Adjust (s) | | | | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | | | | | | | 5.7 | 6.4 | 6.4 | 5.7 | 6.4 | |
| Lead/Lag | | | | | | | Lead | Lag | Lag | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | Yes | Yes | Yes | |
| Recall Mode | | | | | | | None | C-Max | C-Max | None | C-Max | |

| Intersection Summary |
|---|
| Cycle Length: 55 |
| Actuated Cycle Length: 55 |
| Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green |
| Natural Cycle: 60 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 58: Magnolia Avenue & SR 52 WB On Ramp/SR 67 SB On Ramp








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 0 | 0 | 0 | 445 | 1286 | 250 | 651 | 656 | 370 |
| Future Volume (veh/h) | 0 | 0 | 0 | 0 | 0 | 0 | 445 | 1286 | 250 | 651 | 656 | 370 |
| Initial Q (Qb), veh | | | | | | | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | | | | | | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | | | | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | | | | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | | | | | | | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | | | | | | | 484 | 1398 | 272 | 708 | 713 | 402 |
| Peak Hour Factor | | | | | | | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | | | | | | | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | | | | | | | 553 | 2971 | 899 | 685 | 1347 | 757 |
| Arrive On Green | | | | | | | 0.32 | 1.00 | 1.00 | 0.33 | 1.00 | 1.00 |
| Sat Flow, veh/h | | | | | | | 3456 | 5106 | 1546 | 3456 | 2172 | 1222 |
| Grp Volume(v), veh/h | | | | | | | 484 | 1398 | 272 | 708 | 583 | 532 |
| Grp Sat Flow(s),veh/h/ln | | | | | | | 1728 | 1702 | 1546 | 1728 | 1777 | 1617 |
| Q Serve(g_s), s | | | | | | | 7.3 | 0.0 | 0.0 | 10.9 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | | | | | | | 7.3 | 0.0 | 0.0 | 10.9 | 0.0 | 0.0 |
| Prop In Lane | | | | | | | 1.00 | | 1.00 | 1.00 | | 0.76 |
| Lane Grp Cap(c), veh/h | | | | | | | 553 | 2971 | 899 | 685 | 1102 | 1002 |
| V/C Ratio(X) | | | | | | | 0.88 | 0.47 | 0.30 | 1.03 | 0.53 | 0.53 |
| Avail Cap(c_a), veh/h | | | | | | | 553 | 2971 | 899 | 685 | 1102 | 1002 |
| HCM Platoon Ratio | | | | | | | 2.00 | 2.00 | 2.00 | 1.67 | 1.67 | 1.67 |
| Upstream Filter(I) | | | | | | | 0.30 | 0.30 | 0.30 | 0.23 | 0.23 | 0.23 |
| Uniform Delay (d), s/veh | | | | | | | 18.2 | 0.0 | 0.0 | 18.4 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | | | | | | | 4.9 | 0.2 | 0.3 | 26.0 | 0.4 | 0.5 |
| Initial Q Delay(d3),s/veh | | | | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | | | | | 2.6 | 0.0 | 0.1 | 5.5 | 0.1 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | | | | 23.0 | 0.2 | 0.3 | 44.4 | 0.4 | 0.5 |
| LnGrp LOS | | | | | | | C | A | A | F | A | A |
| Approach Vol, veh/h | | | | | | | | 2154 | | | 1823 | |
| Approach Delay, s/veh | | | | | | | | 5.3 | | | 17.5 | |
| Approach LOS | | | | | | | | A | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 5 | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 16.6 | 38.4 | | 14.5 | 40.5 |
| Change Period (Y+Rc), s | * 5.7 | 6.4 | | * 5.7 | 6.4 |
| Max Green Setting (Gmax), s | * 11 | 32.0 | | * 8.8 | 34.1 |
| Max Q Clear Time (g_c+I1), s | 12.9 | 2.0 | | 9.3 | 2.0 |
| Green Ext Time (p_c), s | 0.0 | 14.3 | | 0.0 | 8.3 |

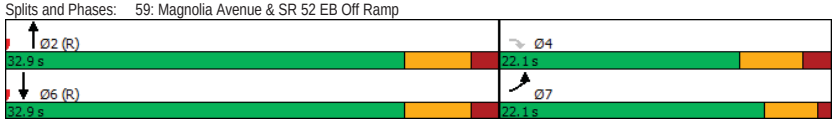
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 10.9 | |
| HCM 6th LOS | B | |

| Notes |
|---|
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. |

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 300 | 260 | 0 | 1656 | 646 | 0 |
| Future Volume (vph) | 300 | 260 | 0 | 1656 | 646 | 0 |
| Confl. Peds. (#/hr) | | | | | | |
| Confl. Bikes (#/hr) | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | | NA | NA | |
| Protected Phases | 7 | | | 2 | 6 | |
| Permitted Phases | | 4 | | | | |
| Detector Phase | 7 | 4 | | 2 | 6 | |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 5.0 | | 5.0 | 5.0 | |
| Minimum Split (s) | 8.5 | 22.1 | | 22.4 | 27.4 | |
| Total Split (s) | 22.1 | 22.1 | | 32.9 | 32.9 | |
| Total Split (%) | 40.2% | 40.2% | | 59.8% | 59.8% | |
| Yellow Time (s) | 3.5 | 4.1 | | 4.4 | 4.4 | |
| All-Red Time (s) | 1.0 | 2.0 | | 2.0 | 2.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 6.1 | | 6.4 | 6.4 | |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | None | None | | C-Max | C-Max | |

| Intersection Summary |
|---|
| Cycle Length: 55 |
| Actuated Cycle Length: 55 |
| Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green |
| Natural Cycle: 65 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 59: Magnolia Avenue & SR 52 EB Off Ramp






2035 + Proj AM
59: Magnolia Avenue & SR 52 EB Off Ramp
Fanita Ranch
06/06/2019

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 300 | 260 | 0 | 1656 | 646 | 0 |
| Future Volume (veh/h) | 300 | 260 | 0 | 1656 | 646 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 0 | 1870 | 1870 | 0 |
| Adj Flow Rate, veh/h | 326 | 283 | 0 | 1800 | 702 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 0 | 2 | 2 | 0 |
| Cap, veh/h | 410 | 365 | 0 | 2031 | 2031 | 0 |
| Arrive On Green | 0.23 | 0.23 | 0.00 | 0.57 | 1.00 | 0.00 |
| Sat Flow, veh/h | 1781 | 1585 | 0 | 3741 | 3741 | 0 |
| Grp Volume(v), veh/h | 326 | 283 | 0 | 1800 | 702 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 0 | 1777 | 1777 | 0 |
| Q Serve(g_s), s | 9.5 | 9.2 | 0.0 | 24.2 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 9.5 | 9.2 | 0.0 | 24.2 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | 1.00 | 0.00 | | | 0.00 |
| Lane Grp Cap(c), veh/h | 410 | 365 | 0 | 2031 | 2031 | 0 |
| V/C Ratio(X) | 0.79 | 0.77 | 0.00 | 0.89 | 0.35 | 0.00 |
| Avail Cap(c_a), veh/h | 570 | 507 | 0 | 2031 | 2031 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 2.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.38 | 0.83 | 0.00 |
| Uniform Delay (d), s/veh | 19.9 | 19.8 | 0.0 | 10.2 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 5.3 | 5.0 | 0.0 | 2.5 | 0.4 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 4.1 | 3.6 | 0.0 | 6.1 | 0.1 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 25.2 | 24.8 | 0.0 | 12.7 | 0.4 | 0.0 |
| LnGrp LOS | C | C | A | B | A | A |
| Approach Vol, veh/h | 609 | | | 1800 | 702 | |
| Approach Delay, s/veh | 25.0 | | | 12.7 | 0.4 | |
| Approach LOS | C | | | B | A | |

| Timer - Assigned Phs | | 2 | | 4 | | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 37.8 | | 17.2 | | 37.8 |
| Change Period (Y+Rc), s | | 6.4 | | 4.5 | | 6.4 |
| Max Green Setting (Gmax), s | | 26.5 | | 17.6 | | 26.5 |
| Max Q Clear Time (g_c+I1), s | | 26.2 | | 11.5 | | 2.0 |
| Green Ext Time (p_c), s | | 0.3 | | 1.2 | | 4.5 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 12.4 | |
| HCM 6th LOS | B | |

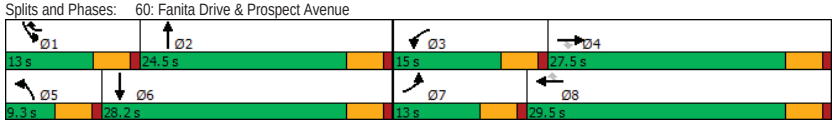
Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\Long-Term\11 2035+P AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 215 | 150 | 60 | 100 | 170 | 420 | 75 | 334 | 95 | 220 | 168 | 110 |
| Future Volume (vph) | 215 | 150 | 60 | 100 | 170 | 420 | 75 | 334 | 95 | 220 | 168 | 110 |
| Confl. Peds. (#/hr) | | | 5 | | | 3 | | | 4 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | 1 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | pm+ov | Prot | NA | | Prot | NA | |
| Protected Phases | 7 | 4 | | 3 | 8 | 1 | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | | | | |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | 1 | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | 8.5 | 24.5 | 24.5 | 8.5 | 29.5 | 8.5 | 8.5 | 22.5 | | 8.5 | 24.5 | |
| Total Split (s) | 13.0 | 27.5 | 27.5 | 15.0 | 29.5 | 13.0 | 9.3 | 24.5 | | 13.0 | 28.2 | |
| Total Split (%) | 16.3% | 34.4% | 34.4% | 18.8% | 36.9% | 16.3% | 11.6% | 30.6% | | 16.3% | 35.3% | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | None | None | None | None | None | Min | | None | Min | |

**Intersection Summary**

Cycle Length: 80
Actuated Cycle Length: 68.9
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 60: Fanita Drive & Prospect Avenue








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 215 | 150 | 60 | 100 | 170 | 420 | 75 | 334 | 95 | 220 | 168 | 110 |
| Future Volume (veh/h) | 215 | 150 | 60 | 100 | 170 | 420 | 75 | 334 | 95 | 220 | 168 | 110 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 234 | 163 | 65 | 109 | 185 | 457 | 82 | 363 | 103 | 239 | 183 | 120 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 195 | 602 | 508 | 140 | 544 | 627 | 105 | 359 | 102 | 195 | 648 | 403 |
| Arrive On Green | 0.11 | 0.32 | 0.32 | 0.08 | 0.29 | 0.29 | 0.06 | 0.26 | 0.26 | 0.11 | 0.31 | 0.31 |
| Sat Flow, veh/h | 1781 | 1870 | 1578 | 1781 | 1870 | 1560 | 1781 | 1391 | 395 | 1781 | 2101 | 1306 |
| Grp Volume(v), veh/h | 234 | 163 | 65 | 109 | 185 | 457 | 82 | 0 | 466 | 239 | 153 | 150 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1578 | 1781 | 1870 | 1560 | 1781 | 0 | 1785 | 1781 | 1777 | 1630 |
| Q Serve(g_s), s | 8.5 | 5.0 | 2.3 | 4.7 | 6.0 | 19.3 | 3.5 | 0.0 | 20.0 | 8.5 | 5.1 | 5.4 |
| Cycle Q Clear(g_c), s | 8.5 | 5.0 | 2.3 | 4.7 | 6.0 | 19.3 | 3.5 | 0.0 | 20.0 | 8.5 | 5.1 | 5.4 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.22 | 1.00 | | 0.80 |
| Lane Grp Cap(c), veh/h | 195 | 602 | 508 | 140 | 544 | 627 | 105 | 0 | 460 | 195 | 548 | 503 |
| V/C Ratio(X) | 1.20 | 0.27 | 0.13 | 0.78 | 0.34 | 0.73 | 0.78 | 0.00 | 1.01 | 1.22 | 0.28 | 0.30 |
| Avail Cap(c_a), veh/h | 195 | 602 | 508 | 241 | 603 | 677 | 110 | 0 | 460 | 195 | 548 | 503 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 34.5 | 19.5 | 18.6 | 35.1 | 21.6 | 19.7 | 36.0 | 0.0 | 28.8 | 34.5 | 20.3 | 20.4 |
| Incr Delay (d2), s/veh | 128.2 | 0.2 | 0.1 | 9.0 | 0.4 | 3.7 | 28.2 | 0.0 | 45.0 | 137.8 | 0.3 | 0.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 10.5 | 2.1 | 0.8 | 2.3 | 2.6 | 7.0 | 2.3 | 0.0 | 13.6 | 10.9 | 2.0 | 2.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 162.7 | 19.8 | 18.7 | 44.1 | 22.0 | 23.4 | 64.2 | 0.0 | 73.8 | 172.3 | 20.6 | 20.7 |
| LnGrp LOS | F | B | B | D | C | C | E | A | F | F | C | C |
| Approach Vol, veh/h | | 462 | | | 751 | | | 548 | | | 542 | |
| Approach Delay, s/veh | | 92.0 | | | 26.0 | | | 72.4 | | | 87.5 | |
| Approach LOS | | F | | | C | | | E | | | F | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 13.0 | 24.5 | 10.6 | 29.5 | 9.1 | 28.4 | 13.0 | 27.1 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 8.5 | 20.0 | 10.5 | 23.0 | 4.8 | 23.7 | 8.5 | 25.0 |
| Max Q Clear Time (g_c+I1), s | 10.5 | 22.0 | 6.7 | 7.0 | 5.5 | 7.4 | 10.5 | 21.3 |
| Green Ext Time (p_c), s | 0.0 | 0.0 | 0.1 | 0.9 | 0.0 | 1.4 | 0.0 | 1.1 |

**Intersection Summary**

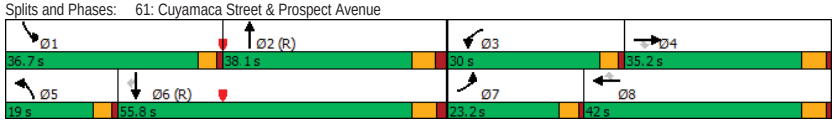
| | | |
|---|---|---|
| HCM 6th Ctrl Delay | 64.8 | |
| HCM 6th LOS | E | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 125 | 165 | 115 | 180 | 165 | 310 | 85 | 597 | 80 | 245 | 971 | 185 |
| Future Volume (vph) | 125 | 165 | 115 | 180 | 165 | 310 | 85 | 597 | 80 | 245 | 971 | 185 |
| Confl. Peds. (#/hr) | | | 20 | | | 8 | | | 8 | | | 4 |
| Confl. Bikes (#/hr) | | | 1 | | | 4 | | | 4 | | | 7 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | | | | 6 |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | 8 | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 7.0 | 7.0 | 4.0 | 7.0 | 7.0 | 4.0 | 10.0 | | 4.0 | 10.0 | 10.0 |
| Minimum Split (s) | 8.2 | 35.2 | 35.2 | 8.2 | 36.2 | 36.2 | 8.2 | 33.0 | | 8.2 | 31.0 | 31.0 |
| Total Split (s) | 23.2 | 35.2 | 35.2 | 30.0 | 42.0 | 42.0 | 19.0 | 38.1 | | 36.7 | 55.8 | 55.8 |
| Total Split (%) | 16.6% | 25.1% | 25.1% | 21.4% | 30.0% | 30.0% | 13.6% | 27.2% | | 26.2% | 39.9% | 39.9% |
| Yellow Time (s) | 3.2 | 4.2 | 4.2 | 3.2 | 4.2 | 4.2 | 3.2 | 4.0 | | 3.2 | 4.1 | 4.1 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 2.0 | | 1.0 | 1.9 | 1.9 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.2 | 5.2 | 4.2 | 5.2 | 5.2 | 4.2 | 6.0 | | 4.2 | 6.0 | 6.0 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | None | None | C-Min | | None | C-Min | C-Min |

**Intersection Summary**

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 26 (19%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 61: Cuyamaca Street & Prospect Avenue






2035 + Proj AM
61: Cuyamaca Street & Prospect Avenue
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 125 | 165 | 115 | 180 | 165 | 310 | 85 | 597 | 80 | 245 | 971 | 185 |
| Future Volume (veh/h) | 125 | 165 | 115 | 180 | 165 | 310 | 85 | 597 | 80 | 245 | 971 | 185 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.96 | 1.00 | | 0.97 | 1.00 | | 0.97 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 136 | 179 | 125 | 196 | 179 | 337 | 92 | 649 | 87 | 266 | 1055 | 201 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 160 | 374 | 303 | 220 | 831 | 361 | 114 | 1706 | 226 | 286 | 1680 | 736 |
| Arrive On Green | 0.09 | 0.20 | 0.20 | 0.12 | 0.23 | 0.23 | 0.06 | 0.38 | 0.38 | 0.32 | 0.95 | 0.95 |
| Sat Flow, veh/h | 1781 | 1870 | 1518 | 1781 | 3554 | 1544 | 1781 | 4540 | 601 | 1781 | 3554 | 1557 |
| Grp Volume(v), veh/h | 136 | 179 | 125 | 196 | 179 | 337 | 92 | 484 | 252 | 266 | 1055 | 201 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1518 | 1781 | 1777 | 1544 | 1781 | 1702 | 1737 | 1781 | 1777 | 1557 |
| Q Serve(g_s), s | 10.5 | 11.9 | 10.1 | 15.2 | 5.7 | 29.9 | 7.1 | 14.5 | 14.8 | 20.2 | 5.6 | 1.3 |
| Cycle Q Clear(g_c), s | 10.5 | 11.9 | 10.1 | 15.2 | 5.7 | 29.9 | 7.1 | 14.5 | 14.8 | 20.2 | 5.6 | 1.3 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.35 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 160 | 374 | 303 | 220 | 831 | 361 | 114 | 1279 | 653 | 286 | 1680 | 736 |
| V/C Ratio(X) | 0.85 | 0.48 | 0.41 | 0.89 | 0.22 | 0.93 | 0.81 | 0.38 | 0.39 | 0.93 | 0.63 | 0.27 |
| Avail Cap(c_a), veh/h | 242 | 401 | 325 | 328 | 934 | 406 | 188 | 1279 | 653 | 414 | 1680 | 736 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 2.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 0.80 | 0.80 | 0.80 | 1.00 | 1.00 | 1.00 | 0.71 | 0.71 | 0.71 |
| Uniform Delay (d), s/veh | 62.8 | 49.6 | 48.8 | 60.4 | 43.3 | 52.6 | 64.7 | 31.8 | 31.9 | 46.7 | 2.2 | 2.1 |
| Incr Delay (d2), s/veh | 10.8 | 1.0 | 1.0 | 11.1 | 0.1 | 22.5 | 5.1 | 0.9 | 1.7 | 14.0 | 1.3 | 0.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 5.2 | 5.7 | 3.9 | 7.5 | 2.5 | 13.8 | 3.4 | 6.1 | 6.5 | 8.7 | 1.3 | 0.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 73.6 | 50.6 | 49.8 | 71.5 | 43.3 | 75.0 | 69.8 | 32.7 | 33.6 | 60.7 | 3.4 | 2.7 |
| LnGrp LOS | E | D | D | E | D | E | E | C | C | E | A | A |
| Approach Vol, veh/h | | 440 | | | 712 | | | 828 | | | 1522 | |
| Approach Delay, s/veh | | 57.5 | | | 66.1 | | | 37.1 | | | 13.4 | |
| Approach LOS | | E | | | E | | | D | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 26.7 | 58.6 | 21.5 | 33.2 | 13.1 | 72.2 | 16.8 | 37.9 |
| Change Period (Y+Rc), s | * 4.2 | 6.0 | * 4.2 | 5.2 | * 4.2 | * 6 | * 4.2 | 5.2 |
| Max Green Setting (Gmax), s | * 33 | 32.1 | * 26 | 30.0 | * 15 | * 50 | * 19 | 36.8 |
| Max Q Clear Time (g_c+I1), s | 22.2 | 16.8 | 17.2 | 13.9 | 9.1 | 7.6 | 12.5 | 31.9 |
| Green Ext Time (p_c), s | 0.3 | 5.7 | 0.2 | 1.3 | 0.0 | 15.7 | 0.1 | 0.8 |

**Intersection Summary**

| | |
|---|---|
| HCM 6th Ctrl Delay | 35.2 |
| HCM 6th LOS | D |

**Notes**

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Fanita Ranch
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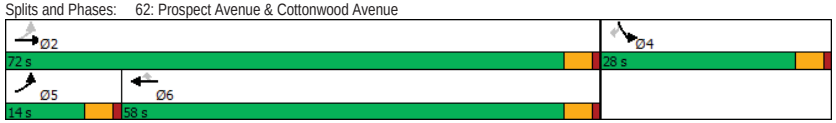
| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 100 | 190 | 450 | 180 | 110 | 200 |
| Future Volume (vph) | 100 | 190 | 450 | 180 | 110 | 200 |
| Confl. Peds. (#/hr) | | | | 3 | | 6 |
| Confl. Bikes (#/hr) | | | | 1 | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | pm+pt | NA | NA | Perm | Prot | Perm |
| Protected Phases | 5 | 2 | 6 | | 4 | |
| Permitted Phases | 2 | | | 6 | | 4 |
| Detector Phase | 5 | 2 | 6 | 6 | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 |
| Total Split (s) | 14.0 | 72.0 | 58.0 | 58.0 | 28.0 | 28.0 |
| Total Split (%) | 14.0% | 72.0% | 58.0% | 58.0% | 28.0% | 28.0% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | | Lag | Lag | | |
| Lead-Lag Optimize? | Yes | | Yes | Yes | | |
| Recall Mode | None | Min | Min | Min | None | None |

**Intersection Summary**

Cycle Length: 100
Actuated Cycle Length: 51.4
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 62: Prospect Avenue & Cottonwood Avenue








| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 100 | 190 | 450 | 180 | 110 | 200 |
| Future Volume (veh/h) | 100 | 190 | 450 | 180 | 110 | 200 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 0.98 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 109 | 207 | 489 | 196 | 120 | 217 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 435 | 1062 | 710 | 587 | 354 | 315 |
| Arrive On Green | 0.07 | 0.57 | 0.38 | 0.38 | 0.20 | 0.20 |
| Sat Flow, veh/h | 1781 | 1870 | 1870 | 1546 | 1781 | 1585 |
| Grp Volume(v), veh/h | 109 | 207 | 489 | 196 | 120 | 217 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1870 | 1546 | 1781 | 1585 |
| Q Serve(g_s), s | 1.2 | 2.1 | 8.5 | 3.5 | 2.2 | 4.9 |
| Cycle Q Clear(g_c), s | 1.2 | 2.1 | 8.5 | 3.5 | 2.2 | 4.9 |
| Prop In Lane | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 435 | 1062 | 710 | 587 | 354 | 315 |
| V/C Ratio(X) | 0.25 | 0.19 | 0.69 | 0.33 | 0.34 | 0.69 |
| Avail Cap(c_a), veh/h | 747 | 3276 | 2596 | 2145 | 1086 | 966 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 6.7 | 4.0 | 10.0 | 8.5 | 13.3 | 14.3 |
| Incr Delay (d2), s/veh | 0.3 | 0.1 | 1.2 | 0.3 | 0.6 | 2.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.3 | 0.4 | 2.6 | 0.8 | 0.8 | 0.2 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 7.0 | 4.1 | 11.2 | 8.8 | 13.8 | 17.0 |
| LnGrp LOS | A | A | B | A | B | B |
| Approach Vol, veh/h | | 316 | 685 | | 337 | |
| Approach Delay, s/veh | | 5.1 | 10.6 | | 15.9 | |
| Approach LOS | | A | B | | B | |

| Timer - Assigned Phs | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 26.4 | | 12.2 | 7.3 | 19.1 |
| Change Period (Y+Rc), s | 4.5 | | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 67.5 | | 23.5 | 9.5 | 53.5 |
| Max Q Clear Time (g_c+I1), s | 4.1 | | 6.9 | 3.2 | 10.5 |
| Green Ext Time (p_c), s | 1.2 | | 1.0 | 0.1 | 4.1 |

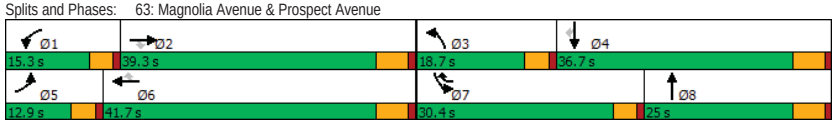
| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 10.6 |
| HCM 6th LOS | B |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 125 | 100 | 70 | 150 | 420 | 1237 | 130 | 459 | 90 | 360 | 396 | 145 |
| Future Volume (vph) | 125 | 100 | 70 | 150 | 420 | 1237 | 130 | 459 | 90 | 360 | 396 | 145 |
| Confl. Peds. (#/hr) | | | 1 | | | 1 | | | 2 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | pm+ov | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | 4.0 | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 39.3 | 39.3 | 8.2 | 37.4 | 8.2 | 8.2 | 23.2 | | 8.2 | 36.2 | 36.2 |
| Total Split (s) | 12.9 | 39.3 | 39.3 | 15.3 | 41.7 | 30.4 | 18.7 | 25.0 | | 30.4 | 36.7 | 36.7 |
| Total Split (%) | 11.7% | 35.7% | 35.7% | 13.9% | 37.9% | 27.6% | 17.0% | 22.7% | | 27.6% | 33.4% | 33.4% |
| Yellow Time (s) | 3.2 | 4.3 | 4.3 | 3.2 | 4.4 | 3.2 | 3.2 | 4.2 | | 3.2 | 4.2 | 4.2 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | 5.3 | 4.2 | 5.4 | 4.2 | 4.2 | 5.2 | | 4.2 | 5.2 | 5.2 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | Min | Min | None | Min | None | None | None | | None | None | None |

**Intersection Summary**

Cycle Length: 110
Actuated Cycle Length: 91.9
Natural Cycle: 95
Control Type: Actuated-Uncoordinated

Splits and Phases: 63: Magnolia Avenue & Prospect Avenue






2035 + Proj AM
63: Magnolia Avenue & Prospect Avenue
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 125 | 100 | 70 | 150 | 420 | 1237 | 130 | 459 | 90 | 360 | 396 | 145 |
| Future Volume (veh/h) | 125 | 100 | 70 | 150 | 420 | 1237 | 130 | 459 | 90 | 360 | 396 | 145 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.98 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 136 | 109 | 76 | 163 | 457 | 1345 | 141 | 499 | 98 | 391 | 430 | 158 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 206 | 642 | 544 | 196 | 1400 | 1499 | 175 | 581 | 113 | 498 | 861 | 379 |
| Arrive On Green | 0.06 | 0.34 | 0.34 | 0.11 | 0.39 | 0.39 | 0.10 | 0.20 | 0.20 | 0.14 | 0.24 | 0.24 |
| Sat Flow, veh/h | 3456 | 1870 | 1584 | 1781 | 3554 | 2786 | 1781 | 2955 | 577 | 3456 | 3554 | 1563 |
| Grp Volume(v), veh/h | 136 | 109 | 76 | 163 | 457 | 1345 | 141 | 299 | 298 | 391 | 430 | 158 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1870 | 1584 | 1781 | 1777 | 1393 | 1781 | 1777 | 1755 | 1728 | 1777 | 1563 |
| Q Serve(g_s), s | 3.6 | 3.7 | 3.1 | 8.3 | 8.2 | 36.3 | 7.1 | 15.0 | 15.1 | 10.1 | 9.6 | 7.9 |
| Cycle Q Clear(g_c), s | 3.6 | 3.7 | 3.1 | 8.3 | 8.2 | 36.3 | 7.1 | 15.0 | 15.1 | 10.1 | 9.6 | 7.9 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.33 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 206 | 642 | 544 | 196 | 1400 | 1499 | 175 | 349 | 345 | 498 | 861 | 379 |
| V/C Ratio(X) | 0.66 | 0.17 | 0.14 | 0.83 | 0.33 | 0.90 | 0.81 | 0.86 | 0.86 | 0.79 | 0.50 | 0.42 |
| Avail Cap(c_a), veh/h | 326 | 690 | 584 | 215 | 1400 | 1499 | 280 | 382 | 377 | 982 | 1215 | 534 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 42.4 | 21.1 | 20.9 | 40.2 | 19.4 | 19.0 | 40.7 | 35.8 | 35.8 | 38.1 | 30.1 | 29.4 |
| Incr Delay (d2), s/veh | 3.6 | 0.1 | 0.1 | 22.0 | 0.1 | 7.6 | 8.6 | 16.2 | 17.4 | 2.8 | 0.4 | 0.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.6 | 1.6 | 1.1 | 4.8 | 3.3 | 13.2 | 3.5 | 7.9 | 8.0 | 4.4 | 4.1 | 3.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 46.0 | 21.2 | 21.0 | 62.1 | 19.6 | 26.6 | 49.3 | 52.0 | 53.2 | 40.9 | 30.5 | 30.2 |
| LnGrp LOS | D | C | C | E | B | C | D | D | D | D | C | C |
| Approach Vol, veh/h | | 321 | | | 1965 | | | 738 | | | 979 | |
| Approach Delay, s/veh | | 31.7 | | | 27.9 | | | 52.0 | | | 34.6 | |
| Approach LOS | | C | | | C | | | D | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 14.3 | 37.0 | 13.2 | 27.5 | 9.7 | 41.7 | 17.5 | 23.3 |
| Change Period (Y+Rc), s | * 4.2 | * 5.4 | * 4.2 | 5.2 | * 4.2 | 5.4 | * 4.2 | 5.2 |
| Max Green Setting (Gmax), s | * 11 | * 34 | * 15 | 31.5 | * 8.7 | 36.3 | * 26 | 19.8 |
| Max Q Clear Time (g_c+I1), s | 10.3 | 5.7 | 9.1 | 11.6 | 5.6 | 38.3 | 12.1 | 17.1 |
| Green Ext Time (p_c), s | 0.0 | 0.8 | 0.2 | 3.3 | 0.1 | 0.0 | 1.2 | 1.0 |

**Intersection Summary**

| | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 34.3 | |
| HCM 6th LOS | | C | |

**Notes**

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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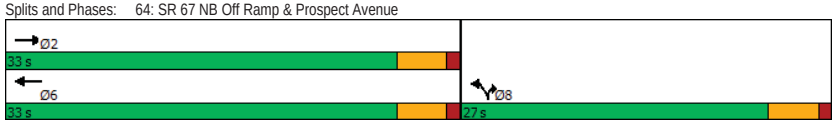
| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 510 | 0 | 0 | 1010 | 807 | 50 |
| Future Volume (vph) | 510 | 0 | 0 | 1010 | 807 | 50 |
| Confl. Peds. (#/hr) | | | | | | |
| Confl. Bikes (#/hr) | | 1 | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | NA | | | NA | Prot | Prot |
| Protected Phases | 2 | | | 6 | 8 | 8 |
| Permitted Phases | | | | | | |
| Detector Phase | 2 | | | 6 | 8 | 8 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 5.0 | | | 10.0 | 5.0 | 5.0 |
| Minimum Split (s) | 20.6 | | | 20.6 | 20.6 | 20.6 |
| Total Split (s) | 33.0 | | | 33.0 | 27.0 | 27.0 |
| Total Split (%) | 55.0% | | | 55.0% | 45.0% | 45.0% |
| Yellow Time (s) | 3.6 | | | 3.6 | 3.6 | 3.6 |
| All-Red Time (s) | 1.0 | | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.6 | | | 4.6 | 4.6 | 4.6 |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | Min | | | Min | None | None |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 49.1 |
| Natural Cycle: 45 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 64: SR 67 NB Off Ramp & Prospect Avenue






2035 + Proj AM
64: SR 67 NB Off Ramp & Prospect Avenue
Fanita Ranch
06/06/2019

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 510 | 0 | 0 | 1010 | 807 | 50 |
| Future Volume (veh/h) | 510 | 0 | 0 | 1010 | 807 | 50 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | 1.00 | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 0 | 0 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 554 | 0 | 0 | 1098 | 877 | 54 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 0 | 0 | 2 | 2 | 2 |
| Cap, veh/h | 1633 | 0 | 0 | 1633 | 1105 | 507 |
| Arrive On Green | 0.46 | 0.00 | 0.00 | 0.46 | 0.32 | 0.32 |
| Sat Flow, veh/h | 3741 | 0 | 0 | 3741 | 3456 | 1585 |
| Grp Volume(v), veh/h | 554 | 0 | 0 | 1098 | 877 | 54 |
| Grp Sat Flow(s),veh/h/ln | 1777 | 0 | 0 | 1777 | 1728 | 1585 |
| Q Serve(g_s), s | 4.2 | 0.0 | 0.0 | 10.1 | 9.6 | 1.0 |
| Cycle Q Clear(g_c), s | 4.2 | 0.0 | 0.0 | 10.1 | 9.6 | 1.0 |
| Prop In Lane | | 0.00 | 0.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 1633 | 0 | 0 | 1633 | 1105 | 507 |
| V/C Ratio(X) | 0.34 | 0.00 | 0.00 | 0.67 | 0.79 | 0.11 |
| Avail Cap(c_a), veh/h | 2422 | 0 | 0 | 2422 | 1858 | 852 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 7.2 | 0.0 | 0.0 | 8.8 | 12.9 | 10.0 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 0.0 | 0.5 | 0.5 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.0 | 0.0 | 0.0 | 2.6 | 3.0 | 0.3 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 7.3 | 0.0 | 0.0 | 9.3 | 13.4 | 10.0 |
| LnGrp LOS | A | A | A | A | B | B |
| Approach Vol, veh/h | 554 | | | 1098 | 931 | |
| Approach Delay, s/veh | 7.3 | | | 9.3 | 13.2 | |
| Approach LOS | A | | | A | B | |

| Timer - Assigned Phs | 2 | | | 6 | 8 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 23.7 | | | 23.7 | 17.9 |
| Change Period (Y+Rc), s | 4.6 | | | 4.6 | 4.6 |
| Max Green Setting (Gmax), s | 28.4 | | | 28.4 | 22.4 |
| Max Q Clear Time (g_c+I1), s | 6.2 | | | 12.1 | 11.6 |
| Green Ext Time (p_c), s | 2.4 | | | 7.1 | 1.7 |

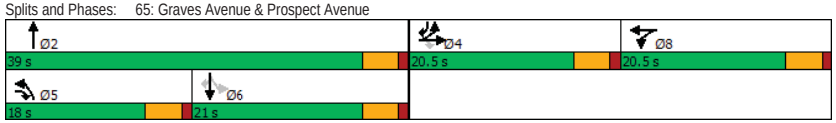
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 10.3 | |
| HCM 6th LOS | B | |

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\Long-Term\11 2035+P AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 190 | 20 | 390 | 5 | 10 | 5 | 640 | 30 | 10 | 5 | 80 | 380 |
| Future Volume (vph) | 190 | 20 | 390 | 5 | 10 | 5 | 640 | 30 | 10 | 5 | 80 | 380 |
| Confl. Peds. (#/hr) | | | 1 | | | 1 | | | 12 | | | |
| Confl. Bikes (#/hr) | | | 3 | | | | | | 1 | | | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | 45% | | | | | | | | | | | |
| Turn Type | Split | NA | pm+ov | Split | NA | | Prot | NA | | Perm | NA | pm+ov |
| Protected Phases | 4 | 4 | 5 | 8 | 8 | | 5 | 2 | | | 6 | 4 |
| Permitted Phases | | | 4 | | | | | | | 6 | | 6 |
| Detector Phase | 4 | 4 | 5 | 8 | 8 | | 5 | 2 | | 6 | 6 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 20.5 | 20.5 | 8.5 | 20.5 | 20.5 | | 8.5 | 20.5 | | 20.5 | 20.5 | 20.5 |
| Total Split (s) | 20.5 | 20.5 | 18.0 | 20.5 | 20.5 | | 18.0 | 39.0 | | 21.0 | 21.0 | 20.5 |
| Total Split (%) | 25.6% | 25.6% | 22.5% | 25.6% | 25.6% | | 22.5% | 48.8% | | 26.3% | 26.3% | 25.6% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | | | 4.5 | 4.5 |
| Lead/Lag | | | Lead | | | | Lead | | | Lag | Lag | |
| Lead-Lag Optimize? | | | Yes | | | | Yes | | | Yes | Yes | |
| Recall Mode | None | None | None | None | None | | None | Min | | Min | Min | None |

| Intersection Summary |
|---|
| Cycle Length: 80 |
| Actuated Cycle Length: 50.4 |
| Natural Cycle: 80 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 65: Graves Avenue & Prospect Avenue








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 190 | 20 | 390 | 5 | 10 | 5 | 640 | 30 | 10 | 5 | 80 | 380 |
| Future Volume (veh/h) | 190 | 20 | 390 | 5 | 10 | 5 | 640 | 30 | 10 | 5 | 80 | 380 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 1.00 | 1.00 | | 0.97 | 0.98 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 223 | 0 | 424 | 5 | 11 | 5 | 696 | 33 | 11 | 5 | 87 | 413 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 865 | 0 | 716 | 39 | 26 | 12 | 745 | 692 | 231 | 67 | 426 | 748 |
| Arrive On Green | 0.24 | 0.00 | 0.24 | 0.02 | 0.02 | 0.02 | 0.22 | 0.52 | 0.52 | 0.23 | 0.23 | 0.23 |
| Sat Flow, veh/h | 3563 | 0 | 1543 | 1781 | 1215 | 552 | 3456 | 1330 | 443 | 28 | 1831 | 1561 |
| Grp Volume(v), veh/h | 223 | 0 | 424 | 5 | 0 | 16 | 696 | 0 | 44 | 92 | 0 | 413 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1543 | 1781 | 0 | 1768 | 1728 | 0 | 1773 | 1859 | 0 | 1561 |
| Q Serve(g_s), s | 3.2 | 0.0 | 12.9 | 0.2 | 0.0 | 0.6 | 12.4 | 0.0 | 0.8 | 0.0 | 0.0 | 11.8 |
| Cycle Q Clear(g_c), s | 3.2 | 0.0 | 12.9 | 0.2 | 0.0 | 0.6 | 12.4 | 0.0 | 0.8 | 2.5 | 0.0 | 11.8 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.31 | 1.00 | | 0.25 | 0.05 | | 1.00 |
| Lane Grp Cap(c), veh/h | 865 | 0 | 716 | 39 | 0 | 38 | 745 | 0 | 922 | 493 | 0 | 748 |
| V/C Ratio(X) | 0.26 | 0.00 | 0.59 | 0.13 | 0.00 | 0.42 | 0.93 | 0.00 | 0.05 | 0.19 | 0.00 | 0.55 |
| Avail Cap(c_a), veh/h | 910 | 0 | 736 | 455 | 0 | 451 | 745 | 0 | 976 | 549 | 0 | 796 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 19.2 | 0.0 | 12.7 | 30.1 | 0.0 | 30.3 | 24.1 | 0.0 | 7.4 | 19.4 | 0.0 | 11.7 |
| Incr Delay (d2), s/veh | 0.2 | 0.0 | 1.2 | 1.5 | 0.0 | 7.1 | 18.9 | 0.0 | 0.0 | 0.2 | 0.0 | 0.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.2 | 0.0 | 4.1 | 0.1 | 0.0 | 0.3 | 6.6 | 0.0 | 0.3 | 1.0 | 0.0 | 6.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 19.3 | 0.0 | 13.9 | 31.6 | 0.0 | 37.4 | 43.1 | 0.0 | 7.4 | 19.6 | 0.0 | 12.4 |
| LnGrp LOS | B | A | B | C | A | D | D | A | A | B | A | B |
| Approach Vol, veh/h | | 647 | | | 21 | | | 740 | | | 505 | |
| Approach Delay, s/veh | | 15.8 | | | 36.0 | | | 40.9 | | | 13.7 | |
| Approach LOS | | B | | | D | | | D | | | B | |

| Timer - Assigned Phs | 2 | 4 | 5 | 6 | 8 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 37.1 | 19.7 | 18.0 | 19.1 | 5.9 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 34.5 | 16.0 | 13.5 | 16.5 | 16.0 |
| Max Q Clear Time (g_c+I1), s | 2.8 | 14.9 | 14.4 | 13.8 | 2.6 |
| Green Ext Time (p_c), s | 0.2 | 0.4 | 0.0 | 0.6 | 0.0 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 25.2 | |
| HCM 6th LOS | C | |

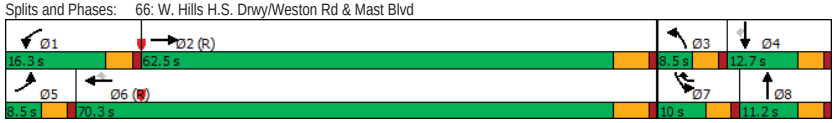
| Notes |
|---|
| User approved volume balancing among the lanes for turning movement. |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 50 | 706 | 50 | 90 | 2293 | 25 | 20 | 5 | 80 | 100 | 10 | 180 |
| Future Volume (vph) | 50 | 706 | 50 | 90 | 2293 | 25 | 20 | 5 | 80 | 100 | 10 | 180 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | 4.0 | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.5 | 22.5 | | 8.5 | 27.3 | 8.5 | 8.5 | 11.2 | | 8.5 | 11.2 | 11.2 |
| Total Split (s) | 8.5 | 62.5 | | 16.3 | 70.3 | 10.0 | 8.5 | 11.2 | | 10.0 | 12.7 | 12.7 |
| Total Split (%) | 8.5% | 62.5% | | 16.3% | 70.3% | 10.0% | 8.5% | 11.2% | | 10.0% | 12.7% | 12.7% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | 3.2 | 3.2 | 3.2 | | 3.2 | 3.2 | 3.2 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | 4.2 | 4.2 | 4.2 | | 4.2 | 4.2 | 4.2 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | C-Min | | None | C-Min | None | None | None | | None | None | None |

**Intersection Summary**

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 84 (84%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated

Splits and Phases: 66: W. Hills H.S. Drwy/Weston Rd & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 50 | 706 | 50 | 90 | 2293 | 25 | 20 | 5 | 80 | 100 | 10 | 180 |
| Future Volume (veh/h) | 50 | 706 | 50 | 90 | 2293 | 25 | 20 | 5 | 80 | 100 | 10 | 180 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 54 | 767 | 54 | 98 | 2492 | 27 | 22 | 5 | 78 | 109 | 11 | 176 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 69 | 2098 | 148 | 125 | 2325 | 1129 | 33 | 7 | 105 | 103 | 205 | 174 |
| Arrive On Green | 0.08 | 1.00 | 1.00 | 0.07 | 0.65 | 0.65 | 0.02 | 0.07 | 0.07 | 0.06 | 0.11 | 0.11 |
| Sat Flow, veh/h | 1781 | 3368 | 237 | 1781 | 3554 | 1585 | 1781 | 96 | 1503 | 1781 | 1870 | 1585 |
| Grp Volume(v), veh/h | 54 | 405 | 416 | 98 | 2492 | 27 | 22 | 0 | 83 | 109 | 11 | 176 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1828 | 1781 | 1777 | 1585 | 1781 | 0 | 1600 | 1781 | 1870 | 1585 |
| Q Serve(g_s), s | 3.0 | 0.0 | 0.0 | 5.4 | 65.4 | 0.5 | 1.2 | 0.0 | 5.1 | 5.8 | 0.5 | 11.0 |
| Cycle Q Clear(g_c), s | 3.0 | 0.0 | 0.0 | 5.4 | 65.4 | 0.5 | 1.2 | 0.0 | 5.1 | 5.8 | 0.5 | 11.0 |
| Prop In Lane | 1.00 | | 0.13 | 1.00 | | 1.00 | 1.00 | | 0.94 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 69 | 1107 | 1139 | 125 | 2325 | 1129 | 33 | 0 | 112 | 103 | 205 | 174 |
| V/C Ratio(X) | 0.78 | 0.37 | 0.37 | 0.79 | 1.07 | 0.02 | 0.68 | 0.00 | 0.74 | 1.06 | 0.05 | 1.01 |
| Avail Cap(c_a), veh/h | 77 | 1107 | 1139 | 216 | 2325 | 1129 | 77 | 0 | 112 | 103 | 205 | 174 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.94 | 0.94 | 0.94 | 0.56 | 0.56 | 0.56 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 45.7 | 0.0 | 0.0 | 45.8 | 17.3 | 4.2 | 48.8 | 0.0 | 45.6 | 47.1 | 39.9 | 44.5 |
| Incr Delay (d2), s/veh | 35.2 | 0.9 | 0.9 | 6.0 | 37.8 | 0.0 | 21.6 | 0.0 | 22.9 | 104.2 | 0.1 | 71.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.9 | 0.3 | 0.3 | 2.5 | 33.3 | 0.1 | 0.7 | 0.0 | 2.7 | 5.5 | 0.2 | 7.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 80.9 | 0.9 | 0.9 | 51.8 | 55.1 | 4.2 | 70.4 | 0.0 | 68.5 | 151.3 | 40.0 | 116.0 |
| LnGrp LOS | F | A | A | D | F | A | E | A | E | F | D | F |
| Approach Vol, veh/h | | 875 | | | 2617 | | | 105 | | | 296 | |
| Approach Delay, s/veh | | 5.8 | | | 54.4 | | | 68.9 | | | 126.1 | |
| Approach LOS | | A | | | D | | | E | | | F | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 11.2 | 67.6 | 6.0 | 15.2 | 8.1 | 70.7 | 10.0 | 11.2 |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | * 4.2 | * 4.2 | * 4.2 | 5.3 | * 4.2 | * 4.2 |
| Max Green Setting (Gmax), s | * 12 | 57.2 | * 4.3 | * 8.5 | * 4.3 | 65.0 | * 5.8 | * 7 |
| Max Q Clear Time (g_c+I1), s | 7.4 | 2.0 | 3.2 | 13.0 | 5.0 | 67.4 | 7.8 | 7.1 |
| Green Ext Time (p_c), s | 0.1 | 5.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

**Intersection Summary**

| | | |
|---|---|---|
| HCM 6th Ctrl Delay | 49.3 | |
| HCM 6th LOS | D | |

**Notes**

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Intersection | |
|---|---|
| Int Delay, s/veh | 2.4 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 100 | 10 | 557 | 220 | 10 | 280 |
| Future Vol, veh/h | 100 | 10 | 557 | 220 | 10 | 280 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | 150 | 50 | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 109 | 11 | 605 | 239 | 11 | 304 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 931 | 605 | 0 | 0 | 844 | 0 |
| Stage 1 | 605 | - | - | - | - | - |
| Stage 2 | 326 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | - | - | 4.12 | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | - | - | 2.218 | - |
| Pot Cap-1 Maneuver | 296 | 498 | - | - | 792 | - |
| Stage 1 | 545 | - | - | - | - | - |
| Stage 2 | 731 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | |
| Mov Cap-1 Maneuver | 292 | 498 | - | - | 792 | - |
| Mov Cap-2 Maneuver | 292 | - | - | - | - | - |
| Stage 1 | 537 | - | - | - | - | - |
| Stage 2 | 731 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 24.4 | 0 | 0.3 |
| HCM LOS | C | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | SBL | SBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 303 | 792 | - |
| HCM Lane V/C Ratio | - | - | 0.395 | 0.014 | - |
| HCM Control Delay (s) | - | - | 24.4 | 9.6 | - |
| HCM Lane LOS | - | - | C | A | - |
| HCM 95th %tile Q(veh) | - | - | 1.8 | 0 | - |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 12.7 |
| Intersection LOS | B |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 5 | 5 | 40 | 20 | 10 | 5 | 100 | 406 | 35 | 0 | 213 | 5 |
| Future Vol, veh/h | 5 | 5 | 40 | 20 | 10 | 5 | 100 | 406 | 35 | 0 | 213 | 5 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 5 | 5 | 43 | 22 | 11 | 5 | 109 | 441 | 38 | 0 | 232 | 5 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 3 | 3 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 3 | 3 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 3 | 3 | 1 | 1 |
| HCM Control Delay | 9.3 | 9.9 | 13.9 | 10.8 |
| HCM LOS | A | A | B | B |

| Lane | NBLn1 | NBLn2 | NBLn3 | EBLn1 | WBLn1 | SBLn1 | SBLn2 | SBLn3 |
|---|---|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 10% | 57% | 0% | 0% | 0% |
| Vol Thru, % | 0% | 100% | 0% | 10% | 29% | 100% | 100% | 0% |
| Vol Right, % | 0% | 0% | 100% | 80% | 14% | 0% | 0% | 100% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 100 | 406 | 35 | 50 | 35 | 0 | 213 | 5 |
| LT Vol | 100 | 0 | 0 | 5 | 20 | 0 | 0 | 0 |
| Through Vol | 0 | 406 | 0 | 5 | 10 | 0 | 213 | 0 |
| RT Vol | 0 | 0 | 35 | 40 | 5 | 0 | 0 | 5 |
| Lane Flow Rate | 109 | 441 | 38 | 54 | 38 | 0 | 232 | 5 |
| Geometry Grp | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| Degree of Util (X) | 0.167 | 0.616 | 0.046 | 0.089 | 0.07 | 0 | 0.344 | 0.007 |
| Departure Headway (Hd) | 5.529 | 5.026 | 4.322 | 5.919 | 6.641 | 5.355 | 5.355 | 4.651 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 648 | 715 | 825 | 601 | 536 | 0 | 669 | 764 |
| Service Time | 3.275 | 2.772 | 2.068 | 3.703 | 4.43 | 3.115 | 3.115 | 2.411 |
| HCM Lane V/C Ratio | 0.168 | 0.617 | 0.046 | 0.09 | 0.071 | 0 | 0.347 | 0.007 |
| HCM Control Delay | 9.4 | 15.6 | 7.3 | 9.3 | 9.9 | 8.1 | 10.9 | 7.4 |
| HCM Lane LOS | A | C | A | A | A | N | B | A |
| HCM 95th-tile Q | 0.6 | 4.3 | 0.1 | 0.3 | 0.2 | 0 | 1.5 | 0 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 5.5 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 5 | 5 | 20 | 63 | 5 | 5 | 25 | 775 | 103 | 5 | 389 | 5 |
| Future Vol, veh/h | 5 | 5 | 20 | 63 | 5 | 5 | 25 | 775 | 103 | 5 | 389 | 5 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 5 | 5 | 22 | 68 | 5 | 5 | 27 | 842 | 112 | 5 | 423 | 5 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1393 | 1445 | 426 | 1402 | 1391 | 899 | 428 | 0 | 0 | 955 | 0 | 0 |
| Stage 1 | 436 | 436 | - | 953 | 953 | - | - | - | - | - | - | - |
| Stage 2 | 957 | 1009 | - | 449 | 438 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | 4.12 | - | - | 4.12 | - | - |
| Critical Hdwy Stg 1 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | 2.218 | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 119 | 132 | 628 | 117 | 142 | 338 | 1131 | - | - | 720 | - | - |
| Stage 1 | 599 | 580 | - | 311 | 338 | - | - | - | - | - | - | - |
| Stage 2 | 310 | 318 | - | 589 | 579 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 108 | 124 | 628 | 104 | 133 | 338 | 1131 | - | - | 719 | - | - |
| Mov Cap-2 Maneuver | 108 | 124 | - | 104 | 133 | - | - | - | - | - | - | - |
| Stage 1 | 568 | 575 | - | 295 | 320 | - | - | - | - | - | - | - |
| Stage 2 | 284 | 301 | - | 558 | 574 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 21.3 | 93.9 | 0.2 | 0.1 |
| HCM LOS | C | F | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1131 | - | - | 253 | 111 | 719 | - | - |
| HCM Lane V/C Ratio | 0.024 | - | - | 0.129 | 0.715 | 0.008 | - | - |
| HCM Control Delay (s) | 8.3 | 0 | - | 21.3 | 93.9 | 10 | 0 | - |
| HCM Lane LOS | A | A | - | C | F | B | A | - |
| HCM 95th %tile Q(veh) | 0.1 | - | - | 0.4 | 3.8 | 0 | - | - |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 193.8 |
| Intersection LOS | F |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 0 | 5 | 10 | 115 | 5 | 15 | 10 | 742 | 240 | 5 | 360 | 5 |
| Future Vol, veh/h | 0 | 5 | 10 | 115 | 5 | 15 | 10 | 742 | 240 | 5 | 360 | 5 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 5 | 11 | 125 | 5 | 16 | 11 | 807 | 261 | 5 | 391 | 5 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |

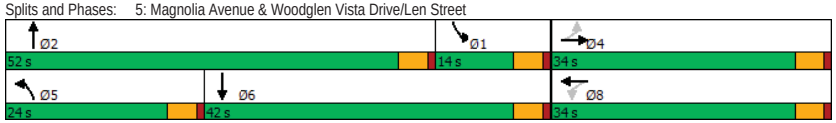
| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay | 11.2 | 13.6 | 286.1 | 19.4 |
| HCM LOS | B | B | F | C |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 85% | 100% | 0% |
| Vol Thru, % | 0% | 76% | 33% | 4% | 0% | 99% |
| Vol Right, % | 0% | 24% | 67% | 11% | 0% | 1% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 10 | 982 | 15 | 135 | 5 | 365 |
| LT Vol | 10 | 0 | 0 | 115 | 5 | 0 |
| Through Vol | 0 | 742 | 5 | 5 | 0 | 360 |
| RT Vol | 0 | 240 | 10 | 15 | 0 | 5 |
| Lane Flow Rate | 11 | 1067 | 16 | 147 | 5 | 397 |
| Geometry Grp | 7 | 7 | 2 | 2 | 7 | 7 |
| Degree of Util (X) | 0.018 | 1.593 | 0.03 | 0.273 | 0.009 | 0.636 |
| Departure Headway (Hd) | 6.053 | 5.374 | 7.915 | 7.755 | 6.859 | 6.339 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 588 | 672 | 455 | 467 | 525 | 575 |
| Service Time | 3.823 | 3.144 | 5.915 | 5.755 | 4.559 | 4.039 |
| HCM Lane V/C Ratio | 0.019 | 1.588 | 0.035 | 0.315 | 0.01 | 0.69 |
| HCM Control Delay | 8.9 | 288.9 | 11.2 | 13.6 | 9.6 | 19.5 |
| HCM Lane LOS | A | F | B | B | A | C |
| HCM 95th-tile Q | 0.1 | 56.1 | 0.1 | 1.1 | 0 | 4.5 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 15 | 35 | 85 | 35 | 10 | 10 | 85 | 766 | 45 | 5 | 443 | 10 |
| Future Volume (vph) | 15 | 35 | 85 | 35 | 10 | 10 | 85 | 766 | 45 | 5 | 443 | 10 |
| Confl. Peds. (#/hr) | 4 | | 6 | 6 | | 4 | 8 | | | | | 8 |
| Confl. Bikes (#/hr) | | | 5 | | | 4 | | | 4 | | | 5 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Perm | NA | | Perm | NA | | Prot | NA | | Prot | NA | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 26.5 | 26.5 | | 26.5 | 26.5 | | 11.5 | 22.5 | | 11.5 | 22.5 | |
| Total Split (s) | 34.0 | 34.0 | | 34.0 | 34.0 | | 24.0 | 52.0 | | 14.0 | 42.0 | |
| Total Split (%) | 34.0% | 34.0% | | 34.0% | 34.0% | | 24.0% | 52.0% | | 14.0% | 42.0% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | | | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lead | | Lag | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 42.9 |
| Natural Cycle: 65 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 5: Magnolia Avenue & Woodglen Vista Drive/Len Street








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 15 | 35 | 85 | 35 | 10 | 10 | 85 | 766 | 45 | 5 | 443 | 10 |
| Future Volume (veh/h) | 15 | 35 | 85 | 35 | 10 | 10 | 85 | 766 | 45 | 5 | 443 | 10 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 0.99 | | 0.97 | 0.99 | | 0.97 | 1.00 | | 0.97 | 1.00 | | 0.96 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 16 | 38 | 92 | 38 | 11 | 11 | 92 | 833 | 49 | 5 | 482 | 11 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 498 | 93 | 226 | 274 | 78 | 42 | 208 | 1426 | 84 | 17 | 1106 | 25 |
| Arrive On Green | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.12 | 0.42 | 0.42 | 0.01 | 0.31 | 0.31 |
| Sat Flow, veh/h | 1380 | 475 | 1151 | 564 | 398 | 216 | 1781 | 3403 | 200 | 1781 | 3548 | 81 |
| Grp Volume(v), veh/h | 16 | 0 | 130 | 60 | 0 | 0 | 92 | 435 | 447 | 5 | 241 | 252 |
| Grp Sat Flow(s),veh/h/ln | 1380 | 0 | 1626 | 1178 | 0 | 0 | 1781 | 1777 | 1826 | 1781 | 1777 | 1852 |
| Q Serve(g_s), s | 0.0 | 0.0 | 2.5 | 0.1 | 0.0 | 0.0 | 1.7 | 6.8 | 6.8 | 0.1 | 3.9 | 3.9 |
| Cycle Q Clear(g_c), s | 0.3 | 0.0 | 2.5 | 2.6 | 0.0 | 0.0 | 1.7 | 6.8 | 6.8 | 0.1 | 3.9 | 3.9 |
| Prop In Lane | 1.00 | | 0.71 | 0.63 | | 0.18 | 1.00 | | 0.11 | 1.00 | | 0.04 |
| Lane Grp Cap(c), veh/h | 498 | 0 | 319 | 394 | 0 | 0 | 208 | 745 | 766 | 17 | 554 | 577 |
| V/C Ratio(X) | 0.03 | 0.00 | 0.41 | 0.15 | 0.00 | 0.00 | 0.44 | 0.58 | 0.58 | 0.30 | 0.44 | 0.44 |
| Avail Cap(c_a), veh/h | 1360 | 0 | 1334 | 1258 | 0 | 0 | 966 | 2347 | 2412 | 471 | 1853 | 1931 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 11.7 | 0.0 | 12.6 | 12.1 | 0.0 | 0.0 | 14.8 | 8.0 | 8.0 | 17.7 | 9.9 | 9.9 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 0.8 | 0.2 | 0.0 | 0.0 | 1.5 | 0.7 | 0.7 | 9.4 | 0.5 | 0.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.1 | 0.0 | 0.8 | 0.4 | 0.0 | 0.0 | 0.6 | 1.6 | 1.6 | 0.1 | 1.1 | 1.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 11.8 | 0.0 | 13.5 | 12.2 | 0.0 | 0.0 | 16.3 | 8.8 | 8.7 | 27.1 | 10.4 | 10.4 |
| LnGrp LOS | B | A | B | B | A | A | B | A | A | C | B | B |
| Approach Vol, veh/h | | 146 | | | 60 | | | 974 | | | 498 | |
| Approach Delay, s/veh | | 13.3 | | | 12.2 | | | 9.5 | | | 10.6 | |
| Approach LOS | | B | | | B | | | A | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 4.8 | 19.6 | | 11.5 | 8.7 | 15.7 | | 11.5 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 9.5 | 47.5 | | 29.5 | 19.5 | 37.5 | | 29.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.1 | 8.8 | | 4.5 | 3.7 | 5.9 | | 4.6 | | | | |
| Green Ext Time (p_c), s | 0.0 | 6.1 | | 0.8 | 0.2 | 2.9 | | 0.3 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 10.2 | |
| HCM 6th LOS | B | |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 258 |
| Intersection LOS | F |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 5 | 5 | 5 | 105 | 10 | 5 | 15 | 977 | 110 | 5 | 485 | 0 |
| Future Vol, veh/h | 5 | 5 | 5 | 105 | 10 | 5 | 15 | 977 | 110 | 5 | 485 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 5 | 5 | 5 | 114 | 11 | 5 | 16 | 1062 | 120 | 5 | 527 | 0 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay | 12.1 | 14.1 | 387.4 | 34.2 |
| HCM LOS | B | B | F | D |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 33% | 88% | 100% | 0% |
| Vol Thru, % | 0% | 90% | 33% | 8% | 0% | 100% |
| Vol Right, % | 0% | 10% | 33% | 4% | 0% | 0% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 15 | 1087 | 15 | 120 | 5 | 485 |
| LT Vol | 15 | 0 | 5 | 105 | 5 | 0 |
| Through Vol | 0 | 977 | 5 | 10 | 0 | 485 |
| RT Vol | 0 | 110 | 5 | 5 | 0 | 0 |
| Lane Flow Rate | 16 | 1182 | 16 | 130 | 5 | 527 |
| Geometry Grp | 7 | 7 | 2 | 2 | 7 | 7 |
| Degree of Util (X) | 0.028 | 1.827 | 0.033 | 0.253 | 0.009 | 0.841 |
| Departure Headway (Hd) | 6.145 | 5.568 | 8.807 | 8.338 | 6.991 | 6.48 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 578 | 650 | 409 | 434 | 515 | 564 |
| Service Time | 3.934 | 3.356 | 6.807 | 6.338 | 4.691 | 4.18 |
| HCM Lane V/C Ratio | 0.028 | 1.818 | 0.039 | 0.3 | 0.01 | 0.934 |
| HCM Control Delay | 9.1 | 392.6 | 12.1 | 14.1 | 9.8 | 34.5 |
| HCM Lane LOS | A | F | B | B | A | D |
| HCM 95th-tile Q | 0.1 | 71.9 | 0.1 | 1 | 0 | 8.8 |

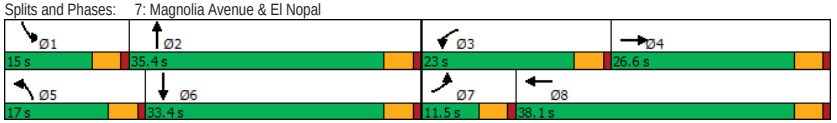




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 10 | 70 | 65 | 210 | 110 | 236 | 95 | 655 | 205 | 140 | 468 | 10 |
| Future Volume (vph) | 10 | 70 | 65 | 210 | 110 | 236 | 95 | 655 | 205 | 140 | 468 | 10 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | 1 | | | 1 | | | 3 | | | 5 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | | Prot | NA | |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 11.5 | 26.5 | | 11.5 | 25.5 | | 11.5 | 22.5 | | 11.5 | 22.5 | |
| Total Split (s) | 11.5 | 26.6 | | 23.0 | 38.1 | | 17.0 | 35.4 | | 15.0 | 33.4 | |
| Total Split (%) | 11.5% | 26.6% | | 23.0% | 38.1% | | 17.0% | 35.4% | | 15.0% | 33.4% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 83.3 |
| Natural Cycle: 90 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 7: Magnolia Avenue & El Nopal



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 10 | 70 | 65 | 210 | 110 | 236 | 95 | 655 | 205 | 140 | 468 | 10 |
| Future Volume (veh/h) | 10 | 70 | 65 | 210 | 110 | 236 | 95 | 655 | 205 | 140 | 468 | 10 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 11 | 76 | 71 | 228 | 120 | 257 | 103 | 712 | 223 | 152 | 509 | 11 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 34 | 124 | 115 | 279 | 146 | 312 | 155 | 893 | 280 | 191 | 1273 | 27 |
| Arrive On Green | 0.02 | 0.14 | 0.14 | 0.16 | 0.28 | 0.28 | 0.09 | 0.34 | 0.34 | 0.11 | 0.36 | 0.36 |
| Sat Flow, veh/h | 1781 | 883 | 825 | 1781 | 525 | 1125 | 1781 | 2646 | 829 | 1781 | 3554 | 77 |
| Grp Volume(v), veh/h | 11 | 0 | 147 | 228 | 0 | 377 | 103 | 478 | 457 | 152 | 254 | 266 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1708 | 1781 | 0 | 1651 | 1781 | 1777 | 1698 | 1781 | 1777 | 1854 |
| Q Serve(g_s), s | 0.4 | 0.0 | 5.6 | 8.6 | 0.0 | 14.9 | 3.9 | 17.0 | 17.0 | 5.8 | 7.5 | 7.5 |
| Cycle Q Clear(g_c), s | 0.4 | 0.0 | 5.6 | 8.6 | 0.0 | 14.9 | 3.9 | 17.0 | 17.0 | 5.8 | 7.5 | 7.5 |
| Prop In Lane | 1.00 | | 0.48 | 1.00 | | 0.68 | 1.00 | | 0.49 | 1.00 | | 0.04 |
| Lane Grp Cap(c), veh/h | 34 | 0 | 239 | 279 | 0 | 457 | 155 | 600 | 573 | 191 | 636 | 664 |
| V/C Ratio(X) | 0.32 | 0.00 | 0.62 | 0.82 | 0.00 | 0.82 | 0.67 | 0.80 | 0.80 | 0.80 | 0.40 | 0.40 |
| Avail Cap(c_a), veh/h | 179 | 0 | 543 | 474 | 0 | 797 | 320 | 789 | 754 | 269 | 738 | 770 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 33.7 | 0.0 | 28.2 | 28.4 | 0.0 | 23.6 | 30.8 | 20.9 | 20.9 | 30.3 | 16.7 | 16.7 |
| Incr Delay (d2), s/veh | 5.3 | 0.0 | 2.6 | 5.9 | 0.0 | 3.8 | 4.8 | 4.3 | 4.5 | 10.4 | 0.4 | 0.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.2 | 0.0 | 2.4 | 4.0 | 0.0 | 6.0 | 1.8 | 6.9 | 6.6 | 2.9 | 2.8 | 2.9 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 38.9 | 0.0 | 30.7 | 34.2 | 0.0 | 27.4 | 35.6 | 25.2 | 25.4 | 40.8 | 17.1 | 17.1 |
| LnGrp LOS | D | A | C | C | A | C | D | C | C | D | B | B |
| Approach Vol, veh/h | | 158 | | | 605 | | | 1038 | | | 672 | |
| Approach Delay, s/veh | | 31.3 | | | 30.0 | | | 26.3 | | | 22.5 | |
| Approach LOS | | C | | | C | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 12.0 | 28.0 | 15.4 | 14.2 | 10.5 | 29.4 | 5.8 | 23.8 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 10.5 | 30.9 | 18.5 | 22.1 | 12.5 | 28.9 | 7.0 | 33.6 |
| Max Q Clear Time (g_c+I1), s | 7.8 | 19.0 | 10.6 | 7.6 | 5.9 | 9.5 | 2.4 | 16.9 |
| Green Ext Time (p_c), s | 0.1 | 4.5 | 0.4 | 0.7 | 0.1 | 2.7 | 0.0 | 2.4 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 26.5 |
| HCM 6th LOS | C |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 45.5 |
| Intersection LOS | E |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 335 | 15 | 170 | 461 | 10 | 220 |
| Future Vol, veh/h | 335 | 15 | 170 | 461 | 10 | 220 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 364 | 16 | 185 | 501 | 11 | 239 |
| Number of Lanes | 1 | 1 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB |
|---|---|---|---|
| Opposing Approach | WB | EB | |
| Opposing Lanes | 1 | 2 | 0 |
| Conflicting Approach Left | | NB | EB |
| Conflicting Lanes Left | 0 | 1 | 2 |
| Conflicting Approach Right | NB | | WB |
| Conflicting Lanes Right | 1 | 0 | 1 |
| HCM Control Delay | 18 | 72.5 | 13.5 |
| HCM LOS | C | F | B |

| Lane | NBLn1 | EBLn1 | EBLn2 | WBLn1 |
|---|---|---|---|---|
| Vol Left, % | 4% | 0% | 0% | 27% |
| Vol Thru, % | 0% | 100% | 0% | 73% |
| Vol Right, % | 96% | 0% | 100% | 0% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 230 | 335 | 15 | 631 |
| LT Vol | 10 | 0 | 0 | 170 |
| Through Vol | 0 | 335 | 0 | 461 |
| RT Vol | 220 | 0 | 15 | 0 |
| Lane Flow Rate | 250 | 364 | 16 | 686 |
| Geometry Grp | 2 | 7 | 7 | 5 |
| Degree of Util (X) | 0.416 | 0.616 | 0.024 | 1.051 |
| Departure Headway (Hd) | 6.173 | 6.244 | 5.53 | 5.514 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 588 | 583 | 651 | 658 |
| Service Time | 4.173 | 3.944 | 3.23 | 3.545 |
| HCM Lane V/C Ratio | 0.425 | 0.624 | 0.025 | 1.043 |
| HCM Control Delay | 13.5 | 18.4 | 8.4 | 72.5 |
| HCM Lane LOS | B | C | A | F |
| HCM 95th-tile Q | 2 | 4.2 | 0.1 | 18.2 |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 50.9 |
| Intersection LOS | F |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 53 | 76 | 870 | 93 | 36 | 457 |
| Future Vol, veh/h | 53 | 76 | 870 | 93 | 36 | 457 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 58 | 83 | 946 | 101 | 39 | 497 |
| Number of Lanes | 1 | 0 | 1 | 0 | 0 | 1 |

| Approach | WB | NB | SB |
|---|---|---|---|
| Opposing Approach | | SB | NB |
| Opposing Lanes | 0 | 1 | 1 |
| Conflicting Approach Left | NB | | WB |
| Conflicting Lanes Left | 1 | 0 | 1 |
| Conflicting Approach Right | SB | WB | |
| Conflicting Lanes Right | 1 | 1 | 0 |
| HCM Control Delay | 12.7 | 232.8 | 27 |
| HCM LOS | B | F | D |

| Lane | NBLn1 | WBLn1 | SBLn1 |
|---|---|---|---|
| Vol Left, % | 0% | 41% | 7% |
| Vol Thru, % | 90% | 0% | 93% |
| Vol Right, % | 10% | 59% | 0% |
| Sign Control | Stop | Stop | Stop |
| Traffic Vol by Lane | 963 | 129 | 493 |
| LT Vol | 0 | 53 | 36 |
| Through Vol | 870 | 0 | 457 |
| RT Vol | 93 | 76 | 0 |
| Lane Flow Rate | 1047 | 140 | 536 |
| Geometry Grp | 1 | 1 | 1 |
| Degree of Util (X) | 1.466 | 0.251 | 0.788 |
| Departure Headway (Hd) | 5.043 | 7.267 | 5.822 |
| Convergence, Y/N | Yes | Yes | Yes |
| Cap | 722 | 498 | 627 |
| Service Time | 3.111 | 5.267 | 3.822 |
| HCM Lane V/C Ratio | 1.45 | 0.281 | 0.855 |
| HCM Control Delay | 232.8 | 12.7 | 27 |
| HCM Lane LOS | F | B | D |
| HCM 95th-tile Q | 48.9 | 1 | 7.6 |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 10.4 |
| Intersection LOS | B |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 5 | 15 | 194 | 15 | 10 | 5 | 214 | 63 | 25 | 5 | 42 | 5 |
| Future Vol, veh/h | 5 | 15 | 194 | 15 | 10 | 5 | 214 | 63 | 25 | 5 | 42 | 5 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 5 | 16 | 211 | 16 | 11 | 5 | 233 | 68 | 27 | 5 | 46 | 5 |
| Number of Lanes | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 2 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 2 | 2 | 3 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 3 | 2 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 3 | 2 | 1 | 2 |
| HCM Control Delay | 9.8 | 9.4 | 11.2 | 9.3 |
| HCM LOS | A | A | B | A |

| Lane | NBLn1 | NBLn2 | NBLn3 | EBLn1 | EBLn2 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 25% | 0% | 50% | 100% | 0% |
| Vol Thru, % | 0% | 100% | 46% | 75% | 0% | 33% | 0% | 89% |
| Vol Right, % | 0% | 0% | 54% | 0% | 100% | 17% | 0% | 11% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 214 | 42 | 46 | 20 | 194 | 30 | 5 | 47 |
| LT Vol | 214 | 0 | 0 | 5 | 0 | 15 | 5 | 0 |
| Through Vol | 0 | 42 | 21 | 15 | 0 | 10 | 0 | 42 |
| RT Vol | 0 | 0 | 25 | 0 | 194 | 5 | 0 | 5 |
| Lane Flow Rate | 233 | 46 | 50 | 22 | 211 | 33 | 5 | 51 |
| Geometry Grp | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| Degree of Util (X) | 0.381 | 0.068 | 0.07 | 0.035 | 0.294 | 0.057 | 0.01 | 0.086 |
| Departure Headway (Hd) | 5.903 | 5.4 | 5.017 | 5.844 | 5.018 | 6.345 | 6.608 | 6.027 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 605 | 656 | 706 | 609 | 711 | 567 | 545 | 598 |
| Service Time | 3.694 | 3.191 | 2.808 | 3.616 | 2.789 | 4.049 | 4.308 | 3.727 |
| HCM Lane V/C Ratio | 0.385 | 0.07 | 0.071 | 0.036 | 0.297 | 0.058 | 0.009 | 0.085 |
| HCM Control Delay | 12.3 | 8.6 | 8.2 | 8.8 | 9.9 | 9.4 | 9.4 | 9.3 |
| HCM Lane LOS | B | A | A | A | A | A | A | A |
| HCM 95th-tile Q | 1.8 | 0.2 | 0.2 | 0.1 | 1.2 | 0.2 | 0 | 0.3 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 5.1 |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 10 | 35 | 40 | 35 | 0 | 15 |
| Future Vol, veh/h | 10 | 35 | 40 | 35 | 0 | 15 |
| Conflicting Peds, #/hr | 4 | 1 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | 150 | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 11 | 38 | 43 | 38 | 0 | 16 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 136 | 9 | 16 | 0 | - | 0 |
| Stage 1 | 8 | - | - | - | - | - |
| Stage 2 | 128 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | 4.12 | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | 2.218 | - | - | - |
| Pot Cap-1 Maneuver | 857 | 1073 | 1602 | - | - | - |
| Stage 1 | 1015 | - | - | - | - | - |
| Stage 2 | 898 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 834 | 1072 | 1602 | - | - | - |
| Mov Cap-2 Maneuver | 834 | - | - | - | - | - |
| Stage 1 | 988 | - | - | - | - | - |
| Stage 2 | 898 | - | - | - | - | - |

| Approach | EB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 8.8 | 3.9 | 0 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1602 | - | 1008 | - | - |
| HCM Lane V/C Ratio | 0.027 | - | 0.049 | - | - |
| HCM Control Delay (s) | 7.3 | - | 8.8 | - | - |
| HCM Lane LOS | A | - | A | - | - |
| HCM 95th %tile Q(veh) | 0.1 | - | 0.2 | - | - |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 270.1 |
| Intersection LOS | F |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 10 | 60 | 5 | 5 | 10 | 1102 | 65 | 5 | 570 | 5 |
| Future Vol, veh/h | 0 | 0 | 10 | 60 | 5 | 5 | 10 | 1102 | 65 | 5 | 570 | 5 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 11 | 65 | 5 | 5 | 11 | 1198 | 71 | 5 | 620 | 5 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 3 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 3 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 3 | 2 | 1 | 1 |
| HCM Control Delay | 11.5 | 13.9 | 369 | 104.9 |
| HCM LOS | B | B | F | F |

| Lane | NBLn1 | NBLn2 | NBLn3 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 0% | 86% | 100% | 0% |
| Vol Thru, % | 0% | 100% | 0% | 0% | 7% | 0% | 99% |
| Vol Right, % | 0% | 0% | 100% | 100% | 7% | 0% | 1% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 10 | 1102 | 65 | 10 | 70 | 5 | 575 |
| LT Vol | 10 | 0 | 0 | 0 | 60 | 5 | 0 |
| Through Vol | 0 | 1102 | 0 | 0 | 5 | 0 | 570 |
| RT Vol | 0 | 0 | 65 | 10 | 5 | 0 | 5 |
| Lane Flow Rate | 11 | 1198 | 71 | 11 | 76 | 5 | 625 |
| Geometry Grp | 7 | 7 | 7 | 7 | 7 | 8 | 8 |
| Degree of Util (X) | 0.018 | 1.829 | 0.094 | 0.022 | 0.17 | 0.011 | 1.121 |
| Departure Headway (Hd) | 6.18 | 5.674 | 4.965 | 8.643 | 9.335 | 8.232 | 7.721 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 583 | 647 | 726 | 417 | 387 | 437 | 475 |
| Service Time | 3.88 | 3.374 | 2.665 | 6.343 | 7.035 | 5.932 | 5.421 |
| HCM Lane V/C Ratio | 0.019 | 1.852 | 0.098 | 0.026 | 0.196 | 0.011 | 1.316 |
| HCM Control Delay | 9 | 393.5 | 8.2 | 11.5 | 13.9 | 11 | 105.7 |
| HCM Lane LOS | A | F | A | B | B | B | F |
| HCM 95th-tile Q | 0.1 | 71.8 | 0.3 | 0.1 | 0.6 | 0 | 18 |

| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 100 | 20 | 1016 | 165 | 30 | 803 |
| Future Volume (vph) | 100 | 20 | 1016 | 165 | 30 | 803 |
| Confl. Peds. (#/hr) | | 8 | | 6 | | |
| Confl. Bikes (#/hr) | | | | 5 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | 0% | | | 0% |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | NA | | Prot | NA |
| Protected Phases | 8 | | 2 | | 1 | 6 |
| Permitted Phases | | 8 | | | | |
| Detector Phase | 8 | 8 | 2 | | 1 | 6 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | | 8.5 | 20.5 |
| Total Split (s) | 22.6 | 22.6 | 28.8 | | 8.6 | 37.4 |
| Total Split (%) | 37.7% | 37.7% | 48.0% | | 14.3% | 62.3% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Lead/Lag | | | Lag | | Lead | |
| Lead-Lag Optimize? | | | Yes | | Yes | |
| Recall Mode | None | None | Min | | None | Min |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 49.1 |
| Natural Cycle: 60 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 13: Magnolia Avenue & 2nd Street

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 100 | 20 | 1016 | 165 | 30 | 803 |
| Future Volume (veh/h) | 100 | 20 | 1016 | 165 | 30 | 803 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | | 0.97 | 1.00 | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | No | | | No |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 109 | 22 | 1104 | 179 | 33 | 873 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 159 | 141 | 1553 | 251 | 56 | 2360 |
| Arrive On Green | 0.09 | 0.09 | 0.51 | 0.51 | 0.03 | 0.66 |
| Sat Flow, veh/h | 1781 | 1585 | 3142 | 493 | 1781 | 3647 |
| Grp Volume(v), veh/h | 109 | 22 | 642 | 641 | 33 | 873 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 1777 | 1764 | 1781 | 1777 |
| Q Serve(g_s), s | 2.2 | 0.5 | 10.1 | 10.2 | 0.7 | 4.0 |
| Cycle Q Clear(g_c), s | 2.2 | 0.5 | 10.1 | 10.2 | 0.7 | 4.0 |
| Prop In Lane | 1.00 | 1.00 | | 0.28 | 1.00 | |
| Lane Grp Cap(c), veh/h | 159 | 141 | 905 | 899 | 56 | 2360 |
| V/C Ratio(X) | 0.69 | 0.16 | 0.71 | 0.71 | 0.59 | 0.37 |
| Avail Cap(c_a), veh/h | 884 | 786 | 1183 | 1175 | 200 | 3205 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 16.1 | 15.3 | 6.9 | 6.9 | 17.4 | 2.7 |
| Incr Delay (d2), s/veh | 5.2 | 0.5 | 1.4 | 1.4 | 9.7 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.0 | 0.2 | 2.0 | 2.0 | 0.4 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 21.3 | 15.9 | 8.2 | 8.3 | 27.2 | 2.8 |
| LnGrp LOS | C | B | A | A | C | A |
| Approach Vol, veh/h | 131 | | 1283 | | | 906 |
| Approach Delay, s/veh | 20.4 | | 8.3 | | | 3.7 |
| Approach LOS | C | | A | | | A |

| Timer - Assigned Phs | 1 | 2 | | | 6 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.6 | 23.1 | | | 28.7 | 7.8 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 4.1 | 24.3 | | | 32.9 | 18.1 |
| Max Q Clear Time (g_c+I1), s | 2.7 | 12.2 | | | 6.0 | 4.2 |
| Green Ext Time (p_c), s | 0.0 | 6.4 | | | 6.3 | 0.3 |

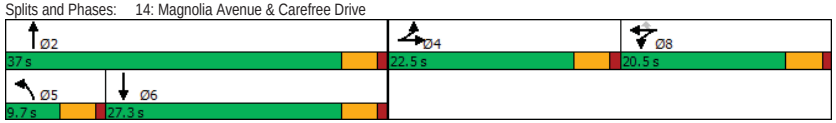
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 7.2 |
| HCM 6th LOS | | A |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 26 | 0 | 70 | 5 | 0 | 0 | 80 | 1154 | 0 | 0 | 884 | 19 |
| Future Volume (vph) | 26 | 0 | 70 | 5 | 0 | 0 | 80 | 1154 | 0 | 0 | 884 | 19 |
| Confl. Peds. (#/hr) | | | 22 | | | | | | 8 | | | 12 |
| Confl. Bikes (#/hr) | | | 4 | | | | | | | | | 6 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | 50% | | | | | | | | |
| Turn Type | Split | NA | | Split | NA | Perm | Prot | NA | | | NA | |
| Protected Phases | 4 | 4 | | 8 | 8 | | 5 | 2 | | | 6 | |
| Permitted Phases | | | | | | 8 | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | 8 | 5 | 2 | | | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | | 4.0 | |
| Minimum Split (s) | 22.5 | 22.5 | | 20.5 | 20.5 | 20.5 | 8.5 | 22.5 | | | 22.5 | |
| Total Split (s) | 22.5 | 22.5 | | 20.5 | 20.5 | 20.5 | 9.7 | 37.0 | | | 27.3 | |
| Total Split (%) | 28.1% | 28.1% | | 25.6% | 25.6% | 25.6% | 12.1% | 46.3% | | | 34.1% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | 0.0 | |
| Total Lost Time (s) | | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | | 4.5 | |
| Lead/Lag | | | | | | | Lead | | | | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | | | | Yes | |
| Recall Mode | None | None | | None | None | None | None | Min | | | Min | |

**Intersection Summary**

Cycle Length: 80
Actuated Cycle Length: 49.3
Natural Cycle: 80
Control Type: Semi Act-Uncoord

Splits and Phases: 14: Magnolia Avenue & Carefree Drive








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 26 | 0 | 70 | 5 | 0 | 0 | 80 | 1154 | 0 | 0 | 884 | 19 |
| Future Volume (veh/h) | 26 | 0 | 70 | 5 | 0 | 0 | 80 | 1154 | 0 | 0 | 884 | 19 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.93 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.96 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 0 | 0 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 28 | 0 | 76 | 5 | 0 | 0 | 87 | 1254 | 0 | 0 | 961 | 21 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 0 | 0 | 2 | 2 |
| Cap, veh/h | 53 | 0 | 143 | 19 | 0 | 9 | 109 | 1957 | 0 | 0 | 1361 | 30 |
| Arrive On Green | 0.13 | 0.00 | 0.13 | 0.01 | 0.00 | 0.00 | 0.06 | 0.55 | 0.00 | 0.00 | 0.38 | 0.38 |
| Sat Flow, veh/h | 416 | 0 | 1130 | 3563 | 0 | 1585 | 1781 | 3647 | 0 | 0 | 3645 | 78 |
| Grp Volume(v), veh/h | 104 | 0 | 0 | 5 | 0 | 0 | 87 | 1254 | 0 | 0 | 481 | 501 |
| Grp Sat Flow(s),veh/h/ln | 1546 | 0 | 0 | 1781 | 0 | 1585 | 1781 | 1777 | 0 | 0 | 1777 | 1852 |
| Q Serve(g_s), s | 2.7 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 2.0 | 10.4 | 0.0 | 0.0 | 9.7 | 9.7 |
| Cycle Q Clear(g_c), s | 2.7 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 2.0 | 10.4 | 0.0 | 0.0 | 9.7 | 9.7 |
| Prop In Lane | 0.27 | | 0.73 | 1.00 | | 1.00 | 1.00 | | 0.00 | 0.00 | | 0.04 |
| Lane Grp Cap(c), veh/h | 196 | 0 | 0 | 19 | 0 | 9 | 109 | 1957 | 0 | 0 | 681 | 710 |
| V/C Ratio(X) | 0.53 | 0.00 | 0.00 | 0.26 | 0.00 | 0.00 | 0.80 | 0.64 | 0.00 | 0.00 | 0.71 | 0.71 |
| Avail Cap(c_a), veh/h | 655 | 0 | 0 | 1340 | 0 | 596 | 218 | 2716 | 0 | 0 | 953 | 993 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 17.4 | 0.0 | 0.0 | 21.1 | 0.0 | 0.0 | 19.7 | 6.6 | 0.0 | 0.0 | 11.1 | 11.1 |
| Incr Delay (d2), s/veh | 2.2 | 0.0 | 0.0 | 7.0 | 0.0 | 0.0 | 12.2 | 0.4 | 0.0 | 0.0 | 1.4 | 1.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.1 | 2.0 | 0.0 | 0.0 | 2.9 | 3.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 19.6 | 0.0 | 0.0 | 28.0 | 0.0 | 0.0 | 31.9 | 7.0 | 0.0 | 0.0 | 12.5 | 12.4 |
| LnGrp LOS | B | A | A | C | A | A | C | A | A | A | B | B |
| Approach Vol, veh/h | | 104 | | | 5 | | | 1341 | | | 982 | |
| Approach Delay, s/veh | | 19.6 | | | 28.0 | | | 8.6 | | | 12.5 | |
| Approach LOS | | B | | | C | | | A | | | B | |

| Timer - Assigned Phs | 2 | 4 | 5 | 6 | 8 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 27.9 | 9.9 | 7.1 | 20.8 | 4.7 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 32.5 | 18.0 | 5.2 | 22.8 | 16.0 |
| Max Q Clear Time (g_c+I1), s | 12.4 | 4.7 | 4.0 | 11.7 | 2.1 |
| Green Ext Time (p_c), s | 8.9 | 0.4 | 0.0 | 4.4 | 0.0 |

**Intersection Summary**

| | | |
|---|---|---|
| HCM 6th Ctrl Delay | 10.7 | |
| HCM 6th LOS | B | |

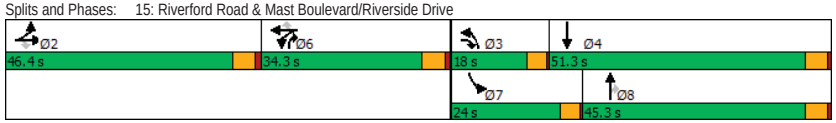
**Notes**

User approved volume balancing among the lanes for turning movement.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 30 | 20 | 70 | 660 | 80 | 411 | 140 | 360 | 590 | 268 | 267 | 50 |
| Future Volume (vph) | 30 | 20 | 70 | 660 | 80 | 411 | 140 | 360 | 590 | 268 | 267 | 50 |
| Confl. Peds. (#/hr) | | | | | | | | | 4 | | | |
| Confl. Bikes (#/hr) | | | 3 | | | 1 | | | 3 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Split | NA | pm+ov | Split | NA | Perm | Prot | NA | pm+ov | Prot | NA | |
| Protected Phases | 2 | 2 | 3 | 6 | 6 | | 3 | 8 | 6 | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | 8 | | | |
| Detector Phase | 2 | 2 | 3 | 6 | 6 | 6 | 3 | 8 | 6 | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 6.0 | 6.0 | 5.0 | 4.0 | 4.0 | 4.0 | 5.0 | 6.0 | 4.0 | 4.0 | 6.0 | |
| Minimum Split (s) | 45.3 | 45.3 | 9.1 | 34.3 | 34.3 | 34.3 | 9.1 | 45.3 | 34.3 | 8.6 | 49.9 | |
| Total Split (s) | 46.4 | 46.4 | 18.0 | 34.3 | 34.3 | 34.3 | 18.0 | 45.3 | 34.3 | 24.0 | 51.3 | |
| Total Split (%) | 30.9% | 30.9% | 12.0% | 22.9% | 22.9% | 22.9% | 12.0% | 30.2% | 22.9% | 16.0% | 34.2% | |
| Yellow Time (s) | 4.3 | 4.3 | 3.6 | 4.3 | 4.3 | 4.3 | 3.6 | 3.9 | 4.3 | 3.6 | 3.9 | |
| All-Red Time (s) | 1.0 | 1.0 | 0.5 | 1.0 | 1.0 | 1.0 | 0.5 | 1.0 | 1.0 | 0.5 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 5.3 | 5.3 | 4.1 | 5.3 | 5.3 | 5.3 | 4.1 | 4.9 | 5.3 | 4.1 | 4.9 | |
| Lead/Lag | | | Lead | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | Yes | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | None | None | None | None | None | Min | None | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 150 |
| Actuated Cycle Length: 107.5 |
| Natural Cycle: 150 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 15: Riverford Road & Mast Boulevard/Riverside Drive








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 30 | 20 | 70 | 660 | 80 | 411 | 140 | 360 | 590 | 268 | 267 | 50 |
| Future Volume (veh/h) | 30 | 20 | 70 | 660 | 80 | 411 | 140 | 360 | 590 | 268 | 267 | 50 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.96 | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 33 | 22 | 76 | 717 | 87 | 447 | 152 | 391 | 641 | 291 | 290 | 54 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 95 | 189 | 426 | 902 | 928 | 405 | 181 | 619 | 929 | 318 | 624 | 116 |
| Arrive On Green | 0.05 | 0.05 | 0.05 | 0.26 | 0.26 | 0.26 | 0.10 | 0.33 | 0.33 | 0.18 | 0.41 | 0.41 |
| Sat Flow, veh/h | 1781 | 3554 | 2677 | 3456 | 3554 | 1551 | 1781 | 1870 | 1557 | 1781 | 1530 | 285 |
| Grp Volume(v), veh/h | 33 | 22 | 76 | 717 | 87 | 447 | 152 | 391 | 641 | 291 | 0 | 344 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1338 | 1728 | 1777 | 1551 | 1781 | 1870 | 1557 | 1781 | 0 | 1815 |
| Q Serve(g_s), s | 2.0 | 0.7 | 2.7 | 21.5 | 2.1 | 29.0 | 9.3 | 19.6 | 31.7 | 17.8 | 0.0 | 15.4 |
| Cycle Q Clear(g_c), s | 2.0 | 0.7 | 2.7 | 21.5 | 2.1 | 29.0 | 9.3 | 19.6 | 31.7 | 17.8 | 0.0 | 15.4 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.16 |
| Lane Grp Cap(c), veh/h | 95 | 189 | 426 | 902 | 928 | 405 | 181 | 619 | 929 | 318 | 0 | 740 |
| V/C Ratio(X) | 0.35 | 0.12 | 0.18 | 0.79 | 0.09 | 1.10 | 0.84 | 0.63 | 0.69 | 0.92 | 0.00 | 0.46 |
| Avail Cap(c_a), veh/h | 659 | 1315 | 1274 | 902 | 928 | 405 | 223 | 680 | 980 | 319 | 0 | 758 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 50.7 | 50.1 | 40.8 | 38.3 | 31.1 | 41.0 | 49.0 | 31.4 | 15.7 | 44.8 | 0.0 | 24.0 |
| Incr Delay (d2), s/veh | 2.2 | 0.3 | 0.2 | 5.0 | 0.0 | 75.9 | 20.3 | 1.6 | 1.9 | 29.7 | 0.0 | 0.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.9 | 0.3 | 0.9 | 9.4 | 0.9 | 19.4 | 5.1 | 9.1 | 18.4 | 10.4 | 0.0 | 6.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 52.9 | 50.4 | 41.0 | 43.2 | 31.1 | 116.9 | 69.3 | 33.1 | 17.7 | 74.5 | 0.0 | 24.5 |
| LnGrp LOS | D | D | D | D | C | F | E | C | B | E | A | C |
| Approach Vol, veh/h | | 131 | | | 1251 | | | 1184 | | | 635 | |
| Approach Delay, s/veh | | 45.6 | | | 68.7 | | | 29.4 | | | 47.4 | |
| Approach LOS | | D | | | E | | | C | | | D | |

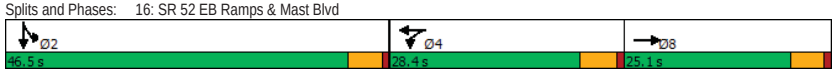
| Timer - Assigned Phs | 2 | 3 | 4 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 11.2 | 15.4 | 50.2 | 34.3 | 23.9 | 41.7 |
| Change Period (Y+Rc), s | 5.3 | 4.1 | 4.9 | 5.3 | 4.1 | 4.9 |
| Max Green Setting (Gmax), s | 41.1 | 13.9 | 46.4 | 29.0 | 19.9 | 40.4 |
| Max Q Clear Time (g_c+I1), s | 4.7 | 11.3 | 17.4 | 31.0 | 19.8 | 33.7 |
| Green Ext Time (p_c), s | 0.5 | 0.1 | 2.2 | 0.0 | 0.0 | 2.9 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 49.0 |
| HCM 6th LOS | D |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 25 | 25 | 325 | 30 | 0 | 0 | 0 | 0 | 1743 | 5 | 10 |
| Future Volume (vph) | 0 | 25 | 25 | 325 | 30 | 0 | 0 | 0 | 0 | 1743 | 5 | 10 |
| Confl. Peds. (#/hr) | | | 5 | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | 50% | | |
| Turn Type | | NA | | Split | NA | | | | | Split | NA | |
| Protected Phases | | 8 | | 4 | 4 | | | | | 2 | 2 | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | | 8 | | 4 | 4 | | | | | 2 | 2 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | 7.0 | | 8.0 | 8.0 | | | | | 5.0 | 5.0 | |
| Minimum Split (s) | | 25.1 | | 28.4 | 28.4 | | | | | 32.3 | 32.3 | |
| Total Split (s) | | 25.1 | | 28.4 | 28.4 | | | | | 46.5 | 46.5 | |
| Total Split (%) | | 25.1% | | 28.4% | 28.4% | | | | | 46.5% | 46.5% | |
| Yellow Time (s) | | 4.1 | | 4.4 | 4.4 | | | | | 4.1 | 4.1 | |
| All-Red Time (s) | | 1.0 | | 1.0 | 1.0 | | | | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | | 0.0 | 0.0 | | | | | 0.0 | 0.0 | |
| Total Lost Time (s) | | 5.1 | | 5.4 | 5.4 | | | | | 5.1 | 5.1 | |
| Lead/Lag | | | | | | | | | | | | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Recall Mode | | None | | None | None | | | | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 85.1 |
| Natural Cycle: 150 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 16: SR 52 EB Ramps & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 25 | 25 | 325 | 30 | 0 | 0 | 0 | 0 | 1743 | 5 | 10 |
| Future Volume (veh/h) | 0 | 25 | 25 | 325 | 30 | 0 | 0 | 0 | 0 | 1743 | 5 | 10 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | | | | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 1.00 | | | | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | | | | No | |
| Adj Sat Flow, veh/h/ln | 0 | 1870 | 1870 | 1870 | 1870 | 0 | | | | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 27 | 27 | 353 | 33 | 0 | | | | 1909 | 0 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 0 | 2 | 2 | 2 | 2 | 0 | | | | 2 | 2 | 2 |
| Cap, veh/h | 0 | 61 | 61 | 400 | 420 | 0 | | | | 1823 | 957 | 0 |
| Arrive On Green | 0.00 | 0.07 | 0.07 | 0.22 | 0.22 | 0.00 | | | | 0.51 | 0.00 | 0.00 |
| Sat Flow, veh/h | 0 | 850 | 850 | 1781 | 1870 | 0 | | | | 3563 | 1870 | 0 |
| Grp Volume(v), veh/h | 0 | 0 | 54 | 353 | 33 | 0 | | | | 1909 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 0 | 0 | 1700 | 1781 | 1870 | 0 | | | | 1781 | 1870 | 0 |
| Q Serve(g_s), s | 0.0 | 0.0 | 2.5 | 15.5 | 1.1 | 0.0 | | | | 41.4 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 0.0 | 0.0 | 2.5 | 15.5 | 1.1 | 0.0 | | | | 41.4 | 0.0 | 0.0 |
| Prop In Lane | 0.00 | | 0.50 | 1.00 | | 0.00 | | | | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 0 | 0 | 121 | 400 | 420 | 0 | | | | 1823 | 957 | 0 |
| V/C Ratio(X) | 0.00 | 0.00 | 0.45 | 0.88 | 0.08 | 0.00 | | | | 1.05 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 0 | 0 | 420 | 506 | 532 | 0 | | | | 1823 | 957 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.00 | | | | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 0.0 | 0.0 | 36.0 | 30.4 | 24.8 | 0.0 | | | | 19.8 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 1.0 | 14.1 | 0.1 | 0.0 | | | | 34.7 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.0 | 1.0 | 7.9 | 0.5 | 0.0 | | | | 23.9 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 0.0 | 37.0 | 44.5 | 24.9 | 0.0 | | | | 54.4 | 0.0 | 0.0 |
| LnGrp LOS | A | A | D | D | C | A | | | | F | A | A |
| Approach Vol, veh/h | | 54 | | | 386 | | | | | | 1909 | |
| Approach Delay, s/veh | | 37.0 | | | 42.8 | | | | | | 54.4 | |
| Approach LOS | | D | | | D | | | | | | D | |

| Timer - Assigned Phs | 2 | 4 | 8 |
|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 46.5 | 23.5 | 10.9 |
| Change Period (Y+Rc), s | 5.1 | 5.4 | 5.1 |
| Max Green Setting (Gmax), s | 41.4 | 23.0 | 20.0 |
| Max Q Clear Time (g_c+I1), s | 43.4 | 17.5 | 4.5 |
| Green Ext Time (p_c), s | 0.0 | 0.6 | 0.1 |

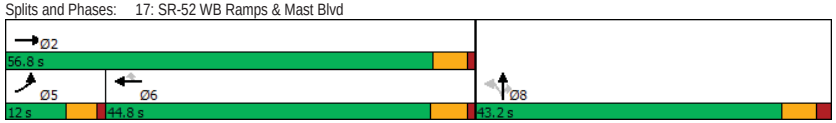
| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 52.1 |
| HCM 6th LOS | D |

| Notes |
|---|
| User approved volume balancing among the lanes for turning movement. |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 25 | 1743 | 0 | 0 | 355 | 741 | 0 | 5 | 640 | 0 | 0 | 0 |
| Future Volume (vph) | 25 | 1743 | 0 | 0 | 355 | 741 | 0 | 5 | 640 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | | | 6 | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | 4 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | 30% | | | 50% | | | |
| Turn Type | Prot | NA | | | NA | Perm | | NA | Perm | | | |
| Protected Phases | 5 | 2 | | | 6 | | | 8 | | | | |
| Permitted Phases | | | | | | 6 | 8 | | 8 | | | |
| Detector Phase | 5 | 2 | | | 6 | 6 | 8 | 8 | 8 | | | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 10.0 | | | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | | | |
| Minimum Split (s) | 11.7 | 38.6 | | | 28.4 | 28.4 | 43.1 | 43.1 | 43.1 | | | |
| Total Split (s) | 12.0 | 56.8 | | | 44.8 | 44.8 | 43.2 | 43.2 | 43.2 | | | |
| Total Split (%) | 12.0% | 56.8% | | | 44.8% | 44.8% | 43.2% | 43.2% | 43.2% | | | |
| Yellow Time (s) | 3.7 | 4.1 | | | 4.4 | 4.4 | 4.1 | 4.1 | 4.1 | | | |
| All-Red Time (s) | 1.0 | 1.0 | | | 1.0 | 1.0 | 2.0 | 2.0 | 2.0 | | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | 0.0 | | | |
| Total Lost Time (s) | 4.7 | 5.1 | | | 5.4 | 5.4 | | 6.1 | 6.1 | | | |
| Lead/Lag | Lead | | | | Lag | Lag | | | | | | |
| Lead-Lag Optimize? | Yes | | | | Yes | Yes | | | | | | |
| Recall Mode | None | Min | | | Min | Min | None | None | None | | | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 88.5 |
| Natural Cycle: 105 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 17: SR-52 WB Ramps & Mast Blvd




Timings
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| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 25 | 1743 | 0 | 0 | 355 | 741 | 0 | 5 | 640 | 0 | 0 | 0 |
| Future Volume (veh/h) | 25 | 1743 | 0 | 0 | 355 | 741 | 0 | 5 | 640 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.99 | 1.00 | | 1.00 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.99 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 0 | 0 | 1870 | 1945 | 1870 | 1870 | 1870 | | | |
| Adj Flow Rate, veh/h | 27 | 1895 | 0 | 0 | 700 | 596 | 0 | 0 | 699 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | |
| Percent Heavy Veh, % | 2 | 2 | 0 | 0 | 2 | 2 | 2 | 2 | 2 | | | |
| Cap, veh/h | 70 | 2143 | 0 | 0 | 946 | 822 | 0 | 472 | 810 | | | |
| Arrive On Green | 0.04 | 0.60 | 0.00 | 0.00 | 0.51 | 0.51 | 0.00 | 0.00 | 0.26 | | | |
| Sat Flow, veh/h | 1781 | 3647 | 0 | 0 | 1870 | 1626 | 0 | 1848 | 3170 | | | |
| Grp Volume(v), veh/h | 27 | 1895 | 0 | 0 | 700 | 596 | 0 | 0 | 699 | | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 0 | 0 | 1870 | 1626 | 0 | 1848 | 1585 | | | |
| Q Serve(g_s), s | 1.2 | 36.8 | 0.0 | 0.0 | 24.0 | 23.2 | 0.0 | 0.0 | 17.1 | | | |
| Cycle Q Clear(g_c), s | 1.2 | 36.8 | 0.0 | 0.0 | 24.0 | 23.2 | 0.0 | 0.0 | 17.1 | | | |
| Prop In Lane | 1.00 | | 0.00 | 0.00 | | 1.00 | 0.00 | | 1.00 | | | |
| Lane Grp Cap(c), veh/h | 70 | 2143 | 0 | 0 | 946 | 822 | 0 | 472 | 810 | | | |
| V/C Ratio(X) | 0.39 | 0.88 | 0.00 | 0.00 | 0.74 | 0.72 | 0.00 | 0.00 | 0.86 | | | |
| Avail Cap(c_a), veh/h | 160 | 2263 | 0 | 0 | 946 | 822 | 0 | 844 | 1448 | | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | | | |
| Uniform Delay (d), s/veh | 38.0 | 13.7 | 0.0 | 0.0 | 15.8 | 15.7 | 0.0 | 0.0 | 28.9 | | | |
| Incr Delay (d2), s/veh | 1.3 | 4.4 | 0.0 | 0.0 | 3.1 | 3.2 | 0.0 | 0.0 | 1.1 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ln | 0.5 | 13.2 | 0.0 | 0.0 | 9.8 | 8.3 | 0.0 | 0.0 | 6.4 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 39.3 | 18.1 | 0.0 | 0.0 | 19.0 | 18.9 | 0.0 | 0.0 | 30.0 | | | |
| LnGrp LOS | D | B | A | A | B | B | A | A | C | | | |
| Approach Vol, veh/h | | 1922 | | | 1296 | | | 699 | | | | |
| Approach Delay, s/veh | | 18.4 | | | 18.9 | | | 30.0 | | | | |
| Approach LOS | | B | | | B | | | C | | | | |

| Timer - Assigned Phs | 2 | 5 | 6 | 8 |
|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 54.4 | 7.9 | 46.5 | 26.8 |
| Change Period (Y+Rc), s | * 5.4 | * 4.7 | 5.4 | 6.1 |
| Max Green Setting (Gmax), s | * 52 | * 7.3 | 39.4 | 37.1 |
| Max Q Clear Time (g_c+I1), s | 38.8 | 3.2 | 26.0 | 19.1 |
| Green Ext Time (p_c), s | 10.1 | 0.0 | 6.0 | 1.6 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 20.6 | |
| HCM 6th LOS | C | |

Notes
User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

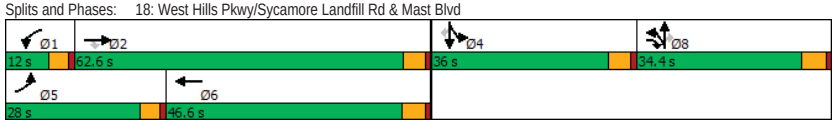
HCM 6th Signalized Intersection Summary
N:\2462\Analysis\Intersections\Synchro\Long-Term\12 2035+P PM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 150 | 1713 | 520 | 218 | 706 | 80 | 280 | 45 | 509 | 75 | 10 | 110 |
| Future Volume (vph) | 150 | 1713 | 520 | 218 | 706 | 80 | 280 | 45 | 509 | 75 | 10 | 110 |
| Confl. Peds. (#/hr) | | | 12 | | | | | | | | | 4 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | 42% | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | | Split | NA | Perm | Split | NA | Perm |
| Protected Phases | 5 | 2 | 8 | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Permitted Phases | | | 2 | | | | | | 8 | | | 4 |
| Detector Phase | 5 | 2 | 8 | 1 | 6 | | 8 | 8 | 8 | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 10.0 | 10.0 | 4.0 | 10.0 | | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| Minimum Split (s) | 20.0 | 34.9 | 33.4 | 8.4 | 35.2 | | 33.4 | 33.4 | 33.4 | 34.9 | 34.9 | 34.9 |
| Total Split (s) | 28.0 | 62.6 | 34.4 | 12.0 | 46.6 | | 34.4 | 34.4 | 34.4 | 36.0 | 36.0 | 36.0 |
| Total Split (%) | 19.3% | 43.2% | 23.7% | 8.3% | 32.1% | | 23.7% | 23.7% | 23.7% | 24.8% | 24.8% | 24.8% |
| Yellow Time (s) | 3.4 | 3.9 | 4.4 | 3.4 | 4.2 | | 4.4 | 4.4 | 4.4 | 3.9 | 3.9 | 3.9 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.4 | 4.9 | 5.4 | 4.4 | 5.2 | | 5.4 | 5.4 | 5.4 | | 4.9 | 4.9 |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | Min | None | None | Min | | None | None | None | None | None | None |

**Intersection Summary**

Cycle Length: 145
Actuated Cycle Length: 127.7
Natural Cycle: 145
Control Type: Actuated-Uncoordinated

Splits and Phases: 18: West Hills Pkwy/Sycamore Landfill Rd & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 150 | 1713 | 520 | 218 | 706 | 80 | 280 | 45 | 509 | 75 | 10 | 110 |
| Future Volume (veh/h) | 150 | 1713 | 520 | 218 | 706 | 80 | 280 | 45 | 509 | 75 | 10 | 110 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 163 | 1862 | 565 | 237 | 767 | 87 | 339 | 0 | 506 | 82 | 11 | 120 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 190 | 1607 | 1071 | 206 | 1303 | 148 | 810 | 0 | 360 | 166 | 22 | 164 |
| Arrive On Green | 0.11 | 0.45 | 0.45 | 0.06 | 0.41 | 0.41 | 0.23 | 0.00 | 0.23 | 0.10 | 0.10 | 0.10 |
| Sat Flow, veh/h | 1781 | 3554 | 1572 | 3456 | 3217 | 365 | 3563 | 0 | 1585 | 1579 | 212 | 1567 |
| Grp Volume(v), veh/h | 163 | 1862 | 565 | 237 | 424 | 430 | 339 | 0 | 506 | 93 | 0 | 120 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1572 | 1728 | 1777 | 1805 | 1781 | 0 | 1585 | 1791 | 0 | 1567 |
| Q Serve(g_s), s | 11.5 | 57.7 | 22.9 | 7.6 | 23.8 | 23.8 | 10.4 | 0.0 | 29.0 | 6.3 | 0.0 | 9.5 |
| Cycle Q Clear(g_c), s | 11.5 | 57.7 | 22.9 | 7.6 | 23.8 | 23.8 | 10.4 | 0.0 | 29.0 | 6.3 | 0.0 | 9.5 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.20 | 1.00 | | 1.00 | 0.88 | | 1.00 |
| Lane Grp Cap(c), veh/h | 190 | 1607 | 1071 | 206 | 720 | 731 | 810 | 0 | 360 | 188 | 0 | 164 |
| V/C Ratio(X) | 0.86 | 1.16 | 0.53 | 1.15 | 0.59 | 0.59 | 0.42 | 0.00 | 1.40 | 0.49 | 0.00 | 0.73 |
| Avail Cap(c_a), veh/h | 329 | 1607 | 1071 | 206 | 720 | 731 | 810 | 0 | 360 | 437 | 0 | 382 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 56.0 | 34.9 | 10.2 | 60.0 | 29.6 | 29.7 | 42.1 | 0.0 | 49.3 | 53.9 | 0.0 | 55.3 |
| Incr Delay (d2), s/veh | 4.3 | 78.8 | 0.6 | 109.5 | 2.0 | 1.9 | 0.5 | 0.0 | 198.0 | 2.0 | 0.0 | 6.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 5.3 | 41.2 | 14.3 | 6.4 | 10.3 | 10.4 | 4.5 | 0.0 | 30.9 | 2.9 | 0.0 | 3.9 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 60.3 | 113.7 | 10.8 | 169.5 | 31.6 | 31.6 | 42.6 | 0.0 | 247.2 | 55.9 | 0.0 | 61.4 |
| LnGrp LOS | E | F | B | F | C | C | D | A | F | E | A | E |
| Approach Vol, veh/h | | 2590 | | | 1091 | | | 845 | | | 213 | |
| Approach Delay, s/veh | | 87.9 | | | 61.6 | | | 165.1 | | | 59.0 | |
| Approach LOS | | F | | | E | | | F | | | E | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 12.0 | 62.9 | | 18.3 | 18.0 | 56.9 | | 34.4 | | | | |
| Change Period (Y+Rc), s | 4.4 | * 5.2 | | 4.9 | 4.4 | 5.2 | | 5.4 | | | | |
| Max Green Setting (Gmax), s | 7.6 | * 58 | | 31.1 | 23.6 | 41.4 | | 29.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 9.6 | 59.7 | | 11.5 | 13.5 | 25.8 | | 31.0 | | | | |
| Green Ext Time (p_c), s | 0.0 | 0.0 | | 0.7 | 0.1 | 7.8 | | 0.0 | | | | |

**Intersection Summary**

| | | |
|---|---|---|
| HCM 6th Ctrl Delay | 94.3 | |
| HCM 6th LOS | F | |

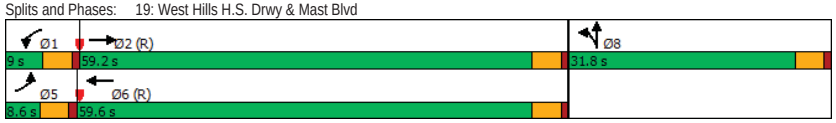
**Notes**

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 10 | 1912 | 25 | 50 | 764 | 0 | 50 | 0 | 118 | 0 | 0 | 0 |
| Future Volume (vph) | 10 | 1912 | 25 | 50 | 764 | 0 | 50 | 0 | 118 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | 4 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Split | NA | | | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | | | | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | | | | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | | | | |
| Minimum Split (s) | 8.5 | 22.5 | | 8.5 | 20.5 | | 31.5 | 31.5 | | | | |
| Total Split (s) | 8.6 | 59.2 | | 9.0 | 59.6 | | 31.8 | 31.8 | | | | |
| Total Split (%) | 8.6% | 59.2% | | 9.0% | 59.6% | | 31.8% | 31.8% | | | | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | | | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | | |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | | 4.5 | | | | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | | | | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 110 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 19: West Hills H.S. Drwy & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 10 | 1912 | 25 | 50 | 764 | 0 | 50 | 0 | 118 | 0 | 0 | 0 |
| Future Volume (veh/h) | 10 | 1912 | 25 | 50 | 764 | 0 | 50 | 0 | 118 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 0 | 1900 | 1870 | 1900 | | | |
| Adj Flow Rate, veh/h | 11 | 2078 | 27 | 54 | 830 | 0 | 54 | 0 | 128 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 0 | 0 | 2 | 0 | | | |
| Cap, veh/h | 19 | 2481 | 32 | 69 | 2554 | 0 | 66 | 0 | 156 | | | |
| Arrive On Green | 0.01 | 0.69 | 0.69 | 0.08 | 1.00 | 0.00 | 0.14 | 0.00 | 0.14 | | | |
| Sat Flow, veh/h | 1781 | 3592 | 47 | 1781 | 3647 | 0 | 486 | 0 | 1152 | | | |
| Grp Volume(v), veh/h | 11 | 1026 | 1079 | 54 | 830 | 0 | 182 | 0 | 0 | | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1862 | 1781 | 1777 | 0 | 1639 | 0 | 0 | | | |
| Q Serve(g_s), s | 0.6 | 42.2 | 42.7 | 3.0 | 0.0 | 0.0 | 10.8 | 0.0 | 0.0 | | | |
| Cycle Q Clear(g_c), s | 0.6 | 42.2 | 42.7 | 3.0 | 0.0 | 0.0 | 10.8 | 0.0 | 0.0 | | | |
| Prop In Lane | 1.00 | | 0.03 | 1.00 | | 0.00 | 0.30 | | 0.70 | | | |
| Lane Grp Cap(c), veh/h | 19 | 1227 | 1286 | 69 | 2554 | 0 | 222 | 0 | 0 | | | |
| V/C Ratio(X) | 0.59 | 0.84 | 0.84 | 0.78 | 0.32 | 0.00 | 0.82 | 0.00 | 0.00 | | | |
| Avail Cap(c_a), veh/h | 73 | 1227 | 1286 | 80 | 2554 | 0 | 447 | 0 | 0 | | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 0.09 | 0.09 | 0.09 | 0.90 | 0.90 | 0.00 | 1.00 | 0.00 | 0.00 | | | |
| Uniform Delay (d), s/veh | 49.3 | 11.3 | 11.4 | 45.7 | 0.0 | 0.0 | 42.0 | 0.0 | 0.0 | | | |
| Incr Delay (d2), s/veh | 2.6 | 0.7 | 0.7 | 31.5 | 0.3 | 0.0 | 7.2 | 0.0 | 0.0 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ln | 0.3 | 13.0 | 13.8 | 1.8 | 0.1 | 0.0 | 4.8 | 0.0 | 0.0 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 51.9 | 12.0 | 12.0 | 77.2 | 0.3 | 0.0 | 49.3 | 0.0 | 0.0 | | | |
| LnGrp LOS | D | B | B | E | A | A | D | A | A | | | |
| Approach Vol, veh/h | | 2116 | | | 884 | | | 182 | | | | |
| Approach Delay, s/veh | | 12.2 | | | 5.0 | | | 49.3 | | | | |
| Approach LOS | | B | | | A | | | D | | | | |

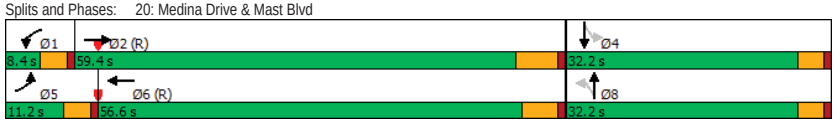
| Timer - Assigned Phs | 1 | 2 | | | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 8.4 | 73.6 | | | 5.6 | 76.4 | | 18.1 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 4.5 | 54.7 | | | 4.1 | 55.1 | | 27.3 | | | | |
| Max Q Clear Time (g_c+I1), s | 5.0 | 44.7 | | | 2.6 | 2.0 | | 12.8 | | | | |
| Green Ext Time (p_c), s | 0.0 | 8.5 | | | 0.0 | 6.5 | | 0.9 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 12.3 | |
| HCM 6th LOS | B | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 40 | 1740 | 40 | 10 | 774 | 30 | 15 | 5 | 20 | 20 | 5 | 30 |
| Future Volume (vph) | 40 | 1740 | 40 | 10 | 774 | 30 | 15 | 5 | 20 | 20 | 5 | 30 |
| Confl. Peds. (#/hr) | | | 2 | | | | | | 2 | | | |
| Confl. Bikes (#/hr) | | | 2 | | | 5 | | | 2 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Perm | NA | | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | | 4 | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 22.0 | | 8.2 | 22.0 | | 32.2 | 32.2 | | 32.2 | 32.2 | |
| Total Split (s) | 11.2 | 59.4 | | 8.4 | 56.6 | | 32.2 | 32.2 | | 32.2 | 32.2 | |
| Total Split (%) | 11.2% | 59.4% | | 8.4% | 56.6% | | 32.2% | 32.2% | | 32.2% | 32.2% | |
| Yellow Time (s) | 3.2 | 5.1 | | 3.2 | 4.3 | | 3.2 | 3.2 | | 3.2 | 3.2 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | 0.0 | |
| Total Lost Time (s) | 4.2 | 6.1 | | 4.2 | 5.3 | | | 4.2 | | | 4.2 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 100 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 20: Medina Drive & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 40 | 1740 | 40 | 10 | 774 | 30 | 15 | 5 | 20 | 20 | 5 | 30 |
| Future Volume (veh/h) | 40 | 1740 | 40 | 10 | 774 | 30 | 15 | 5 | 20 | 20 | 5 | 30 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.97 | 0.99 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 43 | 1891 | 43 | 11 | 841 | 33 | 16 | 5 | 22 | 22 | 5 | 33 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 55 | 2743 | 62 | 19 | 2620 | 103 | 78 | 28 | 60 | 80 | 21 | 63 |
| Arrive On Green | 0.06 | 1.00 | 1.00 | 0.02 | 1.00 | 1.00 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 |
| Sat Flow, veh/h | 1781 | 3550 | 80 | 1781 | 3482 | 137 | 401 | 388 | 827 | 425 | 291 | 875 |
| Grp Volume(v), veh/h | 43 | 942 | 992 | 11 | 429 | 445 | 43 | 0 | 0 | 60 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1854 | 1781 | 1777 | 1842 | 1616 | 0 | 0 | 1591 | 0 | 0 |
| Q Serve(g_s), s | 2.4 | 0.0 | 0.0 | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 2.4 | 0.0 | 0.0 | 0.6 | 0.0 | 0.0 | 2.4 | 0.0 | 0.0 | 3.5 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | | 0.04 | 1.00 | | 0.07 | 0.37 | | 0.51 | 0.37 | | 0.55 |
| Lane Grp Cap(c), veh/h | 55 | 1373 | 1432 | 19 | 1337 | 1386 | 166 | 0 | 0 | 164 | 0 | 0 |
| V/C Ratio(X) | 0.79 | 0.69 | 0.69 | 0.59 | 0.32 | 0.32 | 0.26 | 0.00 | 0.00 | 0.37 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 125 | 1373 | 1432 | 75 | 1337 | 1386 | 478 | 0 | 0 | 480 | 0 | 0 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.28 | 0.28 | 0.28 | 0.95 | 0.95 | 0.95 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 46.6 | 0.0 | 0.0 | 48.7 | 0.0 | 0.0 | 44.2 | 0.0 | 0.0 | 44.6 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 6.9 | 0.8 | 0.8 | 9.8 | 0.6 | 0.6 | 0.3 | 0.0 | 0.0 | 0.5 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.1 | 0.3 | 0.3 | 0.3 | 0.2 | 0.2 | 1.0 | 0.0 | 0.0 | 1.5 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 53.5 | 0.8 | 0.8 | 58.6 | 0.6 | 0.6 | 44.5 | 0.0 | 0.0 | 45.1 | 0.0 | 0.0 |
| LnGrp LOS | D | A | A | E | A | A | D | A | A | D | A | A |
| Approach Vol, veh/h | | 1977 | | | 885 | | | 43 | | | 60 | |
| Approach Delay, s/veh | | 1.9 | | | 1.3 | | | 44.5 | | | 45.1 | |
| Approach LOS | | A | | | A | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.3 | 83.3 | | 11.4 | 7.3 | 81.3 | | 11.4 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 6.1 | | * 4.2 | * 4.2 | * 6.1 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | * 4.2 | 53.3 | | * 28 | * 7 | * 51 | | * 28 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.6 | 2.0 | | 5.5 | 4.4 | 2.0 | | 4.4 | | | | |
| Green Ext Time (p_c), s | 0.0 | 38.6 | | 0.2 | 0.0 | 11.0 | | 0.1 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 3.2 | |
| HCM 6th LOS | A | |

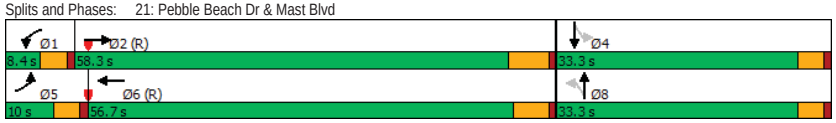
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 20 | 1710 | 20 | 10 | 754 | 70 | 20 | 5 | 15 | 80 | 0 | 30 |
| Future Volume (vph) | 20 | 1710 | 20 | 10 | 754 | 70 | 20 | 5 | 15 | 80 | 0 | 30 |
| Confl. Peds. (#/hr) | | | 9 | | | | | | 1 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Perm | NA | | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | | 4 | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 23.9 | | 8.2 | 23.3 | | 33.2 | 33.2 | | 32.2 | 32.2 | |
| Total Split (s) | 10.0 | 58.3 | | 8.4 | 56.7 | | 33.3 | 33.3 | | 33.3 | 33.3 | |
| Total Split (%) | 10.0% | 58.3% | | 8.4% | 56.7% | | 33.3% | 33.3% | | 33.3% | 33.3% | |
| Yellow Time (s) | 3.2 | 4.9 | | 3.2 | 4.3 | | 3.2 | 3.2 | | 3.2 | 3.2 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | 0.0 | |
| Total Lost Time (s) | 4.2 | 5.9 | | 4.2 | 5.3 | | | 4.2 | | | 4.2 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Max | | None | C-Max | | None | None | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 100 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 21: Pebble Beach Dr & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 20 | 1710 | 20 | 10 | 754 | 70 | 20 | 5 | 15 | 80 | 0 | 30 |
| Future Volume (veh/h) | 20 | 1710 | 20 | 10 | 754 | 70 | 20 | 5 | 15 | 80 | 0 | 30 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 22 | 1859 | 22 | 11 | 820 | 76 | 22 | 5 | 16 | 87 | 0 | 33 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 33 | 2681 | 32 | 19 | 2425 | 225 | 123 | 36 | 62 | 170 | 3 | 42 |
| Arrive On Green | 0.04 | 1.00 | 1.00 | 0.02 | 1.00 | 1.00 | 0.10 | 0.10 | 0.10 | 0.10 | 0.00 | 0.10 |
| Sat Flow, veh/h | 1781 | 3597 | 42 | 1781 | 3288 | 305 | 682 | 357 | 616 | 1068 | 33 | 418 |
| Grp Volume(v), veh/h | 22 | 917 | 964 | 11 | 443 | 453 | 43 | 0 | 0 | 120 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1862 | 1781 | 1777 | 1816 | 1655 | 0 | 0 | 1518 | 0 | 0 |
| Q Serve(g_s), s | 1.2 | 0.0 | 0.0 | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 5.3 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 1.2 | 0.0 | 0.0 | 0.6 | 0.0 | 0.0 | 2.3 | 0.0 | 0.0 | 7.6 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | | 0.02 | 1.00 | | 0.17 | 0.51 | | 0.37 | 0.72 | | 0.27 |
| Lane Grp Cap(c), veh/h | 33 | 1324 | 1388 | 19 | 1311 | 1339 | 222 | 0 | 0 | 216 | 0 | 0 |
| V/C Ratio(X) | 0.68 | 0.69 | 0.69 | 0.59 | 0.34 | 0.34 | 0.19 | 0.00 | 0.00 | 0.56 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 103 | 1324 | 1388 | 75 | 1311 | 1339 | 505 | 0 | 0 | 488 | 0 | 0 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.67 | 0.67 | 0.67 | 0.66 | 0.66 | 0.66 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 47.9 | 0.0 | 0.0 | 48.7 | 0.0 | 0.0 | 41.4 | 0.0 | 0.0 | 43.6 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 5.9 | 2.0 | 1.9 | 6.9 | 0.5 | 0.5 | 0.2 | 0.0 | 0.0 | 0.8 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.6 | 0.7 | 0.8 | 0.3 | 0.2 | 0.2 | 1.0 | 0.0 | 0.0 | 2.9 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 53.8 | 2.0 | 1.9 | 55.7 | 0.5 | 0.5 | 41.6 | 0.0 | 0.0 | 44.5 | 0.0 | 0.0 |
| LnGrp LOS | D | A | A | E | A | A | D | A | A | D | A | A |
| Approach Vol, veh/h | | 1903 | | | 907 | | | 43 | | | 120 | |
| Approach Delay, s/veh | | 2.6 | | | 1.1 | | | 41.6 | | | 44.5 | |
| Approach LOS | | A | | | A | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.3 | 80.4 | | 14.3 | 6.0 | 79.7 | | 14.3 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 5.9 | | * 4.2 | * 4.2 | * 5.9 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | * 4.2 | 52.4 | | * 29 | * 5.8 | * 51 | | * 29 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.6 | 2.0 | | 9.6 | 3.2 | 2.0 | | 4.3 | | | | |
| Green Ext Time (p_c), s | 0.0 | 40.2 | | 0.4 | 0.0 | 15.9 | | 0.1 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 4.4 | |
| HCM 6th LOS | A | |

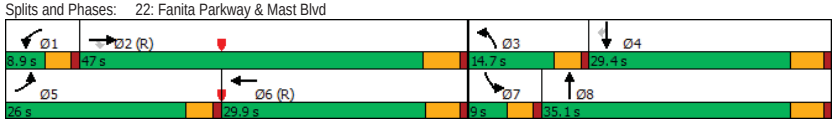
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 631 | 1119 | 70 | 40 | 508 | 113 | 80 | 269 | 50 | 97 | 155 | 316 |
| Future Volume (vph) | 631 | 1119 | 70 | 40 | 508 | 113 | 80 | 269 | 50 | 97 | 155 | 316 |
| Confl. Peds. (#/hr) | | | 12 | | | 1 | | | 3 | | | 5 |
| Confl. Bikes (#/hr) | | | | | | 5 | | | 1 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | | | | | | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 27.5 | 27.5 | 8.2 | 28.1 | | 8.2 | 35.1 | | 8.2 | 28.1 | 28.1 |
| Total Split (s) | 26.0 | 47.0 | 47.0 | 8.9 | 29.9 | | 14.7 | 35.1 | | 9.0 | 29.4 | 29.4 |
| Total Split (%) | 26.0% | 47.0% | 47.0% | 8.9% | 29.9% | | 14.7% | 35.1% | | 9.0% | 29.4% | 29.4% |
| Yellow Time (s) | 3.2 | 4.5 | 4.5 | 3.2 | 4.1 | | 3.2 | 4.1 | | 3.2 | 4.1 | 4.1 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.5 | 5.5 | 4.2 | 5.1 | | 4.2 | 5.1 | | 4.2 | 5.1 | 5.1 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | C-Max | C-Max | None | C-Max | | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 14.1 (14%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 140 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 22: Fanita Parkway & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 631 | 1119 | 70 | 40 | 508 | 113 | 80 | 269 | 50 | 97 | 155 | 316 |
| Future Volume (veh/h) | 631 | 1119 | 70 | 40 | 508 | 113 | 80 | 269 | 50 | 97 | 155 | 316 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.97 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 686 | 1216 | 76 | 43 | 552 | 123 | 87 | 292 | 54 | 105 | 168 | 343 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 388 | 1698 | 748 | 55 | 835 | 185 | 111 | 388 | 72 | 86 | 447 | 372 |
| Arrive On Green | 0.29 | 0.64 | 0.64 | 0.01 | 0.10 | 0.10 | 0.06 | 0.25 | 0.25 | 0.05 | 0.24 | 0.24 |
| Sat Flow, veh/h | 1781 | 3554 | 1565 | 1781 | 2873 | 638 | 1781 | 1531 | 283 | 1781 | 1870 | 1555 |
| Grp Volume(v), veh/h | 686 | 1216 | 76 | 43 | 340 | 335 | 87 | 0 | 346 | 105 | 168 | 343 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1565 | 1781 | 1777 | 1734 | 1781 | 0 | 1814 | 1781 | 1870 | 1555 |
| Q Serve(g_s), s | 21.8 | 22.9 | 1.9 | 2.4 | 18.5 | 18.6 | 4.8 | 0.0 | 17.6 | 4.8 | 7.5 | 21.5 |
| Cycle Q Clear(g_c), s | 21.8 | 22.9 | 1.9 | 2.4 | 18.5 | 18.6 | 4.8 | 0.0 | 17.6 | 4.8 | 7.5 | 21.5 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.37 | 1.00 | | 0.16 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 388 | 1698 | 748 | 55 | 516 | 504 | 111 | 0 | 460 | 86 | 447 | 372 |
| V/C Ratio(X) | 1.77 | 0.72 | 0.10 | 0.79 | 0.66 | 0.66 | 0.78 | 0.00 | 0.75 | 1.23 | 0.38 | 0.92 |
| Avail Cap(c_a), veh/h | 388 | 1698 | 748 | 84 | 516 | 504 | 187 | 0 | 544 | 86 | 454 | 378 |
| HCM Platoon Ratio | 1.33 | 1.33 | 1.33 | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.65 | 0.65 | 0.65 | 0.67 | 0.67 | 0.67 | 0.96 | 0.00 | 0.96 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 35.5 | 13.7 | 9.9 | 49.2 | 40.4 | 40.5 | 46.2 | 0.0 | 34.4 | 47.6 | 31.8 | 37.2 |
| Incr Delay (d2), s/veh | 351.8 | 1.7 | 0.2 | 13.0 | 4.4 | 4.6 | 8.3 | 0.0 | 8.9 | 170.8 | 1.7 | 29.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 46.3 | 6.8 | 0.6 | 1.3 | 9.4 | 9.3 | 2.3 | 0.0 | 8.6 | 6.1 | 3.5 | 10.9 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 387.3 | 15.4 | 10.0 | 62.2 | 44.8 | 45.1 | 54.5 | 0.0 | 43.4 | 218.4 | 33.5 | 66.8 |
| LnGrp LOS | F | B | B | E | D | D | D | A | D | F | C | E |
| Approach Vol, veh/h | | 1978 | | | 718 | | | 433 | | | 616 | |
| Approach Delay, s/veh | | 144.2 | | | 46.0 | | | 45.6 | | | 83.5 | |
| Approach LOS | | F | | | D | | | D | | | F | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.3 | 53.3 | 10.4 | 29.0 | 26.0 | 34.6 | 9.0 | 30.4 |
| Change Period (Y+Rc), s | * 4.2 | 5.5 | * 4.2 | 5.1 | * 4.2 | * 5.5 | * 4.2 | 5.1 |
| Max Green Setting (Gmax), s | * 4.7 | 41.5 | * 11 | 24.3 | * 22 | * 25 | * 4.8 | 30.0 |
| Max Q Clear Time (g_c+I1), s | 4.4 | 24.9 | 6.8 | 23.5 | 23.8 | 20.6 | 6.8 | 19.6 |
| Green Ext Time (p_c), s | 0.0 | 13.2 | 0.0 | 0.4 | 0.0 | 2.7 | 0.0 | 3.0 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 104.0 | |
| HCM 6th LOS | F | |

Notes

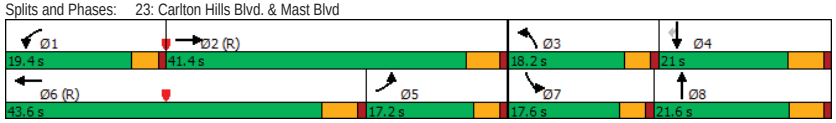
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 105 | 999 | 237 | 240 | 473 | 225 | 233 | 344 | 240 | 200 | 224 | 50 |
| Future Volume (vph) | 105 | 999 | 237 | 240 | 473 | 225 | 233 | 344 | 240 | 200 | 224 | 50 |
| Confl. Peds. (#/hr) | | | 3 | | | 7 | | | 11 | | | 8 |
| Confl. Bikes (#/hr) | | | 4 | | | 2 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 33.1 | | 8.2 | 32.4 | | 8.2 | 21.0 | | 8.2 | 21.0 | 21.0 |
| Total Split (s) | 17.2 | 41.4 | | 19.4 | 43.6 | | 18.2 | 21.6 | | 17.6 | 21.0 | 21.0 |
| Total Split (%) | 17.2% | 41.4% | | 19.4% | 43.6% | | 18.2% | 21.6% | | 17.6% | 21.0% | 21.0% |
| Yellow Time (s) | 3.2 | 4.1 | | 3.2 | 4.4 | | 3.2 | 4.2 | | 3.2 | 4.4 | 4.4 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.1 | | 4.2 | 5.4 | | 4.2 | 5.2 | | 4.2 | 5.4 | 5.4 |
| Lead/Lag | Lag | Lag | | Lead | Lead | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | C-Min | | None | C-Min | | None | Min | | None | Min | Min |

**Intersection Summary**

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 50 (50%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated

Splits and Phases: 23: Carlton Hills Blvd. & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 105 | 999 | 237 | 240 | 473 | 225 | 233 | 344 | 240 | 200 | 224 | 50 |
| Future Volume (veh/h) | 105 | 999 | 237 | 240 | 473 | 225 | 233 | 344 | 240 | 200 | 224 | 50 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 114 | 1086 | 232 | 261 | 514 | 221 | 253 | 374 | 209 | 217 | 243 | 49 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 451 | 1143 | 243 | 271 | 675 | 289 | 249 | 360 | 198 | 239 | 561 | 247 |
| Arrive On Green | 0.51 | 0.79 | 0.79 | 0.30 | 0.56 | 0.56 | 0.14 | 0.16 | 0.16 | 0.13 | 0.16 | 0.16 |
| Sat Flow, veh/h | 1781 | 2906 | 618 | 1781 | 2406 | 1030 | 1781 | 2195 | 1206 | 1781 | 3554 | 1561 |
| Grp Volume(v), veh/h | 114 | 662 | 656 | 261 | 379 | 356 | 253 | 301 | 282 | 217 | 243 | 49 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1747 | 1781 | 1777 | 1659 | 1781 | 1777 | 1624 | 1781 | 1777 | 1561 |
| Q Serve(g_s), s | 3.6 | 31.1 | 32.2 | 14.4 | 16.3 | 16.5 | 14.0 | 16.4 | 16.4 | 12.0 | 6.2 | 1.7 |
| Cycle Q Clear(g_c), s | 3.6 | 31.1 | 32.2 | 14.4 | 16.3 | 16.5 | 14.0 | 16.4 | 16.4 | 12.0 | 6.2 | 1.7 |
| Prop In Lane | 1.00 | | 0.35 | 1.00 | | 0.62 | 1.00 | | 0.74 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 451 | 699 | 687 | 271 | 498 | 465 | 249 | 291 | 266 | 239 | 561 | 247 |
| V/C Ratio(X) | 0.25 | 0.95 | 0.95 | 0.96 | 0.76 | 0.77 | 1.01 | 1.03 | 1.06 | 0.91 | 0.43 | 0.20 |
| Avail Cap(c_a), veh/h | 451 | 699 | 687 | 271 | 679 | 634 | 249 | 291 | 266 | 239 | 561 | 247 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.58 | 0.58 | 0.58 | 0.93 | 0.93 | 0.93 | 0.55 | 0.55 | 0.55 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 19.3 | 9.8 | 9.9 | 34.5 | 19.4 | 19.4 | 43.0 | 41.8 | 41.8 | 42.7 | 38.1 | 13.8 |
| Incr Delay (d2), s/veh | 0.1 | 16.0 | 17.3 | 42.6 | 9.8 | 10.7 | 46.0 | 48.3 | 56.8 | 34.2 | 2.3 | 1.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.4 | 6.7 | 6.9 | 8.1 | 5.8 | 5.5 | 9.2 | 10.9 | 10.6 | 7.4 | 2.8 | 1.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 19.4 | 25.7 | 27.2 | 77.1 | 29.2 | 30.1 | 89.0 | 90.1 | 98.6 | 76.9 | 40.3 | 15.4 |
| LnGrp LOS | B | C | C | E | C | C | F | F | F | E | D | B |
| Approach Vol, veh/h | | 1432 | | | 996 | | | 836 | | | 509 | |
| Approach Delay, s/veh | | 25.9 | | | 42.1 | | | 92.6 | | | 53.5 | |
| Approach LOS | | C | | | D | | | F | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 19.4 | 44.4 | 18.2 | 21.2 | 30.4 | 33.4 | 17.6 | 21.8 |
| Change Period (Y+Rc), s | * 4.2 | 5.1 | * 4.2 | 5.4 | 5.1 | * 5.4 | * 4.2 | * 5.4 |
| Max Green Setting (Gmax), s | * 15 | 36.3 | * 14 | 15.6 | 13.0 | * 38 | * 13 | * 16 |
| Max Q Clear Time (g_c+I1), s | 16.4 | 34.2 | 16.0 | 8.2 | 5.6 | 18.5 | 14.0 | 18.4 |
| Green Ext Time (p_c), s | 0.0 | 1.9 | 0.0 | 1.9 | 0.1 | 9.5 | 0.0 | 0.0 |

**Intersection Summary**

| | | |
|---|---|---|
| HCM 6th Ctrl Delay | 48.7 | |
| HCM 6th LOS | D | |

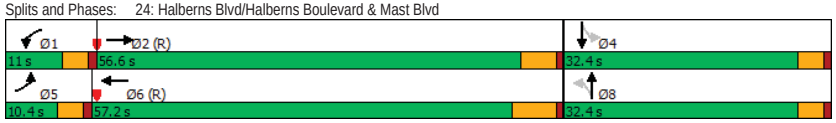
**Notes**

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 30 | 1489 | 80 | 70 | 768 | 60 | 50 | 90 | 230 | 60 | 60 | 20 |
| Future Volume (vph) | 30 | 1489 | 80 | 70 | 768 | 60 | 50 | 90 | 230 | 60 | 60 | 20 |
| Confl. Peds. (#/hr) | | | 1 | | | 5 | | | 1 | | | 2 |
| Confl. Bikes (#/hr) | | | 1 | | | 1 | | | 1 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Perm | NA | | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | | 4 | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 29.2 | | 8.2 | 28.3 | | 32.2 | 32.2 | | 32.2 | 32.2 | |
| Total Split (s) | 10.4 | 56.6 | | 11.0 | 57.2 | | 32.4 | 32.4 | | 32.4 | 32.4 | |
| Total Split (%) | 10.4% | 56.6% | | 11.0% | 57.2% | | 32.4% | 32.4% | | 32.4% | 32.4% | |
| Yellow Time (s) | 3.2 | 4.2 | | 3.2 | 5.3 | | 3.2 | 3.2 | | 3.2 | 3.2 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.2 | 5.2 | | 4.2 | 6.3 | | 4.2 | 4.2 | | 4.2 | 4.2 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Max | | None | C-Max | | None | None | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 90 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 24: Halberns Blvd/Halberns Boulevard & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 30 | 1489 | 80 | 70 | 768 | 60 | 50 | 90 | 230 | 60 | 60 | 20 |
| Future Volume (veh/h) | 30 | 1489 | 80 | 70 | 768 | 60 | 50 | 90 | 230 | 60 | 60 | 20 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.97 | 1.00 | | 0.99 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 33 | 1618 | 87 | 76 | 835 | 65 | 54 | 98 | 250 | 65 | 65 | 22 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 43 | 1786 | 96 | 98 | 1840 | 143 | 386 | 128 | 326 | 157 | 370 | 125 |
| Arrive On Green | 0.02 | 0.35 | 0.35 | 0.02 | 0.18 | 0.18 | 0.28 | 0.28 | 0.28 | 0.28 | 0.28 | 0.28 |
| Sat Flow, veh/h | 1781 | 3428 | 183 | 1781 | 3333 | 259 | 1308 | 462 | 1177 | 1032 | 1336 | 452 |
| Grp Volume(v), veh/h | 33 | 834 | 871 | 76 | 445 | 455 | 54 | 0 | 348 | 65 | 0 | 87 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1835 | 1781 | 1777 | 1816 | 1308 | 0 | 1639 | 1032 | 0 | 1788 |
| Q Serve(g_s), s | 1.8 | 44.6 | 45.3 | 4.2 | 22.3 | 22.3 | 3.3 | 0.0 | 19.5 | 6.2 | 0.0 | 3.7 |
| Cycle Q Clear(g_c), s | 1.8 | 44.6 | 45.3 | 4.2 | 22.3 | 22.3 | 7.0 | 0.0 | 19.5 | 25.7 | 0.0 | 3.7 |
| Prop In Lane | 1.00 | | 0.10 | 1.00 | | 0.14 | 1.00 | | 0.72 | 1.00 | | 0.25 |
| Lane Grp Cap(c), veh/h | 43 | 926 | 956 | 98 | 981 | 1002 | 386 | 0 | 454 | 157 | 0 | 495 |
| V/C Ratio(X) | 0.77 | 0.90 | 0.91 | 0.78 | 0.45 | 0.45 | 0.14 | 0.00 | 0.77 | 0.41 | 0.00 | 0.18 |
| Avail Cap(c_a), veh/h | 110 | 926 | 956 | 121 | 981 | 1002 | 392 | 0 | 462 | 162 | 0 | 504 |
| HCM Platoon Ratio | 0.67 | 0.67 | 0.67 | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.09 | 0.09 | 0.09 | 0.58 | 0.58 | 0.58 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 48.9 | 30.1 | 30.3 | 48.5 | 27.4 | 27.5 | 30.1 | 0.0 | 33.2 | 45.0 | 0.0 | 27.5 |
| Incr Delay (d2), s/veh | 1.0 | 1.5 | 1.7 | 10.5 | 0.9 | 0.9 | 0.1 | 0.0 | 6.7 | 0.7 | 0.0 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.8 | 19.7 | 20.7 | 2.2 | 10.7 | 11.0 | 1.0 | 0.0 | 8.3 | 1.6 | 0.0 | 1.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 49.9 | 31.6 | 32.0 | 59.0 | 28.3 | 28.3 | 30.2 | 0.0 | 39.9 | 45.6 | 0.0 | 27.5 |
| LnGrp LOS | D | C | C | E | C | C | C | A | D | D | A | C |
| Approach Vol, veh/h | | 1738 | | | 976 | | | 402 | | | 152 | |
| Approach Delay, s/veh | | 32.2 | | | 30.7 | | | 38.6 | | | 35.3 | |
| Approach LOS | | C | | | C | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 9.7 | 58.4 | | 31.9 | 6.6 | 61.5 | | 31.9 | | | | |
| Change Period (Y+Rc), s | * 4.2 | * 6.3 | | * 4.2 | * 4.2 | 6.3 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | * 6.8 | * 51 | | * 28 | * 6.2 | 50.9 | | * 28 | | | | |
| Max Q Clear Time (g_c+I1), s | 6.2 | 47.3 | | 27.7 | 3.8 | 24.3 | | 21.5 | | | | |
| Green Ext Time (p_c), s | 0.0 | 3.9 | | 0.0 | 0.0 | 11.8 | | 0.9 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 32.7 | |
| HCM 6th LOS | C | |

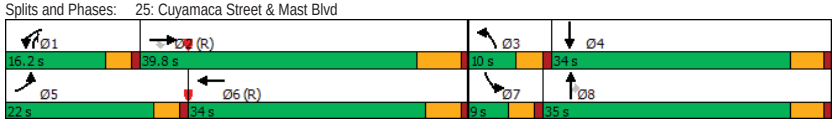
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 599 | 910 | 310 | 353 | 385 | 100 | 275 | 648 | 541 | 110 | 377 | 243 |
| Future Volume (vph) | 599 | 910 | 310 | 353 | 385 | 100 | 275 | 648 | 541 | 110 | 377 | 243 |
| Confl. Peds. (#/hr) | | | 11 | | | 3 | | | | | | 3 |
| Confl. Bikes (#/hr) | | | 2 | | | 2 | | | | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | | Prot | NA | pm+ov | Prot | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | 1 | 7 | 4 | |
| Permitted Phases | | | 2 | | | | | | 8 | | | |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | | 3 | 8 | 1 | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | | 4.0 | 7.0 | 4.0 | 4.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 34.3 | 34.3 | 8.2 | 32.3 | | 8.2 | 33.1 | 8.2 | 8.2 | 34.0 | |
| Total Split (s) | 22.0 | 39.8 | 39.8 | 16.2 | 34.0 | | 10.0 | 35.0 | 16.2 | 9.0 | 34.0 | |
| Total Split (%) | 22.0% | 39.8% | 39.8% | 16.2% | 34.0% | | 10.0% | 35.0% | 16.2% | 9.0% | 34.0% | |
| Yellow Time (s) | 3.2 | 5.3 | 5.3 | 3.2 | 4.3 | | 3.2 | 4.1 | 3.2 | 3.2 | 4.0 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.2 | 6.3 | 6.3 | 4.2 | 5.3 | | 4.2 | 5.1 | 4.2 | 4.2 | 5.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | |
| Recall Mode | None | C-Min | C-Min | None | C-Min | | None | None | None | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 21 (21%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 135 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 25: Cuyamaca Street & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 599 | 910 | 310 | 353 | 385 | 100 | 275 | 648 | 541 | 110 | 377 | 243 |
| Future Volume (veh/h) | 599 | 910 | 310 | 353 | 385 | 100 | 275 | 648 | 541 | 110 | 377 | 243 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 1.00 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 651 | 989 | 337 | 384 | 418 | 109 | 299 | 704 | 588 | 120 | 410 | 264 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 317 | 1190 | 519 | 415 | 771 | 199 | 200 | 1063 | 664 | 86 | 598 | 381 |
| Arrive On Green | 0.06 | 0.11 | 0.11 | 0.12 | 0.28 | 0.28 | 0.06 | 0.30 | 0.30 | 0.05 | 0.29 | 0.29 |
| Sat Flow, veh/h | 1781 | 3554 | 1549 | 3456 | 2785 | 719 | 3456 | 3554 | 1585 | 1781 | 2068 | 1317 |
| Grp Volume(v), veh/h | 651 | 989 | 337 | 384 | 265 | 262 | 299 | 704 | 588 | 120 | 352 | 322 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1549 | 1728 | 1777 | 1727 | 1728 | 1777 | 1585 | 1781 | 1777 | 1608 |
| Q Serve(g_s), s | 17.8 | 27.3 | 20.9 | 11.0 | 12.7 | 12.9 | 5.8 | 17.3 | 29.9 | 4.8 | 17.5 | 17.8 |
| Cycle Q Clear(g_c), s | 17.8 | 27.3 | 20.9 | 11.0 | 12.7 | 12.9 | 5.8 | 17.3 | 29.9 | 4.8 | 17.5 | 17.8 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.42 | 1.00 | | 1.00 | 1.00 | | 0.82 |
| Lane Grp Cap(c), veh/h | 317 | 1190 | 519 | 415 | 492 | 478 | 200 | 1063 | 664 | 86 | 514 | 465 |
| V/C Ratio(X) | 2.05 | 0.83 | 0.65 | 0.93 | 0.54 | 0.55 | 1.49 | 0.66 | 0.89 | 1.40 | 0.68 | 0.69 |
| Avail Cap(c_a), veh/h | 317 | 1190 | 519 | 415 | 510 | 496 | 200 | 1063 | 664 | 86 | 515 | 466 |
| HCM Platoon Ratio | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.51 | 0.51 | 0.51 | 0.96 | 0.96 | 0.96 | 0.16 | 0.16 | 0.16 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 47.1 | 41.7 | 38.8 | 43.6 | 30.7 | 30.8 | 47.1 | 30.6 | 26.8 | 47.6 | 31.5 | 31.6 |
| Incr Delay (d2), s/veh | 479.5 | 3.6 | 3.2 | 25.5 | 4.0 | 4.3 | 225.6 | 0.3 | 2.7 | 237.5 | 4.3 | 5.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 50.7 | 13.4 | 9.1 | 6.0 | 5.8 | 5.7 | 8.7 | 7.2 | 12.7 | 7.7 | 7.9 | 7.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 526.6 | 45.3 | 42.1 | 69.1 | 34.7 | 35.1 | 272.7 | 30.9 | 29.5 | 285.1 | 35.8 | 36.6 |
| LnGrp LOS | F | D | D | E | C | D | F | C | C | F | D | D |
| Approach Vol, veh/h | | 1977 | | | 911 | | | 1591 | | | 794 | |
| Approach Delay, s/veh | | 203.2 | | | 49.3 | | | 75.8 | | | 73.8 | |
| Approach LOS | | F | | | D | | | E | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 16.2 | 39.8 | 10.0 | 34.0 | 22.0 | 34.0 | 9.0 | 35.0 |
| Change Period (Y+Rc), s | * 4.2 | 6.3 | * 4.2 | * 5.1 | * 4.2 | * 6.3 | * 4.2 | 5.1 |
| Max Green Setting (Gmax), s | * 12 | 33.5 | * 5.8 | * 29 | * 18 | * 29 | * 4.8 | 29.9 |
| Max Q Clear Time (g_c+I1), s | 13.0 | 29.3 | 7.8 | 19.8 | 19.8 | 14.9 | 6.8 | 31.9 |
| Green Ext Time (p_c), s | 0.0 | 3.2 | 0.0 | 3.9 | 0.0 | 3.2 | 0.0 | 0.0 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 118.7 | |
| HCM 6th LOS | F | |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 1006 | 50 | 140 | 773 | 20 | 150 |
| Future Volume (vph) | 1006 | 50 | 140 | 773 | 20 | 150 |
| Confl. Peds. (#/hr) | | 12 | | | | 20 |
| Confl. Bikes (#/hr) | | 4 | | | | 8 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | NA | | Prot | NA | Prot | Perm |
| Protected Phases | 2 | | 1 | 6 | 8 | |
| Permitted Phases | | | | | | 8 |
| Detector Phase | 2 | | 1 | 6 | 8 | 8 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 22.5 | | 8.5 | 20.5 | 22.5 | 22.5 |
| Total Split (s) | 54.0 | | 22.0 | 76.0 | 24.0 | 24.0 |
| Total Split (%) | 54.0% | | 22.0% | 76.0% | 24.0% | 24.0% |
| Yellow Time (s) | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lag | | Lead | | | |
| Lead-Lag Optimize? | Yes | | Yes | | | |
| Recall Mode | Min | | None | Min | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 64.8 |
| Natural Cycle: 60 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 26: Park Center Drive & Mast Blvd

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 1006 | 50 | 140 | 773 | 20 | 150 |
| Future Volume (veh/h) | 1006 | 50 | 140 | 773 | 20 | 150 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | 0.96 | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 1093 | 54 | 152 | 840 | 22 | 163 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 1616 | 80 | 201 | 2403 | 244 | 217 |
| Arrive On Green | 0.47 | 0.47 | 0.11 | 0.68 | 0.14 | 0.14 |
| Sat Flow, veh/h | 3533 | 170 | 1781 | 3647 | 1781 | 1585 |
| Grp Volume(v), veh/h | 564 | 583 | 152 | 840 | 22 | 163 |
| Grp Sat Flow(s),veh/h/ln | 1777 | 1832 | 1781 | 1777 | 1781 | 1585 |
| Q Serve(g_s), s | 11.9 | 11.9 | 4.0 | 4.8 | 0.5 | 4.8 |
| Cycle Q Clear(g_c), s | 11.9 | 11.9 | 4.0 | 4.8 | 0.5 | 4.8 |
| Prop In Lane | | 0.09 | 1.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 835 | 861 | 201 | 2403 | 244 | 217 |
| V/C Ratio(X) | 0.68 | 0.68 | 0.76 | 0.35 | 0.09 | 0.75 |
| Avail Cap(c_a), veh/h | 1826 | 1883 | 647 | 5275 | 721 | 642 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 9.9 | 9.9 | 20.7 | 3.3 | 18.2 | 20.0 |
| Incr Delay (d2), s/veh | 1.0 | 0.9 | 5.7 | 0.1 | 0.2 | 5.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 3.3 | 3.4 | 1.7 | 0.6 | 0.2 | 1.9 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 10.9 | 10.9 | 26.4 | 3.4 | 18.3 | 25.2 |
| LnGrp LOS | B | B | C | A | B | C |
| Approach Vol, veh/h | 1147 | | | 992 | 185 | |
| Approach Delay, s/veh | 10.9 | | | 6.9 | 24.4 | |
| Approach LOS | B | | | A | C | |

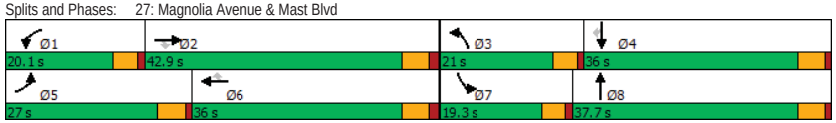
| Timer - Assigned Phs | 1 | 2 | | | 6 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 9.9 | 27.1 | | | 37.1 | 11.1 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 17.5 | 49.5 | | | 71.5 | 19.5 |
| Max Q Clear Time (g_c+I1), s | 6.0 | 13.9 | | | 6.8 | 6.8 |
| Green Ext Time (p_c), s | 0.3 | 8.7 | | | 6.7 | 0.4 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 10.3 | |
| HCM 6th LOS | B | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 536 | 335 | 260 | 110 | 150 | 40 | 390 | 733 | 170 | 150 | 566 | 408 |
| Future Volume (vph) | 536 | 335 | 260 | 110 | 150 | 40 | 390 | 733 | 170 | 150 | 566 | 408 |
| Confl. Peds. (#/hr) | | | 14 | | | 20 | | | 3 | | | 24 |
| Confl. Bikes (#/hr) | | | 1 | | | 4 | | | 2 | | | 6 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 11.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 9.0 | | 7.0 | 9.0 | 9.0 |
| Minimum Split (s) | 16.0 | 34.5 | 34.5 | 11.5 | 34.5 | 34.5 | 11.5 | 35.0 | | 11.5 | 36.0 | 36.0 |
| Total Split (s) | 27.0 | 42.9 | 42.9 | 20.1 | 36.0 | 36.0 | 21.0 | 37.7 | | 19.3 | 36.0 | 36.0 |
| Total Split (%) | 22.5% | 35.8% | 35.8% | 16.8% | 30.0% | 30.0% | 17.5% | 31.4% | | 16.1% | 30.0% | 30.0% |
| Yellow Time (s) | 4.0 | 4.0 | 4.0 | 3.5 | 4.0 | 4.0 | 3.5 | 4.0 | | 3.5 | 4.0 | 4.0 |
| All-Red Time (s) | 1.0 | 1.5 | 1.5 | 1.0 | 1.5 | 1.5 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 5.0 | 5.5 | 5.5 | 4.5 | 5.5 | 5.5 | 4.5 | 5.0 | | 4.5 | 5.0 | 5.0 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | Min | Min | None | Min | Min | None | Min | | None | Min | Min |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 100.2 |
| Natural Cycle: 110 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 27: Magnolia Avenue & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 536 | 335 | 260 | 110 | 150 | 40 | 390 | 733 | 170 | 150 | 566 | 408 |
| Future Volume (veh/h) | 536 | 335 | 260 | 110 | 150 | 40 | 390 | 733 | 170 | 150 | 566 | 408 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.95 | 1.00 | | 0.98 | 1.00 | | 0.96 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 583 | 364 | 283 | 120 | 163 | 43 | 424 | 797 | 185 | 163 | 615 | 443 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 669 | 963 | 417 | 149 | 555 | 234 | 492 | 974 | 226 | 195 | 1095 | 469 |
| Arrive On Green | 0.19 | 0.27 | 0.27 | 0.08 | 0.16 | 0.16 | 0.14 | 0.34 | 0.34 | 0.11 | 0.31 | 0.31 |
| Sat Flow, veh/h | 3456 | 3554 | 1541 | 1781 | 3554 | 1498 | 3456 | 2853 | 662 | 1781 | 3554 | 1523 |
| Grp Volume(v), veh/h | 583 | 364 | 283 | 120 | 163 | 43 | 424 | 496 | 486 | 163 | 615 | 443 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1541 | 1781 | 1777 | 1498 | 1728 | 1777 | 1739 | 1781 | 1777 | 1523 |
| Q Serve(g_s), s | 16.4 | 8.3 | 16.4 | 6.6 | 4.1 | 2.5 | 12.0 | 25.6 | 25.6 | 9.0 | 14.5 | 28.4 |
| Cycle Q Clear(g_c), s | 16.4 | 8.3 | 16.4 | 6.6 | 4.1 | 2.5 | 12.0 | 25.6 | 25.6 | 9.0 | 14.5 | 28.4 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.38 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 669 | 963 | 417 | 149 | 555 | 234 | 492 | 606 | 593 | 195 | 1095 | 469 |
| V/C Ratio(X) | 0.87 | 0.38 | 0.68 | 0.80 | 0.29 | 0.18 | 0.86 | 0.82 | 0.82 | 0.84 | 0.56 | 0.94 |
| Avail Cap(c_a), veh/h | 759 | 1328 | 576 | 278 | 1083 | 456 | 570 | 606 | 593 | 263 | 1100 | 472 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 39.2 | 29.6 | 32.6 | 45.1 | 37.4 | 36.7 | 42.0 | 30.1 | 30.1 | 43.7 | 29.0 | 33.8 |
| Incr Delay (d2), s/veh | 10.2 | 0.3 | 2.3 | 3.8 | 0.4 | 0.5 | 10.3 | 8.7 | 8.8 | 12.2 | 0.6 | 27.8 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 7.6 | 3.5 | 6.1 | 3.0 | 1.8 | 0.9 | 5.7 | 11.8 | 11.5 | 4.5 | 6.0 | 13.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 49.4 | 29.9 | 34.9 | 48.9 | 37.7 | 37.1 | 52.3 | 38.8 | 39.0 | 56.0 | 29.6 | 61.6 |
| LnGrp LOS | D | C | C | D | D | D | D | D | D | E | C | E |
| Approach Vol, veh/h | | 1230 | | | 326 | | | 1406 | | | 1221 | |
| Approach Delay, s/veh | | 40.3 | | | 41.7 | | | 42.9 | | | 44.8 | |
| Approach LOS | | D | | | D | | | D | | | D | |

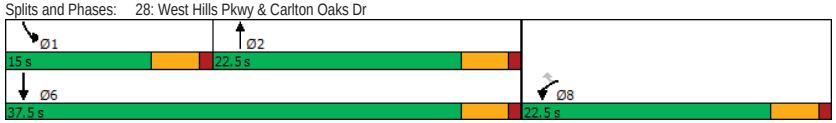
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 12.9 | 32.6 | 18.8 | 35.8 | 24.4 | 21.1 | 15.4 | 39.2 |
| Change Period (Y+Rc), s | 4.5 | 5.5 | 4.5 | 5.0 | 5.0 | 5.5 | 4.5 | 5.0 |
| Max Green Setting (Gmax), s | 15.6 | 37.4 | 16.5 | 31.0 | 22.0 | 30.5 | 14.8 | 32.7 |
| Max Q Clear Time (g_c+I1), s | 8.6 | 18.4 | 14.0 | 30.4 | 18.4 | 6.1 | 11.0 | 27.6 |
| Green Ext Time (p_c), s | 0.1 | 3.8 | 0.3 | 0.4 | 1.0 | 1.3 | 0.1 | 2.6 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 42.6 |
| HCM 6th LOS | | D |

| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 102 | 150 | 599 | 217 | 300 | 598 |
| Future Volume (vph) | 102 | 150 | 599 | 217 | 300 | 598 |
| Confl. Peds. (#/hr) | | | | 1 | | |
| Confl. Bikes (#/hr) | | 1 | | 5 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | 0% | | | 0% |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | NA | | Prot | NA |
| Protected Phases | 8 | | 2 | | 1 | 6 |
| Permitted Phases | | 8 | | | | |
| Detector Phase | 8 | 8 | 2 | | 1 | 6 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | | 8.5 | 20.5 |
| Total Split (s) | 22.5 | 22.5 | 22.5 | | 15.0 | 37.5 |
| Total Split (%) | 37.5% | 37.5% | 37.5% | | 25.0% | 62.5% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Lead/Lag | | | Lag | | Lead | |
| Lead-Lag Optimize? | | | Yes | | Yes | |
| Recall Mode | None | None | Min | | None | Min |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 48.5 |
| Natural Cycle: 65 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 28: West Hills Pkwy & Carlton Oaks Dr








| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 102 | 150 | 599 | 217 | 300 | 598 |
| Future Volume (veh/h) | 102 | 150 | 599 | 217 | 300 | 598 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | | 0.97 | 1.00 | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | No | | | No |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 111 | 163 | 651 | 236 | 326 | 650 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 212 | 332 | 864 | 313 | 392 | 2373 |
| Arrive On Green | 0.12 | 0.12 | 0.34 | 0.34 | 0.22 | 0.67 |
| Sat Flow, veh/h | 1781 | 2790 | 2627 | 918 | 1781 | 3647 |
| Grp Volume(v), veh/h | 111 | 163 | 456 | 431 | 326 | 650 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1395 | 1777 | 1675 | 1781 | 1777 |
| Q Serve(g_s), s | 2.5 | 2.3 | 9.6 | 9.6 | 7.4 | 3.1 |
| Cycle Q Clear(g_c), s | 2.5 | 2.3 | 9.6 | 9.6 | 7.4 | 3.1 |
| Prop In Lane | 1.00 | 1.00 | | 0.55 | 1.00 | |
| Lane Grp Cap(c), veh/h | 212 | 332 | 606 | 571 | 392 | 2373 |
| V/C Ratio(X) | 0.52 | 0.49 | 0.75 | 0.75 | 0.83 | 0.27 |
| Avail Cap(c_a), veh/h | 759 | 1189 | 757 | 714 | 443 | 2777 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 17.5 | 17.4 | 12.3 | 12.3 | 15.7 | 2.9 |
| Incr Delay (d2), s/veh | 2.0 | 1.1 | 3.3 | 3.5 | 11.5 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.0 | 0.7 | 3.1 | 3.0 | 3.5 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 19.5 | 18.5 | 15.6 | 15.9 | 27.2 | 2.9 |
| LnGrp LOS | B | B | B | B | C | A |
| Approach Vol, veh/h | 274 | | 887 | | | 976 |
| Approach Delay, s/veh | 18.9 | | 15.8 | | | 11.0 |
| Approach LOS | B | | B | | | B |

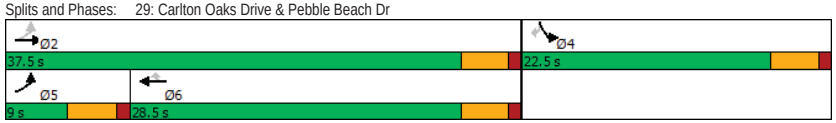
| Timer - Assigned Phs | 1 | 2 | | | 6 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 13.8 | 18.9 | | | 32.7 | 9.5 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 10.5 | 18.0 | | | 33.0 | 18.0 |
| Max Q Clear Time (g_c+I1), s | 9.4 | 11.6 | | | 5.1 | 4.5 |
| Green Ext Time (p_c), s | 0.1 | 2.8 | | | 4.3 | 0.8 |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 14.0 | |
| HCM 6th LOS | | B | |

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 10 | 412 | 367 | 40 | 30 | 10 |
| Future Volume (vph) | 10 | 412 | 367 | 40 | 30 | 10 |
| Confl. Peds. (#/hr) | | | | 8 | | |
| Confl. Bikes (#/hr) | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | pm+pt | NA | NA | Perm | Prot | Perm |
| Protected Phases | 5 | 2 | 6 | | 4 | |
| Permitted Phases | 2 | | | 6 | | 4 |
| Detector Phase | 5 | 2 | 6 | 6 | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 |
| Total Split (s) | 9.0 | 37.5 | 28.5 | 28.5 | 22.5 | 22.5 |
| Total Split (%) | 15.0% | 62.5% | 47.5% | 47.5% | 37.5% | 37.5% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | | Lag | Lag | | |
| Lead-Lag Optimize? | Yes | | Yes | Yes | | |
| Recall Mode | None | Min | Min | Min | None | None |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 37.1 |
| Natural Cycle: 55 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 29: Carlton Oaks Drive & Pebble Beach Dr








| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 10 | 412 | 367 | 40 | 30 | 10 |
| Future Volume (veh/h) | 10 | 412 | 367 | 40 | 30 | 10 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 0.99 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 11 | 448 | 399 | 43 | 33 | 11 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 516 | 1074 | 693 | 581 | 76 | 67 |
| Arrive On Green | 0.01 | 0.57 | 0.37 | 0.37 | 0.04 | 0.04 |
| Sat Flow, veh/h | 1781 | 1870 | 1870 | 1568 | 1781 | 1585 |
| Grp Volume(v), veh/h | 11 | 448 | 399 | 43 | 33 | 11 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1870 | 1568 | 1781 | 1585 |
| Q Serve(g_s), s | 0.1 | 3.1 | 4.0 | 0.4 | 0.4 | 0.2 |
| Cycle Q Clear(g_c), s | 0.1 | 3.1 | 4.0 | 0.4 | 0.4 | 0.2 |
| Prop In Lane | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 516 | 1074 | 693 | 581 | 76 | 67 |
| V/C Ratio(X) | 0.02 | 0.42 | 0.58 | 0.07 | 0.44 | 0.16 |
| Avail Cap(c_a), veh/h | 837 | 2630 | 1912 | 1603 | 1366 | 1216 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 4.1 | 2.8 | 5.9 | 4.8 | 11.0 | 10.8 |
| Incr Delay (d2), s/veh | 0.0 | 0.3 | 0.8 | 0.1 | 3.9 | 1.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.1 | 0.8 | 0.1 | 0.2 | 0.2 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 4.1 | 3.1 | 6.7 | 4.8 | 14.9 | 12.0 |
| LnGrp LOS | A | A | A | A | B | B |
| Approach Vol, veh/h | | 459 | 442 | | 44 | |
| Approach Delay, s/veh | | 3.1 | 6.5 | | 14.1 | |
| Approach LOS | | A | A | | B | |

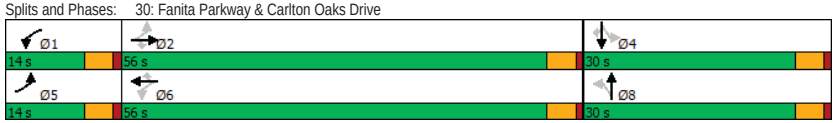
| Timer - Assigned Phs | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 18.0 | | 5.5 | 4.8 | 13.2 |
| Change Period (Y+Rc), s | 4.5 | | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 33.0 | | 18.0 | 4.5 | 24.0 |
| Max Q Clear Time (g_c+I1), s | 5.1 | | 2.4 | 2.1 | 6.0 |
| Green Ext Time (p_c), s | 2.8 | | 0.1 | 0.0 | 2.4 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 5.2 | |
| HCM 6th LOS | A | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 77 | 370 | 5 | 10 | 350 | 272 | 5 | 0 | 10 | 193 | 5 | 47 |
| Future Volume (vph) | 77 | 370 | 5 | 10 | 350 | 272 | 5 | 0 | 10 | 193 | 5 | 47 |
| Confl. Peds. (#/hr) | | | 7 | | | 9 | | | 9 | | | 7 |
| Confl. Bikes (#/hr) | | | 3 | | | 1 | | | 1 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | pm+pt | NA | Perm | pm+pt | NA | Perm | Perm | NA | | Perm | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | 2 | | 2 | 6 | | 6 | 8 | | | 4 | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 8 | 8 | | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | | 7.0 | 7.0 | 7.0 |
| Minimum Split (s) | 11.5 | 26.5 | 26.5 | 11.5 | 20.5 | 20.5 | 22.5 | 22.5 | | 22.5 | 22.5 | 22.5 |
| Total Split (s) | 14.0 | 56.0 | 56.0 | 14.0 | 56.0 | 56.0 | 30.0 | 30.0 | | 30.0 | 30.0 | 30.0 |
| Total Split (%) | 14.0% | 56.0% | 56.0% | 14.0% | 56.0% | 56.0% | 30.0% | 30.0% | | 30.0% | 30.0% | 30.0% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | | | | | | |
| Recall Mode | None | Min | Min | None | Min | Min | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 53.4 |
| Natural Cycle: 65 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 30: Fanita Parkway & Carlton Oaks Drive








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 77 | 370 | 5 | 10 | 350 | 272 | 5 | 0 | 10 | 193 | 5 | 47 |
| Future Volume (veh/h) | 77 | 370 | 5 | 10 | 350 | 272 | 5 | 0 | 10 | 193 | 5 | 47 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 0.99 | | 0.97 | 0.99 | | 0.96 | 0.98 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 84 | 402 | 5 | 11 | 380 | 296 | 5 | 0 | 11 | 210 | 5 | 51 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 491 | 762 | 626 | 462 | 598 | 489 | 182 | 46 | 231 | 494 | 413 | 345 |
| Arrive On Green | 0.11 | 0.41 | 0.41 | 0.02 | 0.32 | 0.32 | 0.22 | 0.00 | 0.22 | 0.22 | 0.22 | 0.22 |
| Sat Flow, veh/h | 1781 | 1870 | 1536 | 1781 | 1870 | 1530 | 267 | 208 | 1045 | 1376 | 1870 | 1560 |
| Grp Volume(v), veh/h | 84 | 402 | 5 | 11 | 380 | 296 | 16 | 0 | 0 | 210 | 5 | 51 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1536 | 1781 | 1870 | 1530 | 1520 | 0 | 0 | 1376 | 1870 | 1560 |
| Q Serve(g_s), s | 1.0 | 6.2 | 0.1 | 0.2 | 6.7 | 6.3 | 0.0 | 0.0 | 0.0 | 5.0 | 0.1 | 1.0 |
| Cycle Q Clear(g_c), s | 1.0 | 6.2 | 0.1 | 0.2 | 6.7 | 6.3 | 0.3 | 0.0 | 0.0 | 5.3 | 0.1 | 1.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 0.31 | | 0.69 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 491 | 762 | 626 | 462 | 598 | 489 | 459 | 0 | 0 | 494 | 413 | 345 |
| V/C Ratio(X) | 0.17 | 0.53 | 0.01 | 0.02 | 0.63 | 0.60 | 0.03 | 0.00 | 0.00 | 0.42 | 0.01 | 0.15 |
| Avail Cap(c_a), veh/h | 739 | 2506 | 2058 | 866 | 2506 | 2050 | 1102 | 0 | 0 | 1103 | 1241 | 1035 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 6.9 | 8.6 | 6.8 | 8.5 | 11.2 | 11.0 | 11.8 | 0.0 | 0.0 | 13.7 | 11.7 | 12.1 |
| Incr Delay (d2), s/veh | 0.2 | 0.6 | 0.0 | 0.0 | 1.1 | 1.2 | 0.0 | 0.0 | 0.0 | 0.6 | 0.0 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.3 | 1.8 | 0.0 | 0.0 | 2.2 | 1.7 | 0.1 | 0.0 | 0.0 | 1.4 | 0.0 | 0.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 7.1 | 9.2 | 6.8 | 8.5 | 12.3 | 12.2 | 11.8 | 0.0 | 0.0 | 14.3 | 11.7 | 12.3 |
| LnGrp LOS | A | A | A | A | B | B | B | A | A | B | B | B |
| Approach Vol, veh/h | | 491 | | | 687 | | | 16 | | | 266 | |
| Approach Delay, s/veh | | 8.8 | | | 12.2 | | | 11.8 | | | 13.8 | |
| Approach LOS | | A | | | B | | | B | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.3 | 20.2 | | 13.0 | 8.6 | 16.8 | | 13.0 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 9.5 | 51.5 | | 25.5 | 9.5 | 51.5 | | 25.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.2 | 8.2 | | 7.3 | 3.0 | 8.7 | | 2.3 | | | | |
| Green Ext Time (p_c), s | 0.0 | 2.6 | | 0.7 | 0.1 | 3.6 | | 0.0 | | | | |

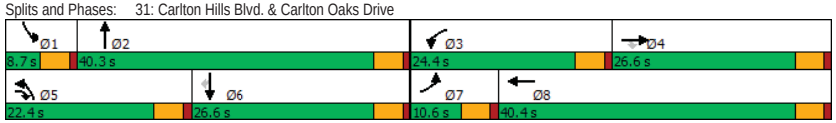
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 11.3 | |
| HCM 6th LOS | B | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 30 | 250 | 388 | 250 | 120 | 20 | 582 | 692 | 320 | 30 | 401 | 20 |
| Future Volume (vph) | 30 | 250 | 388 | 250 | 120 | 20 | 582 | 692 | 320 | 30 | 401 | 20 |
| Confl. Peds. (#/hr) | | | 9 | | | 1 | | | 6 | | | 4 |
| Confl. Bikes (#/hr) | | | 5 | | | 3 | | | 1 | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 7 | 4 | 5 | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | | | | 6 |
| Detector Phase | 7 | 4 | 5 | 3 | 8 | | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 26.5 | 8.5 | 8.5 | 26.5 | | 8.5 | 22.5 | | 8.5 | 22.5 | 22.5 |
| Total Split (s) | 10.6 | 26.6 | 22.4 | 24.4 | 40.4 | | 22.4 | 40.3 | | 8.7 | 26.6 | 26.6 |
| Total Split (%) | 10.6% | 26.6% | 22.4% | 24.4% | 40.4% | | 22.4% | 40.3% | | 8.7% | 26.6% | 26.6% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | | None | Min | | None | Min | Min |

**Intersection Summary**

Cycle Length: 100
Actuated Cycle Length: 89.5
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 31: Carlton Hills Blvd. & Carlton Oaks Drive








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 30 | 250 | 388 | 250 | 120 | 20 | 582 | 692 | 320 | 30 | 401 | 20 |
| Future Volume (veh/h) | 30 | 250 | 388 | 250 | 120 | 20 | 582 | 692 | 320 | 30 | 401 | 20 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 33 | 272 | 422 | 272 | 130 | 22 | 633 | 752 | 348 | 33 | 436 | 22 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 44 | 447 | 681 | 311 | 1182 | 196 | 682 | 852 | 394 | 44 | 678 | 296 |
| Arrive On Green | 0.02 | 0.24 | 0.24 | 0.17 | 0.39 | 0.39 | 0.20 | 0.36 | 0.36 | 0.02 | 0.19 | 0.19 |
| Sat Flow, veh/h | 1781 | 1870 | 1541 | 1781 | 3044 | 504 | 3456 | 2346 | 1084 | 1781 | 3554 | 1553 |
| Grp Volume(v), veh/h | 33 | 272 | 422 | 272 | 75 | 77 | 633 | 569 | 531 | 33 | 436 | 22 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1541 | 1781 | 1777 | 1771 | 1728 | 1777 | 1653 | 1781 | 1777 | 1553 |
| Q Serve(g_s), s | 1.7 | 11.7 | 19.3 | 13.5 | 2.4 | 2.5 | 16.3 | 27.2 | 27.3 | 1.7 | 10.3 | 1.1 |
| Cycle Q Clear(g_c), s | 1.7 | 11.7 | 19.3 | 13.5 | 2.4 | 2.5 | 16.3 | 27.2 | 27.3 | 1.7 | 10.3 | 1.1 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.28 | 1.00 | | 0.66 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 44 | 447 | 681 | 311 | 690 | 687 | 682 | 646 | 601 | 44 | 678 | 296 |
| V/C Ratio(X) | 0.74 | 0.61 | 0.62 | 0.88 | 0.11 | 0.11 | 0.93 | 0.88 | 0.88 | 0.74 | 0.64 | 0.07 |
| Avail Cap(c_a), veh/h | 120 | 456 | 689 | 391 | 704 | 701 | 682 | 702 | 653 | 83 | 866 | 379 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 43.9 | 30.7 | 19.8 | 36.5 | 17.7 | 17.7 | 35.7 | 27.0 | 27.1 | 43.9 | 33.8 | 30.1 |
| Incr Delay (d2), s/veh | 21.5 | 2.3 | 1.7 | 16.5 | 0.1 | 0.1 | 18.9 | 12.0 | 12.9 | 21.5 | 1.0 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.0 | 5.5 | 6.9 | 7.2 | 1.0 | 1.0 | 8.4 | 13.0 | 12.2 | 1.0 | 4.4 | 0.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 65.4 | 33.0 | 21.5 | 53.0 | 17.8 | 17.8 | 54.7 | 39.0 | 39.9 | 65.4 | 34.9 | 30.2 |
| LnGrp LOS | E | C | C | D | B | B | D | D | D | E | C | C |
| Approach Vol, veh/h | | 727 | | | 424 | | | 1733 | | | 491 | |
| Approach Delay, s/veh | | 27.8 | | | 40.4 | | | 45.0 | | | 36.7 | |
| Approach LOS | | C | | | D | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 6.8 | 37.4 | 20.3 | 26.1 | 22.4 | 21.8 | 6.8 | 39.7 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 4.2 | 35.8 | 19.9 | 22.1 | 17.9 | 22.1 | 6.1 | 35.9 |
| Max Q Clear Time (g_c+I1), s | 3.7 | 29.3 | 15.5 | 21.3 | 18.3 | 12.3 | 3.7 | 4.5 |
| Green Ext Time (p_c), s | 0.0 | 3.7 | 0.3 | 0.3 | 0.0 | 2.0 | 0.0 | 0.9 |

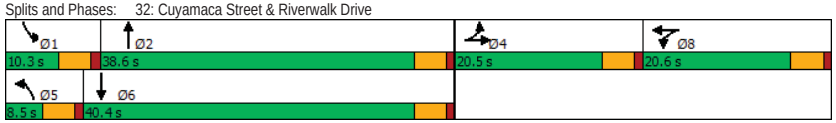
**Intersection Summary**

| | |
|---|---|
| HCM 6th Ctrl Delay | 39.5 |
| HCM 6th LOS | D |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 20 | 10 | 20 | 130 | 0 | 40 | 15 | 1344 | 200 | 90 | 1095 | 5 |
| Future Volume (vph) | 20 | 10 | 20 | 130 | 0 | 40 | 15 | 1344 | 200 | 90 | 1095 | 5 |
| Confl. Peds. (#/hr) | | | 7 | | | 5 | | | 15 | | | 5 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | 3 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Split | NA | | Split | NA | | Prot | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | 20.5 | 20.5 | | 20.5 | 20.5 | | 8.5 | 20.5 | | 8.5 | 20.5 | |
| Total Split (s) | 20.5 | 20.5 | | 20.6 | 20.6 | | 8.5 | 38.6 | | 10.3 | 40.4 | |
| Total Split (%) | 22.8% | 22.8% | | 22.9% | 22.9% | | 9.4% | 42.9% | | 11.4% | 44.9% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 90 |
| Actuated Cycle Length: 76.3 |
| Natural Cycle: 110 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 32: Cuyamaca Street & Riverwalk Drive








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 20 | 10 | 20 | 130 | 0 | 40 | 15 | 1344 | 200 | 90 | 1095 | 5 |
| Future Volume (veh/h) | 20 | 10 | 20 | 130 | 0 | 40 | 15 | 1344 | 200 | 90 | 1095 | 5 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.96 | 1.00 | | 0.97 | 1.00 | | 0.96 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 22 | 11 | 22 | 141 | 0 | 43 | 16 | 1461 | 217 | 98 | 1190 | 5 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 91 | 28 | 55 | 203 | 0 | 176 | 27 | 1547 | 226 | 125 | 2015 | 8 |
| Arrive On Green | 0.05 | 0.05 | 0.05 | 0.11 | 0.00 | 0.11 | 0.02 | 0.50 | 0.50 | 0.07 | 0.56 | 0.56 |
| Sat Flow, veh/h | 1781 | 543 | 1085 | 1781 | 0 | 1543 | 1781 | 3093 | 452 | 1781 | 3629 | 15 |
| Grp Volume(v), veh/h | 22 | 0 | 33 | 141 | 0 | 43 | 16 | 829 | 849 | 98 | 583 | 612 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1628 | 1781 | 0 | 1543 | 1781 | 1777 | 1769 | 1781 | 1777 | 1868 |
| Q Serve(g_s), s | 0.8 | 0.0 | 1.3 | 5.2 | 0.0 | 1.7 | 0.6 | 29.7 | 31.4 | 3.7 | 14.8 | 14.8 |
| Cycle Q Clear(g_c), s | 0.8 | 0.0 | 1.3 | 5.2 | 0.0 | 1.7 | 0.6 | 29.7 | 31.4 | 3.7 | 14.8 | 14.8 |
| Prop In Lane | 1.00 | | 0.67 | 1.00 | | 1.00 | 1.00 | | 0.26 | 1.00 | | 0.01 |
| Lane Grp Cap(c), veh/h | 91 | 0 | 83 | 203 | 0 | 176 | 27 | 889 | 885 | 125 | 987 | 1037 |
| V/C Ratio(X) | 0.24 | 0.00 | 0.40 | 0.70 | 0.00 | 0.24 | 0.59 | 0.93 | 0.96 | 0.78 | 0.59 | 0.59 |
| Avail Cap(c_a), veh/h | 419 | 0 | 383 | 422 | 0 | 365 | 105 | 891 | 887 | 152 | 987 | 1037 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 31.0 | 0.0 | 31.3 | 29.0 | 0.0 | 27.5 | 33.3 | 15.9 | 16.3 | 31.1 | 10.0 | 10.0 |
| Incr Delay (d2), s/veh | 1.4 | 0.0 | 3.1 | 4.3 | 0.0 | 0.7 | 18.3 | 16.2 | 21.0 | 19.0 | 0.9 | 0.9 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.4 | 0.0 | 0.6 | 2.4 | 0.0 | 0.6 | 0.4 | 13.8 | 15.5 | 2.2 | 4.9 | 5.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 32.4 | 0.0 | 34.3 | 33.2 | 0.0 | 28.2 | 51.6 | 32.2 | 37.4 | 50.1 | 10.9 | 10.9 |
| LnGrp LOS | C | A | C | C | A | C | D | C | D | D | B | B |
| Approach Vol, veh/h | | 55 | | | 184 | | | 1694 | | | 1293 | |
| Approach Delay, s/veh | | 33.6 | | | 32.1 | | | 35.0 | | | 13.9 | |
| Approach LOS | | C | | | C | | | C | | | B | |

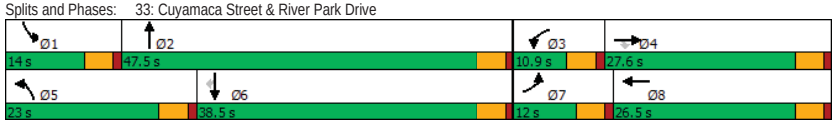
| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 9.3 | 38.5 | | 8.0 | 5.5 | 42.3 | | 12.2 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 5.8 | 34.1 | | 16.0 | 4.0 | 35.9 | | 16.1 | | | | |
| Max Q Clear Time (g_c+I1), s | 5.7 | 33.4 | | 3.3 | 2.6 | 16.8 | | 7.2 | | | | |
| Green Ext Time (p_c), s | 0.0 | 0.6 | | 0.1 | 0.0 | 7.8 | | 0.4 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 26.3 | |
| HCM 6th LOS | C | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 106 | 25 | 110 | 60 | 15 | 40 | 260 | 1348 | 90 | 100 | 1072 | 63 |
| Future Volume (vph) | 106 | 25 | 110 | 60 | 15 | 40 | 260 | 1348 | 90 | 100 | 1072 | 63 |
| Confl. Peds. (#/hr) | | | 3 | | | 5 | | | 6 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | | | | 6 |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 26.5 | 26.5 | 8.5 | 26.5 | | 8.5 | 22.5 | | 8.5 | 26.5 | 26.5 |
| Total Split (s) | 12.0 | 27.6 | 27.6 | 10.9 | 26.5 | | 23.0 | 47.5 | | 14.0 | 38.5 | 38.5 |
| Total Split (%) | 12.0% | 27.6% | 27.6% | 10.9% | 26.5% | | 23.0% | 47.5% | | 14.0% | 38.5% | 38.5% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | | None | Min | | None | Min | Min |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 82.7 |
| Natural Cycle: 100 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 33: Cuyamaca Street & River Park Drive








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 106 | 25 | 110 | 60 | 15 | 40 | 260 | 1348 | 90 | 100 | 1072 | 63 |
| Future Volume (veh/h) | 106 | 25 | 110 | 60 | 15 | 40 | 260 | 1348 | 90 | 100 | 1072 | 63 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 115 | 27 | 120 | 65 | 16 | 43 | 283 | 1465 | 98 | 109 | 1165 | 68 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 146 | 225 | 189 | 83 | 37 | 101 | 330 | 1736 | 116 | 140 | 1448 | 644 |
| Arrive On Green | 0.08 | 0.12 | 0.12 | 0.05 | 0.08 | 0.08 | 0.19 | 0.51 | 0.51 | 0.08 | 0.41 | 0.41 |
| Sat Flow, veh/h | 1781 | 1870 | 1573 | 1781 | 442 | 1189 | 1781 | 3375 | 225 | 1781 | 3554 | 1581 |
| Grp Volume(v), veh/h | 115 | 27 | 120 | 65 | 0 | 59 | 283 | 768 | 795 | 109 | 1165 | 68 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1573 | 1781 | 0 | 1631 | 1781 | 1777 | 1823 | 1781 | 1777 | 1581 |
| Q Serve(g_s), s | 4.7 | 1.0 | 5.4 | 2.7 | 0.0 | 2.6 | 11.5 | 27.7 | 28.1 | 4.5 | 21.6 | 2.0 |
| Cycle Q Clear(g_c), s | 4.7 | 1.0 | 5.4 | 2.7 | 0.0 | 2.6 | 11.5 | 27.7 | 28.1 | 4.5 | 21.6 | 2.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.73 | 1.00 | | 0.12 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 146 | 225 | 189 | 83 | 0 | 138 | 330 | 914 | 937 | 140 | 1448 | 644 |
| V/C Ratio(X) | 0.79 | 0.12 | 0.64 | 0.78 | 0.00 | 0.43 | 0.86 | 0.84 | 0.85 | 0.78 | 0.80 | 0.11 |
| Avail Cap(c_a), veh/h | 178 | 577 | 485 | 152 | 0 | 479 | 440 | 1021 | 1047 | 226 | 1614 | 718 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 33.7 | 29.4 | 31.4 | 35.3 | 0.0 | 32.5 | 29.5 | 15.6 | 15.7 | 33.9 | 19.5 | 13.7 |
| Incr Delay (d2), s/veh | 17.1 | 0.2 | 3.5 | 14.5 | 0.0 | 2.1 | 12.2 | 5.9 | 6.1 | 9.0 | 2.8 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.7 | 0.4 | 2.2 | 1.5 | 0.0 | 1.1 | 5.8 | 10.9 | 11.4 | 2.2 | 8.5 | 0.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 50.8 | 29.6 | 34.9 | 49.8 | 0.0 | 34.6 | 41.7 | 21.4 | 21.8 | 42.9 | 22.3 | 13.8 |
| LnGrp LOS | D | C | C | D | A | C | D | C | C | D | C | B |
| Approach Vol, veh/h | | 262 | | | 124 | | | 1846 | | | 1342 | |
| Approach Delay, s/veh | | 41.3 | | | 42.6 | | | 24.7 | | | 23.6 | |
| Approach LOS | | D | | | D | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 10.4 | 43.0 | 8.0 | 13.5 | 18.4 | 35.0 | 10.6 | 10.8 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 9.5 | 43.0 | 6.4 | 23.1 | 18.5 | 34.0 | 7.5 | 22.0 |
| Max Q Clear Time (g_c+I1), s | 6.5 | 30.1 | 4.7 | 7.4 | 13.5 | 23.6 | 6.7 | 4.6 |
| Green Ext Time (p_c), s | 0.1 | 8.4 | 0.0 | 0.4 | 0.4 | 5.8 | 0.0 | 0.2 |

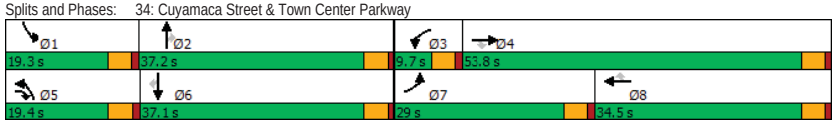
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 26.1 | |
| HCM 6th LOS | C | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 671 | 120 | 235 | 50 | 115 | 226 | 380 | 1276 | 140 | 208 | 1016 | 393 |
| Future Volume (vph) | 671 | 120 | 235 | 50 | 115 | 226 | 380 | 1276 | 140 | 208 | 1016 | 393 |
| Confl. Peds. (#/hr) | | | 12 | | | 9 | | | 17 | | | 4 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | 2 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 7 | 4 | 5 | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | 2 | | | 6 |
| Detector Phase | 7 | 4 | 5 | 3 | 8 | 8 | 5 | 2 | 2 | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 34.5 | 8.5 | 8.5 | 34.5 | 34.5 | 8.5 | 34.5 | 34.5 | 8.5 | 34.5 | 34.5 |
| Total Split (s) | 29.0 | 53.8 | 19.4 | 9.7 | 34.5 | 34.5 | 19.4 | 37.2 | 37.2 | 19.3 | 37.1 | 37.1 |
| Total Split (%) | 24.2% | 44.8% | 16.2% | 8.1% | 28.8% | 28.8% | 16.2% | 31.0% | 31.0% | 16.1% | 30.9% | 30.9% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lead | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | None | None | Min | Min | None | Min | Min |

**Intersection Summary**

Cycle Length: 120
Actuated Cycle Length: 102.6
Natural Cycle: 130
Control Type: Actuated-Uncoordinated

Splits and Phases: 34: Cuyamaca Street & Town Center Parkway








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 671 | 120 | 235 | 50 | 115 | 226 | 380 | 1276 | 140 | 208 | 1016 | 393 |
| Future Volume (veh/h) | 671 | 120 | 235 | 50 | 115 | 226 | 380 | 1276 | 140 | 208 | 1016 | 393 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.97 | 1.00 | | 0.95 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 729 | 130 | 255 | 54 | 125 | 246 | 413 | 1387 | 152 | 226 | 1104 | 427 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 749 | 733 | 824 | 100 | 725 | 315 | 456 | 1475 | 434 | 233 | 1471 | 449 |
| Arrive On Green | 0.22 | 0.39 | 0.39 | 0.03 | 0.20 | 0.20 | 0.13 | 0.29 | 0.29 | 0.13 | 0.29 | 0.29 |
| Sat Flow, veh/h | 3456 | 1870 | 1570 | 3456 | 3554 | 1544 | 3456 | 5106 | 1504 | 1781 | 5106 | 1558 |
| Grp Volume(v), veh/h | 729 | 130 | 255 | 54 | 125 | 246 | 413 | 1387 | 152 | 226 | 1104 | 427 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1870 | 1570 | 1728 | 1777 | 1544 | 1728 | 1702 | 1504 | 1781 | 1702 | 1558 |
| Q Serve(g_s), s | 23.7 | 5.1 | 10.4 | 1.7 | 3.3 | 17.1 | 13.3 | 30.0 | 9.0 | 14.3 | 22.2 | 30.4 |
| Cycle Q Clear(g_c), s | 23.7 | 5.1 | 10.4 | 1.7 | 3.3 | 17.1 | 13.3 | 30.0 | 9.0 | 14.3 | 22.2 | 30.4 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 749 | 733 | 824 | 100 | 725 | 315 | 456 | 1475 | 434 | 233 | 1471 | 449 |
| V/C Ratio(X) | 0.97 | 0.18 | 0.31 | 0.54 | 0.17 | 0.78 | 0.91 | 0.94 | 0.35 | 0.97 | 0.75 | 0.95 |
| Avail Cap(c_a), veh/h | 749 | 816 | 894 | 159 | 943 | 410 | 456 | 1477 | 435 | 233 | 1473 | 450 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 43.9 | 22.5 | 15.3 | 54.1 | 37.1 | 42.6 | 48.4 | 39.2 | 31.8 | 48.9 | 36.5 | 39.5 |
| Incr Delay (d2), s/veh | 26.3 | 0.1 | 0.2 | 4.5 | 0.1 | 7.1 | 21.6 | 12.0 | 0.5 | 50.0 | 2.2 | 30.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 12.8 | 2.3 | 3.7 | 0.8 | 1.4 | 7.1 | 7.0 | 13.8 | 3.3 | 9.5 | 9.3 | 15.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 70.2 | 22.6 | 15.5 | 58.6 | 37.2 | 49.7 | 70.0 | 51.2 | 32.3 | 98.9 | 38.7 | 69.7 |
| LnGrp LOS | E | C | B | E | D | D | E | D | C | F | D | E |
| Approach Vol, veh/h | | 1114 | | | 425 | | | 1952 | | | 1757 | |
| Approach Delay, s/veh | | 52.1 | | | 47.2 | | | 53.7 | | | 54.0 | |
| Approach LOS | | D | | | D | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 19.3 | 37.2 | 7.8 | 48.8 | 19.4 | 37.1 | 29.0 | 27.6 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 14.8 | 32.7 | 5.2 | 49.3 | 14.9 | 32.6 | 24.5 | 30.0 |
| Max Q Clear Time (g_c+I1), s | 16.3 | 32.0 | 3.7 | 12.4 | 15.3 | 32.4 | 25.7 | 19.1 |
| Green Ext Time (p_c), s | 0.0 | 0.6 | 0.0 | 1.7 | 0.0 | 0.2 | 0.0 | 1.2 |

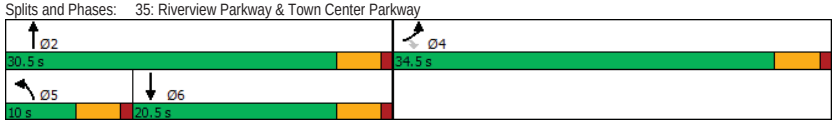
**Intersection Summary**

| | | |
|---|---|---|
| HCM 6th Ctrl Delay | 52.9 | |
| HCM 6th LOS | D | |

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 20 | 236 | 203 | 240 | 140 | 10 |
| Future Volume (vph) | 20 | 236 | 203 | 240 | 140 | 10 |
| Confl. Peds. (#/hr) | | | | | | |
| Confl. Bikes (#/hr) | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | Prot | NA | NA | |
| Protected Phases | 4 | | 5 | 2 | 6 | |
| Permitted Phases | | 4 | | | | |
| Detector Phase | 4 | 4 | 5 | 2 | 6 | |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Minimum Split (s) | 34.5 | 34.5 | 8.5 | 25.5 | 20.5 | |
| Total Split (s) | 34.5 | 34.5 | 10.0 | 30.5 | 20.5 | |
| Total Split (%) | 53.1% | 53.1% | 15.4% | 46.9% | 31.5% | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lead/Lag | | | Lead | | Lag | |
| Lead-Lag Optimize? | | | Yes | | Yes | |
| Recall Mode | None | None | None | Min | Min | |

| Intersection Summary |
|---|
| Cycle Length: 65 |
| Actuated Cycle Length: 37.1 |
| Natural Cycle: 70 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 35: Riverview Parkway & Town Center Parkway








| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 20 | 236 | 203 | 240 | 140 | 10 |
| Future Volume (veh/h) | 20 | 236 | 203 | 240 | 140 | 10 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 22 | 257 | 221 | 261 | 152 | 11 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 400 | 356 | 279 | 1625 | 475 | 34 |
| Arrive On Green | 0.22 | 0.22 | 0.16 | 0.46 | 0.14 | 0.14 |
| Sat Flow, veh/h | 1781 | 1585 | 1781 | 3647 | 3456 | 241 |
| Grp Volume(v), veh/h | 22 | 257 | 221 | 261 | 80 | 83 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 1781 | 1777 | 1777 | 1827 |
| Q Serve(g_s), s | 0.3 | 4.2 | 3.4 | 1.2 | 1.1 | 1.2 |
| Cycle Q Clear(g_c), s | 0.3 | 4.2 | 3.4 | 1.2 | 1.1 | 1.2 |
| Prop In Lane | 1.00 | 1.00 | 1.00 | | | 0.13 |
| Lane Grp Cap(c), veh/h | 400 | 356 | 279 | 1625 | 251 | 258 |
| V/C Ratio(X) | 0.05 | 0.72 | 0.79 | 0.16 | 0.32 | 0.32 |
| Avail Cap(c_a), veh/h | 1888 | 1680 | 346 | 3265 | 1005 | 1033 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 8.6 | 10.2 | 11.5 | 4.5 | 10.9 | 10.9 |
| Incr Delay (d2), s/veh | 0.1 | 2.8 | 9.6 | 0.0 | 0.7 | 0.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.1 | 0.3 | 1.7 | 0.2 | 0.4 | 0.4 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 8.7 | 12.9 | 21.1 | 4.5 | 11.6 | 11.6 |
| LnGrp LOS | A | B | C | A | B | B |
| Approach Vol, veh/h | 279 | | | 482 | 163 | |
| Approach Delay, s/veh | 12.6 | | | 12.1 | 11.6 | |
| Approach LOS | B | | | B | B | |

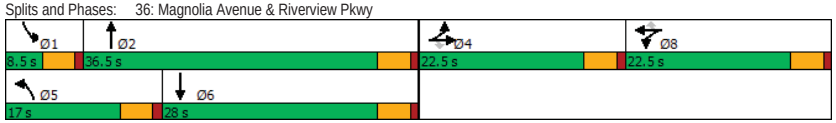
| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 17.4 | | 10.9 | 8.9 | 8.5 |
| Change Period (Y+Rc), s | | 4.5 | | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | | 26.0 | | 30.0 | 5.5 | 16.0 |
| Max Q Clear Time (g_c+I1), s | | 3.2 | | 6.2 | 5.4 | 3.2 |
| Green Ext Time (p_c), s | | 1.6 | | 0.9 | 0.0 | 0.6 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 12.2 | |
| HCM 6th LOS | B | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 5 | 0 | 130 | 90 | 0 | 20 | 270 | 1403 | 90 | 20 | 881 | 30 |
| Future Volume (vph) | 5 | 0 | 130 | 90 | 0 | 20 | 270 | 1403 | 90 | 20 | 881 | 30 |
| Confl. Peds. (#/hr) | | | 8 | | | | | | | | | 1 |
| Confl. Bikes (#/hr) | | | | | | 6 | | | 4 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Split | NA | Perm | Split | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | | | | |
| Detector Phase | 4 | 4 | 4 | 8 | 8 | 8 | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 8.5 | 22.5 | | 8.5 | 22.5 | |
| Total Split (s) | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 17.0 | 36.5 | | 8.5 | 28.0 | |
| Total Split (%) | 25.0% | 25.0% | 25.0% | 25.0% | 25.0% | 25.0% | 18.9% | 40.6% | | 9.4% | 31.1% | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | None | None | None | None | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 90 |
| Actuated Cycle Length: 65.3 |
| Natural Cycle: 100 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 36: Magnolia Avenue & Riverview Pkwy








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 5 | 0 | 130 | 90 | 0 | 20 | 270 | 1403 | 90 | 20 | 881 | 30 |
| Future Volume (veh/h) | 5 | 0 | 130 | 90 | 0 | 20 | 270 | 1403 | 90 | 20 | 881 | 30 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 5 | 0 | 141 | 98 | 0 | 22 | 293 | 1525 | 98 | 22 | 958 | 33 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 224 | 0 | 195 | 143 | 0 | 123 | 338 | 1674 | 107 | 36 | 1137 | 39 |
| Arrive On Green | 0.13 | 0.00 | 0.13 | 0.08 | 0.00 | 0.08 | 0.19 | 0.49 | 0.49 | 0.02 | 0.32 | 0.32 |
| Sat Flow, veh/h | 1781 | 0 | 1555 | 1781 | 0 | 1540 | 1781 | 3386 | 216 | 1781 | 3502 | 121 |
| Grp Volume(v), veh/h | 5 | 0 | 141 | 98 | 0 | 22 | 293 | 796 | 827 | 22 | 486 | 505 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1555 | 1781 | 0 | 1540 | 1781 | 1777 | 1825 | 1781 | 1777 | 1845 |
| Q Serve(g_s), s | 0.2 | 0.0 | 5.6 | 3.4 | 0.0 | 0.9 | 10.3 | 26.4 | 26.9 | 0.8 | 16.4 | 16.4 |
| Cycle Q Clear(g_c), s | 0.2 | 0.0 | 5.6 | 3.4 | 0.0 | 0.9 | 10.3 | 26.4 | 26.9 | 0.8 | 16.4 | 16.4 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.12 | 1.00 | | 0.07 |
| Lane Grp Cap(c), veh/h | 224 | 0 | 195 | 143 | 0 | 123 | 338 | 879 | 903 | 36 | 577 | 599 |
| V/C Ratio(X) | 0.02 | 0.00 | 0.72 | 0.69 | 0.00 | 0.18 | 0.87 | 0.91 | 0.92 | 0.61 | 0.84 | 0.84 |
| Avail Cap(c_a), veh/h | 498 | 0 | 435 | 498 | 0 | 430 | 346 | 883 | 907 | 111 | 649 | 674 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 24.7 | 0.0 | 27.1 | 28.8 | 0.0 | 27.6 | 25.3 | 14.9 | 15.0 | 31.3 | 20.2 | 20.2 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 5.0 | 5.8 | 0.0 | 0.7 | 19.7 | 12.8 | 13.7 | 15.6 | 9.0 | 8.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.1 | 0.0 | 2.2 | 1.6 | 0.0 | 0.3 | 5.8 | 11.4 | 12.1 | 0.5 | 7.1 | 7.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 24.7 | 0.0 | 32.0 | 34.6 | 0.0 | 28.3 | 45.0 | 27.7 | 28.8 | 46.9 | 29.2 | 28.9 |
| LnGrp LOS | C | A | C | C | A | C | D | C | C | D | C | C |
| Approach Vol, veh/h | | 146 | | | 120 | | | 1916 | | | 1013 | |
| Approach Delay, s/veh | | 31.8 | | | 33.4 | | | 30.8 | | | 29.4 | |
| Approach LOS | | C | | | C | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.8 | 36.3 | | 12.6 | 16.7 | 25.4 | | 9.7 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 4.0 | 32.0 | | 18.0 | 12.5 | 23.5 | | 18.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.8 | 28.9 | | 7.6 | 12.3 | 18.4 | | 5.4 | | | | |
| Green Ext Time (p_c), s | 0.0 | 2.5 | | 0.3 | 0.0 | 2.5 | | 0.4 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 30.5 | |
| HCM 6th LOS | C | |

| Intersection | |
|---|---|
| Int Delay, s/veh | 32.9 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 0 | 20 | 0 | 144 | 300 | 866 | 0 | 0 | 307 | 800 |
| Future Vol, veh/h | 0 | 0 | 0 | 20 | 0 | 144 | 300 | 866 | 0 | 0 | 307 | 800 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| Sign Control | Free | Free | Free | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | 190 | - | - | - | - | - |
| Veh in Median Storage, # | - | 2 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 0 | 22 | 0 | 157 | 326 | 941 | 0 | 0 | 334 | 870 |

| Major/Minor | Minor1 | | | Major1 | | | Major2 | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 2362 | 2797 | 941 | 1204 | 0 | - | - | - | 0 |
| Stage 1 | 1593 | 1593 | - | - | - | - | - | - | - |
| Stage 2 | 769 | 1204 | - | - | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.52 | 6.22 | 4.12 | - | - | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 2.218 | - | - | - | - | - |
| Pot Cap-1 Maneuver | 39 | 18 | 319 | 580 | - | 0 | 0 | - | - |
| Stage 1 | 183 | 167 | - | - | - | 0 | 0 | - | - |
| Stage 2 | 457 | 257 | - | - | - | 0 | 0 | - | - |
| Platoon blocked, % | | | | | - | | | - | - |
| Mov Cap-1 Maneuver | ~ 17 | 0 | 319 | 580 | - | - | - | - | - |
| Mov Cap-2 Maneuver | ~ 17 | 0 | - | - | - | - | - | - | - |
| Stage 1 | 80 | 0 | - | - | - | - | - | - | - |
| Stage 2 | 457 | 0 | - | - | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | $ 453.5 | 4.9 | 0 |
| HCM LOS | F | | |

| Minor Lane/Major Mvmt | NBL | NBT | WBLn1 | SBT | SBR |
|---|---|---|---|---|---|
| Capacity (veh/h) | 580 | - | 101 | - | - |
| HCM Lane V/C Ratio | 0.562 | - | 1.765 | - | - |
| HCM Control Delay (s) | 18.9 | - | $ 453.5 | - | - |
| HCM Lane LOS | C | - | F | - | - |
| HCM 95th %tile Q(veh) | 3.5 | - | 14.3 | - | - |

| Notes |
|---|
| ~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon |

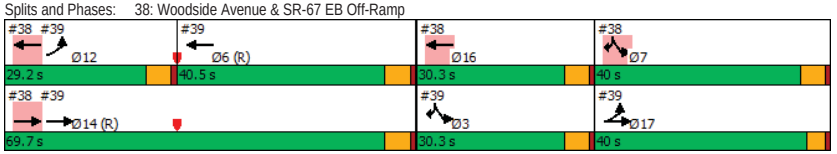




| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR | Ø3 | Ø6 | Ø12 | Ø16 | Ø17 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 650 | 150 | 0 | 820 | 130 | | | | | |
| Future Volume (vph) | 0 | 650 | 150 | 0 | 820 | 130 | | | | | |
| Confl. Peds. (#/hr) | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | | | |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | | | | | |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| Parking (#/hr) | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | | | | | | |
| Shared Lane Traffic (%) | | | | | | | | | | | |
| Turn Type | | NA | NA | | Prot | Prot | | | | | |
| Protected Phases | | 14 | 12 16 | | 7 | 7 | 3 | 6 | 12 | 16 | 17 |
| Permitted Phases | | | | | | | | | | | |
| Detector Phase | | 14 | 12 16 | | 7 | 7 | | | | | |
| Switch Phase | | | | | | | | | | | |
| Minimum Initial (s) | | 4.0 | | | 8.0 | 8.0 | 5.0 | 5.0 | 5.0 | 2.0 | 5.0 |
| Minimum Split (s) | | 20.0 | | | 27.3 | 27.3 | 30.3 | 29.3 | 24.3 | 20.0 | 9.2 |
| Total Split (s) | | 69.7 | | | 40.0 | 40.0 | 30.3 | 40.5 | 29.2 | 30.3 | 40.0 |
| Total Split (%) | | 49.8% | | | 28.6% | 28.6% | 22% | 29% | 21% | 22% | 29% |
| Yellow Time (s) | | 4.3 | | | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 3.2 |
| All-Red Time (s) | | 1.0 | | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | | 0.0 | | | 0.0 | 0.0 | | | | | |
| Total Lost Time (s) | | 5.3 | | | 5.3 | 5.3 | | | | | |
| Lead/Lag | | | | | | | | Lag | Lead | | |
| Lead-Lag Optimize? | | | | | | | | Yes | Yes | | |
| Recall Mode | | C-Max | | | Max | Max | None | C-Max | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 140 |
| Actuated Cycle Length: 140 |
| Offset: 0 (0%), Referenced to phase 6:WBT and 14:EBT, Start of Green |
| Natural Cycle: 145 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 38: Woodside Avenue & SR-67 EB Off-Ramp



2035 + Proj PM
38: Woodside Avenue & SR-67 EB Off-Ramp

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 650 | 150 | 0 | 820 | 130 |
| Future Volume (vph) | 0 | 650 | 150 | 0 | 820 | 130 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 5.3 | 5.3 | | 5.3 | 5.3 |
| Lane Util. Factor | | 0.95 | 1.00 | | 0.97 | 1.00 |
| Frt | | 1.00 | 1.00 | | 1.00 | 0.85 |
| Flt Protected | | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | | 3539 | 1863 | | 3433 | 1583 |
| Flt Permitted | | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (perm) | | 3539 | 1863 | | 3433 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 707 | 163 | 0 | 891 | 141 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 24 |
| Lane Group Flow (vph) | 0 | 707 | 163 | 0 | 891 | 117 |
| Turn Type | | NA | NA | | Prot | Prot |
| Protected Phases | | 14 | 12 16 | | 7 | 7 |
| Permitted Phases | | | | | | |
| Actuated Green, G (s) | | 64.4 | 47.2 | | 36.4 | 36.4 |
| Effective Green, g (s) | | 64.4 | 47.2 | | 36.4 | 36.4 |
| Actuated g/C Ratio | | 0.46 | 0.34 | | 0.26 | 0.26 |
| Clearance Time (s) | | 5.3 | | | 5.3 | 5.3 |
| Vehicle Extension (s) | | 1.0 | | | 3.0 | 3.0 |
| Lane Grp Cap (vph) | | 1627 | 628 | | 892 | 411 |
| v/s Ratio Prot | | c0.20 | c0.09 | | c0.26 | 0.07 |
| v/s Ratio Perm | | | | | | |
| v/c Ratio | | 0.43 | 0.26 | | 1.00 | 0.29 |
| Uniform Delay, d1 | | 25.5 | 33.7 | | 51.8 | 41.4 |
| Progression Factor | | 1.00 | 1.15 | | 1.00 | 1.00 |
| Incremental Delay, d2 | | 0.8 | 0.1 | | 29.9 | 1.7 |
| Delay (s) | | 26.4 | 39.0 | | 81.6 | 43.1 |
| Level of Service | | C | D | | F | D |
| Approach Delay (s) | | 26.4 | 39.0 | | 76.4 | |
| Approach LOS | | C | D | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 54.6 | HCM 2000 Level of Service | D |
| HCM 2000 Volume to Capacity ratio | 0.59 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 21.2 |
| Intersection Capacity Utilization | 50.2% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group



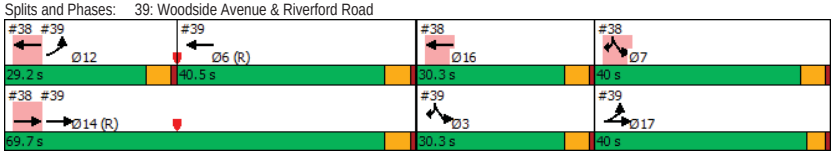
2035 + Proj PM
39: Woodside Avenue & Riverford Road

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR | Ø7 | Ø12 | Ø14 | Ø16 | Ø17 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | |
| Traffic Volume (vph) | 730 | 740 | 110 | 376 | 237 | 40 | | | | | |
| Future Volume (vph) | 730 | 740 | 110 | 376 | 237 | 40 | | | | | |
| Confl. Peds. (#/hr) | | | | | | 2 | | | | | |
| Confl. Bikes (#/hr) | | | | 2 | | 1 | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | | | |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | | | | | |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| Parking (#/hr) | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | | | | | | |
| Shared Lane Traffic (%) | | | | | | | | | | | |
| Turn Type | Prot | NA | NA | | Prot | Prot | | | | | |
| Protected Phases | 12 17 | 14 17 | 6 | | 3 | 3 | 7 | 12 | 14 | 16 | 17 |
| Permitted Phases | | | | | | | | | | | |
| Detector Phase | 12 17 | 14 17 | 6 | | 3 | 3 | | | | | |
| Switch Phase | | | | | | | | | | | |
| Minimum Initial (s) | | | 5.0 | | 5.0 | 5.0 | 8.0 | 5.0 | 4.0 | 2.0 | 5.0 |
| Minimum Split (s) | | | 29.3 | | 30.3 | 30.3 | 27.3 | 24.3 | 20.0 | 20.0 | 9.2 |
| Total Split (s) | | | 40.5 | | 30.3 | 30.3 | 40.0 | 29.2 | 69.7 | 30.3 | 40.0 |
| Total Split (%) | | | 28.9% | | 21.6% | 21.6% | 29% | 21% | 50% | 22% | 29% |
| Yellow Time (s) | | | 4.3 | | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 3.2 |
| All-Red Time (s) | | | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | | | 0.0 | | 0.0 | 0.0 | | | | | |
| Total Lost Time (s) | | | 5.3 | | 5.3 | 5.3 | | | | | |
| Lead/Lag | | | Lag | | | | | Lead | | | |
| Lead-Lag Optimize? | | | Yes | | | | | Yes | | | |
| Recall Mode | | | C-Max | | None | None | Max | None | C-Max | None | None |

| Intersection Summary |
|---|
| Cycle Length: 140 |
| Actuated Cycle Length: 140 |
| Offset: 0 (0%), Referenced to phase 6:WBT and 14:EBT, Start of Green |
| Natural Cycle: 145 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 39: Woodside Avenue & Riverford Road



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 730 | 740 | 110 | 376 | 237 | 40 |
| Future Volume (vph) | 730 | 740 | 110 | 376 | 237 | 40 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.3 | 5.3 | 5.3 | | 5.3 | 5.3 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.98 | | 1.00 | 1.00 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.90 | | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | 1770 | 1863 | 1639 | | 1770 | 1583 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (perm) | 1770 | 1863 | 1639 | | 1770 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 793 | 804 | 120 | 409 | 258 | 43 |
| RTOR Reduction (vph) | 0 | 0 | 88 | 0 | 0 | 27 |
| Lane Group Flow (vph) | 793 | 804 | 441 | 0 | 258 | 16 |
| Confl. Peds. (#/hr) | | | | | | 2 |
| Confl. Bikes (#/hr) | | | | 2 | | 1 |
| Turn Type | Prot | NA | NA | | Prot | Prot |
| Protected Phases | 12 17 | 14 17 | 6 | | 3 | 3 |
| Permitted Phases | | | | | | |
| Actuated Green, G (s) | 65.6 | 106.1 | 35.2 | | 23.3 | 23.3 |
| Effective Green, g (s) | 61.4 | 101.9 | 35.2 | | 23.3 | 23.3 |
| Actuated g/C Ratio | 0.44 | 0.73 | 0.25 | | 0.17 | 0.17 |
| Clearance Time (s) | | | 5.3 | | 5.3 | 5.3 |
| Vehicle Extension (s) | | | 3.0 | | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 776 | 1355 | 412 | | 294 | 263 |
| v/s Ratio Prot | c0.45 | 0.43 | c0.27 | | c0.15 | 0.01 |
| v/s Ratio Perm | | | | | | |
| v/c Ratio | 1.02 | 0.59 | 1.07 | | 0.88 | 0.06 |
| Uniform Delay, d1 | 39.3 | 9.1 | 52.4 | | 57.0 | 49.1 |
| Progression Factor | 0.36 | 0.16 | 1.00 | | 1.00 | 1.00 |
| Incremental Delay, d2 | 31.6 | 0.5 | 64.7 | | 24.2 | 0.1 |
| Delay (s) | 45.7 | 1.9 | 117.1 | | 81.1 | 49.2 |
| Level of Service | D | A | F | | F | D |
| Approach Delay (s) | | 23.7 | 117.1 | | 76.6 | |
| Approach LOS | | C | F | | E | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| HCM 2000 Control Delay | 50.6 | HCM 2000 Level of Service | D |
| HCM 2000 Volume to Capacity ratio | 1.02 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 21.2 |
| Intersection Capacity Utilization | 96.3% | ICU Level of Service | F |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

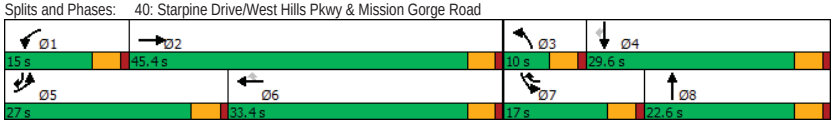




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 631 | 880 | 85 | 85 | 485 | 280 | 30 | 40 | 60 | 260 | 60 | 405 |
| Future Volume (vph) | 631 | 880 | 85 | 85 | 485 | 280 | 30 | 40 | 60 | 260 | 60 | 405 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | 1 |
| Confl. Bikes (#/hr) | | | 5 | | | 6 | | | | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Prot | NA | | Prot | NA | pm+ov |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 5 |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 5 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 29.5 | | 8.5 | 29.5 | 8.5 | 8.5 | 22.5 | | 8.5 | 29.5 | 8.5 |
| Total Split (s) | 27.0 | 45.4 | | 15.0 | 33.4 | 17.0 | 10.0 | 22.6 | | 17.0 | 29.6 | 27.0 |
| Total Split (%) | 27.0% | 45.4% | | 15.0% | 33.4% | 17.0% | 10.0% | 22.6% | | 17.0% | 29.6% | 27.0% |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | Lead |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | Min | | None | Min | None | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 75.4 |
| Natural Cycle: 90 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 40: Starpine Drive/West Hills Pkwy & Mission Gorge Road



2035 + Proj PM
40: Starpine Drive/West Hills Pkwy & Mission Gorge Road

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 631 | 880 | 85 | 85 | 485 | 280 | 30 | 40 | 60 | 260 | 60 | 405 |
| Future Volume (veh/h) | 631 | 880 | 85 | 85 | 485 | 280 | 30 | 40 | 60 | 260 | 60 | 405 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 1.00 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 686 | 957 | 92 | 92 | 527 | 304 | 33 | 43 | 65 | 283 | 65 | 440 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 852 | 1396 | 134 | 119 | 881 | 572 | 50 | 68 | 103 | 405 | 356 | 1202 |
| Arrive On Green | 0.25 | 0.43 | 0.43 | 0.07 | 0.25 | 0.25 | 0.03 | 0.10 | 0.10 | 0.12 | 0.19 | 0.19 |
| Sat Flow, veh/h | 3456 | 3267 | 314 | 1781 | 3554 | 1558 | 1781 | 672 | 1016 | 3456 | 1870 | 2705 |
| Grp Volume(v), veh/h | 686 | 520 | 529 | 92 | 527 | 304 | 33 | 0 | 108 | 283 | 65 | 440 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1805 | 1781 | 1777 | 1558 | 1781 | 0 | 1688 | 1728 | 1870 | 1353 |
| Q Serve(g_s), s | 11.7 | 14.8 | 14.9 | 3.2 | 8.2 | 9.6 | 1.1 | 0.0 | 3.8 | 4.9 | 1.8 | 6.9 |
| Cycle Q Clear(g_c), s | 11.7 | 14.8 | 14.9 | 3.2 | 8.2 | 9.6 | 1.1 | 0.0 | 3.8 | 4.9 | 1.8 | 6.9 |
| Prop In Lane | 1.00 | | 0.17 | 1.00 | | 1.00 | 1.00 | | 0.60 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 852 | 759 | 771 | 119 | 881 | 572 | 50 | 0 | 171 | 405 | 356 | 1202 |
| V/C Ratio(X) | 0.81 | 0.69 | 0.69 | 0.77 | 0.60 | 0.53 | 0.66 | 0.00 | 0.63 | 0.70 | 0.18 | 0.37 |
| Avail Cap(c_a), veh/h | 1242 | 1161 | 1179 | 299 | 1640 | 904 | 156 | 0 | 488 | 690 | 750 | 1772 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 22.2 | 14.5 | 14.5 | 28.7 | 20.8 | 15.7 | 30.1 | 0.0 | 27.0 | 26.6 | 21.3 | 11.9 |
| Incr Delay (d2), s/veh | 2.5 | 1.1 | 1.1 | 10.0 | 0.7 | 0.8 | 14.1 | 0.0 | 3.8 | 2.2 | 0.2 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 4.2 | 4.6 | 4.7 | 1.5 | 2.9 | 3.2 | 0.7 | 0.0 | 1.7 | 1.9 | 0.7 | 1.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 24.7 | 15.6 | 15.6 | 38.7 | 21.4 | 16.5 | 44.3 | 0.0 | 30.9 | 28.8 | 21.5 | 12.0 |
| LnGrp LOS | C | B | B | D | C | B | D | A | C | C | C | B |
| Approach Vol, veh/h | | 1735 | | | 923 | | | 141 | | | 788 | |
| Approach Delay, s/veh | | 19.2 | | | 21.5 | | | 34.0 | | | 18.8 | |
| Approach LOS | | B | | | C | | | C | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 8.7 | 31.3 | 6.2 | 16.4 | 19.9 | 20.0 | 11.8 | 10.8 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 10.5 | 40.9 | 5.5 | 25.1 | 22.5 | 28.9 | 12.5 | 18.1 |
| Max Q Clear Time (g_c+I1), s | 5.2 | 16.9 | 3.1 | 8.9 | 13.7 | 11.6 | 6.9 | 5.8 |
| Green Ext Time (p_c), s | 0.1 | 6.2 | 0.0 | 1.9 | 1.7 | 3.9 | 0.5 | 0.4 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 20.3 |
| HCM 6th LOS | C |

HCM 6th Signalized Intersection Summary
N:\2462\Analysis\Intersections\Synchro\Long-Term\12 2035+P PM.syn

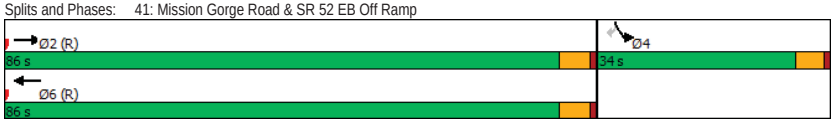
2035 + Proj PM
41: Mission Gorge Road & SR 52 EB Off Ramp

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 1195 | 815 | 0 | 357 | 65 |
| Future Volume (vph) | 0 | 1195 | 815 | 0 | 357 | 65 |
| Confl. Peds. (#/hr) | | | | | | |
| Confl. Bikes (#/hr) | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | | NA | NA | | Prot | Perm |
| Protected Phases | | 2 | 6 | | 4 | |
| Permitted Phases | | | | | | 4 |
| Detector Phase | | 2 | 6 | | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | | 6.0 | 11.0 | | 10.0 | 10.0 |
| Minimum Split (s) | | 20.0 | 20.0 | | 20.0 | 20.0 |
| Total Split (s) | | 86.0 | 86.0 | | 34.0 | 34.0 |
| Total Split (%) | | 71.7% | 71.7% | | 28.3% | 28.3% |
| Yellow Time (s) | | 4.4 | 4.4 | | 4.1 | 4.1 |
| All-Red Time (s) | | 1.0 | 1.0 | | 1.0 | 1.0 |
| Lost Time Adjust (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | | 5.4 | 5.4 | | 5.1 | 5.1 |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | | C-Min | C-Min | | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green, Master Intersection |
| Natural Cycle: 45 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 41: Mission Gorge Road & SR 52 EB Off Ramp




Timings
N:\2462\Analysis\Intersections\Synchro\Long-Term\12 2035+P PM.syn

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 1195 | 815 | 0 | 357 | 65 |
| Future Volume (veh/h) | 0 | 1195 | 815 | 0 | 357 | 65 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 0 | 1870 | 1870 | 0 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 1299 | 886 | 0 | 388 | 71 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 0 | 2 | 2 | 0 | 2 | 2 |
| Cap, veh/h | 0 | 2754 | 2754 | 0 | 475 | 218 |
| Arrive On Green | 0.00 | 0.77 | 1.00 | 0.00 | 0.14 | 0.14 |
| Sat Flow, veh/h | 0 | 3741 | 3741 | 0 | 3456 | 1585 |
| Grp Volume(v), veh/h | 0 | 1299 | 886 | 0 | 388 | 71 |
| Grp Sat Flow(s),veh/h/ln | 0 | 1777 | 1777 | 0 | 1728 | 1585 |
| Q Serve(g_s), s | 0.0 | 15.6 | 0.0 | 0.0 | 13.1 | 4.9 |
| Cycle Q Clear(g_c), s | 0.0 | 15.6 | 0.0 | 0.0 | 13.1 | 4.9 |
| Prop In Lane | 0.00 | | | 0.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 0 | 2754 | 2754 | 0 | 475 | 218 |
| V/C Ratio(X) | 0.00 | 0.47 | 0.32 | 0.00 | 0.82 | 0.33 |
| Avail Cap(c_a), veh/h | 0 | 2754 | 2754 | 0 | 832 | 382 |
| HCM Platoon Ratio | 1.00 | 1.00 | 2.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.00 | 1.00 | 0.93 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 0.0 | 4.8 | 0.0 | 0.0 | 50.3 | 46.7 |
| Incr Delay (d2), s/veh | 0.0 | 0.6 | 0.3 | 0.0 | 3.5 | 0.9 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 5.0 | 0.1 | 0.0 | 5.9 | 2.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 5.4 | 0.3 | 0.0 | 53.8 | 47.6 |
| LnGrp LOS | A | A | A | A | D | D |
| Approach Vol, veh/h | | 1299 | 886 | | 459 | |
| Approach Delay, s/veh | | 5.4 | 0.3 | | 52.8 | |
| Approach LOS | | A | A | | D | |

| Timer - Assigned Phs | | 2 | | 4 | | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 98.4 | | 21.6 | | 98.4 |
| Change Period (Y+Rc), s | | 5.4 | | 5.1 | | 5.4 |
| Max Green Setting (Gmax), s | | 80.6 | | 28.9 | | 80.6 |
| Max Q Clear Time (g_c+I1), s | | 17.6 | | 15.1 | | 2.0 |
| Green Ext Time (p_c), s | | 14.7 | | 1.4 | | 7.2 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 11.9 |
| HCM 6th LOS | B |

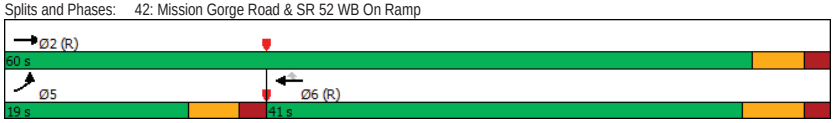




| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 100 | 1452 | 815 | 257 | 0 | 0 |
| Future Volume (vph) | 100 | 1452 | 815 | 257 | 0 | 0 |
| Confl. Peds. (#/hr) | | | | | | |
| Confl. Bikes (#/hr) | | | | 1 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | |
| Shared Lane Traffic (%) | | | | 10% | | |
| Turn Type | Prot | NA | NA | Perm | | |
| Protected Phases | 5 | 2 | 6 | | | |
| Permitted Phases | | | | 6 | | |
| Detector Phase | 5 | 2 | 6 | 6 | | |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 10.0 | 10.0 | | |
| Minimum Split (s) | 10.7 | 21.0 | 22.4 | 22.4 | | |
| Total Split (s) | 19.0 | 60.0 | 41.0 | 41.0 | | |
| Total Split (%) | 31.7% | 100.0% | 68.3% | 68.3% | | |
| Yellow Time (s) | 3.7 | 3.7 | 4.4 | 4.4 | | |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | | |
| Total Lost Time (s) | 5.7 | 5.7 | 6.4 | 6.4 | | |
| Lead/Lag | Lead | | Lag | Lag | | |
| Lead-Lag Optimize? | Yes | | Yes | Yes | | |
| Recall Mode | None | C-Min | C-Min | C-Min | | |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 60 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 40 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 42: Mission Gorge Road & SR 52 WB On Ramp



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 100 | 1452 | 815 | 257 | 0 | 0 |
| Future Volume (veh/h) | 100 | 1452 | 815 | 257 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 0.98 | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Work Zone On Approach | | No | No | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | | |
| Adj Flow Rate, veh/h | 109 | 1578 | 886 | 279 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | | |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | | |
| Cap, veh/h | 141 | 3175 | 2691 | 1117 | | |
| Arrive On Green | 0.16 | 1.00 | 0.96 | 0.96 | | |
| Sat Flow, veh/h | 1781 | 3647 | 3741 | 1553 | | |
| Grp Volume(v), veh/h | 109 | 1578 | 886 | 279 | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1870 | 1553 | | |
| Q Serve(g_s), s | 3.5 | 0.0 | 0.9 | 0.6 | | |
| Cycle Q Clear(g_c), s | 3.5 | 0.0 | 0.9 | 0.6 | | |
| Prop In Lane | 1.00 | | | 1.00 | | |
| Lane Grp Cap(c), veh/h | 141 | 3175 | 2691 | 1117 | | |
| V/C Ratio(X) | 0.78 | 0.50 | 0.33 | 0.25 | | |
| Avail Cap(c_a), veh/h | 395 | 3216 | 2691 | 1117 | | |
| HCM Platoon Ratio | 2.00 | 2.00 | 1.33 | 1.33 | | |
| Upstream Filter(I) | 0.83 | 0.83 | 0.96 | 0.96 | | |
| Uniform Delay (d), s/veh | 24.8 | 0.0 | 0.4 | 0.4 | | |
| Incr Delay (d2), s/veh | 7.4 | 0.5 | 0.3 | 0.5 | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | | |
| %ile BackOfQ(50%),veh/ln | 1.6 | 0.2 | 0.2 | 0.2 | | |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 32.1 | 0.5 | 0.7 | 0.9 | | |
| LnGrp LOS | C | A | A | A | | |
| Approach Vol, veh/h | | 1687 | 1165 | | | |
| Approach Delay, s/veh | | 2.5 | 0.7 | | | |
| Approach LOS | | A | A | | | |

| Timer - Assigned Phs | 2 | 5 | 6 |
|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 60.0 | 10.4 | 49.6 |
| Change Period (Y+Rc), s | * 6.4 | * 5.7 | 6.4 |
| Max Green Setting (Gmax), s | * 54 | * 13 | 34.6 |
| Max Q Clear Time (g_c+I1), s | 2.0 | 5.5 | 2.9 |
| Green Ext Time (p_c), s | 4.6 | 0.1 | 8.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 1.8 |
| HCM 6th LOS | A |

**Notes**

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

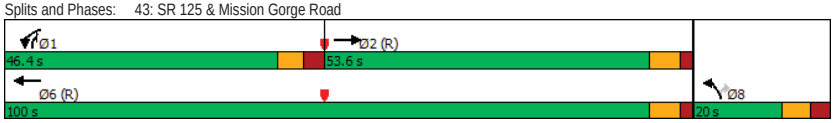




| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 1202 | 250 | 939 | 1027 | 180 | 1242 |
| Future Volume (vph) | 1202 | 250 | 939 | 1027 | 180 | 1242 |
| Confl. Peds. (#/hr) | | 5 | | | | |
| Confl. Bikes (#/hr) | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | NA | | Prot | NA | Prot | pm+ov |
| Protected Phases | 2 | | 1 | 6 | 8 | 1 |
| Permitted Phases | | | | | | 8 |
| Detector Phase | 2 | | 1 | 6 | 8 | 1 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 11.0 | | 5.0 | 10.0 | 5.0 | 5.0 |
| Minimum Split (s) | 17.4 | | 11.7 | 20.0 | 20.0 | 11.7 |
| Total Split (s) | 53.6 | | 46.4 | 100.0 | 20.0 | 46.4 |
| Total Split (%) | 44.7% | | 38.7% | 83.3% | 16.7% | 38.7% |
| Yellow Time (s) | 4.4 | | 3.7 | 4.4 | 4.1 | 3.7 |
| All-Red Time (s) | 2.0 | | 3.0 | 2.0 | 3.0 | 3.0 |
| Lost Time Adjust (s) | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.4 | | 6.7 | 6.4 | 7.1 | 6.7 |
| Lead/Lag | Lag | | Lead | | | Lead |
| Lead-Lag Optimize? | Yes | | Yes | | | Yes |
| Recall Mode | C-Max | | None | C-Max | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 107 (89%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 90 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 43: SR 125 & Mission Gorge Road



2035 + Proj PM
43: SR 125 & Mission Gorge Road

Fanita Ranch
06/06/2019

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 1202 | 250 | 939 | 1027 | 180 | 1242 |
| Future Volume (veh/h) | 1202 | 250 | 939 | 1027 | 180 | 1242 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | 0.99 | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 1307 | 272 | 1021 | 1116 | 196 | 1350 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 1713 | 356 | 1103 | 3983 | 371 | 1190 |
| Arrive On Green | 0.81 | 0.81 | 0.11 | 0.26 | 0.11 | 0.11 |
| Sat Flow, veh/h | 4398 | 880 | 3456 | 5274 | 3456 | 2790 |
| Grp Volume(v), veh/h | 1052 | 527 | 1021 | 1116 | 196 | 1350 |
| Grp Sat Flow(s),veh/h/ln | 1702 | 1706 | 1728 | 1702 | 1728 | 1395 |
| Q Serve(g_s), s | 18.4 | 18.5 | 35.1 | 21.0 | 6.4 | 12.9 |
| Cycle Q Clear(g_c), s | 18.4 | 18.5 | 35.1 | 21.0 | 6.4 | 12.9 |
| Prop In Lane | | 0.52 | 1.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 1378 | 691 | 1103 | 3983 | 371 | 1190 |
| V/C Ratio(X) | 0.76 | 0.76 | 0.93 | 0.28 | 0.53 | 1.13 |
| Avail Cap(c_a), veh/h | 1378 | 691 | 1143 | 3983 | 371 | 1190 |
| HCM Platoon Ratio | 2.00 | 2.00 | 0.33 | 0.33 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.90 | 0.90 | 0.91 | 0.91 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 8.5 | 8.5 | 52.3 | 17.6 | 50.7 | 34.4 |
| Incr Delay (d2), s/veh | 3.7 | 7.1 | 11.5 | 0.2 | 1.4 | 71.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 3.8 | 4.4 | 18.0 | 9.6 | 2.9 | 28.6 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 12.2 | 15.6 | 63.7 | 17.8 | 52.1 | 105.6 |
| LnGrp LOS | B | B | E | B | D | F |
| Approach Vol, veh/h | 1579 | | | 2137 | 1546 | |
| Approach Delay, s/veh | 13.3 | | | 39.7 | 98.8 | |
| Approach LOS | B | | | D | F | |

| Timer - Assigned Phs | 1 | 2 | | | | 6 | 8 |
|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 45.0 | 55.0 | | | | 100.0 | 20.0 |
| Change Period (Y+Rc), s | * 6.7 | 6.4 | | | | 6.4 | 7.1 |
| Max Green Setting (Gmax), s | * 40 | 47.2 | | | | 93.6 | 12.9 |
| Max Q Clear Time (g_c+I1), s | 37.1 | 20.5 | | | | 23.0 | 14.9 |
| Green Ext Time (p_c), s | 1.2 | 12.6 | | | | 9.9 | 0.0 |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 49.2 | |
| HCM 6th LOS | | D | |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

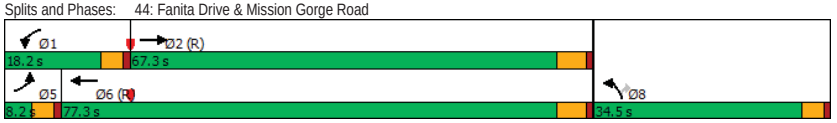




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 5 | 1954 | 460 | 340 | 1306 | 0 | 350 | 0 | 428 | 0 | 0 | 0 |
| Future Volume (vph) | 5 | 1954 | 460 | 340 | 1306 | 0 | 350 | 0 | 428 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | | | 6 | | | | | | | | | |
| Confl. Bikes (#/hr) | | | 4 | | | 3 | | | 3 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | | Perm | | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | | | | | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | | 8 | | | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 7.0 | | 7.0 | | | |
| Minimum Split (s) | 8.2 | 33.3 | | 8.2 | 20.0 | | 34.2 | | 34.2 | | | |
| Total Split (s) | 8.2 | 67.3 | | 18.2 | 77.3 | | 34.5 | | 34.5 | | | |
| Total Split (%) | 6.8% | 56.1% | | 15.2% | 64.4% | | 28.8% | | 28.8% | | | |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | | 3.2 | | 3.2 | | | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | | 1.0 | | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | | 0.0 | | | |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | | 4.2 | | 4.2 | | | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | | None | | | |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 9 (8%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 120 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 44: Fanita Drive & Mission Gorge Road



2035 + Proj PM
44: Fanita Drive & Mission Gorge Road

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 5 | 1954 | 460 | 340 | 1306 | 0 | 350 | 0 | 428 | 0 | 0 | 0 |
| Future Volume (veh/h) | 5 | 1954 | 460 | 340 | 1306 | 0 | 350 | 0 | 428 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 1.00 | 1.00 | | 1.00 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 0 | 1870 | 0 | 1870 | | | |
| Adj Flow Rate, veh/h | 5 | 2124 | 500 | 370 | 1420 | 0 | 380 | 0 | 418 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 0 | 2 | 0 | 2 | | | |
| Cap, veh/h | 9 | 2146 | 477 | 403 | 3208 | 0 | 873 | 0 | 400 | | | |
| Arrive On Green | 0.00 | 0.17 | 0.17 | 0.12 | 0.63 | 0.00 | 0.25 | 0.00 | 0.25 | | | |
| Sat Flow, veh/h | 1781 | 4153 | 923 | 3456 | 5274 | 0 | 3456 | 0 | 1585 | | | |
| Grp Volume(v), veh/h | 5 | 1719 | 905 | 370 | 1420 | 0 | 380 | 0 | 418 | | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1702 | 1672 | 1728 | 1702 | 0 | 1728 | 0 | 1585 | | | |
| Q Serve(g_s), s | 0.3 | 60.3 | 62.0 | 12.7 | 17.2 | 0.0 | 11.1 | 0.0 | 30.3 | | | |
| Cycle Q Clear(g_c), s | 0.3 | 60.3 | 62.0 | 12.7 | 17.2 | 0.0 | 11.1 | 0.0 | 30.3 | | | |
| Prop In Lane | 1.00 | | 0.55 | 1.00 | | 0.00 | 1.00 | | 1.00 | | | |
| Lane Grp Cap(c), veh/h | 9 | 1759 | 864 | 403 | 3208 | 0 | 873 | 0 | 400 | | | |
| V/C Ratio(X) | 0.55 | 0.98 | 1.05 | 0.92 | 0.44 | 0.00 | 0.44 | 0.00 | 1.04 | | | |
| Avail Cap(c_a), veh/h | 59 | 1759 | 864 | 403 | 3208 | 0 | 873 | 0 | 400 | | | |
| HCM Platoon Ratio | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 0.36 | 0.36 | 0.36 | 0.46 | 0.46 | 0.00 | 1.00 | 0.00 | 1.00 | | | |
| Uniform Delay (d), s/veh | 59.8 | 49.1 | 49.8 | 52.4 | 11.5 | 0.0 | 37.7 | 0.0 | 44.8 | | | |
| Incr Delay (d2), s/veh | 17.2 | 8.6 | 32.5 | 14.1 | 0.2 | 0.0 | 0.4 | 0.0 | 57.0 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ln | 0.2 | 29.5 | 35.4 | 6.2 | 6.0 | 0.0 | 4.6 | 0.0 | 17.9 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 77.0 | 57.7 | 82.2 | 66.5 | 11.7 | 0.0 | 38.1 | 0.0 | 101.9 | | | |
| LnGrp LOS | E | E | F | E | B | A | D | A | F | | | |
| Approach Vol, veh/h | | 2629 | | | 1790 | | | 798 | | | | |
| Approach Delay, s/veh | | 66.2 | | | 23.0 | | | 71.5 | | | | |
| Approach LOS | | E | | | C | | | E | | | | |

| Timer - Assigned Phs | 1 | 2 | | | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 18.2 | 67.3 | | | 4.8 | 80.7 | | 34.5 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | | | * 4.2 | 5.3 | | 4.2 | | | | |
| Max Green Setting (Gmax), s | * 14 | 62.0 | | | * 4 | 72.0 | | 30.3 | | | | |
| Max Q Clear Time (g_c+I1), s | 14.7 | 64.0 | | | 2.3 | 19.2 | | 32.3 | | | | |
| Green Ext Time (p_c), s | 0.0 | 0.0 | | | 0.0 | 16.8 | | 0.0 | | | | |

| Intersection Summary | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HCM 6th Ctrl Delay | | | 52.2 | | | | | | | | | |
| HCM 6th LOS | | | D | | | | | | | | | |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



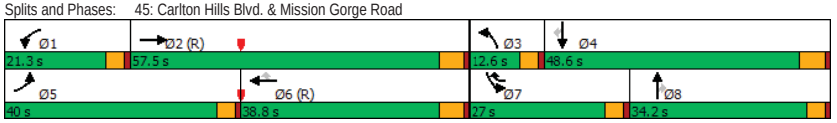
2035 + Proj PM
45: Carlton Hills Blvd. & Mission Gorge Road

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 932 | 1360 | 150 | 150 | 1029 | 637 | 60 | 90 | 25 | 442 | 140 | 652 |
| Future Volume (vph) | 932 | 1360 | 150 | 150 | 1029 | 637 | 60 | 90 | 25 | 442 | 140 | 652 |
| Confl. Peds. (#/hr) | | | 8 | | | | | | 8 | | | 2 |
| Confl. Bikes (#/hr) | | | 1 | | | 2 | | | 1 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | 41% |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | 6 | | | 8 | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | 8 | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 23.3 | | 8.2 | 34.3 | 8.2 | 8.2 | 34.2 | 34.2 | 8.2 | 32.4 | 32.4 |
| Total Split (s) | 40.0 | 57.5 | | 21.3 | 38.8 | 27.0 | 12.6 | 34.2 | 34.2 | 27.0 | 48.6 | 48.6 |
| Total Split (%) | 28.6% | 41.1% | | 15.2% | 27.7% | 19.3% | 9.0% | 24.4% | 24.4% | 19.3% | 34.7% | 34.7% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | 3.2 | 3.2 | 3.2 | 3.2 | 3.2 | 4.4 | 4.4 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | 4.2 | 4.2 | 4.2 | 4.2 | 4.2 | 5.4 | 5.4 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | C-Min | | None | C-Min | None | None | None | None | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 140 |
| Actuated Cycle Length: 140 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 145 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 45: Carlton Hills Blvd. & Mission Gorge Road



2035 + Proj PM — Fanita Ranch

45: Carlton Hills Blvd. & Mission Gorge Road — 06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 932 | 1360 | 150 | 150 | 1029 | 637 | 60 | 90 | 25 | 442 | 140 | 652 |
| Future Volume (veh/h) | 932 | 1360 | 150 | 150 | 1029 | 637 | 60 | 90 | 25 | 442 | 140 | 652 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.99 | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 1013 | 1478 | 163 | 163 | 1118 | 692 | 65 | 98 | 27 | 480 | 518 | 396 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 884 | 1940 | 214 | 186 | 1358 | 652 | 83 | 361 | 298 | 530 | 553 | 467 |
| Arrive On Green | 0.26 | 0.42 | 0.42 | 0.10 | 0.27 | 0.27 | 0.05 | 0.19 | 0.19 | 0.15 | 0.30 | 0.30 |
| Sat Flow, veh/h | 3456 | 4651 | 513 | 1781 | 5106 | 1563 | 1781 | 1870 | 1545 | 3563 | 1870 | 1582 |
| Grp Volume(v), veh/h | 1013 | 1082 | 559 | 163 | 1118 | 692 | 65 | 98 | 27 | 480 | 518 | 396 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1702 | 1759 | 1781 | 1702 | 1563 | 1781 | 1870 | 1545 | 1781 | 1870 | 1582 |
| Q Serve(g_s), s | 35.8 | 38.0 | 38.1 | 12.6 | 28.8 | 37.2 | 5.1 | 6.2 | 2.0 | 18.6 | 37.8 | 32.9 |
| Cycle Q Clear(g_c), s | 35.8 | 38.0 | 38.1 | 12.6 | 28.8 | 37.2 | 5.1 | 6.2 | 2.0 | 18.6 | 37.8 | 32.9 |
| Prop In Lane | 1.00 | | 0.29 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 884 | 1420 | 734 | 186 | 1358 | 652 | 83 | 361 | 298 | 530 | 553 | 467 |
| V/C Ratio(X) | 1.15 | 0.76 | 0.76 | 0.87 | 0.82 | 1.06 | 0.79 | 0.27 | 0.09 | 0.91 | 0.94 | 0.85 |
| Avail Cap(c_a), veh/h | 884 | 1420 | 734 | 218 | 1358 | 652 | 107 | 401 | 331 | 580 | 577 | 488 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.11 | 0.11 | 0.11 | 0.72 | 0.72 | 0.72 | 1.00 | 1.00 | 1.00 | 0.71 | 0.71 | 0.71 |
| Uniform Delay (d), s/veh | 52.1 | 34.9 | 34.9 | 61.8 | 48.3 | 41.1 | 66.1 | 48.1 | 46.4 | 58.6 | 48.1 | 46.4 |
| Incr Delay (d2), s/veh | 67.6 | 0.4 | 0.9 | 19.4 | 4.2 | 47.7 | 24.5 | 0.1 | 0.0 | 12.2 | 17.8 | 9.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 23.5 | 15.4 | 16.1 | 6.7 | 12.6 | 30.8 | 2.9 | 3.0 | 0.8 | 9.2 | 20.1 | 14.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 119.7 | 35.3 | 35.7 | 81.2 | 52.5 | 88.8 | 90.6 | 48.2 | 46.4 | 70.8 | 65.9 | 55.8 |
| LnGrp LOS | F | D | D | F | D | F | F | D | D | E | E | E |
| Approach Vol, veh/h | | 2654 | | | 1973 | | | 190 | | | 1394 | |
| Approach Delay, s/veh | | 67.6 | | | 67.6 | | | 62.5 | | | 64.7 | |
| Approach LOS | | E | | | E | | | E | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 18.8 | 63.7 | 10.7 | 46.8 | 40.0 | 42.5 | 25.0 | 32.4 |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | * 4.2 | 5.4 | * 4.2 | 5.3 | * 4.2 | * 5.4 |
| Max Green Setting (Gmax), s | * 17 | 52.2 | * 8.4 | 43.2 | * 36 | 33.5 | * 23 | * 30 |
| Max Q Clear Time (g_c+I1), s | 14.6 | 40.1 | 7.1 | 39.8 | 37.8 | 39.2 | 20.6 | 8.2 |
| Green Ext Time (p_c), s | 0.0 | 8.4 | 0.0 | 1.6 | 0.0 | 0.0 | 0.3 | 0.3 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 66.8 |
| HCM 6th LOS | E |

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

N:\2462\Analysis\Intersections\Synchro\Long-Term\12 2035+P PM.syn

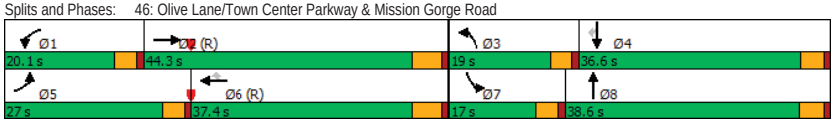
2035 + Proj PM — Fanita Ranch

46: Olive Lane/Town Center Parkway & Mission Gorge Road — 06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 620 | 1171 | 220 | 195 | 715 | 375 | 390 | 290 | 200 | 340 | 190 | 540 |
| Future Volume (vph) | 620 | 1171 | 220 | 195 | 715 | 375 | 390 | 290 | 200 | 340 | 190 | 540 |
| Confl. Peds. (#/hr) | | | 9 | | | 16 | | | 3 | | | 6 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | Perm | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | 10.0 | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 26.3 | | 8.2 | 36.3 | 36.3 | 8.2 | 34.6 | | 8.2 | 36.5 | 36.5 |
| Total Split (s) | 27.0 | 44.3 | | 20.1 | 37.4 | 37.4 | 19.0 | 38.6 | | 17.0 | 36.6 | 36.6 |
| Total Split (%) | 22.5% | 36.9% | | 16.8% | 31.2% | 31.2% | 15.8% | 32.2% | | 14.2% | 30.5% | 30.5% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | 4.3 | 3.2 | 3.6 | | 3.2 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | 5.3 | 4.2 | 4.6 | | 4.2 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | C-Min | | None | C-Min | C-Min | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 61 (51%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 120 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 46: Olive Lane/Town Center Parkway & Mission Gorge Road




Timings

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2035 + Proj PM
46: Olive Lane/Town Center Parkway & Mission Gorge Road

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 620 | 1171 | 220 | 195 | 715 | 375 | 390 | 290 | 200 | 340 | 190 | 540 |
| Future Volume (veh/h) | 620 | 1171 | 220 | 195 | 715 | 375 | 390 | 290 | 200 | 340 | 190 | 540 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 1.00 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 674 | 1273 | 239 | 212 | 777 | 408 | 424 | 315 | 217 | 370 | 207 | 587 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 657 | 1400 | 263 | 236 | 1366 | 416 | 426 | 292 | 201 | 369 | 499 | 739 |
| Arrive On Green | 0.19 | 0.33 | 0.33 | 0.13 | 0.27 | 0.27 | 0.12 | 0.28 | 0.28 | 0.11 | 0.27 | 0.27 |
| Sat Flow, veh/h | 3456 | 4307 | 809 | 1781 | 5106 | 1557 | 3456 | 1030 | 710 | 3456 | 1870 | 2771 |
| Grp Volume(v), veh/h | 674 | 1006 | 506 | 212 | 777 | 408 | 424 | 0 | 532 | 370 | 207 | 587 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1702 | 1711 | 1781 | 1702 | 1557 | 1728 | 0 | 1740 | 1728 | 1870 | 1385 |
| Q Serve(g_s), s | 22.8 | 34.0 | 34.0 | 14.1 | 15.8 | 31.2 | 14.7 | 0.0 | 34.0 | 12.8 | 11.0 | 23.7 |
| Cycle Q Clear(g_c), s | 22.8 | 34.0 | 34.0 | 14.1 | 15.8 | 31.2 | 14.7 | 0.0 | 34.0 | 12.8 | 11.0 | 23.7 |
| Prop In Lane | 1.00 | | 0.47 | 1.00 | | 1.00 | 1.00 | | 0.41 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 657 | 1106 | 556 | 236 | 1366 | 416 | 426 | 0 | 493 | 369 | 499 | 739 |
| V/C Ratio(X) | 1.03 | 0.91 | 0.91 | 0.90 | 0.57 | 0.98 | 0.99 | 0.00 | 1.08 | 1.00 | 0.42 | 0.79 |
| Avail Cap(c_a), veh/h | 657 | 1106 | 556 | 236 | 1366 | 416 | 426 | 0 | 493 | 369 | 500 | 741 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.53 | 0.53 | 0.53 | 0.51 | 0.51 | 0.51 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 48.6 | 38.8 | 38.8 | 51.3 | 38.0 | 43.6 | 52.6 | 0.0 | 43.0 | 53.6 | 36.3 | 40.9 |
| Incr Delay (d2), s/veh | 32.6 | 7.3 | 13.1 | 19.6 | 0.9 | 27.0 | 42.1 | 0.0 | 63.5 | 47.8 | 1.0 | 6.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 12.5 | 14.8 | 15.8 | 7.4 | 6.6 | 15.0 | 8.9 | 0.0 | 23.1 | 8.0 | 5.2 | 8.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 81.2 | 46.1 | 51.9 | 70.8 | 38.9 | 70.6 | 94.7 | 0.0 | 106.5 | 101.4 | 37.3 | 47.5 |
| LnGrp LOS | F | D | D | E | D | E | F | A | F | F | D | D |
| Approach Vol, veh/h | | 2186 | | | 1397 | | | 956 | | | 1164 | |
| Approach Delay, s/veh | | 58.3 | | | 53.0 | | | 101.3 | | | 62.9 | |
| Approach LOS | | E | | | D | | | F | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 20.1 | 44.3 | 19.0 | 36.6 | 27.0 | 37.4 | 17.0 | 38.6 |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | * 4.2 | * 4.6 | * 4.2 | 5.3 | * 4.2 | 4.6 |
| Max Green Setting (Gmax), s | * 16 | 39.0 | * 15 | * 32 | * 23 | 32.1 | * 13 | 34.0 |
| Max Q Clear Time (g_c+I1), s | 16.1 | 36.0 | 16.7 | 25.7 | 24.8 | 33.2 | 14.8 | 36.0 |
| Green Ext Time (p_c), s | 0.0 | 2.4 | 0.0 | 3.2 | 0.0 | 0.0 | 0.0 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 65.1 |
| HCM 6th LOS | E |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



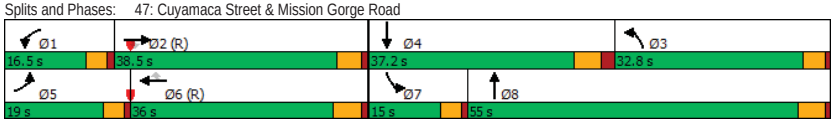
2035 + Proj PM
47: Cuyamaca Street & Mission Gorge Road

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 413 | 733 | 350 | 293 | 540 | 221 | 735 | 1080 | 356 | 348 | 901 | 239 |
| Future Volume (vph) | 413 | 733 | 350 | 293 | 540 | 221 | 735 | 1080 | 356 | 348 | 901 | 239 |
| Confl. Peds. (#/hr) | | | 31 | | | 31 | | | 34 | | | 23 |
| Confl. Bikes (#/hr) | | | 4 | | | 2 | | | 3 | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | 10.0 | 4.0 | 7.0 | | 4.0 | 15.0 | |
| Minimum Split (s) | 19.0 | 34.8 | 34.8 | 8.2 | 34.3 | 34.3 | 8.2 | 38.0 | | 8.2 | 37.0 | |
| Total Split (s) | 19.0 | 38.5 | 38.5 | 16.5 | 36.0 | 36.0 | 32.8 | 55.0 | | 15.0 | 37.2 | |
| Total Split (%) | 15.2% | 30.8% | 30.8% | 13.2% | 28.8% | 28.8% | 26.2% | 44.0% | | 12.0% | 29.8% | |
| Yellow Time (s) | 3.2 | 3.8 | 3.8 | 3.2 | 4.3 | 4.3 | 3.2 | 4.0 | | 3.2 | 4.0 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 2.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.2 | 4.8 | 4.8 | 4.2 | 5.3 | 5.3 | 4.2 | 5.0 | | 4.2 | 6.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lag | Lag | | Lead | Lead | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | C-Min | C-Min | None | C-Min | C-Min | None | None | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 125 |
| Actuated Cycle Length: 125 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green, Master Intersection |
| Natural Cycle: 150 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 47: Cuyamaca Street & Mission Gorge Road



2035 + Proj PM
47: Cuyamaca Street & Mission Gorge Road

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 413 | 733 | 350 | 293 | 540 | 221 | 735 | 1080 | 356 | 348 | 901 | 239 |
| Future Volume (veh/h) | 413 | 733 | 350 | 293 | 540 | 221 | 735 | 1080 | 356 | 348 | 901 | 239 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.96 | 1.00 | | 0.96 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1683 | 1683 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 449 | 797 | 380 | 318 | 587 | 240 | 799 | 1174 | 387 | 378 | 979 | 260 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 409 | 1323 | 390 | 340 | 1221 | 359 | 791 | 957 | 307 | 299 | 992 | 263 |
| Arrive On Green | 0.12 | 0.26 | 0.26 | 0.10 | 0.24 | 0.24 | 0.23 | 0.41 | 0.41 | 0.09 | 0.25 | 0.25 |
| Sat Flow, veh/h | 3456 | 5106 | 1505 | 3456 | 5106 | 1503 | 3456 | 2354 | 756 | 3456 | 3976 | 1053 |
| Grp Volume(v), veh/h | 449 | 797 | 380 | 318 | 587 | 240 | 799 | 788 | 773 | 378 | 838 | 401 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1702 | 1505 | 1728 | 1702 | 1503 | 1728 | 1599 | 1512 | 1728 | 1702 | 1626 |
| Q Serve(g_s), s | 14.8 | 17.1 | 18.1 | 11.4 | 12.4 | 18.1 | 28.6 | 50.8 | 50.8 | 10.8 | 30.6 | 30.7 |
| Cycle Q Clear(g_c), s | 14.8 | 17.1 | 18.1 | 11.4 | 12.4 | 18.1 | 28.6 | 50.8 | 50.8 | 10.8 | 30.6 | 30.7 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.50 | 1.00 | | 0.65 |
| Lane Grp Cap(c), veh/h | 409 | 1323 | 390 | 340 | 1221 | 359 | 791 | 650 | 614 | 299 | 850 | 406 |
| V/C Ratio(X) | 1.10 | 0.60 | 0.97 | 0.94 | 0.48 | 0.67 | 1.01 | 1.21 | 1.26 | 1.27 | 0.99 | 0.99 |
| Avail Cap(c_a), veh/h | 409 | 1377 | 406 | 340 | 1254 | 369 | 791 | 650 | 614 | 299 | 850 | 406 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.22 | 0.22 | 0.22 | 0.85 | 0.85 | 0.85 | 0.09 | 0.09 | 0.09 | 0.77 | 0.77 | 0.77 |
| Uniform Delay (d), s/veh | 55.1 | 40.6 | 15.4 | 56.0 | 40.9 | 43.1 | 48.2 | 37.1 | 37.1 | 57.1 | 46.7 | 46.7 |
| Incr Delay (d2), s/veh | 52.9 | 0.5 | 16.0 | 28.8 | 1.2 | 8.1 | 12.3 | 96.8 | 117.7 | 138.8 | 23.8 | 36.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 9.3 | 7.1 | 7.7 | 6.3 | 5.2 | 7.5 | 13.5 | 36.6 | 38.2 | 10.4 | 15.5 | 16.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 108.0 | 41.1 | 31.5 | 84.7 | 42.0 | 51.2 | 60.5 | 133.9 | 154.8 | 195.9 | 70.5 | 83.1 |
| LnGrp LOS | F | D | C | F | D | D | F | F | F | F | E | F |
| Approach Vol, veh/h | | 1626 | | | 1145 | | | 2360 | | | 1617 | |
| Approach Delay, s/veh | | 57.3 | | | 55.8 | | | 115.9 | | | 102.9 | |
| Approach LOS | | E | | | E | | | F | | | F | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 16.5 | 37.7 | 33.6 | 37.2 | 19.0 | 35.2 | 15.0 | 55.8 |
| Change Period (Y+Rc), s | * 4.2 | * 5.3 | 5.0 | * 6 | * 4.2 | 5.3 | * 4.2 | 5.0 |
| Max Green Setting (Gmax), s | * 12 | * 34 | 28.6 | * 31 | * 15 | 30.7 | * 11 | 50.0 |
| Max Q Clear Time (g_c+I1), s | 13.4 | 20.1 | 30.6 | 32.7 | 16.8 | 20.1 | 12.8 | 52.8 |
| Green Ext Time (p_c), s | 0.0 | 9.9 | 0.0 | 0.0 | 0.0 | 5.0 | 0.0 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 88.5 |
| HCM 6th LOS | F |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



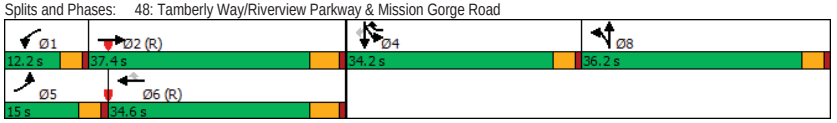
2035 + Proj PM
48: Tamberly Way/Riverview Parkway & Mission Gorge Road

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 213 | 1081 | 75 | 90 | 867 | 235 | 55 | 30 | 45 | 350 | 20 | 211 |
| Future Volume (vph) | 213 | 1081 | 75 | 90 | 867 | 235 | 55 | 30 | 45 | 350 | 20 | 211 |
| Confl. Peds. (#/hr) | | | 13 | | | 13 | | | 10 | | | 8 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | 2 | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | 47% | | |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Split | NA | | Split | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 4 | 8 | 8 | | 4 | 4 | |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 4 | 8 | 8 | | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | 7.0 | 4.0 | 4.0 | | 7.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 23.3 | | 8.2 | 34.3 | 34.2 | 36.2 | 36.2 | | 34.2 | 34.2 | 34.2 |
| Total Split (s) | 15.0 | 37.4 | | 12.2 | 34.6 | 34.2 | 36.2 | 36.2 | | 34.2 | 34.2 | 34.2 |
| Total Split (%) | 12.5% | 31.2% | | 10.2% | 28.8% | 28.5% | 30.2% | 30.2% | | 28.5% | 28.5% | 28.5% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | 3.2 | 3.2 | 3.2 | | 3.2 | 3.2 | 3.2 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | 4.2 | 4.2 | 4.2 | | 4.2 | 4.2 | 4.2 |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | None | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 34 (28%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 125 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 48: Tamberly Way/Riverview Parkway & Mission Gorge Road



2035 + Proj PM
48: Tamberly Way/Riverview Parkway & Mission Gorge Road

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 213 | 1081 | 75 | 90 | 867 | 235 | 55 | 30 | 45 | 350 | 20 | 211 |
| Future Volume (veh/h) | 213 | 1081 | 75 | 90 | 867 | 235 | 55 | 30 | 45 | 350 | 20 | 211 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.95 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 232 | 1175 | 82 | 98 | 942 | 255 | 60 | 33 | 49 | 396 | 0 | 229 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 160 | 2471 | 172 | 119 | 2472 | 1035 | 174 | 65 | 96 | 637 | 0 | 276 |
| Arrive On Green | 0.09 | 0.51 | 0.51 | 0.07 | 0.48 | 0.48 | 0.10 | 0.10 | 0.10 | 0.18 | 0.00 | 0.18 |
| Sat Flow, veh/h | 1781 | 4868 | 340 | 1781 | 5106 | 1553 | 1781 | 659 | 979 | 3563 | 0 | 1541 |
| Grp Volume(v), veh/h | 232 | 821 | 436 | 98 | 942 | 255 | 60 | 0 | 82 | 396 | 0 | 229 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1702 | 1804 | 1781 | 1702 | 1553 | 1781 | 0 | 1638 | 1781 | 0 | 1541 |
| Q Serve(g_s), s | 10.8 | 18.8 | 18.8 | 6.5 | 14.0 | 7.9 | 3.8 | 0.0 | 5.7 | 12.3 | 0.0 | 17.2 |
| Cycle Q Clear(g_c), s | 10.8 | 18.8 | 18.8 | 6.5 | 14.0 | 7.9 | 3.8 | 0.0 | 5.7 | 12.3 | 0.0 | 17.2 |
| Prop In Lane | 1.00 | | 0.19 | 1.00 | | 1.00 | 1.00 | | 0.60 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 160 | 1727 | 915 | 119 | 2472 | 1035 | 174 | 0 | 160 | 637 | 0 | 276 |
| V/C Ratio(X) | 1.45 | 0.48 | 0.48 | 0.83 | 0.38 | 0.25 | 0.34 | 0.00 | 0.51 | 0.62 | 0.00 | 0.83 |
| Avail Cap(c_a), veh/h | 160 | 1727 | 915 | 119 | 2472 | 1035 | 475 | 0 | 437 | 891 | 0 | 385 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.59 | 0.59 | 0.59 | 0.94 | 0.94 | 0.94 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 54.6 | 19.2 | 19.2 | 55.3 | 19.6 | 8.2 | 50.5 | 0.0 | 51.4 | 45.5 | 0.0 | 47.5 |
| Incr Delay (d2), s/veh | 220.8 | 0.6 | 1.0 | 32.3 | 0.4 | 0.5 | 0.4 | 0.0 | 0.9 | 0.4 | 0.0 | 7.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 14.6 | 7.2 | 7.8 | 3.9 | 5.4 | 4.4 | 1.7 | 0.0 | 2.4 | 5.5 | 0.0 | 7.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 275.4 | 19.7 | 20.2 | 87.7 | 20.0 | 8.7 | 51.0 | 0.0 | 52.3 | 45.9 | 0.0 | 54.9 |
| LnGrp LOS | F | B | C | F | C | A | D | A | D | D | A | D |
| Approach Vol, veh/h | | 1489 | | | 1295 | | | 142 | | | 625 | |
| Approach Delay, s/veh | | 59.7 | | | 22.9 | | | 51.8 | | | 49.2 | |
| Approach LOS | | E | | | C | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 12.2 | 66.2 | | 25.7 | 15.0 | 63.4 | | 15.9 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | | * 4.2 | * 4.2 | 5.3 | | 4.2 | | | | |
| Max Green Setting (Gmax), s | * 8 | 32.1 | | * 30 | * 11 | 29.3 | | 32.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 8.5 | 20.8 | | 19.2 | 12.8 | 16.0 | | 7.7 | | | | |
| Green Ext Time (p_c), s | 0.0 | 8.2 | | 1.0 | 0.0 | 8.3 | | 0.4 | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 44.1 | |
| HCM 6th LOS | | D | |

**Notes**

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
N:\2462\Analysis\Intersections\Synchro\Long-Term\12 2035+P PM.syn

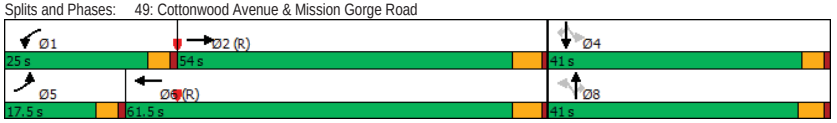
2035 + Proj PM
49: Cottonwood Avenue & Mission Gorge Road

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 85 | 1281 | 170 | 155 | 907 | 80 | 155 | 95 | 195 | 20 | 25 | 25 |
| Future Volume (vph) | 85 | 1281 | 170 | 155 | 907 | 80 | 155 | 95 | 195 | 20 | 25 | 25 |
| Confl. Peds. (#/hr) | | | 3 | | | 14 | | | 1 | | | 4 |
| Confl. Bikes (#/hr) | | | 3 | | | 1 | | | 2 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Perm | NA | Perm | Perm | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | 8 | 4 | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | 8 | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 4.0 | 4.0 | 4.0 | 7.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 23.3 | | 8.2 | 24.3 | | 33.8 | 33.8 | 33.8 | 32.2 | 32.2 | 32.2 |
| Total Split (s) | 17.5 | 54.0 | | 25.0 | 61.5 | | 41.0 | 41.0 | 41.0 | 41.0 | 41.0 | 41.0 |
| Total Split (%) | 14.6% | 45.0% | | 20.8% | 51.3% | | 34.2% | 34.2% | 34.2% | 34.2% | 34.2% | 34.2% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | | 3.8 | 3.8 | 3.8 | 3.2 | 3.2 | 3.2 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | | | 4.8 | 4.8 | | 4.2 | 4.2 |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | None | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 44 (37%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 80 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 49: Cottonwood Avenue & Mission Gorge Road




Timings
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2035 + Proj PM
49: Cottonwood Avenue & Mission Gorge Road

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 85 | 1281 | 170 | 155 | 907 | 80 | 155 | 95 | 195 | 20 | 25 | 25 |
| Future Volume (veh/h) | 85 | 1281 | 170 | 155 | 907 | 80 | 155 | 95 | 195 | 20 | 25 | 25 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.97 | 1.00 | | 0.99 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 92 | 1392 | 185 | 168 | 986 | 87 | 168 | 103 | 212 | 22 | 27 | 27 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 114 | 2104 | 280 | 198 | 2429 | 214 | 49 | 0 | 479 | 43 | 38 | 478 |
| Arrive On Green | 0.13 | 0.93 | 0.93 | 0.04 | 0.17 | 0.17 | 0.31 | 0.31 | 0.31 | 0.31 | 0.31 | 0.31 |
| Sat Flow, veh/h | 1781 | 4543 | 604 | 1781 | 4762 | 419 | 0 | 0 | 1562 | 0 | 125 | 1559 |
| Grp Volume(v), veh/h | 92 | 1043 | 534 | 168 | 704 | 369 | 271 | 0 | 212 | 49 | 0 | 27 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1702 | 1743 | 1781 | 1702 | 1777 | 0 | 0 | 1562 | 125 | 0 | 1559 |
| Q Serve(g_s), s | 6.0 | 7.0 | 7.0 | 11.3 | 22.2 | 22.2 | 0.0 | 0.0 | 13.1 | 0.0 | 0.0 | 1.5 |
| Cycle Q Clear(g_c), s | 6.0 | 7.0 | 7.0 | 11.3 | 22.2 | 22.2 | 36.8 | 0.0 | 13.1 | 36.8 | 0.0 | 1.5 |
| Prop In Lane | 1.00 | | 0.35 | 1.00 | | 0.24 | 0.62 | | 1.00 | 0.45 | | 1.00 |
| Lane Grp Cap(c), veh/h | 114 | 1576 | 807 | 198 | 1736 | 907 | 49 | 0 | 479 | 82 | 0 | 478 |
| V/C Ratio(X) | 0.81 | 0.66 | 0.66 | 0.85 | 0.41 | 0.41 | 5.58 | 0.00 | 0.44 | 0.60 | 0.00 | 0.06 |
| Avail Cap(c_a), veh/h | 197 | 1576 | 807 | 309 | 1736 | 907 | 49 | 0 | 479 | 82 | 0 | 478 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.83 | 0.83 | 0.83 | 0.40 | 0.40 | 0.40 | 0.97 | 0.00 | 0.97 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 51.6 | 2.6 | 2.6 | 56.8 | 33.7 | 33.7 | 60.0 | 0.0 | 33.4 | 34.5 | 0.0 | 29.4 |
| Incr Delay (d2), s/veh | 4.2 | 1.8 | 3.5 | 3.2 | 0.3 | 0.5 | 2102.3 | 0.0 | 0.2 | 8.3 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.6 | 1.5 | 1.9 | 5.5 | 10.1 | 10.7 | 29.9 | 0.0 | 5.0 | 1.2 | 0.0 | 0.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 55.8 | 4.5 | 6.2 | 60.0 | 33.9 | 34.2 | 2162.3 | 0.0 | 33.6 | 42.8 | 0.0 | 29.4 |
| LnGrp LOS | E | A | A | E | C | C | F | A | C | D | A | C |
| Approach Vol, veh/h | | 1669 | | | 1241 | | | 483 | | | 76 | |
| Approach Delay, s/veh | | 7.8 | | | 37.6 | | | 1227.9 | | | 38.1 | |
| Approach LOS | | A | | | D | | | F | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 17.5 | 60.9 | | 41.6 | 11.9 | 66.5 | | 41.6 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | | * 4.8 | * 4.2 | 5.3 | | * 4.8 | | | | |
| Max Green Setting (Gmax), s | * 21 | 48.7 | | * 37 | * 13 | 56.2 | | * 36 | | | | |
| Max Q Clear Time (g_c+I1), s | 13.3 | 9.0 | | 38.8 | 8.0 | 24.2 | | 38.8 | | | | |
| Green Ext Time (p_c), s | 0.1 | 12.1 | | 0.0 | 0.0 | 11.8 | | 0.0 | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 189.0 | |
| HCM 6th LOS | | F | |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
N:\2462\Analysis\Intersections\Synchro\Long-Term\12 2035+P PM.syn

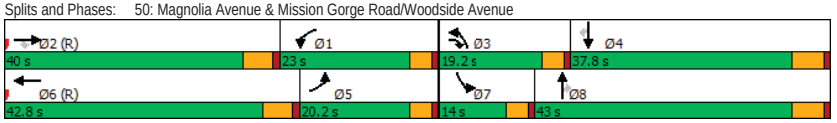
2035 + Proj PM
50: Magnolia Avenue & Mission Gorge Road/Woodside Avenue

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 421 | 700 | 435 | 595 | 635 | 345 | 310 | 1147 | 495 | 288 | 671 | 232 |
| Future Volume (vph) | 421 | 700 | 435 | 595 | 635 | 345 | 310 | 1147 | 495 | 288 | 671 | 232 |
| Confl. Peds. (#/hr) | | | 2 | | | 9 | | | 13 | | | 1 |
| Confl. Bikes (#/hr) | | | 2 | | | 1 | | | 3 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | | | | 8 | | | 4 |
| Detector Phase | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | 8 | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 4.0 | 4.0 | 10.0 | | 4.0 | 7.0 | 7.0 | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 38.3 | 8.2 | 8.2 | 35.3 | | 8.2 | 34.7 | 34.7 | 8.2 | 35.7 | 35.7 |
| Total Split (s) | 20.2 | 40.0 | 19.2 | 23.0 | 42.8 | | 19.2 | 43.0 | 43.0 | 14.0 | 37.8 | 37.8 |
| Total Split (%) | 16.8% | 33.3% | 16.0% | 19.2% | 35.7% | | 16.0% | 35.8% | 35.8% | 11.7% | 31.5% | 31.5% |
| Yellow Time (s) | 3.2 | 4.3 | 3.2 | 3.2 | 4.3 | | 3.2 | 4.7 | 4.7 | 3.2 | 4.7 | 4.7 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | 4.2 | 4.2 | 5.3 | | 4.2 | 5.7 | 5.7 | 4.2 | 5.7 | 5.7 |
| Lead/Lag | Lag | Lead | Lead | Lag | Lead | | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | C-Min | None | None | C-Min | | None | None | None | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 79 (66%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 145 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 50: Magnolia Avenue & Mission Gorge Road/Woodside Avenue




Timings
N:\2462\Analysis\Intersections\Synchro\Long-Term\12 2035+P PM.syn

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 421 | 700 | 435 | 595 | 635 | 345 | 310 | 1147 | 495 | 288 | 671 | 232 |
| Future Volume (veh/h) | 421 | 700 | 435 | 595 | 635 | 345 | 310 | 1147 | 495 | 288 | 671 | 232 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 458 | 761 | 473 | 647 | 690 | 375 | 337 | 1247 | 538 | 313 | 729 | 252 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 461 | 910 | 577 | 656 | 689 | 374 | 386 | 1105 | 480 | 282 | 997 | 444 |
| Arrive On Green | 0.22 | 0.43 | 0.43 | 0.19 | 0.31 | 0.31 | 0.22 | 0.62 | 0.62 | 0.08 | 0.28 | 0.28 |
| Sat Flow, veh/h | 3456 | 3554 | 1560 | 3456 | 2204 | 1197 | 3456 | 3554 | 1543 | 3456 | 3554 | 1583 |
| Grp Volume(v), veh/h | 458 | 761 | 473 | 647 | 556 | 509 | 337 | 1247 | 538 | 313 | 729 | 252 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1560 | 1728 | 1777 | 1624 | 1728 | 1777 | 1543 | 1728 | 1777 | 1583 |
| Q Serve(g_s), s | 15.9 | 22.9 | 18.6 | 22.4 | 37.5 | 37.5 | 11.3 | 37.3 | 22.6 | 9.8 | 22.3 | 11.4 |
| Cycle Q Clear(g_c), s | 15.9 | 22.9 | 18.6 | 22.4 | 37.5 | 37.5 | 11.3 | 37.3 | 22.6 | 9.8 | 22.3 | 11.4 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.74 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 461 | 910 | 577 | 656 | 555 | 508 | 386 | 1105 | 480 | 282 | 997 | 444 |
| V/C Ratio(X) | 0.99 | 0.84 | 0.82 | 0.99 | 1.00 | 1.00 | 0.87 | 1.13 | 1.12 | 1.11 | 0.73 | 0.57 |
| Avail Cap(c_a), veh/h | 461 | 1028 | 628 | 656 | 555 | 508 | 432 | 1105 | 480 | 282 | 997 | 444 |
| HCM Platoon Ratio | 1.67 | 1.67 | 1.67 | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.79 | 0.79 | 0.79 | 1.00 | 1.00 | 1.00 | 0.70 | 0.70 | 0.70 | 0.63 | 0.63 | 0.63 |
| Uniform Delay (d), s/veh | 46.6 | 32.1 | 10.4 | 48.5 | 41.3 | 41.3 | 45.8 | 22.7 | 8.3 | 55.1 | 39.1 | 18.1 |
| Incr Delay (d2), s/veh | 35.6 | 7.3 | 10.0 | 31.6 | 38.5 | 40.6 | 11.1 | 66.7 | 72.9 | 75.6 | 1.9 | 1.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 8.3 | 8.9 | 5.1 | 12.3 | 21.7 | 20.2 | 4.8 | 18.2 | 13.0 | 7.1 | 9.6 | 4.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 82.2 | 39.4 | 20.4 | 80.0 | 79.8 | 81.8 | 56.9 | 89.4 | 81.2 | 130.7 | 40.9 | 19.3 |
| LnGrp LOS | F | D | C | F | F | F | E | F | F | F | D | B |
| Approach Vol, veh/h | | 1692 | | | 1712 | | | 2122 | | | 1294 | |
| Approach Delay, s/veh | | 45.7 | | | 80.5 | | | 82.2 | | | 58.4 | |
| Approach LOS | | D | | | F | | | F | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 27.0 | 36.0 | 17.6 | 39.4 | 20.2 | 42.8 | 14.0 | 43.0 |
| Change Period (Y+Rc), s | 4.2 | * 5.3 | * 4.2 | 5.7 | 4.2 | * 5.3 | * 4.2 | 5.7 |
| Max Green Setting (Gmax), s | 18.8 | * 35 | * 15 | 32.1 | 16.0 | * 38 | * 9.8 | 37.3 |
| Max Q Clear Time (g_c+I1), s | 24.4 | 24.9 | 13.3 | 24.3 | 17.9 | 39.5 | 11.8 | 39.3 |
| Green Ext Time (p_c), s | 0.0 | 5.4 | 0.1 | 3.9 | 0.0 | 0.0 | 0.0 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 68.2 |
| HCM 6th LOS | E |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 19.6 |
| Intersection LOS | C |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 35 | 260 | 230 | 5 | 0 | 190 | 0 | 0 | 10 | 555 | 10 |
| Future Vol, veh/h | 0 | 35 | 260 | 230 | 5 | 0 | 190 | 0 | 0 | 10 | 555 | 10 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 38 | 283 | 250 | 5 | 0 | 207 | 0 | 0 | 11 | 603 | 11 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 2 | 0 |

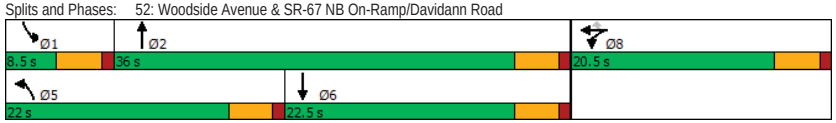
| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay | 18.7 | 18.6 | 18.5 | 20.8 |
| HCM LOS | C | C | C | C |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 98% | 3% | 0% |
| Vol Thru, % | 0% | 100% | 12% | 2% | 97% | 97% |
| Vol Right, % | 0% | 0% | 88% | 0% | 0% | 3% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 190 | 0 | 295 | 235 | 288 | 288 |
| LT Vol | 190 | 0 | 0 | 230 | 10 | 0 |
| Through Vol | 0 | 0 | 35 | 5 | 278 | 278 |
| RT Vol | 0 | 0 | 260 | 0 | 0 | 10 |
| Lane Flow Rate | 207 | 0 | 321 | 255 | 312 | 312 |
| Geometry Grp | 7 | 7 | 2 | 2 | 7 | 7 |
| Degree of Util (X) | 0.476 | 0 | 0.587 | 0.528 | 0.619 | 0.615 |
| Departure Headway (Hd) | 8.3 | 7.783 | 6.592 | 7.44 | 7.132 | 7.089 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 432 | 0 | 545 | 483 | 503 | 506 |
| Service Time | 6.084 | 5.567 | 4.662 | 5.516 | 4.906 | 4.864 |
| HCM Lane V/C Ratio | 0.479 | 0 | 0.589 | 0.528 | 0.62 | 0.617 |
| HCM Control Delay | 18.5 | 10.6 | 18.7 | 18.6 | 20.9 | 20.6 |
| HCM Lane LOS | C | N | C | C | C | C |
| HCM 95th-tile Q | 2.5 | 0 | 3.8 | 3 | 4.2 | 4.1 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 0 | 30 | 5 | 10 | 423 | 590 | 60 | 5 | 200 | 5 |
| Future Volume (vph) | 0 | 0 | 0 | 30 | 5 | 10 | 423 | 590 | 60 | 5 | 200 | 5 |
| Confl. Peds. (#/hr) | | | 2 | | | | | | 2 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 2 | | | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | | | | Split | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | | | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | 8 | | | | | | |
| Detector Phase | | | | 8 | 8 | 8 | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | | | | 20.5 | 20.5 | 20.5 | 8.5 | 22.5 | | 8.5 | 22.5 | |
| Total Split (s) | | | | 20.5 | 20.5 | 20.5 | 22.0 | 36.0 | | 8.5 | 22.5 | |
| Total Split (%) | | | | 31.5% | 31.5% | 31.5% | 33.8% | 55.4% | | 13.1% | 34.6% | |
| Yellow Time (s) | | | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | | | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | | | | | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | | | | | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | | | | None | None | None | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 65 |
| Actuated Cycle Length: 42.2 |
| Natural Cycle: 70 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 52: Woodside Avenue & SR-67 NB On-Ramp/Davidann Road








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 30 | 5 | 10 | 423 | 590 | 60 | 5 | 200 | 5 |
| Future Volume (veh/h) | 0 | 0 | 0 | 30 | 5 | 10 | 423 | 590 | 60 | 5 | 200 | 5 |
| Initial Q (Qb), veh | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | | | 1.00 | | 1.00 | 1.00 | | 0.98 | 1.00 | | 0.97 |
| Parking Bus, Adj | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | | | | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | | | | 33 | 5 | 11 | 460 | 641 | 65 | 5 | 217 | 5 |
| Peak Hour Factor | | | | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | | | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | | | | 69 | 10 | 70 | 578 | 871 | 88 | 10 | 371 | 9 |
| Arrive On Green | | | | 0.04 | 0.04 | 0.04 | 0.32 | 0.52 | 0.52 | 0.01 | 0.20 | 0.20 |
| Sat Flow, veh/h | | | | 1557 | 236 | 1585 | 1781 | 1666 | 169 | 1781 | 1820 | 42 |
| Grp Volume(v), veh/h | | | | 38 | 0 | 11 | 460 | 0 | 706 | 5 | 0 | 222 |
| Grp Sat Flow(s),veh/h/ln | | | | 1793 | 0 | 1585 | 1781 | 0 | 1835 | 1781 | 0 | 1862 |
| Q Serve(g_s), s | | | | 0.7 | 0.0 | 0.2 | 7.4 | 0.0 | 9.4 | 0.1 | 0.0 | 3.4 |
| Cycle Q Clear(g_c), s | | | | 0.7 | 0.0 | 0.2 | 7.4 | 0.0 | 9.4 | 0.1 | 0.0 | 3.4 |
| Prop In Lane | | | | 0.87 | | 1.00 | 1.00 | | 0.09 | 1.00 | | 0.02 |
| Lane Grp Cap(c), veh/h | | | | 79 | 0 | 70 | 578 | 0 | 960 | 10 | 0 | 379 |
| V/C Ratio(X) | | | | 0.48 | 0.00 | 0.16 | 0.80 | 0.00 | 0.74 | 0.52 | 0.00 | 0.59 |
| Avail Cap(c_a), veh/h | | | | 908 | 0 | 803 | 987 | 0 | 1830 | 226 | 0 | 1061 |
| HCM Platoon Ratio | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | | | | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | | | | 14.7 | 0.0 | 14.5 | 9.7 | 0.0 | 5.8 | 15.7 | 0.0 | 11.4 |
| Incr Delay (d2), s/veh | | | | 4.4 | 0.0 | 1.0 | 2.5 | 0.0 | 1.1 | 36.7 | 0.0 | 1.4 |
| Initial Q Delay(d3),s/veh | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | | 0.3 | 0.0 | 0.1 | 2.3 | 0.0 | 1.8 | 0.1 | 0.0 | 1.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | 19.2 | 0.0 | 15.6 | 12.3 | 0.0 | 7.0 | 52.4 | 0.0 | 12.8 |
| LnGrp LOS | | | | B | A | B | B | A | A | D | A | B |
| Approach Vol, veh/h | | | | | 49 | | | 1166 | | | 227 | |
| Approach Delay, s/veh | | | | | 18.4 | | | 9.1 | | | 13.7 | |
| Approach LOS | | | | | B | | | A | | | B | |

| Timer - Assigned Phs | 1 | 2 | | | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 4.7 | 21.0 | | | 14.8 | 10.9 | | 5.9 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 4.0 | 31.5 | | | 17.5 | 18.0 | | 16.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.1 | 11.4 | | | 9.4 | 5.4 | | 2.7 | | | | |
| Green Ext Time (p_c), s | 0.0 | 5.1 | | | 1.0 | 0.9 | | 0.1 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 10.1 | |
| HCM 6th LOS | B | |

| Intersection | |
|---|---|
| Int Delay, s/veh | 5.5 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 170 | 422 | 366 | 0 | 0 | 830 |
| Future Vol, veh/h | 170 | 422 | 366 | 0 | 0 | 830 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 1 | 1 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | 300 | - | - | - | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 185 | 459 | 398 | 0 | 0 | 902 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 849 | 199 | 0 | - | - | - |
| Stage 1 | 398 | - | - | - | - | - |
| Stage 2 | 451 | - | - | - | - | - |
| Critical Hdwy | 6.84 | 6.94 | - | - | - | - |
| Critical Hdwy Stg 1 | 5.84 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.84 | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 3.32 | - | - | - | - |
| Pot Cap-1 Maneuver | 300 | 809 | - | 0 | 0 | - |
| Stage 1 | 647 | - | - | 0 | 0 | - |
| Stage 2 | 609 | - | - | 0 | 0 | - |
| Platoon blocked, % | | | - | | | - |
| Mov Cap-1 Maneuver | 300 | 809 | - | - | - | - |
| Mov Cap-2 Maneuver | 423 | - | - | - | - | - |
| Stage 1 | 647 | - | - | - | - | - |
| Stage 2 | 609 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 16.5 | 0 | 0 |
| HCM LOS | C | | |

| Minor Lane/Major Mvmt | NBT | WBLn1 | WBLn2 | SBT |
|---|---|---|---|---|
| Capacity (veh/h) | - | 423 | 809 | - |
| HCM Lane V/C Ratio | - | 0.437 | 0.567 | - |
| HCM Control Delay (s) | - | 19.9 | 15.1 | - |
| HCM Lane LOS | - | C | C | - |
| HCM 95th %tile Q(veh) | - | 2.2 | 3.6 | - |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 366 | 100 | 407 | 603 |
| Future Volume (Veh/h) | 0 | 0 | 366 | 100 | 407 | 603 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 0 | 398 | 109 | 442 | 655 |
| Pedestrians | 1 | | | | | |
| Lane Width (ft) | 0.0 | | | | | |
| Walking Speed (ft/s) | 4.0 | | | | | |
| Percent Blockage | 0 | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | 769 | | | 1029 |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 1665 | 254 | | | 508 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 1665 | 254 | | | 508 | |
| tC, single (s) | 6.8 | 6.9 | | | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 100 | 100 | | | 58 | |
| cM capacity (veh/h) | 51 | 745 | | | 1053 | |

| Direction, Lane # | NB 1 | NB 2 | SB 1 | SB 2 | SB 3 |
|---|---|---|---|---|---|
| Volume Total | 265 | 242 | 442 | 328 | 328 |
| Volume Left | 0 | 0 | 442 | 0 | 0 |
| Volume Right | 0 | 109 | 0 | 0 | 0 |
| cSH | 1700 | 1700 | 1053 | 1700 | 1700 |
| Volume to Capacity | 0.16 | 0.14 | 0.42 | 0.19 | 0.19 |
| Queue Length 95th (ft) | 0 | 0 | 53 | 0 | 0 |
| Control Delay (s) | 0.0 | 0.0 | 10.9 | 0.0 | 0.0 |
| Lane LOS | | | B | | |
| Approach Delay (s) | 0.0 | | 4.4 | | |
| Approach LOS | | | | | |

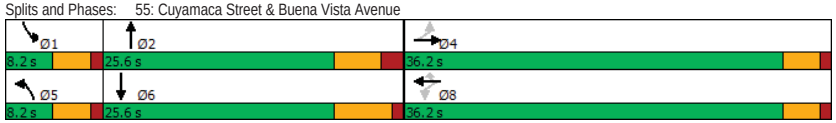
| Intersection Summary | | | | |
|---|---|---|---|---|
| Average Delay | 3.0 | | | |
| Intersection Capacity Utilization | 43.0% | ICU Level of Service | | A |
| Analysis Period (min) | 15 | | | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 30 | 20 | 50 | 350 | 5 | 100 | 30 | 1849 | 250 | 80 | 1688 | 20 |
| Future Volume (vph) | 30 | 20 | 50 | 350 | 5 | 100 | 30 | 1849 | 250 | 80 | 1688 | 20 |
| Confl. Peds. (#/hr) | | | 5 | | | 11 | | | 14 | | | 3 |
| Confl. Bikes (#/hr) | | | 1 | | | 1 | | | 2 | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Perm | NA | | Perm | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | 8 | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | 8 | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 10.0 | | 4.0 | 10.0 | |
| Minimum Split (s) | 36.2 | 36.2 | | 34.2 | 34.2 | 34.2 | 8.2 | 24.0 | | 8.2 | 24.0 | |
| Total Split (s) | 36.2 | 36.2 | | 36.2 | 36.2 | 36.2 | 8.2 | 25.6 | | 8.2 | 25.6 | |
| Total Split (%) | 51.7% | 51.7% | | 51.7% | 51.7% | 51.7% | 11.7% | 36.6% | | 11.7% | 36.6% | |
| Yellow Time (s) | 3.2 | 3.2 | | 3.2 | 3.2 | 3.2 | 3.2 | 4.0 | | 3.2 | 4.9 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 2.0 | | 1.0 | 1.1 | |
| Lost Time Adjust (s) | | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | | 4.2 | | | 4.2 | 4.2 | 4.2 | 6.0 | | 4.2 | 6.0 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | None | None | Min | | None | Min | |

**Intersection Summary**

Cycle Length: 70
Actuated Cycle Length: 60.1
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 55: Cuyamaca Street & Buena Vista Avenue








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 30 | 20 | 50 | 350 | 5 | 100 | 30 | 1849 | 250 | 80 | 1688 | 20 |
| Future Volume (veh/h) | 30 | 20 | 50 | 350 | 5 | 100 | 30 | 1849 | 250 | 80 | 1688 | 20 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.95 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 33 | 22 | 54 | 380 | 5 | 109 | 33 | 2010 | 272 | 87 | 1835 | 22 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 67 | 56 | 55 | 370 | 4 | 710 | 48 | 1268 | 168 | 102 | 1612 | 19 |
| Arrive On Green | 0.46 | 0.46 | 0.46 | 0.46 | 0.46 | 0.46 | 0.03 | 0.28 | 0.28 | 0.06 | 0.31 | 0.31 |
| Sat Flow, veh/h | 0 | 123 | 121 | 587 | 8 | 1554 | 1781 | 4529 | 602 | 1781 | 5199 | 62 |
| Grp Volume(v), veh/h | 109 | 0 | 0 | 385 | 0 | 109 | 33 | 1501 | 781 | 87 | 1201 | 656 |
| Grp Sat Flow(s),veh/h/ln | 244 | 0 | 0 | 595 | 0 | 1554 | 1781 | 1702 | 1727 | 1781 | 1702 | 1857 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.9 | 1.3 | 19.6 | 19.6 | 3.4 | 21.7 | 21.7 |
| Cycle Q Clear(g_c), s | 32.0 | 0.0 | 0.0 | 32.0 | 0.0 | 2.9 | 1.3 | 19.6 | 19.6 | 3.4 | 21.7 | 21.7 |
| Prop In Lane | 0.30 | | 0.50 | 0.99 | | 1.00 | 1.00 | | 0.35 | 1.00 | | 0.03 |
| Lane Grp Cap(c), veh/h | 179 | 0 | 0 | 374 | 0 | 710 | 48 | 953 | 484 | 102 | 1056 | 576 |
| V/C Ratio(X) | 0.61 | 0.00 | 0.00 | 1.03 | 0.00 | 0.15 | 0.68 | 1.58 | 1.61 | 0.85 | 1.14 | 1.14 |
| Avail Cap(c_a), veh/h | 179 | 0 | 0 | 374 | 0 | 710 | 102 | 953 | 484 | 102 | 1056 | 576 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 16.4 | 0.0 | 0.0 | 23.4 | 0.0 | 11.1 | 33.8 | 25.2 | 25.2 | 32.7 | 24.1 | 24.1 |
| Incr Delay (d2), s/veh | 4.3 | 0.0 | 0.0 | 54.3 | 0.0 | 0.0 | 6.2 | 263.9 | 286.0 | 45.1 | 73.9 | 82.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.1 | 0.0 | 0.0 | 11.8 | 0.0 | 0.9 | 0.6 | 42.1 | 45.7 | 2.7 | 18.7 | 21.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 20.7 | 0.0 | 0.0 | 77.7 | 0.0 | 11.1 | 40.0 | 289.1 | 311.2 | 77.8 | 98.1 | 106.1 |
| LnGrp LOS | C | A | A | F | A | B | D | F | F | E | F | F |
| Approach Vol, veh/h | | 109 | | | 494 | | | 2315 | | | 1944 | |
| Approach Delay, s/veh | | 20.7 | | | 63.0 | | | 293.0 | | | 99.9 | |
| Approach LOS | | C | | | E | | | F | | | F | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 8.2 | 25.6 | | 36.2 | 6.1 | 27.7 | | 36.2 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 6.0 | | * 4.2 | * 4.2 | * 6 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | * 4 | 19.6 | | * 32 | * 4 | * 20 | | * 32 | | | | |
| Max Q Clear Time (g_c+I1), s | 5.4 | 21.6 | | 34.0 | 3.3 | 23.7 | | 34.0 | | | | |
| Green Ext Time (p_c), s | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | | 0.0 | | | | |

**Intersection Summary**

| | | |
|---|---|---|
| HCM 6th Ctrl Delay | 186.3 | |
| HCM 6th LOS | F | |

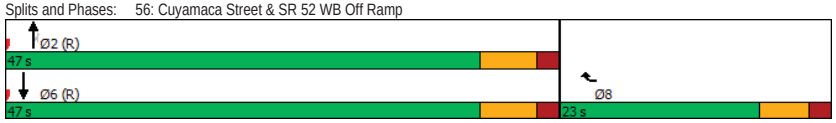
**Notes**

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 692 | 1357 | 440 | 0 | 1948 |
| Future Volume (vph) | 0 | 692 | 1357 | 440 | 0 | 1948 |
| Confl. Peds. (#/hr) | | | | 4 | | |
| Confl. Bikes (#/hr) | | | | 3 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | 0% | | | 0% |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | | Prot | NA | Perm | | NA |
| Protected Phases | | 8 | 2 | | | 6 |
| Permitted Phases | | | | 2 | | |
| Detector Phase | | 8 | 2 | 2 | | 6 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | | 5.0 | 14.0 | 14.0 | | 14.0 |
| Minimum Split (s) | | 20.0 | 45.8 | 45.8 | | 20.8 |
| Total Split (s) | | 23.0 | 47.0 | 47.0 | | 47.0 |
| Total Split (%) | | 32.9% | 67.1% | 67.1% | | 67.1% |
| Yellow Time (s) | | 4.1 | 4.8 | 4.8 | | 4.8 |
| All-Red Time (s) | | 2.0 | 2.0 | 2.0 | | 2.0 |
| Lost Time Adjust (s) | | 0.0 | 0.0 | 0.0 | | 0.0 |
| Total Lost Time (s) | | 6.1 | 6.8 | 6.8 | | 6.8 |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | | None | C-Max | C-Max | | C-Max |

| Intersection Summary |
|---|
| Cycle Length: 70 |
| Actuated Cycle Length: 70 |
| Offset: 22 (31%), Referenced to phase 2:NBT and 6:SBT, Start of Green |
| Natural Cycle: 70 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 56: Cuyamaca Street & SR 52 WB Off Ramp








| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 692 | 1357 | 440 | 0 | 1948 |
| Future Volume (veh/h) | 0 | 692 | 1357 | 440 | 0 | 1948 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | | 0.98 | 1.00 | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | No | | | No |
| Adj Sat Flow, veh/h/ln | 0 | 1870 | 1870 | 1870 | 0 | 1870 |
| Adj Flow Rate, veh/h | 0 | 752 | 1475 | 478 | 0 | 2117 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 0 | 2 | 2 | 2 | 0 | 2 |
| Cap, veh/h | 0 | 0 | 4610 | 1398 | 0 | 4610 |
| Arrive On Green | 0.00 | 0.00 | 0.30 | 0.30 | 0.00 | 0.90 |
| Sat Flow, veh/h | 0 | | 5274 | 1548 | 0 | 5443 |
| Grp Volume(v), veh/h | 0.0 | | 1475 | 478 | 0 | 2117 |
| Grp Sat Flow(s),veh/h/ln | | | 1702 | 1548 | 0 | 1702 |
| Q Serve(g_s), s | | | 15.7 | 16.9 | 0.0 | 4.8 |
| Cycle Q Clear(g_c), s | | | 15.7 | 16.9 | 0.0 | 4.8 |
| Prop In Lane | | | | 1.00 | 0.00 | |
| Lane Grp Cap(c), veh/h | | | 4610 | 1398 | 0 | 4610 |
| V/C Ratio(X) | | | 0.32 | 0.34 | 0.00 | 0.46 |
| Avail Cap(c_a), veh/h | | | 4610 | 1398 | 0 | 4610 |
| HCM Platoon Ratio | | | 0.33 | 0.33 | 1.00 | 1.00 |
| Upstream Filter(I) | | | 1.00 | 1.00 | 0.00 | 0.37 |
| Uniform Delay (d), s/veh | | | 7.9 | 8.3 | 0.0 | 0.6 |
| Incr Delay (d2), s/veh | | | 0.2 | 0.7 | 0.0 | 0.1 |
| Initial Q Delay(d3),s/veh | | | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | 2.9 | 3.5 | 0.0 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | | | 8.1 | 9.0 | 0.0 | 0.7 |
| LnGrp LOS | | | A | A | A | A |
| Approach Vol, veh/h | | | 1953 | | | 2117 |
| Approach Delay, s/veh | | | 8.3 | | | 0.7 |
| Approach LOS | | | A | | | A |

| Timer - Assigned Phs | | 2 | | | | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 70.0 | | | | 70.0 |
| Change Period (Y+Rc), s | | 6.8 | | | | 6.8 |
| Max Green Setting (Gmax), s | | 40.2 | | | | 40.2 |
| Max Q Clear Time (g_c+I1), s | | 18.9 | | | | 6.8 |
| Green Ext Time (p_c), s | | 13.1 | | | | 22.1 |

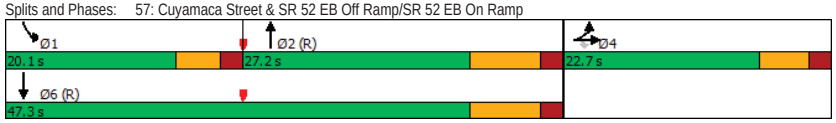
| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 4.3 |
| HCM 6th LOS | A |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 772 | 5 | 360 | 0 | 0 | 0 | 0 | 1024 | 290 | 687 | 644 | 0 |
| Future Volume (vph) | 772 | 5 | 360 | 0 | 0 | 0 | 0 | 1024 | 290 | 687 | 644 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | | | | 9 | | | 13 |
| Confl. Bikes (#/hr) | | | | | | | | | 2 | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | 50% | | | | | | | | | | | |
| Turn Type | Split | NA | Perm | | | | | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | | | | | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | | | | |
| Detector Phase | 4 | 4 | 4 | | | | | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | | | | | 11.0 | | 5.0 | 12.0 | |
| Minimum Split (s) | 22.1 | 22.1 | 22.1 | | | | | 27.0 | | 10.7 | 32.0 | |
| Total Split (s) | 22.7 | 22.7 | 22.7 | | | | | 27.2 | | 20.1 | 47.3 | |
| Total Split (%) | 32.4% | 32.4% | 32.4% | | | | | 38.9% | | 28.7% | 67.6% | |
| Yellow Time (s) | 4.1 | 4.1 | 4.1 | | | | | 6.0 | | 3.7 | 6.0 | |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | | | | | 2.0 | | 2.0 | 2.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | | | | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 6.1 | 6.1 | 6.1 | | | | | 8.0 | | 5.7 | 8.0 | |
| Lead/Lag | | | | | | | | Lag | | Lead | | |
| Lead-Lag Optimize? | | | | | | | | Yes | | Yes | | |
| Recall Mode | None | None | None | | | | | C-Min | | None | C-Min | |

**Intersection Summary**

Cycle Length: 70
Actuated Cycle Length: 70
Offset: 20 (29%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 57: Cuyamaca Street & SR 52 EB Off Ramp/SR 52 EB On Ramp








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 772 | 5 | 360 | 0 | 0 | 0 | 0 | 1024 | 290 | 687 | 644 | 0 |
| Future Volume (veh/h) | 772 | 5 | 360 | 0 | 0 | 0 | 0 | 1024 | 290 | 687 | 644 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | | | | 1.00 | | 0.98 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | | | | 0 | 1870 | 1870 | 1870 | 1870 | 0 |
| Adj Flow Rate, veh/h | 843 | 0 | 339 | | | | 0 | 1113 | 267 | 747 | 700 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | | | | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | | | | 0 | 2 | 2 | 2 | 2 | 0 |
| Cap, veh/h | 845 | 0 | 375 | | | | 0 | 1122 | 269 | 711 | 1995 | 0 |
| Arrive On Green | 0.24 | 0.00 | 0.24 | | | | 0.00 | 0.27 | 0.27 | 0.07 | 0.19 | 0.00 |
| Sat Flow, veh/h | 3563 | 0 | 1581 | | | | 0 | 4258 | 981 | 3456 | 3647 | 0 |
| Grp Volume(v), veh/h | 843 | 0 | 339 | | | | 0 | 926 | 454 | 747 | 700 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1581 | | | | 0 | 1702 | 1666 | 1728 | 1777 | 0 |
| Q Serve(g_s), s | 16.6 | 0.0 | 14.6 | | | | 0.0 | 19.0 | 19.0 | 14.4 | 12.0 | 0.0 |
| Cycle Q Clear(g_c), s | 16.6 | 0.0 | 14.6 | | | | 0.0 | 19.0 | 19.0 | 14.4 | 12.0 | 0.0 |
| Prop In Lane | 1.00 | | 1.00 | | | | 0.00 | | 0.59 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 845 | 0 | 375 | | | | 0 | 934 | 457 | 711 | 1995 | 0 |
| V/C Ratio(X) | 1.00 | 0.00 | 0.90 | | | | 0.00 | 0.99 | 0.99 | 1.05 | 0.35 | 0.00 |
| Avail Cap(c_a), veh/h | 845 | 0 | 375 | | | | 0 | 934 | 457 | 711 | 1995 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 0.33 | 0.33 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | | | | 0.00 | 0.82 | 0.82 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | 26.7 | 0.0 | 25.9 | | | | 0.0 | 25.3 | 25.3 | 32.6 | 17.4 | 0.0 |
| Incr Delay (d2), s/veh | 30.4 | 0.0 | 24.5 | | | | 0.0 | 24.9 | 36.3 | 47.9 | 0.5 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 10.2 | 0.0 | 7.7 | | | | 0.0 | 10.2 | 11.5 | 11.3 | 5.7 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 57.1 | 0.0 | 50.5 | | | | 0.0 | 50.2 | 61.7 | 80.5 | 17.9 | 0.0 |
| LnGrp LOS | E | A | D | | | | A | D | E | F | B | A |
| Approach Vol, veh/h | | 1182 | | | | | | 1380 | | | 1447 | |
| Approach Delay, s/veh | | 55.2 | | | | | | 54.0 | | | 50.2 | |
| Approach LOS | | E | | | | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | 4 | 6 |
|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 20.1 | 27.2 | 22.7 | 47.3 |
| Change Period (Y+Rc), s | * 5.7 | 8.0 | 6.1 | 8.0 |
| Max Green Setting (Gmax), s | * 14 | 19.2 | 16.6 | 39.3 |
| Max Q Clear Time (g_c+I1), s | 16.4 | 21.0 | 18.6 | 14.0 |
| Green Ext Time (p_c), s | 0.0 | 0.0 | 0.0 | 5.0 |

**Intersection Summary**

| | |
|---|---|
| HCM 6th Ctrl Delay | 53.0 |
| HCM 6th LOS | D |

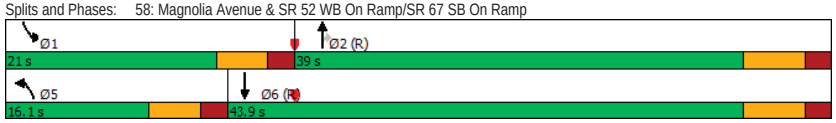
**Notes**

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 300 | 1687 | 240 | 719 | 657 | 395 |
| Future Volume (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 300 | 1687 | 240 | 719 | 657 | 395 |
| Confl. Peds. (#/hr) | | | | | | | | | 2 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | | | | | | | Prot | NA | Perm | Prot | NA | |
| Protected Phases | | | | | | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | | | 2 | | | |
| Detector Phase | | | | | | | 5 | 2 | 2 | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | | | | | | 5.0 | 6.0 | 6.0 | 5.0 | 7.0 | |
| Minimum Split (s) | | | | | | | 10.7 | 38.4 | 38.4 | 10.7 | 39.4 | |
| Total Split (s) | | | | | | | 16.1 | 39.0 | 39.0 | 21.0 | 43.9 | |
| Total Split (%) | | | | | | | 26.8% | 65.0% | 65.0% | 35.0% | 73.2% | |
| Yellow Time (s) | | | | | | | 3.7 | 4.4 | 4.4 | 3.7 | 4.4 | |
| All-Red Time (s) | | | | | | | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | |
| Lost Time Adjust (s) | | | | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | | | | | | | 5.7 | 6.4 | 6.4 | 5.7 | 6.4 | |
| Lead/Lag | | | | | | | Lead | Lag | Lag | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | Yes | Yes | Yes | |
| Recall Mode | | | | | | | None | C-Max | C-Max | None | C-Max | |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 60 |
| Offset: 17 (28%), Referenced to phase 2:NBT and 6:SBT, Start of Green |
| Natural Cycle: 60 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 58: Magnolia Avenue & SR 52 WB On Ramp/SR 67 SB On Ramp








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 0 | 0 | 0 | 300 | 1687 | 240 | 719 | 657 | 395 |
| Future Volume (veh/h) | 0 | 0 | 0 | 0 | 0 | 0 | 300 | 1687 | 240 | 719 | 657 | 395 |
| Initial Q (Qb), veh | | | | | | | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | | | | | | 1.00 | | 1.00 | 1.00 | | 0.98 |
| Parking Bus, Adj | | | | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | | | | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | | | | | | | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | | | | | | | 326 | 1834 | 261 | 782 | 714 | 429 |
| Peak Hour Factor | | | | | | | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | | | | | | | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | | | | | | | 428 | 2808 | 870 | 859 | 1427 | 855 |
| Arrive On Green | | | | | | | 0.25 | 1.00 | 1.00 | 0.41 | 1.00 | 1.00 |
| Sat Flow, veh/h | | | | | | | 3456 | 5106 | 1582 | 3456 | 2117 | 1267 |
| Grp Volume(v), veh/h | | | | | | | 326 | 1834 | 261 | 782 | 599 | 544 |
| Grp Sat Flow(s),veh/h/ln | | | | | | | 1728 | 1702 | 1582 | 1728 | 1777 | 1607 |
| Q Serve(g_s), s | | | | | | | 5.2 | 0.0 | 0.0 | 12.8 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | | | | | | | 5.2 | 0.0 | 0.0 | 12.8 | 0.0 | 0.0 |
| Prop In Lane | | | | | | | 1.00 | | 1.00 | 1.00 | | 0.79 |
| Lane Grp Cap(c), veh/h | | | | | | | 428 | 2808 | 870 | 859 | 1198 | 1084 |
| V/C Ratio(X) | | | | | | | 0.76 | 0.65 | 0.30 | 0.91 | 0.50 | 0.50 |
| Avail Cap(c_a), veh/h | | | | | | | 599 | 2808 | 870 | 881 | 1198 | 1084 |
| HCM Platoon Ratio | | | | | | | 2.00 | 2.00 | 2.00 | 1.67 | 1.67 | 1.67 |
| Upstream Filter(I) | | | | | | | 0.09 | 0.09 | 0.09 | 0.44 | 0.44 | 0.44 |
| Uniform Delay (d), s/veh | | | | | | | 21.7 | 0.0 | 0.0 | 16.9 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | | | | | | | 0.2 | 0.1 | 0.1 | 6.4 | 0.7 | 0.7 |
| Initial Q Delay(d3),s/veh | | | | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | | | | | 1.8 | 0.0 | 0.0 | 4.1 | 0.2 | 0.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | | | | 21.9 | 0.1 | 0.1 | 23.4 | 0.7 | 0.7 |
| LnGrp LOS | | | | | | | C | A | A | C | A | A |
| Approach Vol, veh/h | | | | | | | | 2421 | | | 1925 | |
| Approach Delay, s/veh | | | | | | | | 3.0 | | | 9.9 | |
| Approach LOS | | | | | | | | A | | | A | |

| Timer - Assigned Phs | 1 | 2 | | 5 | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 20.6 | 39.4 | | 13.1 | 46.9 |
| Change Period (Y+Rc), s | * 5.7 | 6.4 | | * 5.7 | 6.4 |
| Max Green Setting (Gmax), s | * 15 | 32.6 | | * 10 | 37.5 |
| Max Q Clear Time (g_c+I1), s | 14.8 | 2.0 | | 7.2 | 2.0 |
| Green Ext Time (p_c), s | 0.1 | 19.5 | | 0.2 | 8.8 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 6.1 |
| HCM 6th LOS | A |

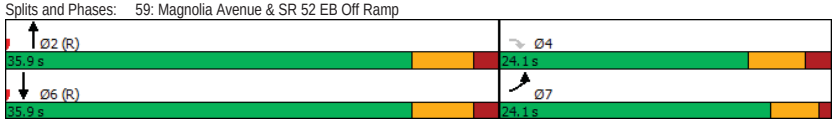
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 560 | 490 | 0 | 1737 | 627 | 0 |
| Future Volume (vph) | 560 | 490 | 0 | 1737 | 627 | 0 |
| Confl. Peds. (#/hr) | | | | | | 1 |
| Confl. Bikes (#/hr) | | | | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | | NA | NA | |
| Protected Phases | 7 | | | 2 | 6 | |
| Permitted Phases | | 4 | | | | |
| Detector Phase | 7 | 4 | | 2 | 6 | |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 5.0 | | 5.0 | 5.0 | |
| Minimum Split (s) | 8.5 | 22.1 | | 22.4 | 27.4 | |
| Total Split (s) | 24.1 | 24.1 | | 35.9 | 35.9 | |
| Total Split (%) | 40.2% | 40.2% | | 59.8% | 59.8% | |
| Yellow Time (s) | 3.5 | 4.1 | | 4.4 | 4.4 | |
| All-Red Time (s) | 1.0 | 2.0 | | 2.0 | 2.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 6.1 | | 6.4 | 6.4 | |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | None | None | | C-Max | C-Max | |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 60 |
| Offset: 2 (3%), Referenced to phase 2:NBT and 6:SBT, Start of Green |
| Natural Cycle: 100 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 59: Magnolia Avenue & SR 52 EB Off Ramp






2035 + Proj PM
59: Magnolia Avenue & SR 52 EB Off Ramp
Fanita Ranch
06/06/2019

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 560 | 490 | 0 | 1737 | 627 | 0 |
| Future Volume (veh/h) | 560 | 490 | 0 | 1737 | 627 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 0 | 1870 | 1870 | 0 |
| Adj Flow Rate, veh/h | 609 | 533 | 0 | 1888 | 682 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 0 | 2 | 2 | 0 |
| Cap, veh/h | 582 | 518 | 0 | 1747 | 1747 | 0 |
| Arrive On Green | 0.33 | 0.33 | 0.00 | 0.49 | 0.98 | 0.00 |
| Sat Flow, veh/h | 1781 | 1585 | 0 | 3741 | 3741 | 0 |
| Grp Volume(v), veh/h | 609 | 533 | 0 | 1888 | 682 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 0 | 1777 | 1777 | 0 |
| Q Serve(g_s), s | 19.6 | 19.6 | 0.0 | 29.5 | 0.3 | 0.0 |
| Cycle Q Clear(g_c), s | 19.6 | 19.6 | 0.0 | 29.5 | 0.3 | 0.0 |
| Prop In Lane | 1.00 | 1.00 | 0.00 | | | 0.00 |
| Lane Grp Cap(c), veh/h | 582 | 518 | 0 | 1747 | 1747 | 0 |
| V/C Ratio(X) | 1.05 | 1.03 | 0.00 | 1.08 | 0.39 | 0.00 |
| Avail Cap(c_a), veh/h | 582 | 518 | 0 | 1747 | 1747 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 2.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.49 | 0.84 | 0.00 |
| Uniform Delay (d), s/veh | 20.2 | 20.2 | 0.0 | 15.2 | 0.3 | 0.0 |
| Incr Delay (d2), s/veh | 50.1 | 47.3 | 0.0 | 42.1 | 0.6 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 15.3 | 13.2 | 0.0 | 18.7 | 0.2 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 70.3 | 67.5 | 0.0 | 57.3 | 0.8 | 0.0 |
| LnGrp LOS | F | F | A | F | A | A |
| Approach Vol, veh/h | 1142 | | | 1888 | 682 | |
| Approach Delay, s/veh | 69.0 | | | 57.3 | 0.8 | |
| Approach LOS | E | | | E | A | |

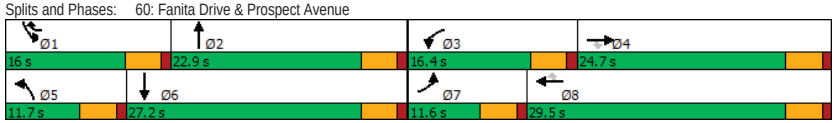
| Timer - Assigned Phs | | 2 | | 4 | | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 35.9 | | 24.1 | | 35.9 |
| Change Period (Y+Rc), s | | 6.4 | | 4.5 | | 6.4 |
| Max Green Setting (Gmax), s | | 29.5 | | 19.6 | | 29.5 |
| Max Q Clear Time (g_c+I1), s | | 31.5 | | 21.6 | | 2.3 |
| Green Ext Time (p_c), s | | 0.0 | | 0.0 | | 4.5 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 50.5 | |
| HCM 6th LOS | D | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 130 | 120 | 40 | 110 | 110 | 150 | 60 | 226 | 90 | 220 | 263 | 130 |
| Future Volume (vph) | 130 | 120 | 40 | 110 | 110 | 150 | 60 | 226 | 90 | 220 | 263 | 130 |
| Confl. Peds. (#/hr) | | | 6 | | | 4 | | | 2 | | | 1 |
| Confl. Bikes (#/hr) | | | 4 | | | 4 | | | 1 | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | pm+ov | Prot | NA | | Prot | NA | |
| Protected Phases | 7 | 4 | | 3 | 8 | 1 | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | | | | |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | 1 | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | 8.5 | 24.5 | 24.5 | 8.5 | 29.5 | 8.5 | 8.5 | 22.5 | | 8.5 | 24.5 | |
| Total Split (s) | 11.6 | 24.7 | 24.7 | 16.4 | 29.5 | 16.0 | 11.7 | 22.9 | | 16.0 | 27.2 | |
| Total Split (%) | 14.5% | 30.9% | 30.9% | 20.5% | 36.9% | 20.0% | 14.6% | 28.6% | | 20.0% | 34.0% | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | None | None | None | None | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 80 |
| Actuated Cycle Length: 64.4 |
| Natural Cycle: 90 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 60: Fanita Drive & Prospect Avenue








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 130 | 120 | 40 | 110 | 110 | 150 | 60 | 226 | 90 | 220 | 263 | 130 |
| Future Volume (veh/h) | 130 | 120 | 40 | 110 | 110 | 150 | 60 | 226 | 90 | 220 | 263 | 130 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 141 | 130 | 43 | 120 | 120 | 163 | 65 | 246 | 98 | 239 | 286 | 141 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 180 | 324 | 267 | 157 | 300 | 509 | 82 | 305 | 121 | 293 | 832 | 398 |
| Arrive On Green | 0.10 | 0.17 | 0.17 | 0.09 | 0.16 | 0.16 | 0.05 | 0.24 | 0.24 | 0.16 | 0.36 | 0.36 |
| Sat Flow, veh/h | 1781 | 1870 | 1542 | 1781 | 1870 | 1546 | 1781 | 1262 | 503 | 1781 | 2310 | 1104 |
| Grp Volume(v), veh/h | 141 | 130 | 43 | 120 | 120 | 163 | 65 | 0 | 344 | 239 | 218 | 209 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1542 | 1781 | 1870 | 1546 | 1781 | 0 | 1764 | 1781 | 1777 | 1638 |
| Q Serve(g_s), s | 4.2 | 3.3 | 1.3 | 3.6 | 3.1 | 4.3 | 2.0 | 0.0 | 10.0 | 7.0 | 4.8 | 5.1 |
| Cycle Q Clear(g_c), s | 4.2 | 3.3 | 1.3 | 3.6 | 3.1 | 4.3 | 2.0 | 0.0 | 10.0 | 7.0 | 4.8 | 5.1 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.28 | 1.00 | | 0.67 |
| Lane Grp Cap(c), veh/h | 180 | 324 | 267 | 157 | 300 | 509 | 82 | 0 | 426 | 293 | 640 | 590 |
| V/C Ratio(X) | 0.78 | 0.40 | 0.16 | 0.77 | 0.40 | 0.32 | 0.79 | 0.00 | 0.81 | 0.81 | 0.34 | 0.35 |
| Avail Cap(c_a), veh/h | 233 | 697 | 575 | 391 | 863 | 974 | 237 | 0 | 599 | 378 | 745 | 686 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 23.8 | 19.9 | 19.0 | 24.2 | 20.4 | 13.8 | 25.6 | 0.0 | 19.4 | 21.8 | 12.6 | 12.7 |
| Incr Delay (d2), s/veh | 12.2 | 0.8 | 0.3 | 7.6 | 0.9 | 0.4 | 15.5 | 0.0 | 5.5 | 10.1 | 0.3 | 0.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.2 | 1.4 | 0.4 | 1.7 | 1.3 | 1.3 | 1.1 | 0.0 | 4.1 | 3.4 | 1.6 | 1.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 36.0 | 20.7 | 19.3 | 31.7 | 21.3 | 14.2 | 41.1 | 0.0 | 24.9 | 32.0 | 12.9 | 13.1 |
| LnGrp LOS | D | C | B | C | C | B | D | A | C | C | B | B |
| Approach Vol, veh/h | | 314 | | | 403 | | | 409 | | | 666 | |
| Approach Delay, s/veh | | 27.4 | | | 21.5 | | | 27.4 | | | 19.8 | |
| Approach LOS | | C | | | C | | | C | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 13.4 | 17.6 | 9.3 | 13.9 | 7.0 | 24.0 | 10.0 | 13.2 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 11.5 | 18.4 | 11.9 | 20.2 | 7.2 | 22.7 | 7.1 | 25.0 |
| Max Q Clear Time (g_c+I1), s | 9.0 | 12.0 | 5.6 | 5.3 | 4.0 | 7.1 | 6.2 | 6.3 |
| Green Ext Time (p_c), s | 0.2 | 1.0 | 0.1 | 0.7 | 0.0 | 2.1 | 0.0 | 1.1 |

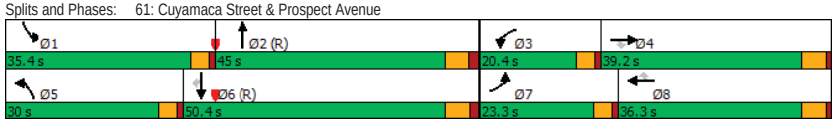
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 23.3 |
| HCM 6th LOS | | C |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 130 | 180 | 180 | 100 | 200 | 245 | 180 | 919 | 120 | 235 | 614 | 220 |
| Future Volume (vph) | 130 | 180 | 180 | 100 | 200 | 245 | 180 | 919 | 120 | 235 | 614 | 220 |
| Confl. Peds. (#/hr) | | | 4 | | | 10 | | | 7 | | | 6 |
| Confl. Bikes (#/hr) | | | 2 | | | 2 | | | 4 | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | | | | 6 |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | 8 | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 7.0 | 7.0 | 4.0 | 7.0 | 7.0 | 4.0 | 10.0 | | 4.0 | 10.0 | 10.0 |
| Minimum Split (s) | 8.2 | 35.2 | 35.2 | 8.2 | 36.2 | 36.2 | 8.2 | 33.0 | | 8.2 | 31.0 | 31.0 |
| Total Split (s) | 23.3 | 39.2 | 39.2 | 20.4 | 36.3 | 36.3 | 30.0 | 45.0 | | 35.4 | 50.4 | 50.4 |
| Total Split (%) | 16.6% | 28.0% | 28.0% | 14.6% | 25.9% | 25.9% | 21.4% | 32.1% | | 25.3% | 36.0% | 36.0% |
| Yellow Time (s) | 3.2 | 4.2 | 4.2 | 3.2 | 4.2 | 4.2 | 3.2 | 4.0 | | 3.2 | 4.1 | 4.1 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 2.0 | | 1.0 | 1.9 | 1.9 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.2 | 5.2 | 4.2 | 5.2 | 5.2 | 4.2 | 6.0 | | 4.2 | 6.0 | 6.0 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | None | None | C-Min | | None | C-Min | C-Min |

**Intersection Summary**

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 26 (19%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 61: Cuyamaca Street & Prospect Avenue








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 130 | 180 | 180 | 100 | 200 | 245 | 180 | 919 | 120 | 235 | 614 | 220 |
| Future Volume (veh/h) | 130 | 180 | 180 | 100 | 200 | 245 | 180 | 919 | 120 | 235 | 614 | 220 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 0.97 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 141 | 196 | 196 | 109 | 217 | 266 | 196 | 999 | 130 | 255 | 667 | 239 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 165 | 402 | 334 | 132 | 698 | 302 | 220 | 1896 | 246 | 276 | 1589 | 697 |
| Arrive On Green | 0.09 | 0.21 | 0.21 | 0.07 | 0.20 | 0.20 | 0.12 | 0.42 | 0.42 | 0.31 | 0.89 | 0.89 |
| Sat Flow, veh/h | 1781 | 1870 | 1554 | 1781 | 3554 | 1539 | 1781 | 4554 | 591 | 1781 | 3554 | 1558 |
| Grp Volume(v), veh/h | 141 | 196 | 196 | 109 | 217 | 266 | 196 | 746 | 383 | 255 | 667 | 239 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1554 | 1781 | 1777 | 1539 | 1781 | 1702 | 1741 | 1781 | 1777 | 1558 |
| Q Serve(g_s), s | 10.9 | 12.9 | 15.9 | 8.5 | 7.3 | 23.5 | 15.2 | 22.9 | 23.0 | 19.4 | 4.4 | 3.3 |
| Cycle Q Clear(g_c), s | 10.9 | 12.9 | 15.9 | 8.5 | 7.3 | 23.5 | 15.2 | 22.9 | 23.0 | 19.4 | 4.4 | 3.3 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.34 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 165 | 402 | 334 | 132 | 698 | 302 | 220 | 1417 | 725 | 276 | 1589 | 697 |
| V/C Ratio(X) | 0.86 | 0.49 | 0.59 | 0.83 | 0.31 | 0.88 | 0.89 | 0.53 | 0.53 | 0.93 | 0.42 | 0.34 |
| Avail Cap(c_a), veh/h | 243 | 454 | 377 | 206 | 789 | 342 | 328 | 1417 | 725 | 397 | 1589 | 697 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 2.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 0.90 | 0.90 | 0.90 | 1.00 | 1.00 | 1.00 | 0.86 | 0.86 | 0.86 |
| Uniform Delay (d), s/veh | 62.6 | 48.2 | 49.4 | 63.9 | 48.1 | 54.6 | 60.4 | 30.5 | 30.6 | 47.6 | 4.3 | 4.3 |
| Incr Delay (d2), s/veh | 12.4 | 1.0 | 2.0 | 7.2 | 0.1 | 18.1 | 13.3 | 1.4 | 2.7 | 16.1 | 0.7 | 1.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 5.5 | 6.1 | 6.3 | 4.1 | 3.3 | 10.6 | 7.6 | 9.6 | 10.2 | 8.6 | 1.4 | 1.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 75.0 | 49.2 | 51.4 | 71.1 | 48.3 | 72.8 | 73.7 | 31.9 | 33.3 | 63.7 | 5.0 | 5.4 |
| LnGrp LOS | E | D | D | E | D | E | E | C | C | E | A | A |
| Approach Vol, veh/h | | 533 | | | 592 | | | 1325 | | | 1161 | |
| Approach Delay, s/veh | | 56.8 | | | 63.5 | | | 38.5 | | | 18.0 | |
| Approach LOS | | E | | | E | | | D | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 25.9 | 64.3 | 14.6 | 35.3 | 21.5 | 68.6 | 17.2 | 32.7 |
| Change Period (Y+Rc), s | * 4.2 | 6.0 | * 4.2 | 5.2 | * 4.2 | * 6 | * 4.2 | 5.2 |
| Max Green Setting (Gmax), s | * 31 | 39.0 | * 16 | 34.0 | * 26 | * 44 | * 19 | 31.1 |
| Max Q Clear Time (g_c+I1), s | 21.4 | 25.0 | 10.5 | 17.9 | 17.2 | 6.4 | 12.9 | 25.5 |
| Green Ext Time (p_c), s | 0.3 | 8.1 | 0.1 | 1.7 | 0.2 | 9.1 | 0.1 | 0.9 |

**Intersection Summary**

| | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 38.7 | |
| HCM 6th LOS | | D | |

**Notes**

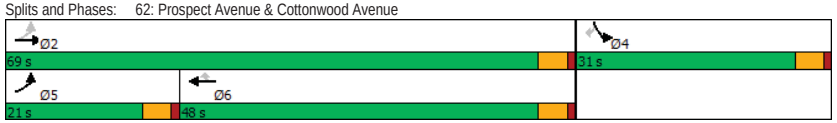
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 160 | 370 | 280 | 170 | 130 | 80 |
| Future Volume (vph) | 160 | 370 | 280 | 170 | 130 | 80 |
| Confl. Peds. (#/hr) | | | | 1 | | 4 |
| Confl. Bikes (#/hr) | | | | 3 | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | pm+pt | NA | NA | Perm | Prot | Perm |
| Protected Phases | 5 | 2 | 6 | | 4 | |
| Permitted Phases | 2 | | | 6 | | 4 |
| Detector Phase | 5 | 2 | 6 | 6 | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 |
| Total Split (s) | 21.0 | 69.0 | 48.0 | 48.0 | 31.0 | 31.0 |
| Total Split (%) | 21.0% | 69.0% | 48.0% | 48.0% | 31.0% | 31.0% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | | Lag | Lag | | |
| Lead-Lag Optimize? | Yes | | Yes | Yes | | |
| Recall Mode | None | Min | Min | Min | None | None |

**Intersection Summary**

Cycle Length: 100
Actuated Cycle Length: 47.1
Natural Cycle: 55
Control Type: Actuated-Uncoordinated

Splits and Phases: 62: Prospect Avenue & Cottonwood Avenue








| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 160 | 370 | 280 | 170 | 130 | 80 |
| Future Volume (veh/h) | 160 | 370 | 280 | 170 | 130 | 80 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 0.97 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 174 | 402 | 304 | 185 | 141 | 87 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 575 | 1034 | 550 | 454 | 247 | 220 |
| Arrive On Green | 0.10 | 0.55 | 0.29 | 0.29 | 0.14 | 0.14 |
| Sat Flow, veh/h | 1781 | 1870 | 1870 | 1545 | 1781 | 1585 |
| Grp Volume(v), veh/h | 174 | 402 | 304 | 185 | 141 | 87 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1870 | 1545 | 1781 | 1585 |
| Q Serve(g_s), s | 1.7 | 3.6 | 4.0 | 2.8 | 2.2 | 1.5 |
| Cycle Q Clear(g_c), s | 1.7 | 3.6 | 4.0 | 2.8 | 2.2 | 1.5 |
| Prop In Lane | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 575 | 1034 | 550 | 454 | 247 | 220 |
| V/C Ratio(X) | 0.30 | 0.39 | 0.55 | 0.41 | 0.57 | 0.40 |
| Avail Cap(c_a), veh/h | 1396 | 4135 | 2789 | 2303 | 1618 | 1440 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 5.4 | 3.7 | 8.7 | 8.3 | 11.7 | 11.4 |
| Incr Delay (d2), s/veh | 0.3 | 0.2 | 0.9 | 0.6 | 2.1 | 1.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.3 | 0.3 | 1.1 | 0.6 | 0.8 | 1.4 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 5.6 | 4.0 | 9.6 | 8.9 | 13.8 | 12.6 |
| LnGrp LOS | A | A | A | A | B | B |
| Approach Vol, veh/h | | 576 | 489 | | 228 | |
| Approach Delay, s/veh | | 4.5 | 9.3 | | 13.4 | |
| Approach LOS | | A | A | | B | |

| Timer - Assigned Phs | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 20.6 | | 8.5 | 7.6 | 13.1 |
| Change Period (Y+Rc), s | 4.5 | | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 64.5 | | 26.5 | 16.5 | 43.5 |
| Max Q Clear Time (g_c+I1), s | 5.6 | | 4.2 | 3.7 | 6.0 |
| Green Ext Time (p_c), s | 2.7 | | 0.6 | 0.4 | 2.5 |

**Intersection Summary**

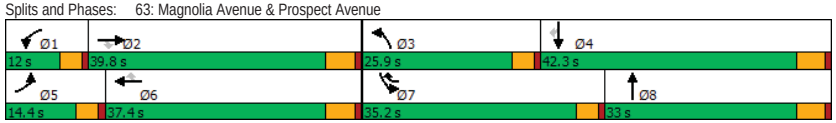
| | |
|---|---|
| HCM 6th Ctrl Delay | 7.9 |
| HCM 6th LOS | A |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 195 | 290 | 90 | 65 | 290 | 1029 | 155 | 513 | 150 | 660 | 397 | 90 |
| Future Volume (vph) | 195 | 290 | 90 | 65 | 290 | 1029 | 155 | 513 | 150 | 660 | 397 | 90 |
| Confl. Peds. (#/hr) | | | 9 | | | 1 | | | 5 | | | 4 |
| Confl. Bikes (#/hr) | | | 2 | | | 1 | | | 1 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | pm+ov | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | 4.0 | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 39.3 | 39.3 | 8.2 | 37.4 | 8.2 | 8.2 | 23.2 | | 8.2 | 36.2 | 36.2 |
| Total Split (s) | 14.4 | 39.8 | 39.8 | 12.0 | 37.4 | 35.2 | 25.9 | 33.0 | | 35.2 | 42.3 | 42.3 |
| Total Split (%) | 12.0% | 33.2% | 33.2% | 10.0% | 31.2% | 29.3% | 21.6% | 27.5% | | 29.3% | 35.3% | 35.3% |
| Yellow Time (s) | 3.2 | 4.3 | 4.3 | 3.2 | 4.4 | 3.2 | 3.2 | 4.2 | | 3.2 | 4.2 | 4.2 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | 5.3 | 4.2 | 5.4 | 4.2 | 4.2 | 5.2 | | 4.2 | 5.2 | 5.2 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | Min | Min | None | Min | None | None | None | | None | None | None |

**Intersection Summary**

Cycle Length: 120
Actuated Cycle Length: 104.6
Natural Cycle: 95
Control Type: Actuated-Uncoordinated

Splits and Phases: 63: Magnolia Avenue & Prospect Avenue








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 195 | 290 | 90 | 65 | 290 | 1029 | 155 | 513 | 150 | 660 | 397 | 90 |
| Future Volume (veh/h) | 195 | 290 | 90 | 65 | 290 | 1029 | 155 | 513 | 150 | 660 | 397 | 90 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 212 | 315 | 98 | 71 | 315 | 1118 | 168 | 558 | 163 | 717 | 432 | 98 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 273 | 587 | 487 | 91 | 1017 | 1431 | 200 | 626 | 182 | 807 | 1254 | 550 |
| Arrive On Green | 0.08 | 0.31 | 0.31 | 0.05 | 0.29 | 0.29 | 0.11 | 0.23 | 0.23 | 0.23 | 0.35 | 0.35 |
| Sat Flow, veh/h | 3456 | 1870 | 1550 | 1781 | 3554 | 2726 | 1781 | 2701 | 786 | 3456 | 3554 | 1560 |
| Grp Volume(v), veh/h | 212 | 315 | 98 | 71 | 315 | 1118 | 168 | 366 | 355 | 717 | 432 | 98 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1870 | 1550 | 1781 | 1777 | 1363 | 1781 | 1777 | 1711 | 1728 | 1777 | 1560 |
| Q Serve(g_s), s | 6.7 | 15.5 | 5.2 | 4.4 | 7.8 | 32.0 | 10.3 | 22.3 | 22.5 | 22.4 | 10.0 | 4.9 |
| Cycle Q Clear(g_c), s | 6.7 | 15.5 | 5.2 | 4.4 | 7.8 | 32.0 | 10.3 | 22.3 | 22.5 | 22.4 | 10.0 | 4.9 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.46 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 273 | 587 | 487 | 91 | 1017 | 1431 | 200 | 412 | 396 | 807 | 1254 | 550 |
| V/C Ratio(X) | 0.78 | 0.54 | 0.20 | 0.78 | 0.31 | 0.78 | 0.84 | 0.89 | 0.89 | 0.89 | 0.34 | 0.18 |
| Avail Cap(c_a), veh/h | 315 | 587 | 487 | 124 | 1017 | 1431 | 346 | 442 | 425 | 958 | 1254 | 550 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 50.5 | 31.7 | 28.1 | 52.4 | 31.3 | 21.9 | 48.7 | 41.6 | 41.6 | 41.5 | 26.7 | 25.0 |
| Incr Delay (d2), s/veh | 10.2 | 1.0 | 0.2 | 19.3 | 0.2 | 2.9 | 9.1 | 18.8 | 20.1 | 9.1 | 0.2 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 3.3 | 7.1 | 2.0 | 2.5 | 3.4 | 12.0 | 5.1 | 11.8 | 11.6 | 10.5 | 4.3 | 1.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 60.7 | 32.6 | 28.3 | 71.7 | 31.4 | 24.7 | 57.7 | 60.4 | 61.7 | 50.6 | 26.8 | 25.1 |
| LnGrp LOS | E | C | C | E | C | C | E | E | E | D | C | C |
| Approach Vol, veh/h | | 625 | | | 1504 | | | 889 | | | 1247 | |
| Approach Delay, s/veh | | 41.5 | | | 28.4 | | | 60.4 | | | 40.4 | |
| Approach LOS | | D | | | C | | | E | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 9.9 | 40.5 | 16.8 | 44.7 | 13.0 | 37.4 | 30.3 | 31.1 |
| Change Period (Y+Rc), s | * 4.2 | * 5.4 | * 4.2 | 5.2 | * 4.2 | 5.4 | * 4.2 | 5.2 |
| Max Green Setting (Gmax), s | * 7.8 | * 35 | * 22 | 37.1 | * 10 | 32.0 | * 31 | 27.8 |
| Max Q Clear Time (g_c+I1), s | 6.4 | 17.5 | 12.3 | 12.0 | 8.7 | 34.0 | 24.4 | 24.5 |
| Green Ext Time (p_c), s | 0.0 | 2.0 | 0.3 | 3.3 | 0.1 | 0.0 | 1.7 | 1.4 |

**Intersection Summary**

| | |
|---|---|
| HCM 6th Ctrl Delay | 40.5 |
| HCM 6th LOS | D |

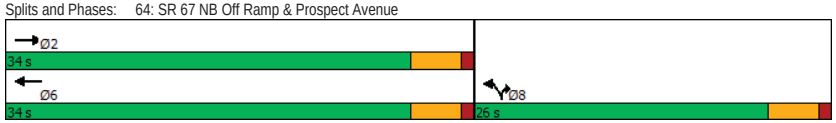
**Notes**

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 1100 | 0 | 0 | 690 | 764 | 180 |
| Future Volume (vph) | 1100 | 0 | 0 | 690 | 764 | 180 |
| Confl. Peds. (#/hr) | | 5 | | | | |
| Confl. Bikes (#/hr) | | 3 | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | NA | | | NA | Prot | Prot |
| Protected Phases | 2 | | | 6 | 8 | 8 |
| Permitted Phases | | | | | | |
| Detector Phase | 2 | | | 6 | 8 | 8 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 5.0 | | | 10.0 | 5.0 | 5.0 |
| Minimum Split (s) | 20.6 | | | 20.6 | 20.6 | 20.6 |
| Total Split (s) | 34.0 | | | 34.0 | 26.0 | 26.0 |
| Total Split (%) | 56.7% | | | 56.7% | 43.3% | 43.3% |
| Yellow Time (s) | 3.6 | | | 3.6 | 3.6 | 3.6 |
| All-Red Time (s) | 1.0 | | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.6 | | | 4.6 | 4.6 | 4.6 |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | Min | | | Min | None | None |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 47.9 |
| Natural Cycle: 50 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 64: SR 67 NB Off Ramp & Prospect Avenue








| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 1100 | 0 | 0 | 690 | 764 | 180 |
| Future Volume (veh/h) | 1100 | 0 | 0 | 690 | 764 | 180 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | 1.00 | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 0 | 0 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 1196 | 0 | 0 | 750 | 830 | 196 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 0 | 0 | 2 | 2 | 2 |
| Cap, veh/h | 1634 | 0 | 0 | 1634 | 1079 | 495 |
| Arrive On Green | 0.46 | 0.00 | 0.00 | 0.46 | 0.31 | 0.31 |
| Sat Flow, veh/h | 3741 | 0 | 0 | 3741 | 3456 | 1585 |
| Grp Volume(v), veh/h | 1196 | 0 | 0 | 750 | 830 | 196 |
| Grp Sat Flow(s),veh/h/ln | 1777 | 0 | 0 | 1777 | 1728 | 1585 |
| Q Serve(g_s), s | 11.1 | 0.0 | 0.0 | 5.8 | 8.8 | 3.9 |
| Cycle Q Clear(g_c), s | 11.1 | 0.0 | 0.0 | 5.8 | 8.8 | 3.9 |
| Prop In Lane | | 0.00 | 0.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 1634 | 0 | 0 | 1634 | 1079 | 495 |
| V/C Ratio(X) | 0.73 | 0.00 | 0.00 | 0.46 | 0.77 | 0.40 |
| Avail Cap(c_a), veh/h | 2590 | 0 | 0 | 2590 | 1833 | 841 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 8.9 | 0.0 | 0.0 | 7.5 | 12.6 | 10.9 |
| Incr Delay (d2), s/veh | 0.2 | 0.0 | 0.0 | 0.2 | 0.4 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.7 | 0.0 | 0.0 | 1.4 | 2.7 | 1.1 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 9.1 | 0.0 | 0.0 | 7.7 | 13.0 | 11.1 |
| LnGrp LOS | A | A | A | A | B | B |
| Approach Vol, veh/h | 1196 | | | 750 | 1026 | |
| Approach Delay, s/veh | 9.1 | | | 7.7 | 12.6 | |
| Approach LOS | A | | | A | B | |

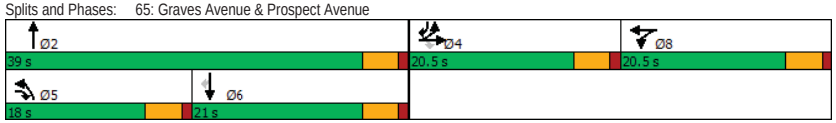
| Timer - Assigned Phs | 2 | | | 6 | 8 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 23.1 | | | 23.1 | 17.2 |
| Change Period (Y+Rc), s | 4.6 | | | 4.6 | 4.6 |
| Max Green Setting (Gmax), s | 29.4 | | | 29.4 | 21.4 |
| Max Q Clear Time (g_c+I1), s | 13.1 | | | 7.8 | 10.8 |
| Green Ext Time (p_c), s | 5.5 | | | 5.1 | 1.8 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 10.0 | |
| HCM 6th LOS | A | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 420 | 20 | 800 | 5 | 15 | 0 | 470 | 40 | 5 | 0 | 60 | 300 |
| Future Volume (vph) | 420 | 20 | 800 | 5 | 15 | 0 | 470 | 40 | 5 | 0 | 60 | 300 |
| Confl. Peds. (#/hr) | | | | | | 1 | | | 6 | | | |
| Confl. Bikes (#/hr) | | | 3 | | | 1 | | | 2 | | | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | 48% | | | | | | | | | | | |
| Turn Type | Split | NA | pm+ov | Split | NA | | Prot | NA | | | NA | pm+ov |
| Protected Phases | 4 | 4 | 5 | 8 | 8 | | 5 | 2 | | | 6 | 4 |
| Permitted Phases | | | 4 | | | | | | | | | 6 |
| Detector Phase | 4 | 4 | 5 | 8 | 8 | | 5 | 2 | | | 6 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | | 4.0 | 4.0 |
| Minimum Split (s) | 20.5 | 20.5 | 8.5 | 20.5 | 20.5 | | 8.5 | 20.5 | | | 20.5 | 20.5 |
| Total Split (s) | 20.5 | 20.5 | 18.0 | 20.5 | 20.5 | | 18.0 | 39.0 | | | 21.0 | 20.5 |
| Total Split (%) | 25.6% | 25.6% | 22.5% | 25.6% | 25.6% | | 22.5% | 48.8% | | | 26.3% | 25.6% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | | | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | | | 4.5 | 4.5 |
| Lead/Lag | | | Lead | | | | Lead | | | | Lag | |
| Lead-Lag Optimize? | | | Yes | | | | Yes | | | | Yes | |
| Recall Mode | None | None | None | None | None | | None | Min | | | Min | None |

| Intersection Summary |
|---|
| Cycle Length: 80 |
| Actuated Cycle Length: 51.8 |
| Natural Cycle: 80 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 65: Graves Avenue & Prospect Avenue








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 420 | 20 | 800 | 5 | 15 | 0 | 470 | 40 | 5 | 0 | 60 | 300 |
| Future Volume (veh/h) | 420 | 20 | 800 | 5 | 15 | 0 | 470 | 40 | 5 | 0 | 60 | 300 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 1.00 | 1.00 | | 0.97 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 0 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 473 | 0 | 870 | 5 | 16 | 0 | 511 | 43 | 5 | 0 | 65 | 326 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 0 | 2 | 2 |
| Cap, veh/h | 1005 | 0 | 735 | 39 | 41 | 0 | 652 | 751 | 87 | 0 | 355 | 744 |
| Arrive On Green | 0.28 | 0.00 | 0.28 | 0.02 | 0.02 | 0.00 | 0.19 | 0.46 | 0.46 | 0.00 | 0.19 | 0.19 |
| Sat Flow, veh/h | 3563 | 0 | 1547 | 1781 | 1870 | 0 | 3456 | 1639 | 191 | 0 | 1870 | 1560 |
| Grp Volume(v), veh/h | 473 | 0 | 870 | 5 | 16 | 0 | 511 | 0 | 48 | 0 | 65 | 326 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1547 | 1781 | 1870 | 0 | 1728 | 0 | 1830 | 0 | 1870 | 1560 |
| Q Serve(g_s), s | 6.2 | 0.0 | 16.0 | 0.2 | 0.5 | 0.0 | 8.0 | 0.0 | 0.8 | 0.0 | 1.7 | 7.9 |
| Cycle Q Clear(g_c), s | 6.2 | 0.0 | 16.0 | 0.2 | 0.5 | 0.0 | 8.0 | 0.0 | 0.8 | 0.0 | 1.7 | 7.9 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.00 | 1.00 | | 0.10 | 0.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 1005 | 0 | 735 | 39 | 41 | 0 | 652 | 0 | 838 | 0 | 355 | 744 |
| V/C Ratio(X) | 0.47 | 0.00 | 1.18 | 0.13 | 0.39 | 0.00 | 0.78 | 0.00 | 0.06 | 0.00 | 0.18 | 0.44 |
| Avail Cap(c_a), veh/h | 1005 | 0 | 735 | 502 | 528 | 0 | 823 | 0 | 1113 | 0 | 544 | 901 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 16.9 | 0.0 | 15.1 | 27.2 | 27.4 | 0.0 | 21.9 | 0.0 | 8.6 | 0.0 | 19.3 | 10.0 |
| Incr Delay (d2), s/veh | 0.3 | 0.0 | 96.0 | 1.5 | 5.9 | 0.0 | 3.9 | 0.0 | 0.0 | 0.0 | 0.2 | 0.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.3 | 0.0 | 27.2 | 0.1 | 0.3 | 0.0 | 3.3 | 0.0 | 0.3 | 0.0 | 0.7 | 4.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 17.2 | 0.0 | 111.1 | 28.7 | 33.3 | 0.0 | 25.8 | 0.0 | 8.6 | 0.0 | 19.5 | 10.4 |
| LnGrp LOS | B | A | F | C | C | A | C | A | A | A | B | B |
| Approach Vol, veh/h | | 1343 | | | 21 | | | 559 | | | 391 | |
| Approach Delay, s/veh | | 78.0 | | | 32.2 | | | 24.3 | | | 11.9 | |
| Approach LOS | | E | | | C | | | C | | | B | |

| Timer - Assigned Phs | 2 | 4 | 5 | 6 | 8 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 30.5 | 20.5 | 15.2 | 15.3 | 5.7 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 34.5 | 16.0 | 13.5 | 16.5 | 16.0 |
| Max Q Clear Time (g_c+I1), s | 2.8 | 18.0 | 10.0 | 9.9 | 2.5 |
| Green Ext Time (p_c), s | 0.2 | 0.0 | 0.7 | 0.9 | 0.0 |

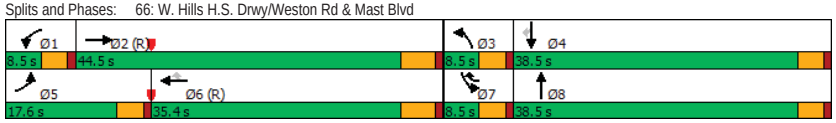
| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 53.5 |
| HCM 6th LOS | D |

| Notes |
|---|
| User approved volume balancing among the lanes for turning movement. |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 200 | 2130 | 5 | 15 | 804 | 110 | 0 | 10 | 5 | 50 | 5 | 90 |
| Future Volume (vph) | 200 | 2130 | 5 | 15 | 804 | 110 | 0 | 10 | 5 | 50 | 5 | 90 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | 4.0 | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.5 | 22.5 | | 8.5 | 27.3 | 8.5 | 8.5 | 38.5 | | 8.5 | 33.5 | 33.5 |
| Total Split (s) | 17.6 | 44.5 | | 8.5 | 35.4 | 8.5 | 8.5 | 38.5 | | 8.5 | 38.5 | 38.5 |
| Total Split (%) | 17.6% | 44.5% | | 8.5% | 35.4% | 8.5% | 8.5% | 38.5% | | 8.5% | 38.5% | 38.5% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | 3.2 | 3.2 | 3.2 | | 3.2 | 3.2 | 3.2 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | 4.2 | 4.2 | 4.2 | | 4.2 | 4.2 | 4.2 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | C-Min | | None | C-Min | None | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 81 (81%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 145 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 66: W. Hills H.S. Drwy/Weston Rd & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 200 | 2130 | 5 | 15 | 804 | 110 | 0 | 10 | 5 | 50 | 5 | 90 |
| Future Volume (veh/h) | 200 | 2130 | 5 | 15 | 804 | 110 | 0 | 10 | 5 | 50 | 5 | 90 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 217 | 2315 | 5 | 16 | 874 | 120 | 0 | 11 | 5 | 54 | 5 | 98 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 239 | 2548 | 6 | 26 | 2064 | 982 | 2 | 82 | 37 | 69 | 277 | 235 |
| Arrive On Green | 0.18 | 0.93 | 0.93 | 0.03 | 1.00 | 1.00 | 0.00 | 0.07 | 0.07 | 0.04 | 0.15 | 0.15 |
| Sat Flow, veh/h | 1781 | 3638 | 8 | 1781 | 3554 | 1585 | 1781 | 1217 | 553 | 1781 | 1870 | 1585 |
| Grp Volume(v), veh/h | 217 | 1130 | 1190 | 16 | 874 | 120 | 0 | 0 | 16 | 54 | 5 | 98 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1869 | 1781 | 1777 | 1585 | 1781 | 0 | 1771 | 1781 | 1870 | 1585 |
| Q Serve(g_s), s | 11.9 | 28.3 | 28.5 | 0.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.9 | 3.0 | 0.2 | 5.6 |
| Cycle Q Clear(g_c), s | 11.9 | 28.3 | 28.5 | 0.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.9 | 3.0 | 0.2 | 5.6 |
| Prop In Lane | 1.00 | | 0.00 | 1.00 | | 1.00 | 1.00 | | 0.31 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 239 | 1244 | 1309 | 26 | 2064 | 982 | 2 | 0 | 119 | 69 | 277 | 235 |
| V/C Ratio(X) | 0.91 | 0.91 | 0.91 | 0.63 | 0.42 | 0.12 | 0.00 | 0.00 | 0.13 | 0.78 | 0.02 | 0.42 |
| Avail Cap(c_a), veh/h | 239 | 1244 | 1309 | 77 | 2064 | 982 | 77 | 0 | 607 | 77 | 642 | 544 |
| HCM Platoon Ratio | 1.33 | 1.33 | 1.33 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.35 | 0.35 | 0.35 | 0.95 | 0.95 | 0.95 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 40.5 | 2.0 | 2.0 | 48.3 | 0.0 | 0.0 | 0.0 | 0.0 | 43.9 | 47.6 | 36.4 | 38.7 |
| Incr Delay (d2), s/veh | 16.2 | 4.5 | 4.3 | 21.4 | 0.6 | 0.2 | 0.0 | 0.0 | 0.5 | 36.2 | 0.0 | 1.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 5.9 | 3.1 | 3.2 | 0.5 | 0.2 | 0.1 | 0.0 | 0.0 | 0.4 | 2.0 | 0.1 | 2.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 56.7 | 6.5 | 6.3 | 69.7 | 0.6 | 0.2 | 0.0 | 0.0 | 44.4 | 83.8 | 36.4 | 39.8 |
| LnGrp LOS | E | A | A | E | A | A | A | A | D | F | D | D |
| Approach Vol, veh/h | | 2537 | | | 1010 | | | 16 | | | 157 | |
| Approach Delay, s/veh | | 10.7 | | | 1.7 | | | 44.4 | | | 54.9 | |
| Approach LOS | | B | | | A | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.6 | 75.3 | 0.0 | 19.0 | 17.6 | 63.4 | 8.1 | 10.9 |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | * 4.2 | * 4.2 | * 4.2 | 5.3 | * 4.2 | * 4.2 |
| Max Green Setting (Gmax), s | * 4.3 | 39.2 | * 4.3 | * 34 | * 13 | 30.1 | * 4.3 | * 34 |
| Max Q Clear Time (g_c+I1), s | 2.9 | 30.5 | 0.0 | 7.6 | 13.9 | 2.0 | 5.0 | 2.9 |
| Green Ext Time (p_c), s | 0.0 | 8.0 | 0.0 | 0.3 | 0.0 | 6.9 | 0.0 | 0.0 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 10.3 | |
| HCM 6th LOS | B | |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

# APPENDIX K-2

## YEAR 2035 WITH PROJECT PEAK HOUR HCS FREEWAY SHEETS

## HCS7 Basic Freeway Report

### Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | 2035 + Proj |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-52 EB: Santo Rd to Mast Blvd | | |

### Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Rolling |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 0.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 73.1 |
| Right-Side Lateral Clearance, ft | 10 | | |

### Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

### Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 2164 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.951 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 807 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.34 |
| Passenger Car Equivalent ($E_T$) | 3.000 | | |

### Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 73.1 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 11.0 |
| Total Ramp Density Adjustment | 2.3 | Level of Service (LOS) | A |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 73.1 | | |

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## HCS7 Basic Freeway Report

### Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | 2035 + Proj |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-52 EB: Santo Rd to Mast Blvd | | |

### Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Rolling |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 0.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 73.1 |
| Right-Side Lateral Clearance, ft | 10 | | |

### Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | Mostly Familiar | Final Speed Adjustment Factor (SAF) | 0.975 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 0.968 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

### Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 7587 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.951 |
| Peak Hour Factor (PHF) | 0.92 | Flow Rate ($v_p$), pc/h/ln | 2891 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2323 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 1.24 |
| Passenger Car Equivalent ($E_T$) | 3.000 | | |

### Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | - |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | - |
| Total Ramp Density Adjustment | 2.3 | Level of Service (LOS) | F |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 71.3 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | 2035 + Proj |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-52 WB: Mast Blvd to Santo Rd | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Rolling |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 0.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 73.1 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | Mostly Familiar | Final Speed Adjustment Factor (SAF) | 0.975 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 0.968 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 8240 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.951 |
| Peak Hour Factor (PHF) | 0.92 | Flow Rate ($v_p$), pc/h/ln | 3139 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2323 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 1.35 |
| Passenger Car Equivalent ($E_T$) | 3.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | - |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | - |
| Total Ramp Density Adjustment | 2.3 | Level of Service (LOS) | F |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 71.3 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | 2035 + Proj |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-52 WB: Mast Blvd to Santo Rd | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Rolling |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 0.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 73.1 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 3333 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.951 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1243 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.52 |
| Passenger Car Equivalent ($E_T$) | 3.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 72.8 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 17.1 |
| Total Ramp Density Adjustment | 2.3 | Level of Service (LOS) | B |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 73.1 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | 2035 + Proj |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-52 EB: Mast Blvd to SR-125 | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 2 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.50 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.9 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 2029 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1107 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.46 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 70.9 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 15.6 |
| Total Ramp Density Adjustment | 4.5 | Level of Service (LOS) | B |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.9 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | 2035 + Proj |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-52 EB: Mast Blvd to SR-125 | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 2 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.50 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.9 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 6375 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 3478 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 1.45 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | - |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | - |
| Total Ramp Density Adjustment | 4.5 | Level of Service (LOS) | F |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.9 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | 2035 + Proj |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-52 WB: SR-125 to Mast Blvd | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 2 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.4 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 5621 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 3066 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 1.28 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | - |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | - |
| Total Ramp Density Adjustment | 5.0 | Level of Service (LOS) | F |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.4 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | 2035 + Proj |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-52 WB: SR-125 to Mast Blvd | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 2 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.4 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 3438 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1876 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.78 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 64.9 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 28.9 |
| Total Ramp Density Adjustment | 5.0 | Level of Service (LOS) | D |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.4 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | 2035 + Proj |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-52 EB: SR-125 to Cuyamaca St | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.4 |
| Right-Side Lateral Clearance, ft | 8 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 2580 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 938 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.39 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 70.4 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 13.3 |
| Total Ramp Density Adjustment | 5.0 | Level of Service (LOS) | B |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.4 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | 2035 + Proj |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-52 EB: SR-125 to Cuyamaca St | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.4 |
| Right-Side Lateral Clearance, ft | 8 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 6389 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 2324 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.97 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 55.4 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 41.9 |
| Total Ramp Density Adjustment | 5.0 | Level of Service (LOS) | E |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.4 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | 2035 + Proj |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-52 WB: Cuyamaca St to SR-125 | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.83 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.1 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 4817 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1752 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.73 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 66.5 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 26.3 |
| Total Ramp Density Adjustment | 5.4 | Level of Service (LOS) | D |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.1 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | 2035 + Proj |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-52 WB: Cuyamaca St to SR-125 | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.83 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.1 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 4243 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1543 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.64 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 68.7 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 22.5 |
| Total Ramp Density Adjustment | 5.4 | Level of Service (LOS) | C |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.1 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | 2035 + Proj |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-52 EB: Cuyamaca St to SR-67 | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.33 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 71.3 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 1853 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 674 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.28 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 71.3 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 9.5 |
| Total Ramp Density Adjustment | 4.1 | Level of Service (LOS) | A |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 71.3 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | 2035 + Proj |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-52 EB: Cuyamaca St to SR-67 | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.33 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 71.3 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 5698 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 2072 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.86 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 61.5 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 33.7 |
| Total Ramp Density Adjustment | 4.1 | Level of Service (LOS) | D |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 71.3 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | 2035 + Proj |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-52 WB: SR-67 to Cuyamaca St | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.50 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.9 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 4574 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1664 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.69 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 68.0 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 24.5 |
| Total Ramp Density Adjustment | 4.5 | Level of Service (LOS) | C |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.9 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | 2035 + Proj |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-52 WB: SR-67 to Cuyamaca St | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.50 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.9 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 3524 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.975 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1282 |
| Total Trucks, % | 2.60 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.53 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 70.7 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 18.1 |
| Total Ramp Density Adjustment | 4.5 | Level of Service (LOS) | C |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.9 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | 2035 + Proj |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-67 NB: SR-52 to Riverford Rd | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 2 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.00 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 69.6 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 2934 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.932 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1674 |
| Total Trucks, % | 7.30 | Capacity (c), pc/h/ln | 2396 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2396 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.70 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 67.1 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 24.9 |
| Total Ramp Density Adjustment | 5.8 | Level of Service (LOS) | C |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 69.6 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | 2035 + Proj |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-67 NB: SR-52 to Riverford Rd | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 2 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.00 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 69.6 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 4713 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.932 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 2690 |
| Total Trucks, % | 7.30 | Capacity (c), pc/h/ln | 2396 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2396 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 1.12 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | - |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | - |
| Total Ramp Density Adjustment | 5.8 | Level of Service (LOS) | F |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 69.6 | | |

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## HCS7 Basic Freeway Report

### Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | 2035 + Proj |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-67 SB: Riverford Rd to SR-52 | | |

### Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 2 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.17 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 69.2 |
| Right-Side Lateral Clearance, ft | 10 | | |

### Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

### Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 4140 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.932 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 2363 |
| Total Trucks, % | 7.30 | Capacity (c), pc/h/ln | 2392 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2392 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.99 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

### Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 53.9 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 43.8 |
| Total Ramp Density Adjustment | 6.2 | Level of Service (LOS) | E |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 69.2 | | |

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## HCS7 Basic Freeway Report

### Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | 2035 + Proj |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-67 SB: Riverford Rd to SR-52 | | |

### Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 2 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.17 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 69.2 |
| Right-Side Lateral Clearance, ft | 10 | | |

### Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

### Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 3483 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.932 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1988 |
| Total Trucks, % | 7.30 | Capacity (c), pc/h/ln | 2392 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2392 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.83 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

### Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 62.4 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 31.9 |
| Total Ramp Density Adjustment | 6.2 | Level of Service (LOS) | D |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 69.2 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | 2035 + Proj |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-67 NB: Bradley Ave to SR-52 | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 4 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.17 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 69.2 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 4635 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.937 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1316 |
| Total Trucks, % | 6.70 | Capacity (c), pc/h/ln | 2392 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2392 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.55 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 69.1 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 19.0 |
| Total Ramp Density Adjustment | 6.2 | Level of Service (LOS) | C |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 69.2 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | 2035 + Proj |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-67 NB: Bradley Ave to SR-52 | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 4 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.17 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 69.2 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 7454 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.937 |
| Peak Hour Factor (PHF) | 0.93 | Flow Rate ($v_p$), pc/h/ln | 2138 |
| Total Trucks, % | 6.70 | Capacity (c), pc/h/ln | 2392 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2392 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.89 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 59.4 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 36.0 |
| Total Ramp Density Adjustment | 6.2 | Level of Service (LOS) | E |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 69.2 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | 2035 + Proj |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-67 SB: SR-52 to Bradley Ave | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.16 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 69.3 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 6565 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.937 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 2485 |
| Total Trucks, % | 6.70 | Capacity (c), pc/h/ln | 2393 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2393 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 1.04 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | - |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | - |
| Total Ramp Density Adjustment | 6.1 | Level of Service (LOS) | F |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 69.3 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | 2035 + Proj |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-67 SB: SR-52 to Bradley Ave | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 3 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 2.16 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 69.3 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 5494 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.937 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 2079 |
| Total Trucks, % | 6.70 | Capacity (c), pc/h/ln | 2393 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2393 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.87 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 60.7 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 34.3 |
| Total Ramp Density Adjustment | 6.1 | Level of Service (LOS) | D |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 69.3 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | 2035 + Proj |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-125 NB: Grossmont College Dr to SR-52 | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 5 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.4 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 4259 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.958 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 946 |
| Total Trucks, % | 4.40 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.39 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 70.4 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 13.4 |
| Total Ramp Density Adjustment | 5.0 | Level of Service (LOS) | B |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.4 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | 2035 + Proj |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-125 NB: Grossmont College Dr to SR-52 | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 5 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.4 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 3806 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.958 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 845 |
| Total Trucks, % | 4.40 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.35 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 70.4 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 12.0 |
| Total Ramp Density Adjustment | 5.0 | Level of Service (LOS) | B |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.4 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | 2035 + Proj |
| Jurisdiction | | Time Period Analyzed | AM |
| Project Description | SR-125 SB: SR-52 to Grossmont College Dr | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 4 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.4 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 2838 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.958 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 788 |
| Total Trucks, % | 4.40 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.33 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 70.4 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 11.2 |
| Total Ramp Density Adjustment | 5.0 | Level of Service (LOS) | B |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.4 | | |

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# HCS7 Basic Freeway Report

## Project Information

| | | | |
|---|---|---|---|
| Analyst | | Date | 6/19/2018 |
| Agency | LLG | Analysis Year | 2035 + Proj |
| Jurisdiction | | Time Period Analyzed | PM |
| Project Description | SR-125 SB: SR-52 to Grossmont College Dr | | |

## Geometric Data

| | | | |
|---|---|---|---|
| Number of Lanes (N), ln | 4 | Terrain Type | Level |
| Segment Length (L), ft | - | Percent Grade, % | - |
| Measured or Base Free-Flow Speed | Base | Grade Length, mi | - |
| Base Free-Flow Speed (BFFS), mi/h | 75.4 | Total Ramp Density (TRD), ramps/mi | 1.67 |
| Lane Width, ft | 12 | Free-Flow Speed (FFS), mi/h | 70.4 |
| Right-Side Lateral Clearance, ft | 10 | | |

## Adjustment Factors

| | | | |
|---|---|---|---|
| Driver Population | All Familiar | Final Speed Adjustment Factor (SAF) | 1.000 |
| Weather Type | Non-Severe Weather | Final Capacity Adjustment Factor (CAF) | 1.000 |
| Incident Type | No Incident | Demand Adjustment Factor (DAF) | 1.000 |

## Demand and Capacity

| | | | |
|---|---|---|---|
| Volume (V), veh/h | 4773 | Heavy Vehicle Adjustment Factor ($f_{HV}$) | 0.958 |
| Peak Hour Factor (PHF) | 0.94 | Flow Rate ($v_p$), pc/h/ln | 1325 |
| Total Trucks, % | 4.40 | Capacity (c), pc/h/ln | 2400 |
| Single-Unit Trucks (SUT), % | - | Adjusted Capacity ($c_{adj}$), pc/h/ln | 2400 |
| Tractor-Trailers (TT), % | - | Volume-to-Capacity Ratio (v/c) | 0.55 |
| Passenger Car Equivalent ($E_T$) | 2.000 | | |

## Speed and Density

| | | | |
|---|---|---|---|
| Lane Width Adjustment ($f_{LW}$) | 0.0 | Average Speed (S), mi/h | 70.2 |
| Right-Side Lateral Clearance Adj. ($f_{RLC}$) | 0.0 | Density (D), pc/mi/ln | 18.9 |
| Total Ramp Density Adjustment | 5.0 | Level of Service (LOS) | C |
| Adjusted Free-Flow Speed ($FFS_{adj}$), mi/h | 70.4 | | |

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# APPENDIX L

## PEAK HOUR INTERSECTION ANALYSIS WORKSHEETS – EXISTING + PROJECT (NO SCHOOL ALTERNATIVE)

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.3 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 15 | 0 | 158 | 7 | 0 | 408 |
| Future Vol, veh/h | 15 | 0 | 158 | 7 | 0 | 408 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | 150 | 50 | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 16 | 0 | 172 | 8 | 0 | 443 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 615 | 172 | 0 | 0 | 180 | 0 |
| Stage 1 | 172 | - | - | - | - | - |
| Stage 2 | 443 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | - | - | 4.12 | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | - | - | 2.218 | - |
| Pot Cap-1 Maneuver | 455 | 872 | - | - | 1396 | - |
| Stage 1 | 858 | - | - | - | - | - |
| Stage 2 | 647 | - | - | - | - | - |
| Platoon blocked, % | | | | - | | - |
| Mov Cap-1 Maneuver | 455 | 872 | - | - | 1396 | - |
| Mov Cap-2 Maneuver | 455 | - | - | - | - | - |
| Stage 1 | 858 | - | - | - | - | - |
| Stage 2 | 647 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 13.2 | 0 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | SBL | SBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 455 | 1396 | - |
| HCM Lane V/C Ratio | - | - | 0.036 | - | - |
| HCM Control Delay (s) | - | - | 13.2 | 0 | - |
| HCM Lane LOS | - | - | B | A | - |
| HCM 95th %tile Q(veh) | - | - | 0.1 | 0 | - |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 11.1 |
| Intersection LOS | B |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 39 | 31 | 4 | 0 | 25 | 135 | 8 | 0 | 340 | 0 |
| Future Vol, veh/h | 0 | 0 | 39 | 31 | 4 | 0 | 25 | 135 | 8 | 0 | 340 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 42 | 34 | 4 | 0 | 27 | 147 | 9 | 0 | 370 | 0 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 3 | 3 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 3 | 3 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 3 | 3 | 1 | 1 |
| HCM Control Delay | 8.3 | 9.6 | 8.9 | 12.6 |
| HCM LOS | A | A | A | B |

| Lane | NBLn1 | NBLn2 | NBLn3 | EBLn1 | WBLn1 | SBLn1 | SBLn2 | SBLn3 |
|---|---|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 0% | 89% | 0% | 0% | 0% |
| Vol Thru, % | 0% | 100% | 0% | 0% | 11% | 100% | 100% | 100% |
| Vol Right, % | 0% | 0% | 100% | 100% | 0% | 0% | 0% | 0% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 25 | 135 | 8 | 39 | 35 | 0 | 340 | 0 |
| LT Vol | 25 | 0 | 0 | 0 | 31 | 0 | 0 | 0 |
| Through Vol | 0 | 135 | 0 | 0 | 4 | 0 | 340 | 0 |
| RT Vol | 0 | 0 | 8 | 39 | 0 | 0 | 0 | 0 |
| Lane Flow Rate | 27 | 147 | 9 | 42 | 38 | 0 | 370 | 0 |
| Geometry Grp | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| Degree of Util (X) | 0.042 | 0.207 | 0.011 | 0.061 | 0.067 | 0 | 0.505 | 0 |
| Departure Headway (Hd) | 5.574 | 5.071 | 4.366 | 5.216 | 6.36 | 4.921 | 4.921 | 4.921 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 642 | 707 | 819 | 685 | 562 | 0 | 732 | 0 |
| Service Time | 3.307 | 2.803 | 2.099 | 2.964 | 4.109 | 2.649 | 2.649 | 2.649 |
| HCM Lane V/C Ratio | 0.042 | 0.208 | 0.011 | 0.061 | 0.068 | 0 | 0.505 | 0 |
| HCM Control Delay | 8.6 | 9.1 | 7.1 | 8.3 | 9.6 | 7.6 | 12.6 | 7.6 |
| HCM Lane LOS | A | A | A | A | A | N | B | N |
| HCM 95th-tile Q | 0.1 | 0.8 | 0 | 0.2 | 0.2 | 0 | 2.9 | 0 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 6.4 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 0 | 0 | 12 | 125 | 0 | 1 | 5 | 257 | 57 | 1 | 661 | 0 |
| Future Vol, veh/h | 0 | 0 | 12 | 125 | 0 | 1 | 5 | 257 | 57 | 1 | 661 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 13 | 136 | 0 | 1 | 5 | 279 | 62 | 1 | 718 | 0 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1041 | 1071 | 718 | 1047 | 1040 | 310 | 718 | 0 | 0 | 341 | 0 | 0 |
| Stage 1 | 720 | 720 | - | 320 | 320 | - | - | - | - | - | - | - |
| Stage 2 | 321 | 351 | - | 727 | 720 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | 4.12 | - | - | 4.12 | - | - |
| Critical Hdwy Stg 1 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | 2.218 | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 208 | 221 | 429 | 206 | 230 | 730 | 883 | - | - | 1218 | - | - |
| Stage 1 | 419 | 432 | - | 692 | 652 | - | - | - | - | - | - | - |
| Stage 2 | 691 | 632 | - | 415 | 432 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 206 | 219 | 429 | 199 | 228 | 730 | 883 | - | - | 1218 | - | - |
| Mov Cap-2 Maneuver | 206 | 219 | - | 199 | 228 | - | - | - | - | - | - | - |
| Stage 1 | 416 | 432 | - | 687 | 647 | - | - | - | - | - | - | - |
| Stage 2 | 685 | 628 | - | 402 | 432 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 13.7 | 54.9 | 0.1 | 0 |
| HCM LOS | B | F | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 883 | - | - | 429 | 200 | 1218 | - | - |
| HCM Lane V/C Ratio | 0.006 | - | - | 0.03 | 0.685 | 0.001 | - | - |
| HCM Control Delay (s) | 9.1 | 0 | - | 13.7 | 54.9 | 8 | 0 | - |
| HCM Lane LOS | A | A | - | B | F | A | A | - |
| HCM 95th %tile Q(veh) | 0 | - | - | 0.1 | 4.2 | 0 | - | - |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 19.5 |
| Intersection LOS | C |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | ↕ | | | ↕ | | | ↰ | ↱ | | ↰ | ↱ |
| Traffic Vol, veh/h | 0 | 1 | 12 | 227 | 0 | 4 | 3 | 171 | 66 | 8 | 450 | 0 |
| Future Vol, veh/h | 0 | 1 | 12 | 227 | 0 | 4 | 3 | 171 | 66 | 8 | 450 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 1 | 13 | 247 | 0 | 4 | 3 | 186 | 72 | 9 | 489 | 0 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |

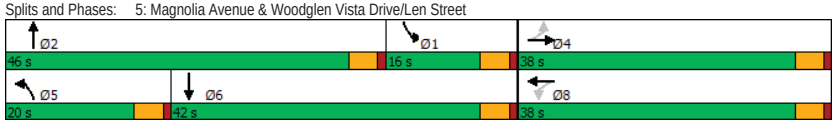
| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay | 9.4 | 14 | 12.9 | 26 |
| HCM LOS | A | B | B | D |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 98% | 100% | 0% |
| Vol Thru, % | 0% | 72% | 8% | 0% | 0% | 100% |
| Vol Right, % | 0% | 28% | 92% | 2% | 0% | 0% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 3 | 237 | 13 | 231 | 8 | 450 |
| LT Vol | 3 | 0 | 0 | 227 | 8 | 0 |
| Through Vol | 0 | 171 | 1 | 0 | 0 | 450 |
| RT Vol | 0 | 66 | 12 | 4 | 0 | 0 |
| Lane Flow Rate | 3 | 258 | 14 | 251 | 9 | 489 |
| Geometry Grp | 7 | 7 | 2 | 2 | 7 | 7 |
| Degree of Util (X) | 0.006 | 0.421 | 0.024 | 0.434 | 0.015 | 0.784 |
| Departure Headway (Hd) | 6.589 | 5.883 | 6.135 | 6.221 | 6.275 | 5.768 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 542 | 611 | 579 | 577 | 570 | 626 |
| Service Time | 4.341 | 3.634 | 4.222 | 4.276 | 4.015 | 3.509 |
| HCM Lane V/C Ratio | 0.006 | 0.422 | 0.024 | 0.435 | 0.016 | 0.781 |
| HCM Control Delay | 9.4 | 12.9 | 9.4 | 14 | 9.1 | 26.3 |
| HCM Lane LOS | A | B | A | B | A | D |
| HCM 95th-tile Q | 0 | 2.1 | 0.1 | 2.2 | 0 | 7.5 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 17 | 1 | 109 | 44 | 13 | 10 | 35 | 265 | 14 | 7 | 659 | 11 |
| Future Volume (vph) | 17 | 1 | 109 | 44 | 13 | 10 | 35 | 265 | 14 | 7 | 659 | 11 |
| Confl. Peds. (#/hr) | | | 95 | | | 4 | | | 15 | | | 95 |
| Confl. Bikes (#/hr) | | | 1 | | | 1 | | | | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Perm | NA | | Perm | NA | | Prot | NA | | Prot | NA | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 26.5 | 26.5 | | 26.5 | 26.5 | | 11.5 | 22.5 | | 11.5 | 22.5 | |
| Total Split (s) | 38.0 | 38.0 | | 38.0 | 38.0 | | 20.0 | 46.0 | | 16.0 | 42.0 | |
| Total Split (%) | 38.0% | 38.0% | | 38.0% | 38.0% | | 20.0% | 46.0% | | 16.0% | 42.0% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | | | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lead | | Lag | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 41.2 |
| Natural Cycle: 65 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 5: Magnolia Avenue & Woodglen Vista Drive/Len Street






Existing + Proj AM (No School) Fanita Ranch
5: Magnolia Avenue & Woodglen Vista Drive/Len Street 06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 17 | 1 | 109 | 44 | 13 | 10 | 35 | 265 | 14 | 7 | 659 | 11 |
| Future Volume (veh/h) | 17 | 1 | 109 | 44 | 13 | 10 | 35 | 265 | 14 | 7 | 659 | 11 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.89 | 0.93 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 0.84 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 18 | 1 | 118 | 48 | 14 | 11 | 38 | 288 | 15 | 8 | 716 | 12 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 602 | 4 | 424 | 336 | 95 | 53 | 104 | 939 | 49 | 237 | 1241 | 21 |
| Arrive On Green | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | 0.06 | 0.27 | 0.27 | 0.13 | 0.35 | 0.35 |
| Sat Flow, veh/h | 1381 | 12 | 1409 | 685 | 315 | 178 | 1781 | 3431 | 178 | 1781 | 3564 | 60 |
| Grp Volume(v), veh/h | 18 | 0 | 119 | 73 | 0 | 0 | 38 | 148 | 155 | 8 | 357 | 371 |
| Grp Sat Flow(s),veh/h/ln | 1381 | 0 | 1421 | 1178 | 0 | 0 | 1781 | 1777 | 1832 | 1781 | 1777 | 1847 |
| Q Serve(g_s), s | 0.0 | 0.0 | 3.0 | 0.5 | 0.0 | 0.0 | 0.9 | 3.1 | 3.1 | 0.2 | 7.6 | 7.6 |
| Cycle Q Clear(g_c), s | 0.3 | 0.0 | 3.0 | 3.5 | 0.0 | 0.0 | 0.9 | 3.1 | 3.1 | 0.2 | 7.6 | 7.6 |
| Prop In Lane | 1.00 | | 0.99 | 0.66 | | 0.15 | 1.00 | | 0.10 | 1.00 | | 0.03 |
| Lane Grp Cap(c), veh/h | 602 | 0 | 428 | 484 | 0 | 0 | 104 | 486 | 502 | 237 | 619 | 643 |
| V/C Ratio(X) | 0.03 | 0.00 | 0.28 | 0.15 | 0.00 | 0.00 | 0.36 | 0.31 | 0.31 | 0.03 | 0.58 | 0.58 |
| Avail Cap(c_a), veh/h | 1188 | 0 | 1031 | 1045 | 0 | 0 | 598 | 1597 | 1647 | 444 | 1443 | 1499 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 11.4 | 0.0 | 12.3 | 12.1 | 0.0 | 0.0 | 20.9 | 13.3 | 13.3 | 17.4 | 12.3 | 12.3 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 0.4 | 0.1 | 0.0 | 0.0 | 2.1 | 0.4 | 0.3 | 0.1 | 0.9 | 0.8 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.1 | 0.0 | 0.9 | 0.5 | 0.0 | 0.0 | 0.4 | 1.0 | 1.1 | 0.1 | 2.4 | 2.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 11.4 | 0.0 | 12.7 | 12.3 | 0.0 | 0.0 | 23.0 | 13.6 | 13.6 | 17.5 | 13.1 | 13.1 |
| LnGrp LOS | B | A | B | B | A | A | C | B | B | B | B | B |
| Approach Vol, veh/h | | 137 | | | 73 | | | 341 | | | 736 | |
| Approach Delay, s/veh | | 12.5 | | | 12.3 | | | 14.7 | | | 13.2 | |
| Approach LOS | | B | | | B | | | B | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 10.6 | 17.1 | | 18.4 | 7.2 | 20.6 | | 18.4 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 11.5 | 41.5 | | 33.5 | 15.5 | 37.5 | | 33.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.2 | 5.1 | | 5.0 | 2.9 | 9.6 | | 5.5 | | | | |
| Green Ext Time (p_c), s | 0.0 | 1.7 | | 0.9 | 0.0 | 4.5 | | 0.4 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 13.4 | |
| HCM 6th LOS | B | |

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\No School Alt\3 Existing + Proj AM.syn

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 99.4 |
| Intersection LOS | F |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 1 | 7 | 258 | 4 | 3 | 5 | 242 | 46 | 1 | 701 | 1 |
| Future Vol, veh/h | 0 | 1 | 7 | 258 | 4 | 3 | 5 | 242 | 46 | 1 | 701 | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 1 | 8 | 280 | 4 | 3 | 5 | 263 | 50 | 1 | 762 | 1 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay | 10.9 | 18.4 | 17.3 | 165.2 |
| HCM LOS | B | C | C | F |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 97% | 100% | 0% |
| Vol Thru, % | 0% | 84% | 12% | 2% | 0% | 100% |
| Vol Right, % | 0% | 16% | 88% | 1% | 0% | 0% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 5 | 288 | 8 | 265 | 1 | 702 |
| LT Vol | 5 | 0 | 0 | 258 | 1 | 0 |
| Through Vol | 0 | 242 | 1 | 4 | 0 | 701 |
| RT Vol | 0 | 46 | 7 | 3 | 0 | 1 |
| Lane Flow Rate | 5 | 313 | 9 | 288 | 1 | 763 |
| Geometry Grp | 7 | 7 | 2 | 2 | 7 | 7 |
| Degree of Util (X) | 0.01 | 0.551 | 0.017 | 0.536 | 0.002 | 1.297 |
| Departure Headway (Hd) | 7.365 | 6.737 | 7.759 | 7.268 | 6.629 | 6.119 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 489 | 538 | 464 | 498 | 540 | 595 |
| Service Time | 5.065 | 4.437 | 5.759 | 5.268 | 4.363 | 3.853 |
| HCM Lane V/C Ratio | 0.01 | 0.582 | 0.019 | 0.578 | 0.002 | 1.282 |
| HCM Control Delay | 10.1 | 17.4 | 10.9 | 18.4 | 9.4 | 165.4 |
| HCM Lane LOS | B | C | B | C | A | F |
| HCM 95th-tile Q | 0 | 3.3 | 0.1 | 3.1 | 0 | 30.9 |

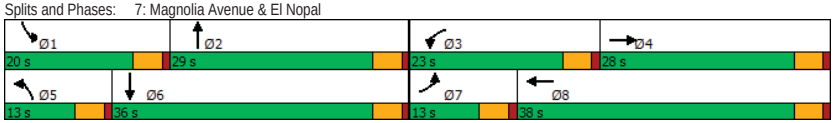




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 45 | 63 | 93 | 136 | 119 | 154 | 48 | 331 | 53 | 255 | 640 | 83 |
| Future Volume (vph) | 45 | 63 | 93 | 136 | 119 | 154 | 48 | 331 | 53 | 255 | 640 | 83 |
| Confl. Peds. (#/hr) | | | | | | 2 | | | | | | |
| Confl. Bikes (#/hr) | | | 2 | | | 2 | | | 1 | | | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | | Prot | NA | |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 11.5 | 26.5 | | 11.5 | 25.5 | | 11.5 | 22.5 | | 11.5 | 22.5 | |
| Total Split (s) | 13.0 | 28.0 | | 23.0 | 38.0 | | 13.0 | 29.0 | | 20.0 | 36.0 | |
| Total Split (%) | 13.0% | 28.0% | | 23.0% | 38.0% | | 13.0% | 29.0% | | 20.0% | 36.0% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | | None | Max | | None | Max | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 83.2 |
| Natural Cycle: 80 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 7: Magnolia Avenue & El Nopal



Existing + Proj AM (No School)
7: Magnolia Avenue & El Nopal

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 45 | 63 | 93 | 136 | 119 | 154 | 48 | 331 | 53 | 255 | 640 | 83 |
| Future Volume (veh/h) | 45 | 63 | 93 | 136 | 119 | 154 | 48 | 331 | 53 | 255 | 640 | 83 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 49 | 68 | 101 | 148 | 129 | 167 | 52 | 360 | 58 | 277 | 696 | 90 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 105 | 115 | 171 | 188 | 159 | 206 | 108 | 962 | 153 | 318 | 1363 | 176 |
| Arrive On Green | 0.06 | 0.17 | 0.17 | 0.11 | 0.22 | 0.22 | 0.06 | 0.31 | 0.31 | 0.18 | 0.43 | 0.43 |
| Sat Flow, veh/h | 1781 | 673 | 1000 | 1781 | 732 | 948 | 1781 | 3059 | 488 | 1781 | 3155 | 408 |
| Grp Volume(v), veh/h | 49 | 0 | 169 | 148 | 0 | 296 | 52 | 208 | 210 | 277 | 392 | 394 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1673 | 1781 | 0 | 1681 | 1781 | 1777 | 1770 | 1781 | 1777 | 1786 |
| Q Serve(g_s), s | 2.1 | 0.0 | 7.3 | 6.3 | 0.0 | 13.0 | 2.2 | 7.1 | 7.2 | 11.8 | 12.5 | 12.5 |
| Cycle Q Clear(g_c), s | 2.1 | 0.0 | 7.3 | 6.3 | 0.0 | 13.0 | 2.2 | 7.1 | 7.2 | 11.8 | 12.5 | 12.5 |
| Prop In Lane | 1.00 | | 0.60 | 1.00 | | 0.56 | 1.00 | | 0.28 | 1.00 | | 0.23 |
| Lane Grp Cap(c), veh/h | 105 | 0 | 285 | 188 | 0 | 366 | 108 | 559 | 556 | 318 | 768 | 772 |
| V/C Ratio(X) | 0.47 | 0.00 | 0.59 | 0.79 | 0.00 | 0.81 | 0.48 | 0.37 | 0.38 | 0.87 | 0.51 | 0.51 |
| Avail Cap(c_a), veh/h | 194 | 0 | 504 | 423 | 0 | 722 | 194 | 559 | 556 | 354 | 768 | 772 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 35.5 | 0.0 | 29.8 | 34.0 | 0.0 | 29.0 | 35.4 | 20.7 | 20.8 | 31.1 | 16.1 | 16.1 |
| Incr Delay (d2), s/veh | 3.2 | 0.0 | 2.0 | 7.1 | 0.0 | 4.3 | 3.3 | 1.9 | 2.0 | 19.0 | 2.4 | 2.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.0 | 0.0 | 3.0 | 3.1 | 0.0 | 5.6 | 1.0 | 3.0 | 3.0 | 6.4 | 5.0 | 5.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 38.7 | 0.0 | 31.8 | 41.1 | 0.0 | 33.3 | 38.7 | 22.6 | 22.7 | 50.2 | 18.5 | 18.5 |
| LnGrp LOS | D | A | C | D | A | C | D | C | C | D | B | B |
| Approach Vol, veh/h | | 218 | | | 444 | | | 470 | | | 1063 | |
| Approach Delay, s/veh | | 33.3 | | | 35.9 | | | 24.5 | | | 26.8 | |
| Approach LOS | | C | | | D | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 18.4 | 29.0 | 12.7 | 17.8 | 9.2 | 38.2 | 9.1 | 21.5 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 15.5 | 24.5 | 18.5 | 23.5 | 8.5 | 31.5 | 8.5 | 33.5 |
| Max Q Clear Time (g_c+I1), s | 13.8 | 9.2 | 8.3 | 9.3 | 4.2 | 14.5 | 4.1 | 15.0 |
| Green Ext Time (p_c), s | 0.1 | 2.0 | 0.3 | 0.8 | 0.0 | 4.3 | 0.0 | 1.8 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 28.8 |
| HCM 6th LOS | C |



Existing + Proj AM (No School)
8: Los Ranchitos Road & El Nopal

Fanita Ranch
06/06/2019

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 20 |
| Intersection LOS | C |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 380 | 20 | 170 | 280 | 14 | 220 |
| Future Vol, veh/h | 380 | 20 | 170 | 280 | 14 | 220 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 413 | 22 | 185 | 304 | 15 | 239 |
| Number of Lanes | 1 | 1 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB |
|---|---|---|---|
| Opposing Approach | WB | EB | |
| Opposing Lanes | 1 | 2 | 0 |
| Conflicting Approach Left | | NB | EB |
| Conflicting Lanes Left | 0 | 1 | 2 |
| Conflicting Approach Right | NB | | WB |
| Conflicting Lanes Right | 1 | 0 | 1 |
| HCM Control Delay | 19.8 | 23.9 | 12.8 |
| HCM LOS | C | C | B |

| Lane | NBLn1 | EBLn1 | EBLn2 | WBLn1 |
|---|---|---|---|---|
| Vol Left, % | 6% | 0% | 0% | 38% |
| Vol Thru, % | 0% | 100% | 0% | 62% |
| Vol Right, % | 94% | 0% | 100% | 0% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 234 | 380 | 20 | 450 |
| LT Vol | 14 | 0 | 0 | 170 |
| Through Vol | 0 | 380 | 0 | 280 |
| RT Vol | 220 | 0 | 20 | 0 |
| Lane Flow Rate | 254 | 413 | 22 | 489 |
| Geometry Grp | 2 | 7 | 7 | 5 |
| Degree of Util (X) | 0.407 | 0.68 | 0.031 | 0.756 |
| Departure Headway (Hd) | 5.764 | 5.923 | 5.213 | 5.563 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 621 | 607 | 685 | 651 |
| Service Time | 3.83 | 3.673 | 2.962 | 3.612 |
| HCM Lane V/C Ratio | 0.409 | 0.68 | 0.032 | 0.751 |
| HCM Control Delay | 12.8 | 20.4 | 8.1 | 23.9 |
| HCM Lane LOS | B | C | A | C |
| HCM 95th-tile Q | 2 | 5.2 | 0.1 | 6.9 |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 60.8 |
| Intersection LOS | F |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 88 | 31 | 275 | 74 | 59 | 707 |
| Future Vol, veh/h | 88 | 31 | 275 | 74 | 59 | 707 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 96 | 34 | 299 | 80 | 64 | 768 |
| Number of Lanes | 1 | 0 | 1 | 0 | 0 | 1 |

| Approach | WB | NB | SB |
|---|---|---|---|
| Opposing Approach | | SB | NB |
| Opposing Lanes | 0 | 1 | 1 |
| Conflicting Approach Left | NB | | WB |
| Conflicting Lanes Left | 1 | 0 | 1 |
| Conflicting Approach Right | SB | WB | |
| Conflicting Lanes Right | 1 | 1 | 0 |
| HCM Control Delay | 11.7 | 14.2 | 89.7 |
| HCM LOS | B | B | F |

| Lane | NBLn1 | WBLn1 | SBLn1 |
|---|---|---|---|
| Vol Left, % | 0% | 74% | 8% |
| Vol Thru, % | 79% | 0% | 92% |
| Vol Right, % | 21% | 26% | 0% |
| Sign Control | Stop | Stop | Stop |
| Traffic Vol by Lane | 349 | 119 | 766 |
| LT Vol | 0 | 88 | 59 |
| Through Vol | 275 | 0 | 707 |
| RT Vol | 74 | 31 | 0 |
| Lane Flow Rate | 379 | 129 | 833 |
| Geometry Grp | 1 | 1 | 1 |
| Degree of Util (X) | 0.536 | 0.23 | 1.115 |
| Departure Headway (Hd) | 5.297 | 6.742 | 4.822 |
| Convergence, Y/N | Yes | Yes | Yes |
| Cap | 687 | 536 | 749 |
| Service Time | 3.297 | 4.742 | 2.902 |
| HCM Lane V/C Ratio | 0.552 | 0.241 | 1.112 |
| HCM Control Delay | 14.2 | 11.7 | 89.7 |
| HCM Lane LOS | B | B | F |
| HCM 95th-tile Q | 3.2 | 0.9 | 23.6 |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 11.3 |
| Intersection LOS | B |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 3 | 20 | 249 | 8 | 26 | 10 | 228 | 38 | 4 | 2 | 27 | 1 |
| Future Vol, veh/h | 3 | 20 | 249 | 8 | 26 | 10 | 228 | 38 | 4 | 2 | 27 | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 3 | 22 | 271 | 9 | 28 | 11 | 248 | 41 | 4 | 2 | 29 | 1 |
| Number of Lanes | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 2 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 2 | 2 | 3 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 3 | 2 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 3 | 2 | 1 | 2 |
| HCM Control Delay | 10.5 | 9.4 | 12.6 | 9.3 |
| HCM LOS | B | A | B | A |

| Lane | NBLn1 | NBLn2 | NBLn3 | EBLn1 | EBLn2 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 13% | 0% | 18% | 100% | 0% |
| Vol Thru, % | 0% | 100% | 76% | 87% | 0% | 59% | 0% | 96% |
| Vol Right, % | 0% | 0% | 24% | 0% | 100% | 23% | 0% | 4% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 228 | 25 | 17 | 23 | 249 | 44 | 2 | 28 |
| LT Vol | 228 | 0 | 0 | 3 | 0 | 8 | 2 | 0 |
| Through Vol | 0 | 25 | 13 | 20 | 0 | 26 | 0 | 27 |
| RT Vol | 0 | 0 | 4 | 0 | 249 | 10 | 0 | 1 |
| Lane Flow Rate | 248 | 28 | 18 | 25 | 271 | 48 | 2 | 30 |
| Geometry Grp | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| Degree of Util (X) | 0.423 | 0.043 | 0.028 | 0.04 | 0.372 | 0.082 | 0.004 | 0.053 |
| Departure Headway (Hd) | 6.148 | 5.644 | 5.475 | 5.714 | 4.948 | 6.162 | 6.803 | 6.271 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 590 | 637 | 657 | 620 | 717 | 583 | 528 | 573 |
| Service Time | 3.854 | 3.35 | 3.18 | 3.507 | 2.74 | 3.88 | 4.52 | 3.987 |
| HCM Lane V/C Ratio | 0.42 | 0.044 | 0.027 | 0.04 | 0.378 | 0.082 | 0.004 | 0.052 |
| HCM Control Delay | 13.3 | 8.6 | 8.3 | 8.7 | 10.7 | 9.4 | 9.5 | 9.3 |
| HCM Lane LOS | B | A | A | A | B | A | A | A |
| HCM 95th-tile Q | 2.1 | 0.1 | 0.1 | 0.1 | 1.7 | 0.3 | 0 | 0.2 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 4.8 |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 8 | 41 | 23 | 20 | 0 | 31 |
| Future Vol, veh/h | 8 | 41 | 23 | 20 | 0 | 31 |
| Conflicting Peds, #/hr | 1 | 1 | 1 | 0 | 0 | 1 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | 150 | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 9 | 45 | 25 | 22 | 0 | 34 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 91 | 19 | 35 | 0 | - | 0 |
| Stage 1 | 18 | - | - | - | - | - |
| Stage 2 | 73 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | 4.12 | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | 2.218 | - | - | - |
| Pot Cap-1 Maneuver | 909 | 1059 | 1576 | - | - | - |
| Stage 1 | 1005 | - | - | - | - | - |
| Stage 2 | 950 | - | - | - | - | - |
| Platoon blocked, % | | | | | - | - |
| Mov Cap-1 Maneuver | 893 | 1057 | 1575 | - | - | - |
| Mov Cap-2 Maneuver | 893 | - | - | - | - | - |
| Stage 1 | 988 | - | - | - | - | - |
| Stage 2 | 949 | - | - | - | - | - |

| Approach | EB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 8.7 | 3.9 | 0 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1575 | - | 1026 | - | - |
| HCM Lane V/C Ratio | 0.016 | - | 0.052 | - | - |
| HCM Control Delay (s) | 7.3 | - | 8.7 | - | - |
| HCM Lane LOS | A | - | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | 0.2 | - | - |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 217.7 |
| Intersection LOS | F |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 11 | 90 | 1 | 1 | 1 | 302 | 29 | 3 | 940 | 0 |
| Future Vol, veh/h | 0 | 0 | 11 | 90 | 1 | 1 | 1 | 302 | 29 | 3 | 940 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 12 | 98 | 1 | 1 | 1 | 328 | 32 | 3 | 1022 | 0 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 3 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 3 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 3 | 2 | 1 | 1 |
| HCM Control Delay | 10.8 | 13.6 | 14.5 | 311.6 |
| HCM LOS | B | B | B | F |

| Lane | NBLn1 | NBLn2 | NBLn3 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 0% | 98% | 100% | 0% |
| Vol Thru, % | 0% | 100% | 0% | 0% | 1% | 0% | 100% |
| Vol Right, % | 0% | 0% | 100% | 100% | 1% | 0% | 0% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 1 | 302 | 29 | 11 | 92 | 3 | 940 |
| LT Vol | 1 | 0 | 0 | 0 | 90 | 3 | 0 |
| Through Vol | 0 | 302 | 0 | 0 | 1 | 0 | 940 |
| RT Vol | 0 | 0 | 29 | 11 | 1 | 0 | 0 |
| Lane Flow Rate | 1 | 328 | 32 | 12 | 100 | 3 | 1022 |
| Geometry Grp | 7 | 7 | 7 | 7 | 7 | 8 | 8 |
| Degree of Util (X) | 0.002 | 0.51 | 0.043 | 0.022 | 0.209 | 0.006 | 1.644 |
| Departure Headway (Hd) | 6.654 | 6.145 | 5.432 | 7.892 | 8.661 | 6.296 | 5.792 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 541 | 591 | 663 | 456 | 417 | 565 | 633 |
| Service Time | 4.354 | 3.845 | 3.132 | 5.592 | 6.361 | 4.07 | 3.566 |
| HCM Lane V/C Ratio | 0.002 | 0.555 | 0.048 | 0.026 | 0.24 | 0.005 | 1.615 |
| HCM Control Delay | 9.4 | 15.1 | 8.4 | 10.8 | 13.6 | 9.1 | 312.6 |
| HCM Lane LOS | A | C | A | B | B | A | F |
| HCM 95th-tile Q | 0 | 2.9 | 0.1 | 0.1 | 0.8 | 0 | 56.1 |

| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 158 | 33 | 416 | 103 | 109 | 896 |
| Future Volume (vph) | 158 | 33 | 416 | 103 | 109 | 896 |
| Confl. Peds. (#/hr) | | 4 | | 11 | | |
| Confl. Bikes (#/hr) | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | 0% | | | 0% |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | NA | | Prot | NA |
| Protected Phases | 8 | | 2 | | 1 | 6 |
| Permitted Phases | | 8 | | | | |
| Detector Phase | 8 | 8 | 2 | | 1 | 6 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | | 8.5 | 20.5 |
| Total Split (s) | 22.5 | 22.5 | 22.5 | | 10.0 | 32.5 |
| Total Split (%) | 40.9% | 40.9% | 40.9% | | 18.2% | 59.1% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Lead/Lag | | | Lag | | Lead | |
| Lead-Lag Optimize? | | | Yes | | Yes | |
| Recall Mode | None | None | Min | | None | Min |

| Intersection Summary |
|---|
| Cycle Length: 55 |
| Actuated Cycle Length: 40.5 |
| Natural Cycle: 55 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 13: Magnolia Avenue & 2nd Street

Existing + Proj AM (No School)
13: Magnolia Avenue & 2nd Street
Fanita Ranch
06/06/2019

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 158 | 33 | 416 | 103 | 109 | 896 |
| Future Volume (veh/h) | 158 | 33 | 416 | 103 | 109 | 896 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | | 0.98 | 1.00 | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | No | | | No |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 172 | 36 | 452 | 112 | 118 | 974 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 256 | 228 | 861 | 212 | 151 | 1939 |
| Arrive On Green | 0.14 | 0.14 | 0.31 | 0.31 | 0.08 | 0.55 |
| Sat Flow, veh/h | 1781 | 1585 | 2909 | 692 | 1781 | 3647 |
| Grp Volume(v), veh/h | 172 | 36 | 284 | 280 | 118 | 974 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 1777 | 1731 | 1781 | 1777 |
| Q Serve(g_s), s | 2.7 | 0.6 | 3.8 | 3.9 | 1.9 | 5.0 |
| Cycle Q Clear(g_c), s | 2.7 | 0.6 | 3.8 | 3.9 | 1.9 | 5.0 |
| Prop In Lane | 1.00 | 1.00 | | 0.40 | 1.00 | |
| Lane Grp Cap(c), veh/h | 256 | 228 | 543 | 529 | 151 | 1939 |
| V/C Ratio(X) | 0.67 | 0.16 | 0.52 | 0.53 | 0.78 | 0.50 |
| Avail Cap(c_a), veh/h | 1107 | 985 | 1104 | 1075 | 338 | 3434 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 11.8 | 10.9 | 8.3 | 8.3 | 13.0 | 4.1 |
| Incr Delay (d2), s/veh | 3.1 | 0.3 | 0.8 | 0.8 | 8.5 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.0 | 0.2 | 0.9 | 0.9 | 0.9 | 0.3 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 14.8 | 11.2 | 9.1 | 9.2 | 21.5 | 4.3 |
| LnGrp LOS | B | B | A | A | C | A |
| Approach Vol, veh/h | 208 | | 564 | | | 1092 |
| Approach Delay, s/veh | 14.2 | | 9.1 | | | 6.2 |
| Approach LOS | B | | A | | | A |

| Timer - Assigned Phs | 1 | 2 | | | 6 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.0 | 13.4 | | | 20.3 | 8.7 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 5.5 | 18.0 | | | 28.0 | 18.0 |
| Max Q Clear Time (g_c+I1), s | 3.9 | 5.9 | | | 7.0 | 4.7 |
| Green Ext Time (p_c), s | 0.0 | 2.6 | | | 6.7 | 0.5 |

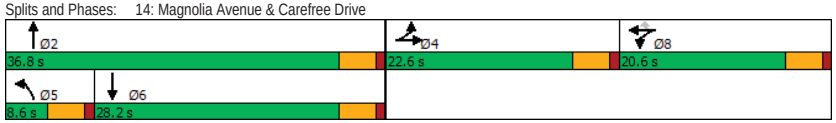
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 8.0 |
| HCM 6th LOS | | A |

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\No School Alt\3 Existing + Proj AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 10 | 0 | 57 | 185 | 0 | 30 | 17 | 492 | 0 | 0 | 1009 | 16 |
| Future Volume (vph) | 10 | 0 | 57 | 185 | 0 | 30 | 17 | 492 | 0 | 0 | 1009 | 16 |
| Confl. Peds. (#/hr) | | | 115 | | | | | | 13 | | | 18 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | 50% | | | | | | | | |
| Turn Type | Split | NA | | Split | NA | Perm | Prot | NA | | | NA | |
| Protected Phases | 4 | 4 | | 8 | 8 | | 5 | 2 | | | 6 | |
| Permitted Phases | | | | | | 8 | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | 8 | 5 | 2 | | | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | | 4.0 | |
| Minimum Split (s) | 22.5 | 22.5 | | 20.5 | 20.5 | 20.5 | 8.5 | 22.5 | | | 22.5 | |
| Total Split (s) | 22.6 | 22.6 | | 20.6 | 20.6 | 20.6 | 8.6 | 36.8 | | | 28.2 | |
| Total Split (%) | 28.3% | 28.3% | | 25.8% | 25.8% | 25.8% | 10.8% | 46.0% | | | 35.3% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | 0.0 | |
| Total Lost Time (s) | | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | | 4.5 | |
| Lead/Lag | | | | | | | Lead | | | | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | | | | Yes | |
| Recall Mode | None | None | | None | None | None | None | Min | | | Min | |

| Intersection Summary |
|---|
| Cycle Length: 80 |
| Actuated Cycle Length: 53.2 |
| Natural Cycle: 80 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 14: Magnolia Avenue & Carefree Drive






Existing + Proj AM (No School)
14: Magnolia Avenue & Carefree Drive
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 10 | 0 | 57 | 185 | 0 | 30 | 17 | 492 | 0 | 0 | 1009 | 16 |
| Future Volume (veh/h) | 10 | 0 | 57 | 185 | 0 | 30 | 17 | 492 | 0 | 0 | 1009 | 16 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.84 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.95 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 0 | 0 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 11 | 0 | 62 | 201 | 0 | 33 | 18 | 535 | 0 | 0 | 1097 | 17 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 0 | 0 | 2 | 2 |
| Cap, veh/h | 44 | 0 | 248 | 342 | 0 | 152 | 31 | 1638 | 0 | 0 | 1311 | 20 |
| Arrive On Green | 0.21 | 0.00 | 0.21 | 0.10 | 0.00 | 0.10 | 0.02 | 0.46 | 0.00 | 0.00 | 0.37 | 0.37 |
| Sat Flow, veh/h | 208 | 0 | 1172 | 3563 | 0 | 1585 | 1781 | 3647 | 0 | 0 | 3672 | 55 |
| Grp Volume(v), veh/h | 73 | 0 | 0 | 201 | 0 | 33 | 18 | 535 | 0 | 0 | 545 | 569 |
| Grp Sat Flow(s),veh/h/ln | 1380 | 0 | 0 | 1781 | 0 | 1585 | 1781 | 1777 | 0 | 0 | 1777 | 1857 |
| Q Serve(g_s), s | 2.6 | 0.0 | 0.0 | 3.2 | 0.0 | 1.1 | 0.6 | 5.6 | 0.0 | 0.0 | 16.3 | 16.3 |
| Cycle Q Clear(g_c), s | 2.6 | 0.0 | 0.0 | 3.2 | 0.0 | 1.1 | 0.6 | 5.6 | 0.0 | 0.0 | 16.3 | 16.3 |
| Prop In Lane | 0.15 | | 0.85 | 1.00 | | 1.00 | 1.00 | | 0.00 | 0.00 | | 0.03 |
| Lane Grp Cap(c), veh/h | 292 | 0 | 0 | 342 | 0 | 152 | 31 | 1638 | 0 | 0 | 651 | 680 |
| V/C Ratio(X) | 0.25 | 0.00 | 0.00 | 0.59 | 0.00 | 0.22 | 0.58 | 0.33 | 0.00 | 0.00 | 0.84 | 0.84 |
| Avail Cap(c_a), veh/h | 429 | 0 | 0 | 984 | 0 | 438 | 125 | 1970 | 0 | 0 | 723 | 755 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 19.1 | 0.0 | 0.0 | 25.2 | 0.0 | 24.3 | 28.4 | 10.0 | 0.0 | 0.0 | 16.9 | 16.9 |
| Incr Delay (d2), s/veh | 0.4 | 0.0 | 0.0 | 1.6 | 0.0 | 0.7 | 16.2 | 0.1 | 0.0 | 0.0 | 7.9 | 7.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.8 | 0.0 | 0.0 | 1.3 | 0.0 | 0.4 | 0.4 | 1.7 | 0.0 | 0.0 | 6.9 | 7.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 19.6 | 0.0 | 0.0 | 26.9 | 0.0 | 25.0 | 44.6 | 10.1 | 0.0 | 0.0 | 24.7 | 24.4 |
| LnGrp LOS | B | A | A | C | A | C | D | B | A | A | C | C |
| Approach Vol, veh/h | | 73 | | | 234 | | | 553 | | | 1114 | |
| Approach Delay, s/veh | | 19.6 | | | 26.6 | | | 11.2 | | | 24.6 | |
| Approach LOS | | B | | | C | | | B | | | C | |

| Timer - Assigned Phs | 2 | 4 | 5 | 6 | 8 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 31.4 | 16.8 | 5.5 | 25.8 | 10.1 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 32.3 | 18.1 | 4.1 | 23.7 | 16.1 |
| Max Q Clear Time (g_c+I1), s | 7.6 | 4.6 | 2.6 | 18.3 | 5.2 |
| Green Ext Time (p_c), s | 3.4 | 0.3 | 0.0 | 3.0 | 0.6 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 20.9 |
| HCM 6th LOS | C |

| Notes |
|---|
| User approved volume balancing among the lanes for turning movement. |

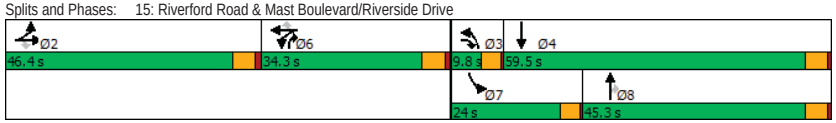
Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\No School Alt\3 Existing + Proj AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 30 | 30 | 50 | 444 | 11 | 248 | 16 | 204 | 321 | 339 | 360 | 13 |
| Future Volume (vph) | 30 | 30 | 50 | 444 | 11 | 248 | 16 | 204 | 321 | 339 | 360 | 13 |
| Confl. Peds. (#/hr) | | | 4 | | | 3 | | | 7 | | | |
| Confl. Bikes (#/hr) | | | 1 | | | 2 | | | 2 | | | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Split | NA | pm+ov | Split | NA | Perm | Prot | NA | pm+ov | Prot | NA | |
| Protected Phases | 2 | 2 | 3 | 6 | 6 | | 3 | 8 | 6 | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | 8 | | | |
| Detector Phase | 2 | 2 | 3 | 6 | 6 | 6 | 3 | 8 | 6 | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 6.0 | 6.0 | 5.0 | 4.0 | 4.0 | 4.0 | 5.0 | 6.0 | 4.0 | 4.0 | 6.0 | |
| Minimum Split (s) | 45.3 | 45.3 | 9.1 | 34.3 | 34.3 | 34.3 | 9.1 | 45.3 | 34.3 | 8.6 | 49.9 | |
| Total Split (s) | 46.4 | 46.4 | 9.8 | 34.3 | 34.3 | 34.3 | 9.8 | 45.3 | 34.3 | 24.0 | 59.5 | |
| Total Split (%) | 30.9% | 30.9% | 6.5% | 22.9% | 22.9% | 22.9% | 6.5% | 30.2% | 22.9% | 16.0% | 39.7% | |
| Yellow Time (s) | 4.3 | 4.3 | 3.6 | 4.3 | 4.3 | 4.3 | 3.6 | 3.9 | 4.3 | 3.6 | 3.9 | |
| All-Red Time (s) | 1.0 | 1.0 | 0.5 | 1.0 | 1.0 | 1.0 | 0.5 | 1.0 | 1.0 | 0.5 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 5.3 | 5.3 | 4.1 | 5.3 | 5.3 | 5.3 | 4.1 | 4.9 | 5.3 | 4.1 | 4.9 | |
| Lead/Lag | | | Lead | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | Yes | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | None | None | None | None | None | Min | None | None | Min | |

**Intersection Summary**

Cycle Length: 150
Actuated Cycle Length: 91.3
Natural Cycle: 150
Control Type: Actuated-Uncoordinated

Splits and Phases: 15: Riverford Road & Mast Boulevard/Riverside Drive






Existing + Proj AM (No School) Fanita Ranch
15: Riverford Road & Mast Boulevard/Riverside Drive 06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 30 | 30 | 50 | 444 | 11 | 248 | 16 | 204 | 321 | 339 | 360 | 13 |
| Future Volume (veh/h) | 30 | 30 | 50 | 444 | 11 | 248 | 16 | 204 | 321 | 339 | 360 | 13 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.95 | 1.00 | | 0.97 | 1.00 | | 0.98 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 33 | 33 | 54 | 483 | 12 | 270 | 17 | 222 | 349 | 368 | 391 | 14 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 153 | 305 | 282 | 768 | 789 | 342 | 35 | 436 | 714 | 404 | 790 | 28 |
| Arrive On Green | 0.09 | 0.09 | 0.09 | 0.22 | 0.22 | 0.22 | 0.02 | 0.23 | 0.23 | 0.23 | 0.44 | 0.44 |
| Sat Flow, veh/h | 1781 | 3554 | 2658 | 3456 | 3554 | 1538 | 1781 | 1870 | 1549 | 1781 | 1794 | 64 |
| Grp Volume(v), veh/h | 33 | 33 | 54 | 483 | 12 | 270 | 17 | 222 | 349 | 368 | 0 | 405 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1329 | 1728 | 1777 | 1538 | 1781 | 1870 | 1549 | 1781 | 0 | 1858 |
| Q Serve(g_s), s | 1.5 | 0.7 | 1.6 | 10.7 | 0.2 | 14.0 | 0.8 | 8.7 | 13.4 | 17.0 | 0.0 | 13.2 |
| Cycle Q Clear(g_c), s | 1.5 | 0.7 | 1.6 | 10.7 | 0.2 | 14.0 | 0.8 | 8.7 | 13.4 | 17.0 | 0.0 | 13.2 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.03 |
| Lane Grp Cap(c), veh/h | 153 | 305 | 282 | 768 | 789 | 342 | 35 | 436 | 714 | 404 | 0 | 818 |
| V/C Ratio(X) | 0.22 | 0.11 | 0.19 | 0.63 | 0.02 | 0.79 | 0.49 | 0.51 | 0.49 | 0.91 | 0.00 | 0.50 |
| Avail Cap(c_a), veh/h | 867 | 1730 | 1348 | 1187 | 1221 | 528 | 120 | 895 | 1093 | 420 | 0 | 1201 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 35.9 | 35.6 | 34.5 | 29.7 | 25.6 | 31.0 | 41.0 | 28.2 | 16.2 | 31.8 | 0.0 | 16.9 |
| Incr Delay (d2), s/veh | 0.7 | 0.2 | 0.3 | 0.9 | 0.0 | 4.4 | 10.3 | 0.9 | 0.5 | 23.4 | 0.0 | 0.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.6 | 0.3 | 0.5 | 4.3 | 0.1 | 5.4 | 0.4 | 3.9 | 6.9 | 9.7 | 0.0 | 5.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 36.6 | 35.8 | 34.8 | 30.5 | 25.6 | 35.4 | 51.3 | 29.1 | 16.7 | 55.2 | 0.0 | 17.4 |
| LnGrp LOS | D | D | C | C | C | D | D | C | B | E | A | B |
| Approach Vol, veh/h | | 120 | | | 765 | | | 588 | | | 773 | |
| Approach Delay, s/veh | | 35.6 | | | 32.2 | | | 22.4 | | | 35.4 | |
| Approach LOS | | D | | | C | | | C | | | D | |

| Timer - Assigned Phs | | 2 | 3 | 4 | | 6 | 7 | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 12.5 | 5.7 | 42.1 | | 24.1 | 23.2 | 24.6 | | | | |
| Change Period (Y+Rc), s | | 5.3 | 4.1 | 4.9 | | 5.3 | 4.1 | 4.9 | | | | |
| Max Green Setting (Gmax), s | | 41.1 | 5.7 | 54.6 | | 29.0 | 19.9 | 40.4 | | | | |
| Max Q Clear Time (g_c+I1), s | | 3.6 | 2.8 | 15.2 | | 16.0 | 19.0 | 15.4 | | | | |
| Green Ext Time (p_c), s | | 0.5 | 0.0 | 2.8 | | 2.4 | 0.1 | 2.6 | | | | |

**Intersection Summary**

| | | |
|---|---|---|
| HCM 6th Ctrl Delay | 30.9 | |
| HCM 6th LOS | C | |

Fanita Ranch
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| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 6 | 0 | 88 | 3 | 0 | 0 | 0 | 0 | 391 | 0 | 2 |
| Future Volume (vph) | 0 | 6 | 0 | 88 | 3 | 0 | 0 | 0 | 0 | 391 | 0 | 2 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | 1 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | 50% | | |
| Turn Type | | NA | | Split | NA | | | | | Split | NA | |
| Protected Phases | | 8 | | 4 | 4 | | | | | 2 | 2 | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | | 8 | | 4 | 4 | | | | | 2 | 2 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | 7.0 | | 8.0 | 8.0 | | | | | 5.0 | 5.0 | |
| Minimum Split (s) | | 25.1 | | 28.4 | 28.4 | | | | | 32.3 | 32.3 | |
| Total Split (s) | | 25.1 | | 30.0 | 30.0 | | | | | 34.9 | 34.9 | |
| Total Split (%) | | 27.9% | | 33.3% | 33.3% | | | | | 38.8% | 38.8% | |
| Yellow Time (s) | | 4.1 | | 4.4 | 4.4 | | | | | 4.1 | 4.1 | |
| All-Red Time (s) | | 1.0 | | 1.0 | 1.0 | | | | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | | 0.0 | 0.0 | | | | | 0.0 | 0.0 | |
| Total Lost Time (s) | | 5.1 | | 5.4 | 5.4 | | | | | 5.1 | 5.1 | |
| Lead/Lag | | | | | | | | | | | | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Recall Mode | | None | | None | None | | | | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 90 |
| Actuated Cycle Length: 34.6 |
| Natural Cycle: 90 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 16: SR 52 EB Ramps & Mast Blvd

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 6 | 0 | 88 | 3 | 0 | 0 | 0 | 0 | 391 | 0 | 2 |
| Future Volume (veh/h) | 0 | 6 | 0 | 88 | 3 | 0 | 0 | 0 | 0 | 391 | 0 | 2 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | | | | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | | | | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | | | | No | |
| Adj Sat Flow, veh/h/ln | 0 | 1870 | 1870 | 1870 | 1870 | 0 | | | | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 7 | 0 | 96 | 3 | 0 | | | | 427 | 0 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 0 | 2 | 2 | 2 | 2 | 0 | | | | 2 | 2 | 2 |
| Cap, veh/h | 0 | 25 | 0 | 280 | 294 | 0 | | | | 828 | 435 | 0 |
| Arrive On Green | 0.00 | 0.01 | 0.00 | 0.16 | 0.16 | 0.00 | | | | 0.23 | 0.00 | 0.00 |
| Sat Flow, veh/h | 0 | 1870 | 0 | 1781 | 1870 | 0 | | | | 3563 | 1870 | 0 |
| Grp Volume(v), veh/h | 0 | 7 | 0 | 96 | 3 | 0 | | | | 427 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 0 | 1870 | 0 | 1781 | 1870 | 0 | | | | 1781 | 1870 | 0 |
| Q Serve(g_s), s | 0.0 | 0.1 | 0.0 | 1.3 | 0.0 | 0.0 | | | | 2.7 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 0.0 | 0.1 | 0.0 | 1.3 | 0.0 | 0.0 | | | | 2.7 | 0.0 | 0.0 |
| Prop In Lane | 0.00 | | 0.00 | 1.00 | | 0.00 | | | | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 0 | 25 | 0 | 280 | 294 | 0 | | | | 828 | 435 | 0 |
| V/C Ratio(X) | 0.00 | 0.28 | 0.00 | 0.34 | 0.01 | 0.00 | | | | 0.52 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 0 | 1432 | 0 | 1678 | 1762 | 0 | | | | 4065 | 2134 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | | | | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 0.0 | 12.8 | 0.0 | 9.8 | 9.3 | 0.0 | | | | 8.7 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 0.0 | 2.3 | 0.0 | 0.7 | 0.0 | 0.0 | | | | 0.5 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.0 | 0.0 | 0.4 | 0.0 | 0.0 | | | | 0.7 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 15.0 | 0.0 | 10.5 | 9.3 | 0.0 | | | | 9.2 | 0.0 | 0.0 |
| LnGrp LOS | A | B | A | B | A | A | | | | A | A | A |
| Approach Vol, veh/h | | 7 | | | 99 | | | | | | 427 | |
| Approach Delay, s/veh | | 15.0 | | | 10.5 | | | | | | 9.2 | |
| Approach LOS | | B | | | B | | | | | | A | |

| Timer - Assigned Phs | | 2 | | 4 | | | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 11.2 | | 9.5 | | | | 5.4 | | | | |
| Change Period (Y+Rc), s | | 5.1 | | 5.4 | | | | 5.1 | | | | |
| Max Green Setting (Gmax), s | | 29.8 | | 24.6 | | | | 20.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 4.7 | | 3.3 | | | | 2.1 | | | | |
| Green Ext Time (p_c), s | | 1.5 | | 0.2 | | | | 0.0 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 9.5 | |
| HCM 6th LOS | A | |

| Notes |
|---|
| User approved volume balancing among the lanes for turning movement. |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 7 | 390 | 0 | 0 | 85 | 2401 | 6 | 0 | 18 | 0 | 0 | 0 |
| Future Volume (vph) | 7 | 390 | 0 | 0 | 85 | 2401 | 6 | 0 | 18 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | 49% | | | 34% | | | |
| Turn Type | Prot | NA | | | NA | Perm | Perm | NA | Perm | | | |
| Protected Phases | 5 | 2 | | | 6 | | | 8 | | | | |
| Permitted Phases | | | | | | 6 | 8 | | 8 | | | |
| Detector Phase | 5 | 2 | | | 6 | 6 | 8 | 8 | 8 | | | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 10.0 | | | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | | | |
| Minimum Split (s) | 11.7 | 38.6 | | | 28.4 | 28.4 | 43.1 | 43.1 | 43.1 | | | |
| Total Split (s) | 11.7 | 80.7 | | | 69.0 | 69.0 | 49.3 | 49.3 | 49.3 | | | |
| Total Split (%) | 9.0% | 62.1% | | | 53.1% | 53.1% | 37.9% | 37.9% | 37.9% | | | |
| Yellow Time (s) | 3.7 | 4.1 | | | 4.4 | 4.4 | 4.1 | 4.1 | 4.1 | | | |
| All-Red Time (s) | 1.0 | 1.0 | | | 1.0 | 1.0 | 2.0 | 2.0 | 2.0 | | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | 0.0 | | | |
| Total Lost Time (s) | 4.7 | 5.1 | | | 5.4 | 5.4 | | 6.1 | 6.1 | | | |
| Lead/Lag | Lead | | | | Lag | Lag | | | | | | |
| Lead-Lag Optimize? | Yes | | | | Yes | Yes | | | | | | |
| Recall Mode | None | Min | | | Min | Min | None | None | None | | | |

**Intersection Summary**

Cycle Length: 130
Actuated Cycle Length: 98.4
Natural Cycle: 145
Control Type: Actuated-Uncoordinated

Splits and Phases: 17: SR-52 WB Ramps & Mast Blvd

Existing + Proj AM (No School)
17: SR-52 WB Ramps & Mast Blvd
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 7 | 390 | 0 | 0 | 85 | 2401 | 6 | 0 | 18 | 0 | 0 | 0 |
| Future Volume (veh/h) | 7 | 390 | 0 | 0 | 85 | 2401 | 6 | 0 | 18 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.98 | 1.00 | | 1.00 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.99 | 1.00 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 0 | 0 | 1870 | 1945 | 1870 | 1870 | 1870 | | | |
| Adj Flow Rate, veh/h | 8 | 424 | 0 | 0 | 0 | 2671 | 7 | 10 | 14 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | |
| Percent Heavy Veh, % | 2 | 2 | 0 | 0 | 2 | 2 | 2 | 2 | 2 | | | |
| Cap, veh/h | 25 | 2864 | 0 | 0 | 1379 | 2381 | 45 | 65 | 96 | | | |
| Arrive On Green | 0.01 | 0.81 | 0.00 | 0.00 | 0.00 | 0.74 | 0.06 | 0.06 | 0.06 | | | |
| Sat Flow, veh/h | 1781 | 3647 | 0 | 0 | 1870 | 3229 | 746 | 1065 | 1585 | | | |
| Grp Volume(v), veh/h | 8 | 424 | 0 | 0 | 0 | 2671 | 17 | 0 | 14 | | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 0 | 0 | 1870 | 1615 | 1811 | 0 | 1585 | | | |
| Q Serve(g_s), s | 0.4 | 2.3 | 0.0 | 0.0 | 0.0 | 63.6 | 0.8 | 0.0 | 0.7 | | | |
| Cycle Q Clear(g_c), s | 0.4 | 2.3 | 0.0 | 0.0 | 0.0 | 63.6 | 0.8 | 0.0 | 0.7 | | | |
| Prop In Lane | 1.00 | | 0.00 | 0.00 | | 1.00 | 0.41 | | 1.00 | | | |
| Lane Grp Cap(c), veh/h | 25 | 2864 | 0 | 0 | 1379 | 2381 | 110 | 0 | 96 | | | |
| V/C Ratio(X) | 0.32 | 0.15 | 0.00 | 0.00 | 0.00 | 1.12 | 0.15 | 0.00 | 0.15 | | | |
| Avail Cap(c_a), veh/h | 145 | 3114 | 0 | 0 | 1379 | 2381 | 907 | 0 | 794 | | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | | | |
| Uniform Delay (d), s/veh | 42.1 | 1.8 | 0.0 | 0.0 | 0.0 | 11.3 | 38.4 | 0.0 | 38.4 | | | |
| Incr Delay (d2), s/veh | 2.6 | 0.0 | 0.0 | 0.0 | 0.0 | 61.1 | 0.2 | 0.0 | 0.3 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ln | 0.2 | 0.4 | 0.0 | 0.0 | 0.0 | 34.6 | 0.3 | 0.0 | 0.3 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 44.7 | 1.9 | 0.0 | 0.0 | 0.0 | 72.4 | 38.6 | 0.0 | 38.6 | | | |
| LnGrp LOS | D | A | A | A | A | F | D | A | D | | | |
| Approach Vol, veh/h | | 432 | | | 2671 | | | 31 | | | | |
| Approach Delay, s/veh | | 2.7 | | | 72.4 | | | 38.6 | | | | |
| Approach LOS | | A | | | E | | | D | | | | |

| Timer - Assigned Phs | | 2 | | | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 74.9 | | | 5.9 | 69.0 | | 11.3 | | | | |
| Change Period (Y+Rc), s | | * 5.4 | | | * 4.7 | 5.4 | | 6.1 | | | | |
| Max Green Setting (Gmax), s | | * 76 | | | * 7 | 63.6 | | 43.2 | | | | |
| Max Q Clear Time (g_c+I1), s | | 4.3 | | | 2.4 | 65.6 | | 2.8 | | | | |
| Green Ext Time (p_c), s | | 3.0 | | | 0.0 | 0.0 | | 0.1 | | | | |

**Intersection Summary**

| | | |
|---|---|---|
| HCM 6th Ctrl Delay | 62.5 | |
| HCM 6th LOS | E | |

**Notes**

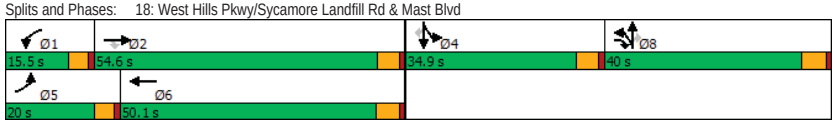
User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\No School Alt\3 Existing + Proj AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 34 | 291 | 83 | 125 | 1446 | 6 | 1000 | 11 | 211 | 3 | 3 | 40 |
| Future Volume (vph) | 34 | 291 | 83 | 125 | 1446 | 6 | 1000 | 11 | 211 | 3 | 3 | 40 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | 49% | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | | Split | NA | Perm | Split | NA | Perm |
| Protected Phases | 5 | 2 | 8 | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Permitted Phases | | | 2 | | | | | | 8 | | | 4 |
| Detector Phase | 5 | 2 | 8 | 1 | 6 | | 8 | 8 | 8 | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 10.0 | 10.0 | 4.0 | 10.0 | | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| Minimum Split (s) | 20.0 | 34.9 | 33.4 | 8.4 | 35.2 | | 33.4 | 33.4 | 33.4 | 34.9 | 34.9 | 34.9 |
| Total Split (s) | 20.0 | 54.6 | 40.0 | 15.5 | 50.1 | | 40.0 | 40.0 | 40.0 | 34.9 | 34.9 | 34.9 |
| Total Split (%) | 13.8% | 37.7% | 27.6% | 10.7% | 34.6% | | 27.6% | 27.6% | 27.6% | 24.1% | 24.1% | 24.1% |
| Yellow Time (s) | 3.4 | 3.9 | 4.4 | 3.4 | 4.2 | | 4.4 | 4.4 | 4.4 | 3.9 | 3.9 | 3.9 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.4 | 4.9 | 5.4 | 4.4 | 5.2 | | 5.4 | 5.4 | 5.4 | | 4.9 | 4.9 |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | Min | None | None | Min | | None | None | None | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 145 |
| Actuated Cycle Length: 109.5 |
| Natural Cycle: 145 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 18: West Hills Pkwy/Sycamore Landfill Rd & Mast Blvd






Existing + Proj AM (No School) Fanita Ranch
18: West Hills Pkwy/Sycamore Landfill Rd & Mast Blvd 06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 34 | 291 | 83 | 125 | 1446 | 6 | 1000 | 11 | 211 | 3 | 3 | 40 |
| Future Volume (veh/h) | 34 | 291 | 83 | 125 | 1446 | 6 | 1000 | 11 | 211 | 3 | 3 | 40 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.98 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 37 | 316 | 90 | 136 | 1572 | 7 | 1096 | 0 | 229 | 3 | 3 | 43 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 109 | 1414 | 1111 | 194 | 1425 | 6 | 1079 | 0 | 480 | 63 | 63 | 109 |
| Arrive On Green | 0.06 | 0.40 | 0.40 | 0.06 | 0.39 | 0.39 | 0.30 | 0.00 | 0.30 | 0.07 | 0.07 | 0.07 |
| Sat Flow, veh/h | 1781 | 3554 | 1585 | 3456 | 3628 | 16 | 3563 | 0 | 1585 | 912 | 912 | 1585 |
| Grp Volume(v), veh/h | 37 | 316 | 90 | 136 | 770 | 809 | 1096 | 0 | 229 | 6 | 0 | 43 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1585 | 1728 | 1777 | 1867 | 1781 | 0 | 1585 | 1825 | 0 | 1585 |
| Q Serve(g_s), s | 2.3 | 6.7 | 2.1 | 4.4 | 44.9 | 44.9 | 34.6 | 0.0 | 13.5 | 0.4 | 0.0 | 3.0 |
| Cycle Q Clear(g_c), s | 2.3 | 6.7 | 2.1 | 4.4 | 44.9 | 44.9 | 34.6 | 0.0 | 13.5 | 0.4 | 0.0 | 3.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.01 | 1.00 | | 1.00 | 0.50 | | 1.00 |
| Lane Grp Cap(c), veh/h | 109 | 1414 | 1111 | 194 | 698 | 733 | 1079 | 0 | 480 | 126 | 0 | 109 |
| V/C Ratio(X) | 0.34 | 0.22 | 0.08 | 0.70 | 1.10 | 1.10 | 1.02 | 0.00 | 0.48 | 0.05 | 0.00 | 0.39 |
| Avail Cap(c_a), veh/h | 243 | 1545 | 1169 | 336 | 698 | 733 | 1079 | 0 | 480 | 479 | 0 | 416 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 51.4 | 22.7 | 5.4 | 53.0 | 34.7 | 34.7 | 39.8 | 0.0 | 32.5 | 49.7 | 0.0 | 50.9 |
| Incr Delay (d2), s/veh | 0.7 | 0.1 | 0.0 | 1.7 | 65.7 | 65.2 | 31.5 | 0.0 | 1.0 | 0.2 | 0.0 | 2.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.0 | 2.8 | 1.5 | 1.9 | 31.1 | 32.5 | 19.1 | 0.0 | 5.1 | 0.2 | 0.0 | 1.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 52.1 | 22.8 | 5.5 | 54.7 | 100.4 | 99.9 | 71.4 | 0.0 | 33.5 | 49.8 | 0.0 | 53.2 |
| LnGrp LOS | D | C | A | D | F | F | F | A | C | D | A | D |
| Approach Vol, veh/h | | 443 | | | 1715 | | | 1325 | | | 49 | |
| Approach Delay, s/veh | | 21.8 | | | 96.5 | | | 64.8 | | | 52.8 | |
| Approach LOS | | C | | | F | | | E | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 10.8 | 50.7 | | 12.8 | 11.4 | 50.1 | | 40.0 | | | | |
| Change Period (Y+Rc), s | 4.4 | * 5.2 | | 4.9 | 4.4 | 5.2 | | 5.4 | | | | |
| Max Green Setting (Gmax), s | 11.1 | * 50 | | 30.0 | 15.6 | 44.9 | | 34.6 | | | | |
| Max Q Clear Time (g_c+I1), s | 6.4 | 8.7 | | 5.0 | 4.3 | 46.9 | | 36.6 | | | | |
| Green Ext Time (p_c), s | 0.1 | 3.1 | | 0.1 | 0.0 | 0.0 | | 0.0 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 74.6 | |
| HCM 6th LOS | E | |

| Notes |
|---|
| User approved volume balancing among the lanes for turning movement. |
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. |

Fanita Ranch
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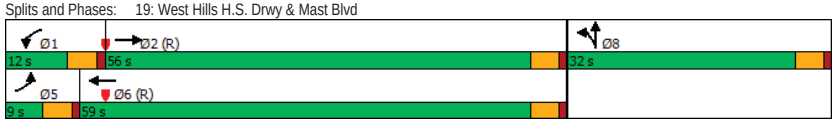
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 2 | 445 | 33 | 64 | 1509 | 0 | 27 | 0 | 32 | 0 | 0 | 0 |
| Future Volume (vph) | 2 | 445 | 33 | 64 | 1509 | 0 | 27 | 0 | 32 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | 9 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Split | NA | | | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | | | | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | | | | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | | | | |
| Minimum Split (s) | 8.5 | 22.5 | | 8.5 | 20.5 | | 31.5 | 31.5 | | | | |
| Total Split (s) | 9.0 | 56.0 | | 12.0 | 59.0 | | 32.0 | 32.0 | | | | |
| Total Split (%) | 9.0% | 56.0% | | 12.0% | 59.0% | | 32.0% | 32.0% | | | | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | | | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | | |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | | 4.5 | | | | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | | | | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 90 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 19: West Hills H.S. Drwy & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 2 | 445 | 33 | 64 | 1509 | 0 | 27 | 0 | 32 | 0 | 0 | 0 |
| Future Volume (veh/h) | 2 | 445 | 33 | 64 | 1509 | 0 | 27 | 0 | 32 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 0 | 1900 | 1870 | 1900 | | | |
| Adj Flow Rate, veh/h | 2 | 484 | 36 | 70 | 1640 | 0 | 29 | 0 | 35 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 0 | 0 | 2 | 0 | | | |
| Cap, veh/h | 4 | 2564 | 190 | 89 | 2887 | 0 | 38 | 0 | 46 | | | |
| Arrive On Green | 0.00 | 0.76 | 0.76 | 0.10 | 1.00 | 0.00 | 0.05 | 0.00 | 0.05 | | | |
| Sat Flow, veh/h | 1781 | 3354 | 249 | 1781 | 3647 | 0 | 756 | 0 | 912 | | | |
| Grp Volume(v), veh/h | 2 | 256 | 264 | 70 | 1640 | 0 | 64 | 0 | 0 | | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1826 | 1781 | 1777 | 0 | 1668 | 0 | 0 | | | |
| Q Serve(g_s), s | 0.1 | 4.0 | 4.0 | 3.8 | 0.0 | 0.0 | 3.8 | 0.0 | 0.0 | | | |
| Cycle Q Clear(g_c), s | 0.1 | 4.0 | 4.0 | 3.8 | 0.0 | 0.0 | 3.8 | 0.0 | 0.0 | | | |
| Prop In Lane | 1.00 | | 0.14 | 1.00 | | 0.00 | 0.45 | | 0.55 | | | |
| Lane Grp Cap(c), veh/h | 4 | 1358 | 1396 | 89 | 2887 | 0 | 84 | 0 | 0 | | | |
| V/C Ratio(X) | 0.52 | 0.19 | 0.19 | 0.78 | 0.57 | 0.00 | 0.76 | 0.00 | 0.00 | | | |
| Avail Cap(c_a), veh/h | 80 | 1358 | 1396 | 134 | 2888 | 0 | 459 | 0 | 0 | | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 0.96 | 0.96 | 0.96 | 0.53 | 0.53 | 0.00 | 1.00 | 0.00 | 0.00 | | | |
| Uniform Delay (d), s/veh | 49.8 | 3.2 | 3.2 | 44.5 | 0.0 | 0.0 | 46.9 | 0.0 | 0.0 | | | |
| Incr Delay (d2), s/veh | 77.2 | 0.3 | 0.3 | 9.0 | 0.4 | 0.0 | 13.2 | 0.0 | 0.0 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ln | 0.1 | 1.1 | 1.1 | 1.8 | 0.2 | 0.0 | 1.9 | 0.0 | 0.0 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 127.1 | 3.5 | 3.5 | 53.4 | 0.4 | 0.0 | 60.1 | 0.0 | 0.0 | | | |
| LnGrp LOS | F | A | A | D | A | A | E | A | A | | | |
| Approach Vol, veh/h | | 522 | | | 1710 | | | 64 | | | | |
| Approach Delay, s/veh | | 4.0 | | | 2.6 | | | 60.1 | | | | |
| Approach LOS | | A | | | A | | | E | | | | |

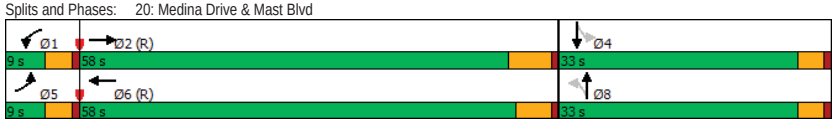
| Timer - Assigned Phs | 1 | 2 | | | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 9.5 | 81.0 | | | 4.7 | 85.8 | | 9.5 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 7.5 | 51.5 | | | 4.5 | 54.5 | | 27.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 5.8 | 6.0 | | | 2.1 | 2.0 | | 5.8 | | | | |
| Green Ext Time (p_c), s | 0.0 | 3.2 | | | 0.0 | 19.4 | | 0.3 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 4.5 | |
| HCM 6th LOS | A | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 10 | 669 | 35 | 11 | 1694 | 10 | 30 | 4 | 10 | 21 | 12 | 26 |
| Future Volume (vph) | 10 | 669 | 35 | 11 | 1694 | 10 | 30 | 4 | 10 | 21 | 12 | 26 |
| Confl. Peds. (#/hr) | | | 2 | | | | | | 1 | | | 10 |
| Confl. Bikes (#/hr) | | | 1 | | | 1 | | | 2 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Perm | NA | | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | | 4 | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 22.0 | | 8.2 | 22.0 | | 32.2 | 32.2 | | 32.2 | 32.2 | |
| Total Split (s) | 9.0 | 58.0 | | 9.0 | 58.0 | | 33.0 | 33.0 | | 33.0 | 33.0 | |
| Total Split (%) | 9.0% | 58.0% | | 9.0% | 58.0% | | 33.0% | 33.0% | | 33.0% | 33.0% | |
| Yellow Time (s) | 3.2 | 5.1 | | 3.2 | 4.3 | | 3.2 | 3.2 | | 3.2 | 3.2 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | 0.0 | |
| Total Lost Time (s) | 4.2 | 6.1 | | 4.2 | 5.3 | | | 4.2 | | | 4.2 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 90 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 20: Medina Drive & Mast Blvd






Existing + Proj AM (No School)
20: Medina Drive & Mast Blvd
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 10 | 669 | 35 | 11 | 1694 | 10 | 30 | 4 | 10 | 21 | 12 | 26 |
| Future Volume (veh/h) | 10 | 669 | 35 | 11 | 1694 | 10 | 30 | 4 | 10 | 21 | 12 | 26 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 0.98 | | 0.98 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 11 | 727 | 38 | 12 | 1841 | 11 | 33 | 4 | 11 | 23 | 13 | 28 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 19 | 2560 | 134 | 20 | 2704 | 16 | 153 | 24 | 35 | 86 | 51 | 68 |
| Arrive On Green | 0.00 | 0.25 | 0.25 | 0.02 | 1.00 | 1.00 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 |
| Sat Flow, veh/h | 1781 | 3431 | 179 | 1781 | 3621 | 22 | 950 | 243 | 355 | 377 | 518 | 696 |
| Grp Volume(v), veh/h | 11 | 376 | 389 | 12 | 902 | 950 | 48 | 0 | 0 | 64 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1833 | 1781 | 1777 | 1866 | 1547 | 0 | 0 | 1591 | 0 | 0 |
| Q Serve(g_s), s | 0.6 | 17.2 | 17.2 | 0.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.5 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 0.6 | 17.2 | 17.2 | 0.7 | 0.0 | 0.0 | 2.5 | 0.0 | 0.0 | 3.6 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | | 0.10 | 1.00 | | 0.01 | 0.69 | | 0.23 | 0.36 | | 0.44 |
| Lane Grp Cap(c), veh/h | 19 | 1326 | 1368 | 20 | 1327 | 1394 | 212 | 0 | 0 | 204 | 0 | 0 |
| V/C Ratio(X) | 0.59 | 0.28 | 0.28 | 0.59 | 0.68 | 0.68 | 0.23 | 0.00 | 0.00 | 0.31 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 86 | 1326 | 1368 | 86 | 1327 | 1394 | 481 | 0 | 0 | 497 | 0 | 0 |
| HCM Platoon Ratio | 0.33 | 0.33 | 0.33 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.97 | 0.97 | 0.97 | 0.61 | 0.61 | 0.61 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 49.6 | 16.0 | 16.0 | 48.6 | 0.0 | 0.0 | 41.8 | 0.0 | 0.0 | 42.3 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 25.1 | 0.5 | 0.5 | 6.2 | 1.7 | 1.7 | 0.2 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.4 | 8.2 | 8.5 | 0.3 | 0.6 | 0.6 | 1.1 | 0.0 | 0.0 | 1.5 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 74.7 | 16.6 | 16.6 | 54.8 | 1.7 | 1.7 | 42.0 | 0.0 | 0.0 | 42.6 | 0.0 | 0.0 |
| LnGrp LOS | E | B | B | D | A | A | D | A | A | D | A | A |
| Approach Vol, veh/h | | 776 | | | 1864 | | | 48 | | | 64 | |
| Approach Delay, s/veh | | 17.4 | | | 2.0 | | | 42.0 | | | 42.6 | |
| Approach LOS | | B | | | A | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.3 | 80.7 | | 14.0 | 5.3 | 80.8 | | 14.0 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 6.1 | | * 4.2 | * 4.2 | * 6.1 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | * 4.8 | 51.9 | | * 29 | * 4.8 | * 53 | | * 29 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.7 | 19.2 | | 5.6 | 2.6 | 2.0 | | 4.5 | | | | |
| Green Ext Time (p_c), s | 0.0 | 8.4 | | 0.2 | 0.0 | 36.1 | | 0.1 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 8.0 | |
| HCM 6th LOS | A | |

Notes

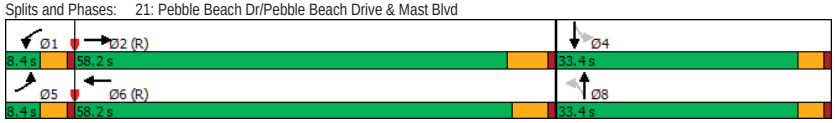
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\No School Alt\3 Existing + Proj AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 4 | 675 | 17 | 16 | 1740 | 22 | 17 | 7 | 36 | 66 | 22 | 20 |
| Future Volume (vph) | 4 | 675 | 17 | 16 | 1740 | 22 | 17 | 7 | 36 | 66 | 22 | 20 |
| Confl. Peds. (#/hr) | | | 8 | | | 1 | | | 2 | | | 11 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Perm | NA | | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | | 4 | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 23.9 | | 8.2 | 23.3 | | 33.2 | 33.2 | | 32.2 | 32.2 | |
| Total Split (s) | 8.4 | 58.2 | | 8.4 | 58.2 | | 33.4 | 33.4 | | 33.4 | 33.4 | |
| Total Split (%) | 8.4% | 58.2% | | 8.4% | 58.2% | | 33.4% | 33.4% | | 33.4% | 33.4% | |
| Yellow Time (s) | 3.2 | 4.9 | | 3.2 | 4.3 | | 3.2 | 3.2 | | 3.2 | 3.2 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | 0.0 | |
| Total Lost Time (s) | 4.2 | 5.9 | | 4.2 | 5.3 | | | 4.2 | | | 4.2 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 100 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 21: Pebble Beach Dr/Pebble Beach Drive & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 4 | 675 | 17 | 16 | 1740 | 22 | 17 | 7 | 36 | 66 | 22 | 20 |
| Future Volume (veh/h) | 4 | 675 | 17 | 16 | 1740 | 22 | 17 | 7 | 36 | 66 | 22 | 20 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 1.00 | 0.98 | | 1.00 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 4 | 734 | 18 | 17 | 1891 | 24 | 18 | 8 | 39 | 72 | 24 | 22 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 7 | 2548 | 62 | 27 | 2623 | 33 | 81 | 46 | 121 | 162 | 53 | 36 |
| Arrive On Green | 0.01 | 1.00 | 1.00 | 0.03 | 1.00 | 1.00 | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 |
| Sat Flow, veh/h | 1781 | 3544 | 87 | 1781 | 3593 | 46 | 284 | 373 | 985 | 844 | 430 | 292 |
| Grp Volume(v), veh/h | 4 | 368 | 384 | 17 | 933 | 982 | 65 | 0 | 0 | 118 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1854 | 1781 | 1777 | 1862 | 1642 | 0 | 0 | 1566 | 0 | 0 |
| Q Serve(g_s), s | 0.2 | 0.0 | 0.0 | 0.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 3.3 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 0.2 | 0.0 | 0.0 | 0.9 | 0.0 | 0.0 | 3.5 | 0.0 | 0.0 | 6.8 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | | 0.05 | 1.00 | | 0.02 | 0.28 | | 0.60 | 0.61 | | 0.19 |
| Lane Grp Cap(c), veh/h | 7 | 1278 | 1333 | 27 | 1297 | 1359 | 248 | 0 | 0 | 250 | 0 | 0 |
| V/C Ratio(X) | 0.53 | 0.29 | 0.29 | 0.63 | 0.72 | 0.72 | 0.26 | 0.00 | 0.00 | 0.47 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 75 | 1278 | 1333 | 75 | 1297 | 1359 | 507 | 0 | 0 | 499 | 0 | 0 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.97 | 0.97 | 0.97 | 0.23 | 0.23 | 0.23 | 0.99 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 49.5 | 0.0 | 0.0 | 48.2 | 0.0 | 0.0 | 40.0 | 0.0 | 0.0 | 41.3 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 19.6 | 0.6 | 0.5 | 2.1 | 0.8 | 0.8 | 0.2 | 0.0 | 0.0 | 0.5 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.1 | 0.2 | 0.2 | 0.4 | 0.3 | 0.3 | 1.5 | 0.0 | 0.0 | 2.8 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 69.1 | 0.6 | 0.5 | 50.3 | 0.8 | 0.8 | 40.2 | 0.0 | 0.0 | 41.8 | 0.0 | 0.0 |
| LnGrp LOS | E | A | A | D | A | A | D | A | A | D | A | A |
| Approach Vol, veh/h | | 756 | | | 1932 | | | 65 | | | 118 | |
| Approach Delay, s/veh | | 0.9 | | | 1.2 | | | 40.2 | | | 41.8 | |
| Approach LOS | | A | | | A | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.7 | 77.8 | | 16.5 | 4.6 | 78.9 | | 16.5 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 5.9 | | * 4.2 | * 4.2 | * 5.9 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | * 4.2 | 52.3 | | * 29 | * 4.2 | * 53 | | * 29 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.9 | 2.0 | | 8.8 | 2.2 | 2.0 | | 5.5 | | | | |
| Green Ext Time (p_c), s | 0.0 | 10.6 | | 0.4 | 0.0 | 43.8 | | 0.2 | | | | |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 3.7 |
| HCM 6th LOS | A |

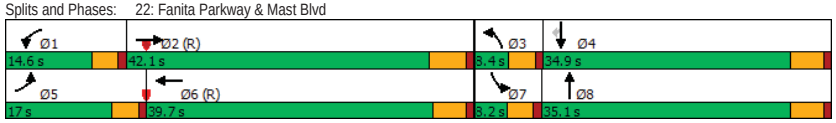
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 198 | 482 | 93 | 78 | 1232 | 41 | 36 | 96 | 30 | 51 | 238 | 490 |
| Future Volume (vph) | 198 | 482 | 93 | 78 | 1232 | 41 | 36 | 96 | 30 | 51 | 238 | 490 |
| Confl. Peds. (#/hr) | | | 8 | | | | | | 6 | | | 2 |
| Confl. Bikes (#/hr) | | | 2 | | | 2 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | | | | | | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 27.5 | 27.5 | 8.2 | 28.1 | | 8.2 | 35.1 | | 8.2 | 28.1 | 28.1 |
| Total Split (s) | 17.0 | 42.1 | 42.1 | 14.6 | 39.7 | | 8.4 | 35.1 | | 8.2 | 34.9 | 34.9 |
| Total Split (%) | 17.0% | 42.1% | 42.1% | 14.6% | 39.7% | | 8.4% | 35.1% | | 8.2% | 34.9% | 34.9% |
| Yellow Time (s) | 3.2 | 4.5 | 4.5 | 3.2 | 4.1 | | 3.2 | 4.1 | | 3.2 | 4.1 | 4.1 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.5 | 5.5 | 4.2 | 5.1 | | 4.2 | 5.1 | | 4.2 | 5.1 | 5.1 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | C-Max | C-Max | None | C-Max | | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 14.1 (14%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 110 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 22: Fanita Parkway & Mast Blvd






Existing + Proj AM (No School)
22: Fanita Parkway & Mast Blvd
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 198 | 482 | 93 | 78 | 1232 | 41 | 36 | 96 | 30 | 51 | 238 | 490 |
| Future Volume (veh/h) | 198 | 482 | 93 | 78 | 1232 | 41 | 36 | 96 | 30 | 51 | 238 | 490 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.98 | 1.00 | | 0.99 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 215 | 524 | 101 | 85 | 1339 | 45 | 39 | 104 | 33 | 55 | 259 | 533 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 228 | 1506 | 651 | 108 | 1249 | 42 | 49 | 389 | 123 | 71 | 557 | 471 |
| Arrive On Green | 0.26 | 0.85 | 0.85 | 0.12 | 0.71 | 0.71 | 0.03 | 0.29 | 0.29 | 0.04 | 0.30 | 0.30 |
| Sat Flow, veh/h | 1781 | 3554 | 1536 | 1781 | 3505 | 118 | 1781 | 1358 | 431 | 1781 | 1870 | 1582 |
| Grp Volume(v), veh/h | 215 | 524 | 101 | 85 | 678 | 706 | 39 | 0 | 137 | 55 | 259 | 533 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1536 | 1781 | 1777 | 1846 | 1781 | 0 | 1790 | 1781 | 1870 | 1582 |
| Q Serve(g_s), s | 11.8 | 3.2 | 1.2 | 4.6 | 35.6 | 35.6 | 2.2 | 0.0 | 5.9 | 3.1 | 11.3 | 29.8 |
| Cycle Q Clear(g_c), s | 11.8 | 3.2 | 1.2 | 4.6 | 35.6 | 35.6 | 2.2 | 0.0 | 5.9 | 3.1 | 11.3 | 29.8 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.06 | 1.00 | | 0.24 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 228 | 1506 | 651 | 108 | 633 | 658 | 49 | 0 | 512 | 71 | 557 | 471 |
| V/C Ratio(X) | 0.94 | 0.35 | 0.16 | 0.79 | 1.07 | 1.07 | 0.79 | 0.00 | 0.27 | 0.78 | 0.46 | 1.13 |
| Avail Cap(c_a), veh/h | 228 | 1506 | 651 | 185 | 633 | 658 | 75 | 0 | 537 | 71 | 557 | 471 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.96 | 0.96 | 0.96 | 0.68 | 0.68 | 0.68 | 0.99 | 0.00 | 0.99 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 36.8 | 4.6 | 4.5 | 43.3 | 14.4 | 14.4 | 48.3 | 0.0 | 27.6 | 47.6 | 28.6 | 35.1 |
| Incr Delay (d2), s/veh | 42.6 | 0.6 | 0.5 | 6.4 | 50.3 | 50.7 | 21.9 | 0.0 | 1.0 | 39.7 | 2.0 | 82.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 7.0 | 1.0 | 0.4 | 2.1 | 13.8 | 14.4 | 1.2 | 0.0 | 2.6 | 2.1 | 5.2 | 21.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 79.4 | 5.2 | 5.0 | 49.7 | 64.7 | 65.0 | 70.3 | 0.0 | 28.6 | 87.3 | 30.6 | 117.5 |
| LnGrp LOS | E | A | A | D | F | F | E | A | C | F | C | F |
| Approach Vol, veh/h | | 840 | | | 1469 | | | 176 | | | 847 | |
| Approach Delay, s/veh | | 24.2 | | | 64.0 | | | 37.8 | | | 88.9 | |
| Approach LOS | | C | | | E | | | D | | | F | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 10.2 | 47.9 | 7.0 | 34.9 | 17.0 | 41.1 | 8.2 | 33.7 |
| Change Period (Y+Rc), s | * 4.2 | 5.5 | * 4.2 | 5.1 | * 4.2 | * 5.5 | * 4.2 | 5.1 |
| Max Green Setting (Gmax), s | * 10 | 36.6 | * 4.2 | 29.8 | * 13 | * 35 | * 4 | 30.0 |
| Max Q Clear Time (g_c+I1), s | 6.6 | 5.2 | 4.2 | 31.8 | 13.8 | 37.6 | 5.1 | 7.9 |
| Green Ext Time (p_c), s | 0.0 | 9.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.5 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 58.9 | |
| HCM 6th LOS | E | |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

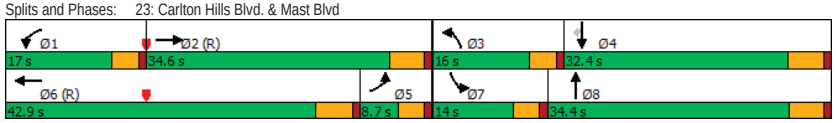
Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\No School Alt\3 Existing + Proj AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 35 | 357 | 135 | 168 | 1017 | 88 | 163 | 164 | 78 | 115 | 249 | 72 |
| Future Volume (vph) | 35 | 357 | 135 | 168 | 1017 | 88 | 163 | 164 | 78 | 115 | 249 | 72 |
| Confl. Peds. (#/hr) | | | 5 | | | 6 | | | 22 | | | 8 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 33.1 | | 8.2 | 32.4 | | 8.2 | 34.2 | | 8.2 | 32.4 | 32.4 |
| Total Split (s) | 8.7 | 34.6 | | 17.0 | 42.9 | | 16.0 | 34.4 | | 14.0 | 32.4 | 32.4 |
| Total Split (%) | 8.7% | 34.6% | | 17.0% | 42.9% | | 16.0% | 34.4% | | 14.0% | 32.4% | 32.4% |
| Yellow Time (s) | 3.2 | 4.1 | | 3.2 | 4.4 | | 3.2 | 4.2 | | 3.2 | 4.4 | 4.4 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.1 | | 4.2 | 5.4 | | 4.2 | 5.2 | | 4.2 | 5.4 | 5.4 |
| Lead/Lag | Lag | Lag | | Lead | Lead | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | C-Min | | None | C-Min | | None | Min | | None | Min | Min |

**Intersection Summary**

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 89 (89%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 95
Control Type: Actuated-Coordinated

Splits and Phases: 23: Carlton Hills Blvd. & Mast Blvd






Existing + Proj AM (No School)
23: Carlton Hills Blvd. & Mast Blvd
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 35 | 357 | 135 | 168 | 1017 | 88 | 163 | 164 | 78 | 115 | 249 | 72 |
| Future Volume (veh/h) | 35 | 357 | 135 | 168 | 1017 | 88 | 163 | 164 | 78 | 115 | 249 | 72 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.97 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 38 | 388 | 147 | 183 | 1105 | 96 | 177 | 178 | 85 | 125 | 271 | 78 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 237 | 999 | 373 | 214 | 1224 | 106 | 208 | 492 | 223 | 154 | 637 | 276 |
| Arrive On Green | 0.04 | 0.13 | 0.13 | 0.12 | 0.37 | 0.37 | 0.12 | 0.21 | 0.21 | 0.09 | 0.18 | 0.18 |
| Sat Flow, veh/h | 1781 | 2528 | 945 | 1781 | 3307 | 287 | 1781 | 2349 | 1066 | 1781 | 3554 | 1543 |
| Grp Volume(v), veh/h | 38 | 271 | 264 | 183 | 593 | 608 | 177 | 132 | 131 | 125 | 271 | 78 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1696 | 1781 | 1777 | 1817 | 1781 | 1777 | 1638 | 1781 | 1777 | 1543 |
| Q Serve(g_s), s | 2.1 | 14.0 | 14.3 | 10.1 | 31.6 | 31.6 | 9.7 | 6.4 | 6.9 | 6.9 | 6.8 | 3.1 |
| Cycle Q Clear(g_c), s | 2.1 | 14.0 | 14.3 | 10.1 | 31.6 | 31.6 | 9.7 | 6.4 | 6.9 | 6.9 | 6.8 | 3.1 |
| Prop In Lane | 1.00 | | 0.56 | 1.00 | | 0.16 | 1.00 | | 0.65 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 237 | 702 | 670 | 214 | 658 | 673 | 208 | 372 | 343 | 154 | 637 | 276 |
| V/C Ratio(X) | 0.16 | 0.39 | 0.39 | 0.85 | 0.90 | 0.90 | 0.85 | 0.36 | 0.38 | 0.81 | 0.43 | 0.28 |
| Avail Cap(c_a), veh/h | 237 | 702 | 670 | 228 | 666 | 681 | 210 | 519 | 478 | 175 | 959 | 417 |
| HCM Platoon Ratio | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.94 | 0.94 | 0.94 | 0.86 | 0.86 | 0.86 | 0.95 | 0.95 | 0.95 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 42.4 | 32.4 | 32.5 | 43.1 | 29.8 | 29.8 | 43.3 | 33.8 | 34.0 | 44.9 | 36.5 | 17.9 |
| Incr Delay (d2), s/veh | 0.1 | 1.5 | 1.6 | 20.6 | 15.9 | 15.8 | 24.6 | 1.6 | 1.9 | 19.7 | 1.9 | 2.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.9 | 6.9 | 6.7 | 5.5 | 15.5 | 15.9 | 5.6 | 2.9 | 2.9 | 3.8 | 3.1 | 1.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 42.5 | 33.9 | 34.1 | 63.8 | 45.7 | 45.6 | 67.9 | 35.4 | 35.9 | 64.6 | 38.4 | 20.3 |
| LnGrp LOS | D | C | C | E | D | D | E | D | D | E | D | C |
| Approach Vol, veh/h | | 573 | | | 1384 | | | 440 | | | 474 | |
| Approach Delay, s/veh | | 34.6 | | | 48.0 | | | 48.6 | | | 42.3 | |
| Approach LOS | | C | | | D | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 16.2 | 44.6 | 15.9 | 23.3 | 18.4 | 42.4 | 12.8 | 26.3 |
| Change Period (Y+Rc), s | * 4.2 | 5.1 | * 4.2 | 5.4 | 5.1 | * 5.4 | * 4.2 | * 5.4 |
| Max Green Setting (Gmax), s | * 13 | 29.5 | * 12 | 27.0 | 4.5 | * 38 | * 9.8 | * 29 |
| Max Q Clear Time (g_c+I1), s | 12.1 | 16.3 | 11.7 | 8.8 | 4.1 | 33.6 | 8.9 | 8.9 |
| Green Ext Time (p_c), s | 0.0 | 5.0 | 0.0 | 4.3 | 0.0 | 3.4 | 0.0 | 3.0 |

**Intersection Summary**

| | |
|---|---|
| HCM 6th Ctrl Delay | 44.5 |
| HCM 6th LOS | D |

**Notes**

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Fanita Ranch
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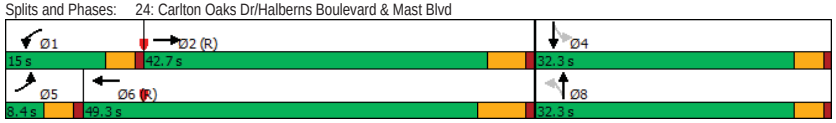
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 10 | 544 | 18 | 87 | 1243 | 22 | 41 | 23 | 71 | 43 | 39 | 44 |
| Future Volume (vph) | 10 | 544 | 18 | 87 | 1243 | 22 | 41 | 23 | 71 | 43 | 39 | 44 |
| Confl. Peds. (#/hr) | | | 6 | | | | | | 8 | | | 1 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Perm | NA | | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | | 4 | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 29.2 | | 8.2 | 28.3 | | 32.2 | 32.2 | | 32.2 | 32.2 | |
| Total Split (s) | 8.4 | 42.7 | | 15.0 | 49.3 | | 32.3 | 32.3 | | 32.3 | 32.3 | |
| Total Split (%) | 9.3% | 47.4% | | 16.7% | 54.8% | | 35.9% | 35.9% | | 35.9% | 35.9% | |
| Yellow Time (s) | 3.2 | 4.2 | | 3.2 | 5.3 | | 3.2 | 3.2 | | 3.2 | 3.2 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.2 | 5.2 | | 4.2 | 6.3 | | 4.2 | 4.2 | | 4.2 | 4.2 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 90 |
| Actuated Cycle Length: 90 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 80 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 24: Carlton Oaks Dr/Halberns Boulevard & Mast Blvd






Existing + Proj AM (No School) Fanita Ranch
24: Carlton Oaks Dr/Halberns Boulevard & Mast Blvd 06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 10 | 544 | 18 | 87 | 1243 | 22 | 41 | 23 | 71 | 43 | 39 | 44 |
| Future Volume (veh/h) | 10 | 544 | 18 | 87 | 1243 | 22 | 41 | 23 | 71 | 43 | 39 | 44 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.98 | 0.99 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 11 | 591 | 20 | 95 | 1351 | 24 | 45 | 25 | 77 | 47 | 42 | 48 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 19 | 2207 | 75 | 121 | 2453 | 44 | 199 | 55 | 171 | 184 | 111 | 127 |
| Arrive On Green | 0.01 | 0.63 | 0.63 | 0.07 | 0.69 | 0.69 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 |
| Sat Flow, veh/h | 1781 | 3507 | 119 | 1781 | 3572 | 63 | 1305 | 398 | 1226 | 1277 | 795 | 909 |
| Grp Volume(v), veh/h | 11 | 299 | 312 | 95 | 672 | 703 | 45 | 0 | 102 | 47 | 0 | 90 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1849 | 1781 | 1777 | 1859 | 1305 | 0 | 1624 | 1277 | 0 | 1704 |
| Q Serve(g_s), s | 0.6 | 6.8 | 6.8 | 4.7 | 17.1 | 17.2 | 2.9 | 0.0 | 5.2 | 3.2 | 0.0 | 4.3 |
| Cycle Q Clear(g_c), s | 0.6 | 6.8 | 6.8 | 4.7 | 17.1 | 17.2 | 7.2 | 0.0 | 5.2 | 8.3 | 0.0 | 4.3 |
| Prop In Lane | 1.00 | | 0.06 | 1.00 | | 0.03 | 1.00 | | 0.75 | 1.00 | | 0.53 |
| Lane Grp Cap(c), veh/h | 19 | 1118 | 1163 | 121 | 1220 | 1277 | 199 | 0 | 226 | 184 | 0 | 237 |
| V/C Ratio(X) | 0.58 | 0.27 | 0.27 | 0.78 | 0.55 | 0.55 | 0.23 | 0.00 | 0.45 | 0.26 | 0.00 | 0.38 |
| Avail Cap(c_a), veh/h | 83 | 1118 | 1163 | 214 | 1220 | 1277 | 425 | 0 | 507 | 405 | 0 | 532 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.87 | 0.87 | 0.87 | 0.65 | 0.65 | 0.65 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 44.3 | 7.4 | 7.4 | 41.3 | 7.1 | 7.1 | 38.5 | 0.0 | 35.6 | 39.4 | 0.0 | 35.2 |
| Incr Delay (d2), s/veh | 8.6 | 0.5 | 0.5 | 2.7 | 1.2 | 1.1 | 0.2 | 0.0 | 0.5 | 0.3 | 0.0 | 0.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.3 | 2.3 | 2.4 | 2.1 | 5.2 | 5.5 | 0.9 | 0.0 | 2.0 | 1.0 | 0.0 | 1.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 53.0 | 7.9 | 7.9 | 44.0 | 8.3 | 8.2 | 38.7 | 0.0 | 36.1 | 39.7 | 0.0 | 35.6 |
| LnGrp LOS | D | A | A | D | A | A | D | A | D | D | A | D |
| Approach Vol, veh/h | | 622 | | | 1470 | | | 147 | | | 137 | |
| Approach Delay, s/veh | | 8.7 | | | 10.6 | | | 36.9 | | | 37.0 | |
| Approach LOS | | A | | | B | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 10.3 | 62.9 | | 16.7 | 5.2 | 68.1 | | 16.7 | | | | |
| Change Period (Y+Rc), s | * 4.2 | * 6.3 | | * 4.2 | * 4.2 | 6.3 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | * 11 | * 38 | | * 28 | * 4.2 | 43.0 | | * 28 | | | | |
| Max Q Clear Time (g_c+I1), s | 6.7 | 8.8 | | 10.3 | 2.6 | 19.2 | | 9.2 | | | | |
| Green Ext Time (p_c), s | 0.0 | 7.7 | | 0.3 | 0.0 | 17.2 | | 0.4 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 13.2 | |
| HCM 6th LOS | B | |

Notes

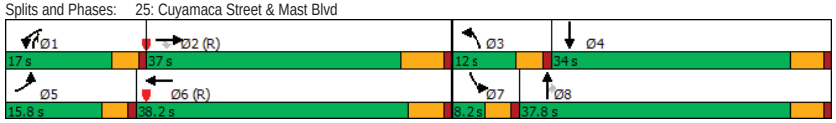
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\No School Alt\3 Existing + Proj AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 135 | 301 | 200 | 341 | 635 | 5 | 197 | 205 | 184 | 8 | 546 | 496 |
| Future Volume (vph) | 135 | 301 | 200 | 341 | 635 | 5 | 197 | 205 | 184 | 8 | 546 | 496 |
| Confl. Peds. (#/hr) | | | 8 | | | 5 | | | 3 | | | 3 |
| Confl. Bikes (#/hr) | | | 4 | | | 1 | | | 3 | | | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | | Prot | NA | pm+ov | Prot | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | 1 | 7 | 4 | |
| Permitted Phases | | | 2 | | | | | | 8 | | | |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | | 3 | 8 | 1 | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | | 4.0 | 7.0 | 4.0 | 4.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 34.3 | 34.3 | 8.2 | 32.3 | | 8.2 | 33.1 | 8.2 | 8.2 | 34.0 | |
| Total Split (s) | 15.8 | 37.0 | 37.0 | 17.0 | 38.2 | | 12.0 | 37.8 | 17.0 | 8.2 | 34.0 | |
| Total Split (%) | 15.8% | 37.0% | 37.0% | 17.0% | 38.2% | | 12.0% | 37.8% | 17.0% | 8.2% | 34.0% | |
| Yellow Time (s) | 3.2 | 5.3 | 5.3 | 3.2 | 4.3 | | 3.2 | 4.1 | 3.2 | 3.2 | 4.0 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.2 | 6.3 | 6.3 | 4.2 | 5.3 | | 4.2 | 5.1 | 4.2 | 4.2 | 5.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | |
| Recall Mode | None | C-Min | C-Min | None | C-Min | | None | None | None | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 31 (31%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 85 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 25: Cuyamaca Street & Mast Blvd






Existing + Proj AM (No School)
25: Cuyamaca Street & Mast Blvd

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 135 | 301 | 200 | 341 | 635 | 5 | 197 | 205 | 184 | 8 | 546 | 496 |
| Future Volume (veh/h) | 135 | 301 | 200 | 341 | 635 | 5 | 197 | 205 | 184 | 8 | 546 | 496 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 147 | 327 | 217 | 371 | 690 | 5 | 214 | 223 | 200 | 9 | 593 | 539 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 177 | 1096 | 478 | 434 | 1209 | 9 | 270 | 1276 | 759 | 16 | 515 | 452 |
| Arrive On Green | 0.10 | 0.31 | 0.31 | 0.13 | 0.33 | 0.33 | 0.08 | 0.36 | 0.36 | 0.01 | 0.29 | 0.29 |
| Sat Flow, veh/h | 1781 | 3554 | 1549 | 3456 | 3616 | 26 | 3456 | 3554 | 1559 | 1781 | 1777 | 1558 |
| Grp Volume(v), veh/h | 147 | 327 | 217 | 371 | 339 | 356 | 214 | 223 | 200 | 9 | 593 | 539 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1549 | 1728 | 1777 | 1865 | 1728 | 1777 | 1559 | 1781 | 1777 | 1558 |
| Q Serve(g_s), s | 8.1 | 7.0 | 11.3 | 10.5 | 15.7 | 15.7 | 6.1 | 4.3 | 7.6 | 0.5 | 29.0 | 29.0 |
| Cycle Q Clear(g_c), s | 8.1 | 7.0 | 11.3 | 10.5 | 15.7 | 15.7 | 6.1 | 4.3 | 7.6 | 0.5 | 29.0 | 29.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.01 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 177 | 1096 | 478 | 434 | 594 | 624 | 270 | 1276 | 759 | 16 | 515 | 452 |
| V/C Ratio(X) | 0.83 | 0.30 | 0.45 | 0.86 | 0.57 | 0.57 | 0.79 | 0.17 | 0.26 | 0.57 | 1.15 | 1.19 |
| Avail Cap(c_a), veh/h | 207 | 1096 | 478 | 442 | 594 | 624 | 270 | 1276 | 759 | 71 | 515 | 452 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.98 | 0.98 | 0.98 | 0.95 | 0.95 | 0.95 | 0.86 | 0.86 | 0.86 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 44.2 | 26.3 | 27.8 | 42.8 | 27.4 | 27.4 | 45.3 | 21.9 | 15.2 | 49.4 | 35.5 | 35.5 |
| Incr Delay (d2), s/veh | 18.3 | 0.7 | 3.0 | 13.6 | 3.7 | 3.6 | 12.1 | 0.1 | 0.2 | 11.5 | 88.3 | 107.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 4.4 | 3.0 | 4.5 | 5.2 | 7.0 | 7.3 | 3.0 | 1.8 | 2.6 | 0.3 | 24.7 | 24.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 62.5 | 27.0 | 30.8 | 56.4 | 31.1 | 30.9 | 57.5 | 22.0 | 15.5 | 60.9 | 123.8 | 142.5 |
| LnGrp LOS | E | C | C | E | C | C | E | C | B | E | F | F |
| Approach Vol, veh/h | | 691 | | | 1066 | | | 637 | | | 1141 | |
| Approach Delay, s/veh | | 35.8 | | | 39.9 | | | 31.9 | | | 132.1 | |
| Approach LOS | | D | | | D | | | C | | | F | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 16.7 | 37.2 | 12.0 | 34.1 | 14.2 | 39.7 | 5.1 | 41.0 |
| Change Period (Y+Rc), s | * 4.2 | 6.3 | * 4.2 | * 5.1 | * 4.2 | * 6.3 | * 4.2 | 5.1 |
| Max Green Setting (Gmax), s | * 13 | 30.7 | * 7.8 | * 29 | * 12 | * 33 | * 4 | 32.7 |
| Max Q Clear Time (g_c+I1), s | 12.5 | 13.3 | 8.1 | 31.0 | 10.1 | 17.7 | 2.5 | 9.6 |
| Green Ext Time (p_c), s | 0.0 | 3.7 | 0.0 | 0.0 | 0.0 | 4.5 | 0.0 | 3.0 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 67.4 | |
| HCM 6th LOS | E | |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 473 | 67 | 116 | 860 | 21 | 90 |
| Future Volume (vph) | 473 | 67 | 116 | 860 | 21 | 90 |
| Confl. Peds. (#/hr) | | 17 | | | | 29 |
| Confl. Bikes (#/hr) | | 3 | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | NA | | Prot | NA | Prot | Perm |
| Protected Phases | 2 | | 1 | 6 | 8 | |
| Permitted Phases | | | | | | 8 |
| Detector Phase | 2 | | 1 | 6 | 8 | 8 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 22.5 | | 8.5 | 20.5 | 22.5 | 22.5 |
| Total Split (s) | 23.2 | | 14.3 | 37.5 | 22.5 | 22.5 |
| Total Split (%) | 38.7% | | 23.8% | 62.5% | 37.5% | 37.5% |
| Yellow Time (s) | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lag | | Lead | | | |
| Lead-Lag Optimize? | Yes | | Yes | | | |
| Recall Mode | Min | | None | Min | None | None |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 40.8 |
| Natural Cycle: 55 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 26: Park Center Drive & Mast Blvd

Existing + Proj AM (No School)
26: Park Center Drive & Mast Blvd
Fanita Ranch
06/06/2019

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 473 | 67 | 116 | 860 | 21 | 90 |
| Future Volume (veh/h) | 473 | 67 | 116 | 860 | 21 | 90 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | 0.95 | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 514 | 73 | 126 | 935 | 23 | 98 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 1022 | 144 | 162 | 2076 | 156 | 139 |
| Arrive On Green | 0.33 | 0.33 | 0.09 | 0.58 | 0.09 | 0.09 |
| Sat Flow, veh/h | 3197 | 439 | 1781 | 3647 | 1781 | 1585 |
| Grp Volume(v), veh/h | 293 | 294 | 126 | 935 | 23 | 98 |
| Grp Sat Flow(s),veh/h/ln | 1777 | 1765 | 1781 | 1777 | 1781 | 1585 |
| Q Serve(g_s), s | 3.6 | 3.7 | 1.9 | 4.1 | 0.3 | 1.6 |
| Cycle Q Clear(g_c), s | 3.6 | 3.7 | 1.9 | 4.1 | 0.3 | 1.6 |
| Prop In Lane | | 0.25 | 1.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 585 | 581 | 162 | 2076 | 156 | 139 |
| V/C Ratio(X) | 0.50 | 0.51 | 0.78 | 0.45 | 0.15 | 0.70 |
| Avail Cap(c_a), veh/h | 1211 | 1203 | 636 | 4275 | 1169 | 1040 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 7.4 | 7.4 | 12.2 | 3.2 | 11.6 | 12.2 |
| Incr Delay (d2), s/veh | 0.7 | 0.7 | 7.9 | 0.2 | 0.4 | 6.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.7 | 0.7 | 0.8 | 0.0 | 0.1 | 0.7 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 8.1 | 8.1 | 20.1 | 3.4 | 12.0 | 18.5 |
| LnGrp LOS | A | A | C | A | B | B |
| Approach Vol, veh/h | 587 | | | 1061 | 121 | |
| Approach Delay, s/veh | 8.1 | | | 5.4 | 17.3 | |
| Approach LOS | A | | | A | B | |

| Timer - Assigned Phs | 1 | 2 | | | 6 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.0 | 13.5 | | | 20.5 | 6.9 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 9.8 | 18.7 | | | 33.0 | 18.0 |
| Max Q Clear Time (g_c+I1), s | 3.9 | 5.7 | | | 6.1 | 3.6 |
| Green Ext Time (p_c), s | 0.1 | 2.7 | | | 6.9 | 0.3 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 7.1 | |
| HCM 6th LOS | A | |

Fanita Ranch
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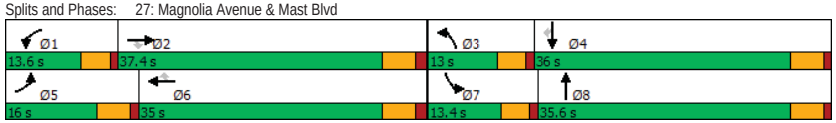
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 177 | 113 | 210 | 131 | 229 | 46 | 283 | 574 | 44 | 53 | 773 | 400 |
| Future Volume (vph) | 177 | 113 | 210 | 131 | 229 | 46 | 283 | 574 | 44 | 53 | 773 | 400 |
| Confl. Peds. (#/hr) | | | 14 | | | 31 | | | 11 | | | 8 |
| Confl. Bikes (#/hr) | | | 5 | | | 5 | | | 3 | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 11.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 9.0 | | 7.0 | 9.0 | 9.0 |
| Minimum Split (s) | 16.0 | 34.5 | 34.5 | 11.5 | 34.5 | 34.5 | 11.5 | 35.0 | | 11.5 | 36.0 | 36.0 |
| Total Split (s) | 16.0 | 37.4 | 37.4 | 13.6 | 35.0 | 35.0 | 13.0 | 35.6 | | 13.4 | 36.0 | 36.0 |
| Total Split (%) | 16.0% | 37.4% | 37.4% | 13.6% | 35.0% | 35.0% | 13.0% | 35.6% | | 13.4% | 36.0% | 36.0% |
| Yellow Time (s) | 4.0 | 4.0 | 4.0 | 3.5 | 4.0 | 4.0 | 3.5 | 4.0 | | 3.5 | 4.0 | 4.0 |
| All-Red Time (s) | 1.0 | 1.5 | 1.5 | 1.0 | 1.5 | 1.5 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 5.0 | 5.5 | 5.5 | 4.5 | 5.5 | 5.5 | 4.5 | 5.0 | | 4.5 | 5.0 | 5.0 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | Min | Min | None | Min | Min | None | Min | | None | Min | Min |

**Intersection Summary**

Cycle Length: 100
Actuated Cycle Length: 77.3
Natural Cycle: 100
Control Type: Actuated-Uncoordinated

Splits and Phases: 27: Magnolia Avenue & Mast Blvd






Existing + Proj AM (No School)
27: Magnolia Avenue & Mast Blvd
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 177 | 113 | 210 | 131 | 229 | 46 | 283 | 574 | 44 | 53 | 773 | 400 |
| Future Volume (veh/h) | 177 | 113 | 210 | 131 | 229 | 46 | 283 | 574 | 44 | 53 | 773 | 400 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.94 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 192 | 123 | 228 | 142 | 249 | 50 | 308 | 624 | 48 | 58 | 840 | 435 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 437 | 865 | 373 | 175 | 744 | 312 | 341 | 1238 | 95 | 109 | 1184 | 517 |
| Arrive On Green | 0.13 | 0.24 | 0.24 | 0.10 | 0.21 | 0.21 | 0.10 | 0.37 | 0.37 | 0.06 | 0.33 | 0.33 |
| Sat Flow, veh/h | 3456 | 3554 | 1532 | 1781 | 3554 | 1489 | 3456 | 3338 | 256 | 1781 | 3554 | 1553 |
| Grp Volume(v), veh/h | 192 | 123 | 228 | 142 | 249 | 50 | 308 | 332 | 340 | 58 | 840 | 435 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1532 | 1781 | 1777 | 1489 | 1728 | 1777 | 1817 | 1781 | 1777 | 1553 |
| Q Serve(g_s), s | 4.4 | 2.3 | 11.4 | 6.7 | 5.1 | 2.4 | 7.6 | 12.4 | 12.5 | 2.7 | 17.8 | 22.3 |
| Cycle Q Clear(g_c), s | 4.4 | 2.3 | 11.4 | 6.7 | 5.1 | 2.4 | 7.6 | 12.4 | 12.5 | 2.7 | 17.8 | 22.3 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.14 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 437 | 865 | 373 | 175 | 744 | 312 | 341 | 659 | 674 | 109 | 1184 | 517 |
| V/C Ratio(X) | 0.44 | 0.14 | 0.61 | 0.81 | 0.33 | 0.16 | 0.90 | 0.50 | 0.50 | 0.53 | 0.71 | 0.84 |
| Avail Cap(c_a), veh/h | 442 | 1317 | 568 | 188 | 1218 | 510 | 341 | 659 | 674 | 184 | 1280 | 559 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 34.8 | 25.5 | 28.9 | 38.0 | 28.9 | 27.8 | 38.4 | 20.9 | 21.0 | 39.2 | 25.1 | 26.6 |
| Incr Delay (d2), s/veh | 0.8 | 0.1 | 2.0 | 19.9 | 0.3 | 0.3 | 25.4 | 0.6 | 0.6 | 1.5 | 1.7 | 10.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.8 | 1.0 | 4.2 | 3.8 | 2.1 | 0.8 | 4.3 | 4.9 | 5.0 | 1.2 | 7.2 | 9.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 35.6 | 25.6 | 30.9 | 57.9 | 29.3 | 28.1 | 63.8 | 21.6 | 21.6 | 40.7 | 26.8 | 37.1 |
| LnGrp LOS | D | C | C | E | C | C | E | C | C | D | C | D |
| Approach Vol, veh/h | | 543 | | | 441 | | | 980 | | | 1333 | |
| Approach Delay, s/veh | | 31.4 | | | 38.4 | | | 34.8 | | | 30.7 | |
| Approach LOS | | C | | | D | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 12.9 | 26.5 | 13.0 | 33.7 | 15.9 | 23.5 | 9.8 | 36.9 |
| Change Period (Y+Rc), s | 4.5 | 5.5 | 4.5 | 5.0 | 5.0 | 5.5 | 4.5 | 5.0 |
| Max Green Setting (Gmax), s | 9.1 | 31.9 | 8.5 | 31.0 | 11.0 | 29.5 | 8.9 | 30.6 |
| Max Q Clear Time (g_c+I1), s | 8.7 | 13.4 | 9.6 | 24.3 | 6.4 | 7.1 | 4.7 | 14.5 |
| Green Ext Time (p_c), s | 0.0 | 1.7 | 0.0 | 3.7 | 0.3 | 2.0 | 0.0 | 3.5 |

**Intersection Summary**

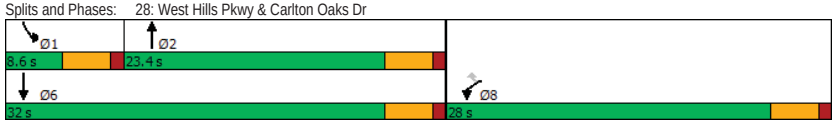
| | |
|---|---|
| HCM 6th Ctrl Delay | 33.1 |
| HCM 6th LOS | C |

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\No School Alt\3 Existing + Proj AM.syn

| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 391 | 612 | 738 | 109 | 39 | 176 |
| Future Volume (vph) | 391 | 612 | 738 | 109 | 39 | 176 |
| Confl. Peds. (#/hr) | | 9 | | 6 | | |
| Confl. Bikes (#/hr) | | | | 2 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | 0% | | | 0% |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | NA | | Prot | NA |
| Protected Phases | 8 | | 2 | | 1 | 6 |
| Permitted Phases | | 8 | | | | |
| Detector Phase | 8 | 8 | 2 | | 1 | 6 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | | 8.5 | 20.5 |
| Total Split (s) | 28.0 | 28.0 | 23.4 | | 8.6 | 32.0 |
| Total Split (%) | 46.7% | 46.7% | 39.0% | | 14.3% | 53.3% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Lead/Lag | | | Lag | | Lead | |
| Lead-Lag Optimize? | | | Yes | | Yes | |
| Recall Mode | None | None | Min | | None | Min |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 46.8 |
| Natural Cycle: 55 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 28: West Hills Pkwy & Carlton Oaks Dr








| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 391 | 612 | 738 | 109 | 39 | 176 |
| Future Volume (veh/h) | 391 | 612 | 738 | 109 | 39 | 176 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | | 0.97 | 1.00 | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | No | | | No |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 425 | 665 | 802 | 118 | 42 | 191 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 590 | 924 | 1046 | 154 | 64 | 1679 |
| Arrive On Green | 0.33 | 0.33 | 0.34 | 0.34 | 0.04 | 0.47 |
| Sat Flow, veh/h | 1781 | 2790 | 3187 | 455 | 1781 | 3647 |
| Grp Volume(v), veh/h | 425 | 665 | 461 | 459 | 42 | 191 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1395 | 1777 | 1771 | 1781 | 1777 |
| Q Serve(g_s), s | 9.6 | 9.6 | 10.6 | 10.6 | 1.1 | 1.4 |
| Cycle Q Clear(g_c), s | 9.6 | 9.6 | 10.6 | 10.6 | 1.1 | 1.4 |
| Prop In Lane | 1.00 | 1.00 | | 0.26 | 1.00 | |
| Lane Grp Cap(c), veh/h | 590 | 924 | 601 | 599 | 64 | 1679 |
| V/C Ratio(X) | 0.72 | 0.72 | 0.77 | 0.77 | 0.65 | 0.11 |
| Avail Cap(c_a), veh/h | 913 | 1429 | 732 | 730 | 159 | 2131 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 13.5 | 13.5 | 13.6 | 13.6 | 21.8 | 6.7 |
| Incr Delay (d2), s/veh | 1.7 | 1.1 | 4.0 | 4.0 | 10.6 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 3.4 | 2.6 | 3.7 | 3.7 | 0.6 | 0.3 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 15.1 | 14.5 | 17.5 | 17.6 | 32.4 | 6.8 |
| LnGrp LOS | B | B | B | B | C | A |
| Approach Vol, veh/h | 1090 | | 920 | | | 233 |
| Approach Delay, s/veh | 14.8 | | 17.5 | | | 11.4 |
| Approach LOS | B | | B | | | B |

| Timer - Assigned Phs | 1 | 2 | | | 6 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 6.2 | 20.0 | | | 26.2 | 19.7 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 4.1 | 18.9 | | | 27.5 | 23.5 |
| Max Q Clear Time (g_c+I1), s | 3.1 | 12.6 | | | 3.4 | 11.6 |
| Green Ext Time (p_c), s | 0.0 | 2.8 | | | 1.0 | 3.6 |

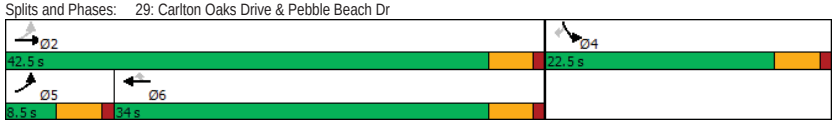
| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 15.6 | |
| HCM 6th LOS | | B | |

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 5 | 310 | 696 | 150 | 157 | 50 |
| Future Volume (vph) | 5 | 310 | 696 | 150 | 157 | 50 |
| Confl. Peds. (#/hr) | | | | 13 | | |
| Confl. Bikes (#/hr) | | | | 8 | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | pm+pt | NA | NA | Perm | Prot | Perm |
| Protected Phases | 5 | 2 | 6 | | 4 | |
| Permitted Phases | 2 | | | 6 | | 4 |
| Detector Phase | 5 | 2 | 6 | 6 | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 |
| Total Split (s) | 8.5 | 42.5 | 34.0 | 34.0 | 22.5 | 22.5 |
| Total Split (%) | 13.1% | 65.4% | 52.3% | 52.3% | 34.6% | 34.6% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | | Lag | Lag | | |
| Lead-Lag Optimize? | Yes | | Yes | Yes | | |
| Recall Mode | None | Min | Min | Min | None | None |

**Intersection Summary**

Cycle Length: 65
Actuated Cycle Length: 48.8
Natural Cycle: 65
Control Type: Semi Act-Uncoord

Splits and Phases: 29: Carlton Oaks Drive & Pebble Beach Dr






Existing + Proj AM (No School)
29: Carlton Oaks Drive & Pebble Beach Dr
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 5 | 310 | 696 | 150 | 157 | 50 |
| Future Volume (veh/h) | 5 | 310 | 696 | 150 | 157 | 50 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 0.96 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 5 | 337 | 757 | 163 | 171 | 54 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 302 | 1182 | 960 | 783 | 252 | 224 |
| Arrive On Green | 0.01 | 0.63 | 0.51 | 0.51 | 0.14 | 0.14 |
| Sat Flow, veh/h | 1781 | 1870 | 1870 | 1525 | 1781 | 1585 |
| Grp Volume(v), veh/h | 5 | 337 | 757 | 163 | 171 | 54 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1870 | 1525 | 1781 | 1585 |
| Q Serve(g_s), s | 0.0 | 3.2 | 13.1 | 2.3 | 3.6 | 1.2 |
| Cycle Q Clear(g_c), s | 0.0 | 3.2 | 13.1 | 2.3 | 3.6 | 1.2 |
| Prop In Lane | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 302 | 1182 | 960 | 783 | 252 | 224 |
| V/C Ratio(X) | 0.02 | 0.29 | 0.79 | 0.21 | 0.68 | 0.24 |
| Avail Cap(c_a), veh/h | 471 | 1789 | 1389 | 1132 | 807 | 718 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 6.6 | 3.3 | 7.9 | 5.3 | 16.2 | 15.2 |
| Incr Delay (d2), s/veh | 0.0 | 0.1 | 2.0 | 0.1 | 3.2 | 0.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.4 | 3.7 | 0.5 | 1.5 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 6.6 | 3.4 | 9.9 | 5.4 | 19.4 | 15.7 |
| LnGrp LOS | A | A | A | A | B | B |
| Approach Vol, veh/h | | 342 | 920 | | 225 | |
| Approach Delay, s/veh | | 3.5 | 9.1 | | 18.5 | |
| Approach LOS | | A | A | | B | |

| Timer - Assigned Phs | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 29.6 | | 10.1 | 4.7 | 24.9 |
| Change Period (Y+Rc), s | 4.5 | | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 38.0 | | 18.0 | 4.0 | 29.5 |
| Max Q Clear Time (g_c+I1), s | 5.2 | | 5.6 | 2.0 | 15.1 |
| Green Ext Time (p_c), s | 2.1 | | 0.5 | 0.0 | 5.3 |

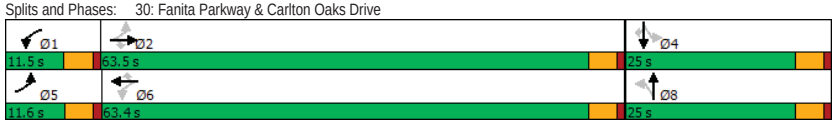
| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 9.2 |
| HCM 6th LOS | A |

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\No School Alt\3 Existing + Proj AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 41 | 310 | 0 | 0 | 678 | 161 | 4 | 0 | 5 | 293 | 0 | 140 |
| Future Volume (vph) | 41 | 310 | 0 | 0 | 678 | 161 | 4 | 0 | 5 | 293 | 0 | 140 |
| Confl. Peds. (#/hr) | | | 4 | | | 4 | | | 14 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | 6 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | pm+pt | NA | Perm | pm+pt | NA | Perm | Perm | NA | | Perm | | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | 2 | | 2 | 6 | | 6 | 8 | | | 4 | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 8 | 8 | | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | | 7.0 | 7.0 | 7.0 |
| Minimum Split (s) | 11.5 | 26.5 | 26.5 | 11.5 | 20.5 | 20.5 | 22.5 | 22.5 | | 22.5 | 22.5 | 22.5 |
| Total Split (s) | 11.6 | 63.5 | 63.5 | 11.5 | 63.4 | 63.4 | 25.0 | 25.0 | | 25.0 | 25.0 | 25.0 |
| Total Split (%) | 11.6% | 63.5% | 63.5% | 11.5% | 63.4% | 63.4% | 25.0% | 25.0% | | 25.0% | 25.0% | 25.0% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | | | | | | |
| Recall Mode | None | Min | Min | None | Min | Min | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 72.6 |
| Natural Cycle: 80 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 30: Fanita Parkway & Carlton Oaks Drive






Existing + Proj AM (No School) Fanita Ranch
30: Fanita Parkway & Carlton Oaks Drive 06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 41 | 310 | 0 | 0 | 678 | 161 | 4 | 0 | 5 | 293 | 0 | 140 |
| Future Volume (veh/h) | 41 | 310 | 0 | 0 | 678 | 161 | 4 | 0 | 5 | 293 | 0 | 140 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.97 | 1.00 | | 0.97 | 0.97 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 45 | 337 | 0 | 0 | 737 | 175 | 4 | 0 | 5 | 318 | 0 | 152 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 295 | 1124 | 953 | 606 | 885 | 728 | 217 | 28 | 208 | 471 | 491 | 414 |
| Arrive On Green | 0.06 | 0.60 | 0.00 | 0.00 | 0.47 | 0.47 | 0.26 | 0.00 | 0.26 | 0.26 | 0.00 | 0.26 |
| Sat Flow, veh/h | 1781 | 1870 | 1585 | 1781 | 1870 | 1539 | 528 | 107 | 793 | 1374 | 1870 | 1579 |
| Grp Volume(v), veh/h | 45 | 337 | 0 | 0 | 737 | 175 | 9 | 0 | 0 | 318 | 0 | 152 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1585 | 1781 | 1870 | 1539 | 1428 | 0 | 0 | 1374 | 1870 | 1579 |
| Q Serve(g_s), s | 0.7 | 5.8 | 0.0 | 0.0 | 22.6 | 4.5 | 0.0 | 0.0 | 0.0 | 14.3 | 0.0 | 5.2 |
| Cycle Q Clear(g_c), s | 0.7 | 5.8 | 0.0 | 0.0 | 22.6 | 4.5 | 0.3 | 0.0 | 0.0 | 14.5 | 0.0 | 5.2 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 0.44 | | 0.56 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 295 | 1124 | 953 | 606 | 885 | 728 | 454 | 0 | 0 | 471 | 491 | 414 |
| V/C Ratio(X) | 0.15 | 0.30 | 0.00 | 0.00 | 0.83 | 0.24 | 0.02 | 0.00 | 0.00 | 0.67 | 0.00 | 0.37 |
| Avail Cap(c_a), veh/h | 381 | 1675 | 1419 | 792 | 1672 | 1376 | 521 | 0 | 0 | 538 | 582 | 491 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 11.4 | 6.4 | 0.0 | 0.0 | 15.1 | 10.3 | 18.0 | 0.0 | 0.0 | 23.3 | 0.0 | 19.8 |
| Incr Delay (d2), s/veh | 0.2 | 0.1 | 0.0 | 0.0 | 2.1 | 0.2 | 0.0 | 0.0 | 0.0 | 2.8 | 0.0 | 0.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.2 | 1.8 | 0.0 | 0.0 | 8.5 | 1.3 | 0.1 | 0.0 | 0.0 | 4.6 | 0.0 | 1.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 11.6 | 6.5 | 0.0 | 0.0 | 17.2 | 10.5 | 18.0 | 0.0 | 0.0 | 26.0 | 0.0 | 20.4 |
| LnGrp LOS | B | A | A | A | B | B | B | A | A | C | A | C |
| Approach Vol, veh/h | | 382 | | | 912 | | | 9 | | | 470 | |
| Approach Delay, s/veh | | 7.1 | | | 15.9 | | | 18.0 | | | 24.2 | |
| Approach LOS | | A | | | B | | | B | | | C | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 0.0 | 44.1 | | 21.8 | 8.4 | 35.7 | | 21.8 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 7.0 | 59.0 | | 20.5 | 7.1 | 58.9 | | 20.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 0.0 | 7.8 | | 16.5 | 2.7 | 24.6 | | 2.3 | | | | |
| Green Ext Time (p_c), s | 0.0 | 2.1 | | 0.6 | 0.0 | 6.6 | | 0.0 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 16.2 |
| HCM 6th LOS | | B |

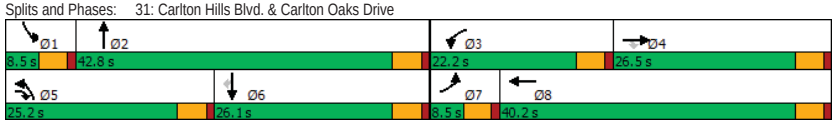
Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\No School Alt\3 Existing + Proj AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 10 | 121 | 596 | 221 | 170 | 10 | 605 | 347 | 177 | 14 | 609 | 78 |
| Future Volume (vph) | 10 | 121 | 596 | 221 | 170 | 10 | 605 | 347 | 177 | 14 | 609 | 78 |
| Confl. Peds. (#/hr) | | | 16 | | | 2 | | | 3 | | | 4 |
| Confl. Bikes (#/hr) | | | 1 | | | 1 | | | 1 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 7 | 4 | 5 | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | | | | 6 |
| Detector Phase | 7 | 4 | 5 | 3 | 8 | | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 26.5 | 8.5 | 8.5 | 26.5 | | 8.5 | 22.5 | | 8.5 | 22.5 | 22.5 |
| Total Split (s) | 8.5 | 26.5 | 25.2 | 22.2 | 40.2 | | 25.2 | 42.8 | | 8.5 | 26.1 | 26.1 |
| Total Split (%) | 8.5% | 26.5% | 25.2% | 22.2% | 40.2% | | 25.2% | 42.8% | | 8.5% | 26.1% | 26.1% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | | None | Min | | None | Min | Min |

**Intersection Summary**

Cycle Length: 100
Actuated Cycle Length: 87
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 31: Carlton Hills Blvd. & Carlton Oaks Drive








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 10 | 121 | 596 | 221 | 170 | 10 | 605 | 347 | 177 | 14 | 609 | 78 |
| Future Volume (veh/h) | 10 | 121 | 596 | 221 | 170 | 10 | 605 | 347 | 177 | 14 | 609 | 78 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 11 | 132 | 648 | 240 | 185 | 11 | 658 | 377 | 192 | 15 | 662 | 85 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 19 | 434 | 689 | 276 | 1281 | 76 | 727 | 934 | 468 | 25 | 758 | 332 |
| Arrive On Green | 0.01 | 0.23 | 0.23 | 0.15 | 0.38 | 0.38 | 0.21 | 0.41 | 0.41 | 0.01 | 0.21 | 0.21 |
| Sat Flow, veh/h | 1781 | 1870 | 1532 | 1781 | 3406 | 201 | 3456 | 2279 | 1142 | 1781 | 3554 | 1556 |
| Grp Volume(v), veh/h | 11 | 132 | 648 | 240 | 96 | 100 | 658 | 293 | 276 | 15 | 662 | 85 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1532 | 1781 | 1777 | 1831 | 1728 | 1777 | 1645 | 1781 | 1777 | 1556 |
| Q Serve(g_s), s | 0.6 | 5.5 | 22.0 | 12.5 | 3.4 | 3.4 | 17.6 | 11.0 | 11.3 | 0.8 | 17.1 | 4.3 |
| Cycle Q Clear(g_c), s | 0.6 | 5.5 | 22.0 | 12.5 | 3.4 | 3.4 | 17.6 | 11.0 | 11.3 | 0.8 | 17.1 | 4.3 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.11 | 1.00 | | 0.69 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 19 | 434 | 689 | 276 | 668 | 688 | 727 | 728 | 674 | 25 | 758 | 332 |
| V/C Ratio(X) | 0.58 | 0.30 | 0.94 | 0.87 | 0.14 | 0.15 | 0.91 | 0.40 | 0.41 | 0.61 | 0.87 | 0.26 |
| Avail Cap(c_a), veh/h | 75 | 434 | 689 | 332 | 669 | 689 | 754 | 728 | 674 | 75 | 809 | 354 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 46.7 | 30.1 | 25.4 | 39.2 | 19.5 | 19.5 | 36.5 | 19.8 | 19.9 | 46.5 | 36.1 | 31.1 |
| Incr Delay (d2), s/veh | 25.3 | 0.4 | 21.0 | 18.8 | 0.1 | 0.1 | 14.2 | 0.4 | 0.4 | 22.2 | 10.0 | 0.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.4 | 2.5 | 17.2 | 6.8 | 1.4 | 1.5 | 8.6 | 4.4 | 4.2 | 0.5 | 8.2 | 1.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 72.0 | 30.5 | 46.5 | 58.0 | 19.6 | 19.6 | 50.7 | 20.1 | 20.3 | 68.7 | 46.1 | 31.5 |
| LnGrp LOS | E | C | D | E | B | B | D | C | C | E | D | C |
| Approach Vol, veh/h | | 791 | | | 436 | | | 1227 | | | 762 | |
| Approach Delay, s/veh | | 44.2 | | | 40.7 | | | 36.6 | | | 44.9 | |
| Approach LOS | | D | | | D | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.8 | 43.4 | 19.2 | 26.5 | 24.5 | 24.7 | 5.5 | 40.2 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 4.0 | 38.3 | 17.7 | 22.0 | 20.7 | 21.6 | 4.0 | 35.7 |
| Max Q Clear Time (g_c+I1), s | 2.8 | 13.3 | 14.5 | 24.0 | 19.6 | 19.1 | 2.6 | 5.4 |
| Green Ext Time (p_c), s | 0.0 | 3.6 | 0.2 | 0.0 | 0.3 | 1.1 | 0.0 | 1.1 |

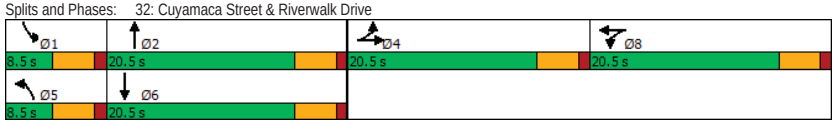
**Intersection Summary**

| | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 41.0 | |
| HCM 6th LOS | | D | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 1 | 0 | 0 | 90 | 1 | 55 | 17 | 553 | 80 | 98 | 1219 | 3 |
| Future Volume (vph) | 1 | 0 | 0 | 90 | 1 | 55 | 17 | 553 | 80 | 98 | 1219 | 3 |
| Confl. Peds. (#/hr) | | | 17 | | | 2 | | | 1 | | | 7 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Split | | | Split | NA | | Prot | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | 20.5 | 20.5 | | 20.5 | 20.5 | | 8.5 | 20.5 | | 8.5 | 20.5 | |
| Total Split (s) | 20.5 | 20.5 | | 20.5 | 20.5 | | 8.5 | 20.5 | | 8.5 | 20.5 | |
| Total Split (%) | 29.3% | 29.3% | | 29.3% | 29.3% | | 12.1% | 29.3% | | 12.1% | 29.3% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 70 |
| Actuated Cycle Length: 45.3 |
| Natural Cycle: 90 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 32: Cuyamaca Street & Riverwalk Drive






Existing + Proj AM (No School)
32: Cuyamaca Street & Riverwalk Drive
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 1 | 0 | 0 | 90 | 1 | 55 | 17 | 553 | 80 | 98 | 1219 | 3 |
| Future Volume (veh/h) | 1 | 0 | 0 | 90 | 1 | 55 | 17 | 553 | 80 | 98 | 1219 | 3 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.99 | 1.00 | | 1.00 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 1 | 0 | 0 | 98 | 1 | 60 | 18 | 601 | 87 | 107 | 1325 | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 67 | 71 | 0 | 173 | 3 | 151 | 32 | 1060 | 153 | 135 | 1448 | 3 |
| Arrive On Green | 0.04 | 0.00 | 0.00 | 0.10 | 0.10 | 0.10 | 0.02 | 0.34 | 0.34 | 0.08 | 0.40 | 0.40 |
| Sat Flow, veh/h | 1781 | 1870 | 0 | 1781 | 26 | 1554 | 1781 | 3115 | 450 | 1781 | 3637 | 8 |
| Grp Volume(v), veh/h | 1 | 0 | 0 | 98 | 0 | 61 | 18 | 342 | 346 | 107 | 647 | 681 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 0 | 1781 | 0 | 1580 | 1781 | 1777 | 1789 | 1781 | 1777 | 1869 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.0 | 2.1 | 0.0 | 1.5 | 0.4 | 6.3 | 6.3 | 2.4 | 13.8 | 13.8 |
| Cycle Q Clear(g_c), s | 0.0 | 0.0 | 0.0 | 2.1 | 0.0 | 1.5 | 0.4 | 6.3 | 6.3 | 2.4 | 13.8 | 13.8 |
| Prop In Lane | 1.00 | | 0.00 | 1.00 | | 0.98 | 1.00 | | 0.25 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 67 | 71 | 0 | 173 | 0 | 154 | 32 | 605 | 609 | 135 | 707 | 744 |
| V/C Ratio(X) | 0.01 | 0.00 | 0.00 | 0.57 | 0.00 | 0.40 | 0.56 | 0.57 | 0.57 | 0.79 | 0.92 | 0.92 |
| Avail Cap(c_a), veh/h | 711 | 746 | 0 | 711 | 0 | 630 | 178 | 709 | 714 | 178 | 709 | 746 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 18.6 | 0.0 | 0.0 | 17.3 | 0.0 | 17.0 | 19.5 | 10.8 | 10.8 | 18.2 | 11.4 | 11.4 |
| Incr Delay (d2), s/veh | 0.1 | 0.0 | 0.0 | 2.9 | 0.0 | 1.7 | 14.2 | 0.8 | 0.8 | 16.3 | 16.5 | 15.9 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.0 | 0.0 | 0.9 | 0.0 | 0.5 | 0.3 | 1.9 | 2.0 | 1.4 | 6.9 | 7.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 18.7 | 0.0 | 0.0 | 20.2 | 0.0 | 18.7 | 33.7 | 11.6 | 11.7 | 34.5 | 27.9 | 27.3 |
| LnGrp LOS | B | A | A | C | A | B | C | B | B | C | C | C |
| Approach Vol, veh/h | | 1 | | | 159 | | | 706 | | | 1435 | |
| Approach Delay, s/veh | | 18.7 | | | 19.6 | | | 12.2 | | | 28.1 | |
| Approach LOS | | B | | | B | | | B | | | C | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.5 | 18.1 | | 6.0 | 5.2 | 20.5 | | 8.4 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 4.0 | 16.0 | | 16.0 | 4.0 | 16.0 | | 16.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 4.4 | 8.3 | | 2.0 | 2.4 | 15.8 | | 4.1 | | | | |
| Green Ext Time (p_c), s | 0.0 | 2.5 | | 0.0 | 0.0 | 0.1 | | 0.4 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 22.7 | |
| HCM 6th LOS | C | |

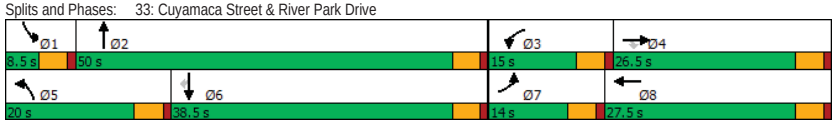
Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\No School Alt\3 Existing + Proj AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 63 | 26 | 97 | 77 | 30 | 27 | 126 | 664 | 81 | 16 | 1034 | 53 |
| Future Volume (vph) | 63 | 26 | 97 | 77 | 30 | 27 | 126 | 664 | 81 | 16 | 1034 | 53 |
| Confl. Peds. (#/hr) | | | 10 | | | 6 | | | 10 | | | 6 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | | | | 6 |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 26.5 | 26.5 | 8.5 | 26.5 | | 8.5 | 22.5 | | 8.5 | 26.5 | 26.5 |
| Total Split (s) | 14.0 | 26.5 | 26.5 | 15.0 | 27.5 | | 20.0 | 50.0 | | 8.5 | 38.5 | 38.5 |
| Total Split (%) | 14.0% | 26.5% | 26.5% | 15.0% | 27.5% | | 20.0% | 50.0% | | 8.5% | 38.5% | 38.5% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | | None | Min | | None | Min | Min |

**Intersection Summary**

Cycle Length: 100
Actuated Cycle Length: 76.3
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

Splits and Phases: 33: Cuyamaca Street & River Park Drive






Existing + Proj AM (No School) Fanita Ranch
33: Cuyamaca Street & River Park Drive 06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 63 | 26 | 97 | 77 | 30 | 27 | 126 | 664 | 81 | 16 | 1034 | 53 |
| Future Volume (veh/h) | 63 | 26 | 97 | 77 | 30 | 27 | 126 | 664 | 81 | 16 | 1034 | 53 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 68 | 28 | 105 | 84 | 33 | 29 | 137 | 722 | 88 | 17 | 1124 | 58 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 87 | 249 | 207 | 109 | 133 | 117 | 178 | 1593 | 194 | 29 | 1480 | 656 |
| Arrive On Green | 0.05 | 0.13 | 0.13 | 0.06 | 0.15 | 0.15 | 0.10 | 0.50 | 0.50 | 0.02 | 0.42 | 0.42 |
| Sat Flow, veh/h | 1781 | 1870 | 1549 | 1781 | 912 | 802 | 1781 | 3185 | 388 | 1781 | 3554 | 1574 |
| Grp Volume(v), veh/h | 68 | 28 | 105 | 84 | 0 | 62 | 137 | 403 | 407 | 17 | 1124 | 58 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1549 | 1781 | 0 | 1714 | 1781 | 1777 | 1796 | 1781 | 1777 | 1574 |
| Q Serve(g_s), s | 2.4 | 0.8 | 3.9 | 2.9 | 0.0 | 2.0 | 4.7 | 9.1 | 9.1 | 0.6 | 16.8 | 1.4 |
| Cycle Q Clear(g_c), s | 2.4 | 0.8 | 3.9 | 2.9 | 0.0 | 2.0 | 4.7 | 9.1 | 9.1 | 0.6 | 16.8 | 1.4 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.47 | 1.00 | | 0.22 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 87 | 249 | 207 | 109 | 0 | 250 | 178 | 889 | 898 | 29 | 1480 | 656 |
| V/C Ratio(X) | 0.78 | 0.11 | 0.51 | 0.77 | 0.00 | 0.25 | 0.77 | 0.45 | 0.45 | 0.58 | 0.76 | 0.09 |
| Avail Cap(c_a), veh/h | 272 | 661 | 547 | 300 | 0 | 633 | 443 | 1298 | 1312 | 114 | 1939 | 859 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 29.3 | 23.8 | 25.1 | 28.8 | 0.0 | 23.6 | 27.3 | 10.1 | 10.1 | 30.4 | 15.5 | 11.0 |
| Incr Delay (d2), s/veh | 14.0 | 0.2 | 1.9 | 10.9 | 0.0 | 0.5 | 6.8 | 0.4 | 0.4 | 17.1 | 1.3 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.3 | 0.4 | 1.5 | 1.5 | 0.0 | 0.8 | 2.2 | 3.0 | 3.0 | 0.4 | 6.0 | 0.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 43.3 | 23.9 | 27.0 | 39.8 | 0.0 | 24.1 | 34.1 | 10.4 | 10.4 | 47.5 | 16.8 | 11.1 |
| LnGrp LOS | D | C | C | D | A | C | C | B | B | D | B | B |
| Approach Vol, veh/h | | 201 | | | 146 | | | 947 | | | 1199 | |
| Approach Delay, s/veh | | 32.1 | | | 33.1 | | | 13.9 | | | 17.0 | |
| Approach LOS | | C | | | C | | | B | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.5 | 35.7 | 8.3 | 12.8 | 10.7 | 30.5 | 7.5 | 13.6 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 4.0 | 45.5 | 10.5 | 22.0 | 15.5 | 34.0 | 9.5 | 23.0 |
| Max Q Clear Time (g_c+I1), s | 2.6 | 11.1 | 4.9 | 5.9 | 6.7 | 18.8 | 4.4 | 4.0 |
| Green Ext Time (p_c), s | 0.0 | 5.6 | 0.1 | 0.4 | 0.2 | 7.1 | 0.0 | 0.2 |

**Intersection Summary**

| | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 17.9 |
| HCM 6th LOS | | B |

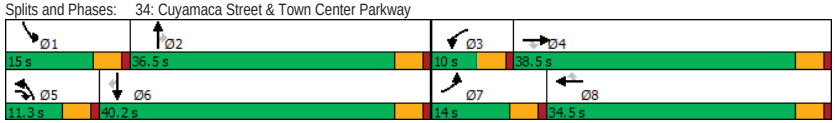
Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\No School Alt\3 Existing + Proj AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 140 | 55 | 87 | 59 | 40 | 61 | 89 | 372 | 36 | 83 | 643 | 241 |
| Future Volume (vph) | 140 | 55 | 87 | 59 | 40 | 61 | 89 | 372 | 36 | 83 | 643 | 241 |
| Confl. Peds. (#/hr) | | | 7 | | | 1 | | | 5 | | | 3 |
| Confl. Bikes (#/hr) | | | 1 | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 7 | 4 | 5 | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | 2 | | | 6 |
| Detector Phase | 7 | 4 | 5 | 3 | 8 | 8 | 5 | 2 | 2 | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 34.5 | 8.5 | 8.5 | 34.5 | 34.5 | 8.5 | 34.5 | 34.5 | 8.5 | 34.5 | 34.5 |
| Total Split (s) | 14.0 | 38.5 | 11.3 | 10.0 | 34.5 | 34.5 | 11.3 | 36.5 | 36.5 | 15.0 | 40.2 | 40.2 |
| Total Split (%) | 14.0% | 38.5% | 11.3% | 10.0% | 34.5% | 34.5% | 11.3% | 36.5% | 36.5% | 15.0% | 40.2% | 40.2% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lead | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | None | None | Min | Min | None | Min | Min |

**Intersection Summary**

Cycle Length: 100
Actuated Cycle Length: 58.1
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 34: Cuyamaca Street & Town Center Parkway






Existing + Proj AM (No School)
34: Cuyamaca Street & Town Center Parkway
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 140 | 55 | 87 | 59 | 40 | 61 | 89 | 372 | 36 | 83 | 643 | 241 |
| Future Volume (veh/h) | 140 | 55 | 87 | 59 | 40 | 61 | 89 | 372 | 36 | 83 | 643 | 241 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 1.00 | 1.00 | | 0.99 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 152 | 60 | 95 | 64 | 43 | 66 | 97 | 404 | 39 | 90 | 699 | 262 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 269 | 278 | 329 | 170 | 426 | 189 | 217 | 1694 | 522 | 116 | 1704 | 528 |
| Arrive On Green | 0.08 | 0.15 | 0.15 | 0.05 | 0.12 | 0.12 | 0.06 | 0.33 | 0.33 | 0.06 | 0.33 | 0.33 |
| Sat Flow, veh/h | 3456 | 1870 | 1542 | 3456 | 3554 | 1581 | 3456 | 5106 | 1573 | 1781 | 5106 | 1581 |
| Grp Volume(v), veh/h | 152 | 60 | 95 | 64 | 43 | 66 | 97 | 404 | 39 | 90 | 699 | 262 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1870 | 1542 | 1728 | 1777 | 1581 | 1728 | 1702 | 1573 | 1781 | 1702 | 1581 |
| Q Serve(g_s), s | 1.9 | 1.3 | 2.3 | 0.8 | 0.5 | 1.7 | 1.2 | 2.5 | 0.8 | 2.2 | 4.7 | 5.9 |
| Cycle Q Clear(g_c), s | 1.9 | 1.3 | 2.3 | 0.8 | 0.5 | 1.7 | 1.2 | 2.5 | 0.8 | 2.2 | 4.7 | 5.9 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 269 | 278 | 329 | 170 | 426 | 189 | 217 | 1694 | 522 | 116 | 1704 | 528 |
| V/C Ratio(X) | 0.56 | 0.22 | 0.29 | 0.38 | 0.10 | 0.35 | 0.45 | 0.24 | 0.07 | 0.78 | 0.41 | 0.50 |
| Avail Cap(c_a), veh/h | 740 | 1433 | 1281 | 428 | 2402 | 1069 | 530 | 3682 | 1134 | 421 | 4108 | 1272 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 19.7 | 16.6 | 14.7 | 20.4 | 17.4 | 17.9 | 20.0 | 10.8 | 10.2 | 20.4 | 11.4 | 11.8 |
| Incr Delay (d2), s/veh | 1.9 | 0.4 | 0.5 | 1.4 | 0.1 | 1.1 | 1.4 | 0.1 | 0.1 | 10.7 | 0.2 | 0.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.7 | 0.5 | 0.7 | 0.3 | 0.2 | 0.6 | 0.5 | 0.8 | 0.2 | 1.1 | 1.4 | 1.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 21.6 | 17.0 | 15.2 | 21.8 | 17.5 | 19.0 | 21.5 | 10.8 | 10.2 | 31.2 | 11.6 | 12.5 |
| LnGrp LOS | C | B | B | C | B | B | C | B | B | C | B | B |
| Approach Vol, veh/h | | 307 | | | 173 | | | 540 | | | 1051 | |
| Approach Delay, s/veh | | 18.7 | | | 19.7 | | | 12.7 | | | 13.5 | |
| Approach LOS | | B | | | B | | | B | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.4 | 19.2 | 6.7 | 11.1 | 7.3 | 19.3 | 8.0 | 9.8 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 10.5 | 32.0 | 5.5 | 34.0 | 6.8 | 35.7 | 9.5 | 30.0 |
| Max Q Clear Time (g_c+I1), s | 4.2 | 4.5 | 2.8 | 4.3 | 3.2 | 7.9 | 3.9 | 3.7 |
| Green Ext Time (p_c), s | 0.1 | 2.9 | 0.0 | 0.6 | 0.1 | 6.2 | 0.2 | 0.4 |

**Intersection Summary**

| | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 14.6 |
| HCM 6th LOS | | B |

Fanita Ranch
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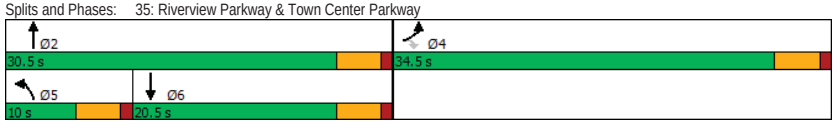
| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 100 | 113 | 95 | 6 | 3 |
| Future Volume (vph) | 0 | 100 | 113 | 95 | 6 | 3 |
| Confl. Peds. (#/hr) | | 4 | | | | 1 |
| Confl. Bikes (#/hr) | | 2 | | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | Prot | NA | NA | |
| Protected Phases | 4 | | 5 | 2 | 6 | |
| Permitted Phases | | 4 | | | | |
| Detector Phase | 4 | 4 | 5 | 2 | 6 | |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Minimum Split (s) | 34.5 | 34.5 | 8.5 | 25.5 | 20.5 | |
| Total Split (s) | 34.5 | 34.5 | 10.0 | 30.5 | 20.5 | |
| Total Split (%) | 53.1% | 53.1% | 15.4% | 46.9% | 31.5% | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lead/Lag | | | Lead | | Lag | |
| Lead-Lag Optimize? | | | Yes | | Yes | |
| Recall Mode | None | None | None | Min | Min | |

| Intersection Summary |
|---|
| Cycle Length: 65 |
| Actuated Cycle Length: 36.1 |
| Natural Cycle: 65 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 35: Riverview Parkway & Town Center Parkway






Existing + Proj AM (No School)
35: Riverview Parkway & Town Center Parkway
Fanita Ranch
06/06/2019

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 100 | 113 | 95 | 6 | 3 |
| Future Volume (veh/h) | 0 | 100 | 113 | 95 | 6 | 3 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 109 | 123 | 103 | 7 | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 158 | 141 | 172 | 1752 | 462 | 183 |
| Arrive On Green | 0.00 | 0.09 | 0.10 | 0.49 | 0.19 | 0.19 |
| Sat Flow, veh/h | 1781 | 1585 | 1781 | 3647 | 2560 | 976 |
| Grp Volume(v), veh/h | 0 | 109 | 123 | 103 | 5 | 5 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 1781 | 1777 | 1777 | 1666 |
| Q Serve(g_s), s | 0.0 | 1.4 | 1.4 | 0.3 | 0.0 | 0.1 |
| Cycle Q Clear(g_c), s | 0.0 | 1.4 | 1.4 | 0.3 | 0.0 | 0.1 |
| Prop In Lane | 1.00 | 1.00 | 1.00 | | | 0.59 |
| Lane Grp Cap(c), veh/h | 158 | 141 | 172 | 1752 | 333 | 312 |
| V/C Ratio(X) | 0.00 | 0.77 | 0.71 | 0.06 | 0.01 | 0.02 |
| Avail Cap(c_a), veh/h | 2481 | 2208 | 455 | 4290 | 1320 | 1238 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 0.0 | 9.6 | 9.4 | 2.8 | 7.1 | 7.1 |
| Incr Delay (d2), s/veh | 0.0 | 8.7 | 5.4 | 0.0 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.3 | 0.6 | 0.0 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 18.3 | 14.8 | 2.9 | 7.1 | 7.2 |
| LnGrp LOS | A | B | B | A | A | A |
| Approach Vol, veh/h | 109 | | | 226 | 10 | |
| Approach Delay, s/veh | 18.3 | | | 9.4 | 7.1 | |
| Approach LOS | B | | | A | A | |

| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 15.1 | | 6.4 | 6.6 | 8.5 |
| Change Period (Y+Rc), s | | 4.5 | | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | | 26.0 | | 30.0 | 5.5 | 16.0 |
| Max Q Clear Time (g_c+I1), s | | 2.3 | | 3.4 | 3.4 | 2.1 |
| Green Ext Time (p_c), s | | 0.5 | | 0.3 | 0.1 | 0.0 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 12.1 | |
| HCM 6th LOS | B | |

Fanita Ranch
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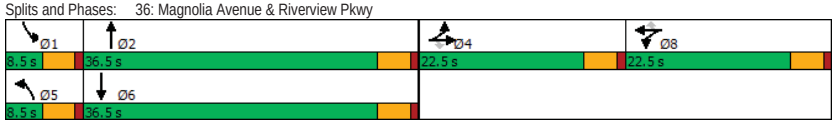
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 1 | 0 | 7 | 35 | 0 | 8 | 45 | 1026 | 19 | 8 | 1372 | 3 |
| Future Volume (vph) | 1 | 0 | 7 | 35 | 0 | 8 | 45 | 1026 | 19 | 8 | 1372 | 3 |
| Confl. Peds. (#/hr) | | | 8 | | | | | | | | | 8 |
| Confl. Bikes (#/hr) | | | 1 | | | | | | 5 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Split | NA | Perm | Split | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | | | | |
| Detector Phase | 4 | 4 | 4 | 8 | 8 | 8 | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 8.5 | 22.5 | | 8.5 | 22.5 | |
| Total Split (s) | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 8.5 | 36.5 | | 8.5 | 36.5 | |
| Total Split (%) | 25.0% | 25.0% | 25.0% | 25.0% | 25.0% | 25.0% | 9.4% | 40.6% | | 9.4% | 40.6% | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | None | None | None | None | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 90 |
| Actuated Cycle Length: 58.3 |
| Natural Cycle: 100 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 36: Magnolia Avenue & Riverview Pkwy








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 1 | 0 | 7 | 35 | 0 | 8 | 45 | 1026 | 19 | 8 | 1372 | 3 |
| Future Volume (veh/h) | 1 | 0 | 7 | 35 | 0 | 8 | 45 | 1026 | 19 | 8 | 1372 | 3 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.96 | 1.00 | | 1.00 | 1.00 | | 0.98 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 1 | 0 | 8 | 38 | 0 | 9 | 49 | 1115 | 21 | 9 | 1491 | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 51 | 0 | 44 | 69 | 0 | 61 | 71 | 1991 | 37 | 17 | 1922 | 4 |
| Arrive On Green | 0.03 | 0.00 | 0.03 | 0.04 | 0.00 | 0.04 | 0.04 | 0.56 | 0.56 | 0.01 | 0.53 | 0.53 |
| Sat Flow, veh/h | 1781 | 0 | 1516 | 1781 | 0 | 1585 | 1781 | 3566 | 67 | 1781 | 3638 | 7 |
| Grp Volume(v), veh/h | 1 | 0 | 8 | 38 | 0 | 9 | 49 | 556 | 580 | 9 | 728 | 766 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1516 | 1781 | 0 | 1585 | 1781 | 1777 | 1856 | 1781 | 1777 | 1869 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.3 | 1.0 | 0.0 | 0.3 | 1.3 | 9.9 | 9.9 | 0.2 | 16.2 | 16.2 |
| Cycle Q Clear(g_c), s | 0.0 | 0.0 | 0.3 | 1.0 | 0.0 | 0.3 | 1.3 | 9.9 | 9.9 | 0.2 | 16.2 | 16.2 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.04 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 51 | 0 | 44 | 69 | 0 | 61 | 71 | 992 | 1037 | 17 | 938 | 987 |
| V/C Ratio(X) | 0.02 | 0.00 | 0.18 | 0.55 | 0.00 | 0.15 | 0.69 | 0.56 | 0.56 | 0.54 | 0.78 | 0.78 |
| Avail Cap(c_a), veh/h | 650 | 0 | 553 | 650 | 0 | 578 | 144 | 1153 | 1204 | 144 | 1153 | 1213 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 23.3 | 0.0 | 23.4 | 23.3 | 0.0 | 22.9 | 23.4 | 7.0 | 7.0 | 24.3 | 9.3 | 9.3 |
| Incr Delay (d2), s/veh | 0.2 | 0.0 | 2.0 | 6.8 | 0.0 | 1.1 | 11.5 | 0.5 | 0.5 | 24.1 | 2.7 | 2.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.0 | 0.1 | 0.5 | 0.0 | 0.1 | 0.7 | 2.3 | 2.4 | 0.2 | 4.3 | 4.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 23.4 | 0.0 | 25.4 | 30.1 | 0.0 | 24.0 | 34.9 | 7.5 | 7.5 | 48.4 | 12.0 | 11.9 |
| LnGrp LOS | C | A | C | C | A | C | C | A | A | D | B | B |
| Approach Vol, veh/h | | 9 | | | 47 | | | 1185 | | | 1503 | |
| Approach Delay, s/veh | | 25.2 | | | 28.9 | | | 8.6 | | | 12.2 | |
| Approach LOS | | C | | | C | | | A | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.0 | 32.0 | | 5.9 | 6.5 | 30.5 | | 6.4 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 4.0 | 32.0 | | 18.0 | 4.0 | 32.0 | | 18.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.2 | 11.9 | | 2.3 | 3.3 | 18.2 | | 3.0 | | | | |
| Green Ext Time (p_c), s | 0.0 | 7.2 | | 0.0 | 0.0 | 7.9 | | 0.1 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 11.0 | |
| HCM 6th LOS | B | |

| Intersection | |
|---|---|
| Int Delay, s/veh | 15.1 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 0 | 15 | 0 | 168 | 382 | 568 | 0 | 0 | 340 | 546 |
| Future Vol, veh/h | 0 | 0 | 0 | 15 | 0 | 168 | 382 | 568 | 0 | 0 | 340 | 546 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 9 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | 190 | - | - | - | - | - |
| Veh in Median Storage, # | - | 2 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 0 | 16 | 0 | 183 | 415 | 617 | 0 | 0 | 370 | 593 |

| Major/Minor | Minor1 | | | Major1 | | | Major2 | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 2114 | 2410 | 617 | 963 | 0 | - | - | - | 0 |
| Stage 1 | 1447 | 1447 | - | - | - | - | - | - | - |
| Stage 2 | 667 | 963 | - | - | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.52 | 6.22 | 4.12 | - | - | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 2.218 | - | - | - | - | - |
| Pot Cap-1 Maneuver | 56 | 33 | 490 | 715 | - | 0 | 0 | - | - |
| Stage 1 | 216 | 196 | - | - | - | 0 | 0 | - | - |
| Stage 2 | 510 | 334 | - | - | - | 0 | 0 | - | - |
| Platoon blocked, % | | | | | - | | | - | - |
| Mov Cap-1 Maneuver | 24 | 0 | 490 | 715 | - | - | - | - | - |
| Mov Cap-2 Maneuver | 24 | 0 | - | - | - | - | - | - | - |
| Stage 1 | 91 | 0 | - | - | - | - | - | - | - |
| Stage 2 | 510 | 0 | - | - | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 131.6 | 6.7 | 0 |
| HCM LOS | F | | |

| Minor Lane/Major Mvmt | NBL | NBT | WBLn1 | SBT | SBR |
|---|---|---|---|---|---|
| Capacity (veh/h) | 715 | - | 189 | - | - |
| HCM Lane V/C Ratio | 0.581 | - | 1.052 | - | - |
| HCM Control Delay (s) | 16.8 | - | 131.6 | - | - |
| HCM Lane LOS | C | - | F | - | - |
| HCM 95th %tile Q(veh) | 3.8 | - | 9.3 | - | - |

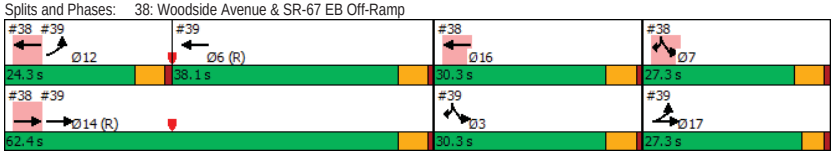




| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR | Ø3 | Ø6 | Ø12 | Ø16 | Ø17 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 284 | 163 | 0 | 505 | 125 | | | | | |
| Future Volume (vph) | 0 | 284 | 163 | 0 | 505 | 125 | | | | | |
| Confl. Peds. (#/hr) | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | | | |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | | | | | |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| Parking (#/hr) | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | | | | | | |
| Shared Lane Traffic (%) | | | | | | | | | | | |
| Turn Type | | NA | NA | | Prot | Prot | | | | | |
| Protected Phases | | 14 | 12 16 | | 7 | 7 | 3 | 6 | 12 | 16 | 17 |
| Permitted Phases | | | | | | | | | | | |
| Detector Phase | | 14 | 12 16 | | 7 | 7 | | | | | |
| Switch Phase | | | | | | | | | | | |
| Minimum Initial (s) | | 4.0 | | | 8.0 | 8.0 | 5.0 | 5.0 | 5.0 | 2.0 | 5.0 |
| Minimum Split (s) | | 20.0 | | | 27.3 | 27.3 | 30.3 | 29.3 | 24.3 | 20.0 | 9.2 |
| Total Split (s) | | 62.4 | | | 27.3 | 27.3 | 30.3 | 38.1 | 24.3 | 30.3 | 27.3 |
| Total Split (%) | | 52.0% | | | 22.8% | 22.8% | 25% | 32% | 20% | 25% | 23% |
| Yellow Time (s) | | 4.3 | | | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 3.2 |
| All-Red Time (s) | | 1.0 | | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | | 0.0 | | | 0.0 | 0.0 | | | | | |
| Total Lost Time (s) | | 5.3 | | | 5.3 | 5.3 | | | | | |
| Lead/Lag | | | | | | | | Lag | Lead | | |
| Lead-Lag Optimize? | | | | | | | | Yes | Yes | | |
| Recall Mode | | C-Max | | | Max | Max | None | C-Max | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 0 (0%), Referenced to phase 6:WBT and 14:EBT, Start of Green |
| Natural Cycle: 135 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 38: Woodside Avenue & SR-67 EB Off-Ramp



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 284 | 163 | 0 | 505 | 125 |
| Future Volume (vph) | 0 | 284 | 163 | 0 | 505 | 125 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 5.3 | 5.3 | | 5.3 | 5.3 |
| Lane Util. Factor | | 0.95 | 1.00 | | 0.97 | 1.00 |
| Frt | | 1.00 | 1.00 | | 1.00 | 0.85 |
| Flt Protected | | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | | 3539 | 1863 | | 3433 | 1583 |
| Flt Permitted | | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (perm) | | 3539 | 1863 | | 3433 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 309 | 177 | 0 | 549 | 136 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 43 |
| Lane Group Flow (vph) | 0 | 309 | 177 | 0 | 549 | 93 |
| Turn Type | | NA | NA | | Prot | Prot |
| Protected Phases | | 14 | 12 16 | | 7 | 7 |
| Permitted Phases | | | | | | |
| Actuated Green, G (s) | | 57.1 | 39.7 | | 22.4 | 22.4 |
| Effective Green, g (s) | | 57.1 | 39.7 | | 22.4 | 22.4 |
| Actuated g/C Ratio | | 0.48 | 0.33 | | 0.19 | 0.19 |
| Clearance Time (s) | | 5.3 | | | 5.3 | 5.3 |
| Vehicle Extension (s) | | 1.0 | | | 3.0 | 3.0 |
| Lane Grp Cap (vph) | | 1683 | 616 | | 640 | 295 |
| v/s Ratio Prot | | c0.09 | c0.10 | | c0.16 | 0.06 |
| v/s Ratio Perm | | | | | | |
| v/c Ratio | | 0.18 | 0.29 | | 0.86 | 0.31 |
| Uniform Delay, d1 | | 18.1 | 29.7 | | 47.3 | 42.2 |
| Progression Factor | | 1.00 | 1.25 | | 1.00 | 1.00 |
| Incremental Delay, d2 | | 0.2 | 0.1 | | 13.9 | 2.8 |
| Delay (s) | | 18.3 | 37.2 | | 61.2 | 44.9 |
| Level of Service | | B | D | | E | D |
| Approach Delay (s) | | 18.3 | 37.2 | | 58.0 | |
| Approach LOS | | B | D | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 44.4 | HCM 2000 Level of Service | D |
| HCM 2000 Volume to Capacity ratio | 0.38 | | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 21.2 |
| Intersection Capacity Utilization | 31.8% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

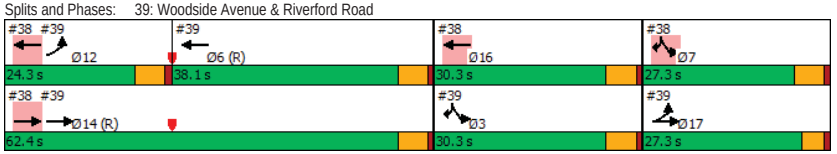




| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR | Ø7 | Ø12 | Ø14 | Ø16 | Ø17 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | |
| Traffic Volume (vph) | 451 | 338 | 124 | 499 | 316 | 39 | | | | | |
| Future Volume (vph) | 451 | 338 | 124 | 499 | 316 | 39 | | | | | |
| Confl. Peds. (#/hr) | | | | | | 1 | | | | | |
| Confl. Bikes (#/hr) | | | | 1 | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | | | |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | | | | | |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| Parking (#/hr) | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | | | | | | |
| Shared Lane Traffic (%) | | | | | | | | | | | |
| Turn Type | Prot | NA | NA | | Prot | Prot | | | | | |
| Protected Phases | 12 17 | 14 17 | 6 | | 3 | 3 | 7 | 12 | 14 | 16 | 17 |
| Permitted Phases | | | | | | | | | | | |
| Detector Phase | 12 17 | 14 17 | 6 | | 3 | 3 | | | | | |
| Switch Phase | | | | | | | | | | | |
| Minimum Initial (s) | | | 5.0 | | 5.0 | 5.0 | 8.0 | 5.0 | 4.0 | 2.0 | 5.0 |
| Minimum Split (s) | | | 29.3 | | 30.3 | 30.3 | 27.3 | 24.3 | 20.0 | 20.0 | 9.2 |
| Total Split (s) | | | 38.1 | | 30.3 | 30.3 | 27.3 | 24.3 | 62.4 | 30.3 | 27.3 |
| Total Split (%) | | | 31.8% | | 25.3% | 25.3% | 23% | 20% | 52% | 25% | 23% |
| Yellow Time (s) | | | 4.3 | | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 3.2 |
| All-Red Time (s) | | | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | | | 0.0 | | 0.0 | 0.0 | | | | | |
| Total Lost Time (s) | | | 5.3 | | 5.3 | 5.3 | | | | | |
| Lead/Lag | | | Lag | | | | | Lead | | | |
| Lead-Lag Optimize? | | | Yes | | | | | Yes | | | |
| Recall Mode | | | C-Max | | None | None | Max | None | C-Max | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 0 (0%), Referenced to phase 6:WBT and 14:EBT, Start of Green |
| Natural Cycle: 135 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 39: Woodside Avenue & Riverford Road



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 451 | 338 | 124 | 499 | 316 | 39 |
| Future Volume (vph) | 451 | 338 | 124 | 499 | 316 | 39 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.3 | 5.3 | 5.3 | | 5.3 | 5.3 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.98 | | 1.00 | 1.00 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.89 | | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | 1770 | 1863 | 1633 | | 1770 | 1583 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (perm) | 1770 | 1863 | 1633 | | 1770 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 490 | 367 | 135 | 542 | 343 | 42 |
| RTOR Reduction (vph) | 0 | 0 | 115 | 0 | 0 | 23 |
| Lane Group Flow (vph) | 490 | 367 | 562 | 0 | 343 | 19 |
| Confl. Peds. (#/hr) | | | | | | 1 |
| Confl. Bikes (#/hr) | | | | 1 | | |
| Turn Type | Prot | NA | NA | | Prot | Prot |
| Protected Phases | 12 17 | 14 17 | 6 | | 3 | 3 |
| Permitted Phases | | | | | | |
| Actuated Green, G (s) | 42.8 | 84.8 | 36.7 | | 24.6 | 24.6 |
| Effective Green, g (s) | 38.6 | 80.6 | 36.7 | | 24.6 | 24.6 |
| Actuated g/C Ratio | 0.32 | 0.67 | 0.31 | | 0.21 | 0.21 |
| Clearance Time (s) | | | 5.3 | | 5.3 | 5.3 |
| Vehicle Extension (s) | | | 3.0 | | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 569 | 1251 | 499 | | 362 | 324 |
| v/s Ratio Prot | c0.28 | 0.20 | c0.34 | | c0.19 | 0.01 |
| v/s Ratio Perm | | | | | | |
| v/c Ratio | 0.86 | 0.29 | 1.13 | | 0.95 | 0.06 |
| Uniform Delay, d1 | 38.2 | 8.1 | 41.6 | | 47.1 | 38.4 |
| Progression Factor | 0.30 | 0.08 | 1.00 | | 1.00 | 1.00 |
| Incremental Delay, d2 | 10.3 | 0.1 | 79.6 | | 33.5 | 0.1 |
| Delay (s) | 22.0 | 0.8 | 121.2 | | 80.6 | 38.5 |
| Level of Service | C | A | F | | F | D |
| Approach Delay (s) | | 12.9 | 121.2 | | 76.0 | |
| Approach LOS | | B | F | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 63.8 | HCM 2000 Level of Service | E |
| HCM 2000 Volume to Capacity ratio | 0.99 | | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 21.2 |
| Intersection Capacity Utilization | 93.1% | ICU Level of Service | F |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

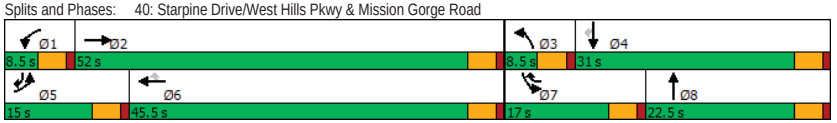




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 287 | 372 | 5 | 10 | 1030 | 540 | 4 | 6 | 9 | 105 | 3 | 422 |
| Future Volume (vph) | 287 | 372 | 5 | 10 | 1030 | 540 | 4 | 6 | 9 | 105 | 3 | 422 |
| Confl. Peds. (#/hr) | | | 3 | | | 1 | | | 1 | | | |
| Confl. Bikes (#/hr) | | | 2 | | | 6 | | | | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Prot | NA | | Prot | NA | pm+ov |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 5 |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 5 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 29.5 | | 8.5 | 29.5 | 8.5 | 8.5 | 22.5 | | 8.5 | 29.5 | 8.5 |
| Total Split (s) | 15.0 | 52.0 | | 8.5 | 45.5 | 17.0 | 8.5 | 22.5 | | 17.0 | 31.0 | 15.0 |
| Total Split (%) | 15.0% | 52.0% | | 8.5% | 45.5% | 17.0% | 8.5% | 22.5% | | 17.0% | 31.0% | 15.0% |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | Lead |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | Min | | None | Min | None | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 67.5 |
| Natural Cycle: 90 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 40: Starpine Drive/West Hills Pkwy & Mission Gorge Road



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 287 | 372 | 5 | 10 | 1030 | 540 | 4 | 6 | 9 | 105 | 3 | 422 |
| Future Volume (veh/h) | 287 | 372 | 5 | 10 | 1030 | 540 | 4 | 6 | 9 | 105 | 3 | 422 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 1.00 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 312 | 404 | 5 | 11 | 1120 | 587 | 4 | 7 | 10 | 114 | 3 | 459 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 405 | 1985 | 25 | 19 | 1585 | 784 | 8 | 97 | 138 | 192 | 356 | 845 |
| Arrive On Green | 0.12 | 0.55 | 0.55 | 0.01 | 0.45 | 0.45 | 0.00 | 0.14 | 0.14 | 0.06 | 0.19 | 0.19 |
| Sat Flow, veh/h | 3456 | 3593 | 44 | 1781 | 3554 | 1560 | 1781 | 695 | 994 | 3456 | 1870 | 2723 |
| Grp Volume(v), veh/h | 312 | 200 | 209 | 11 | 1120 | 587 | 4 | 0 | 17 | 114 | 3 | 459 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1861 | 1781 | 1777 | 1560 | 1781 | 0 | 1689 | 1728 | 1870 | 1362 |
| Q Serve(g_s), s | 6.5 | 4.2 | 4.2 | 0.5 | 19.0 | 22.4 | 0.2 | 0.0 | 0.7 | 2.4 | 0.1 | 10.4 |
| Cycle Q Clear(g_c), s | 6.5 | 4.2 | 4.2 | 0.5 | 19.0 | 22.4 | 0.2 | 0.0 | 0.7 | 2.4 | 0.1 | 10.4 |
| Prop In Lane | 1.00 | | 0.02 | 1.00 | | 1.00 | 1.00 | | 0.59 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 405 | 982 | 1028 | 19 | 1585 | 784 | 8 | 0 | 235 | 192 | 356 | 845 |
| V/C Ratio(X) | 0.77 | 0.20 | 0.20 | 0.56 | 0.71 | 0.75 | 0.53 | 0.00 | 0.07 | 0.59 | 0.01 | 0.54 |
| Avail Cap(c_a), veh/h | 488 | 1135 | 1189 | 96 | 1959 | 948 | 96 | 0 | 409 | 581 | 666 | 1297 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 31.9 | 8.4 | 8.4 | 36.6 | 16.7 | 14.8 | 37.0 | 0.0 | 27.8 | 34.3 | 24.4 | 21.4 |
| Incr Delay (d2), s/veh | 6.1 | 0.1 | 0.1 | 23.2 | 0.9 | 2.7 | 46.7 | 0.0 | 0.1 | 2.9 | 0.0 | 0.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.8 | 1.2 | 1.3 | 0.3 | 6.4 | 7.5 | 0.2 | 0.0 | 0.3 | 1.0 | 0.0 | 3.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 38.0 | 8.5 | 8.5 | 59.8 | 17.6 | 17.5 | 83.6 | 0.0 | 28.0 | 37.2 | 24.4 | 22.0 |
| LnGrp LOS | D | A | A | E | B | B | F | A | C | D | C | C |
| Approach Vol, veh/h | | 721 | | | 1718 | | | 21 | | | 576 | |
| Approach Delay, s/veh | | 21.2 | | | 17.8 | | | 38.6 | | | 25.0 | |
| Approach LOS | | C | | | B | | | D | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.3 | 45.6 | 4.8 | 18.7 | 13.2 | 37.7 | 8.6 | 14.8 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 4.0 | 47.5 | 4.0 | 26.5 | 10.5 | 41.0 | 12.5 | 18.0 |
| Max Q Clear Time (g_c+I1), s | 2.5 | 6.2 | 2.2 | 12.4 | 8.5 | 24.4 | 4.4 | 2.7 |
| Green Ext Time (p_c), s | 0.0 | 2.1 | 0.0 | 1.6 | 0.2 | 8.8 | 0.2 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 20.1 |
| HCM 6th LOS | C |

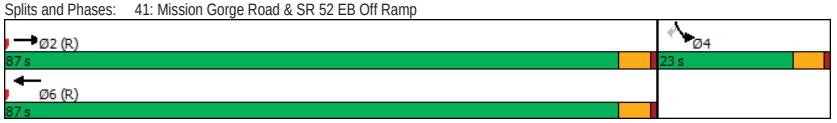




| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 876 | 1293 | 0 | 127 | 13 |
| Future Volume (vph) | 0 | 876 | 1293 | 0 | 127 | 13 |
| Confl. Peds. (#/hr) | | | | | | |
| Confl. Bikes (#/hr) | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | | NA | NA | | Prot | Perm |
| Protected Phases | | 2 | 6 | | 4 | |
| Permitted Phases | | | | | | 4 |
| Detector Phase | | 2 | 6 | | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | | 6.0 | 11.0 | | 10.0 | 10.0 |
| Minimum Split (s) | | 20.0 | 20.0 | | 20.0 | 20.0 |
| Total Split (s) | | 87.0 | 87.0 | | 23.0 | 23.0 |
| Total Split (%) | | 79.1% | 79.1% | | 20.9% | 20.9% |
| Yellow Time (s) | | 4.4 | 4.4 | | 4.1 | 4.1 |
| All-Red Time (s) | | 1.0 | 1.0 | | 1.0 | 1.0 |
| Lost Time Adjust (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | | 5.4 | 5.4 | | 5.1 | 5.1 |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | | C-Min | C-Min | | None | None |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 110 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green, Master Intersection |
| Natural Cycle: 50 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 41: Mission Gorge Road & SR 52 EB Off Ramp



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 876 | 1293 | 0 | 127 | 13 |
| Future Volume (veh/h) | 0 | 876 | 1293 | 0 | 127 | 13 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 0 | 1870 | 1870 | 0 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 952 | 1405 | 0 | 138 | 14 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 0 | 2 | 2 | 0 | 2 | 2 |
| Cap, veh/h | 0 | 2895 | 2895 | 0 | 311 | 143 |
| Arrive On Green | 0.00 | 0.81 | 1.00 | 0.00 | 0.09 | 0.09 |
| Sat Flow, veh/h | 0 | 3741 | 3741 | 0 | 3456 | 1585 |
| Grp Volume(v), veh/h | 0 | 952 | 1405 | 0 | 138 | 14 |
| Grp Sat Flow(s),veh/h/ln | 0 | 1777 | 1777 | 0 | 1728 | 1585 |
| Q Serve(g_s), s | 0.0 | 7.5 | 0.0 | 0.0 | 4.2 | 0.9 |
| Cycle Q Clear(g_c), s | 0.0 | 7.5 | 0.0 | 0.0 | 4.2 | 0.9 |
| Prop In Lane | 0.00 | | | 0.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 0 | 2895 | 2895 | 0 | 311 | 143 |
| V/C Ratio(X) | 0.00 | 0.33 | 0.49 | 0.00 | 0.44 | 0.10 |
| Avail Cap(c_a), veh/h | 0 | 2895 | 2895 | 0 | 562 | 258 |
| HCM Platoon Ratio | 1.00 | 1.00 | 2.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.00 | 1.00 | 0.81 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 0.0 | 2.6 | 0.0 | 0.0 | 47.4 | 45.9 |
| Incr Delay (d2), s/veh | 0.0 | 0.3 | 0.5 | 0.0 | 1.0 | 0.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 1.9 | 0.2 | 0.0 | 1.8 | 0.4 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 2.9 | 0.5 | 0.0 | 48.4 | 46.2 |
| LnGrp LOS | A | A | A | A | D | D |
| Approach Vol, veh/h | | 952 | 1405 | | 152 | |
| Approach Delay, s/veh | | 2.9 | 0.5 | | 48.2 | |
| Approach LOS | | A | A | | D | |

| Timer - Assigned Phs | | 2 | | 4 | | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 95.0 | | 15.0 | | 95.0 |
| Change Period (Y+Rc), s | | 5.4 | | 5.1 | | 5.4 |
| Max Green Setting (Gmax), s | | 81.6 | | 17.9 | | 81.6 |
| Max Q Clear Time (g_c+I1), s | | 9.5 | | 6.2 | | 2.0 |
| Green Ext Time (p_c), s | | 8.9 | | 0.3 | | 15.4 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 4.3 |
| HCM 6th LOS | | A |

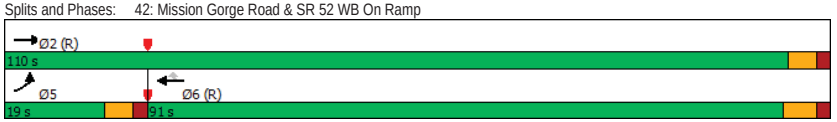




| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 59 | 892 | 1247 | 814 | 0 | 0 |
| Future Volume (vph) | 59 | 892 | 1247 | 814 | 0 | 0 |
| Confl. Peds. (#/hr) | | | | | | |
| Confl. Bikes (#/hr) | | | | 2 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | |
| Shared Lane Traffic (%) | | | | 23% | | |
| Turn Type | Prot | NA | NA | Perm | | |
| Protected Phases | 5 | 2 | 6 | | | |
| Permitted Phases | | | | 6 | | |
| Detector Phase | 5 | 2 | 6 | 6 | | |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 10.0 | 10.0 | | |
| Minimum Split (s) | 10.7 | 21.0 | 22.4 | 22.4 | | |
| Total Split (s) | 19.0 | 110.0 | 91.0 | 91.0 | | |
| Total Split (%) | 17.3% | 100.0% | 82.7% | 82.7% | | |
| Yellow Time (s) | 3.7 | 3.7 | 4.4 | 4.4 | | |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | | |
| Total Lost Time (s) | 5.7 | 5.7 | 6.4 | 6.4 | | |
| Lead/Lag | Lead | | Lag | Lag | | |
| Lead-Lag Optimize? | Yes | | Yes | Yes | | |
| Recall Mode | None | C-Min | C-Min | C-Min | | |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 110 |
| Offset: 32 (29%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 50 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 42: Mission Gorge Road & SR 52 WB On Ramp



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 59 | 892 | 1247 | 814 | 0 | 0 |
| Future Volume (veh/h) | 59 | 892 | 1247 | 814 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 0.98 | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Work Zone On Approach | | No | No | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | | |
| Adj Flow Rate, veh/h | 64 | 970 | 1563 | 747 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | | |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | | |
| Cap, veh/h | 82 | 3347 | 3156 | 1310 | | |
| Arrive On Green | 0.09 | 1.00 | 1.00 | 1.00 | | |
| Sat Flow, veh/h | 1781 | 3647 | 3741 | 1552 | | |
| Grp Volume(v), veh/h | 64 | 970 | 1563 | 747 | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1870 | 1552 | | |
| Q Serve(g_s), s | 3.9 | 0.0 | 0.0 | 0.0 | | |
| Cycle Q Clear(g_c), s | 3.9 | 0.0 | 0.0 | 0.0 | | |
| Prop In Lane | 1.00 | | | 1.00 | | |
| Lane Grp Cap(c), veh/h | 82 | 3347 | 3156 | 1310 | | |
| V/C Ratio(X) | 0.78 | 0.29 | 0.50 | 0.57 | | |
| Avail Cap(c_a), veh/h | 215 | 3370 | 3156 | 1310 | | |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 2.00 | | |
| Upstream Filter(I) | 0.95 | 0.95 | 0.80 | 0.80 | | |
| Uniform Delay (d), s/veh | 49.4 | 0.0 | 0.0 | 0.0 | | |
| Incr Delay (d2), s/veh | 13.8 | 0.2 | 0.4 | 1.4 | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | | |
| %ile BackOfQ(50%),veh/ln | 1.9 | 0.1 | 0.2 | 0.5 | | |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 63.1 | 0.2 | 0.4 | 1.4 | | |
| LnGrp LOS | E | A | A | A | | |
| Approach Vol, veh/h | | 1034 | 2310 | | | |
| Approach Delay, s/veh | | 4.1 | 0.8 | | | |
| Approach LOS | | A | A | | | |

| Timer - Assigned Phs | 2 | | | 5 | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 110.0 | | | 10.8 | 99.2 |
| Change Period (Y+Rc), s | * 6.4 | | | * 5.7 | 6.4 |
| Max Green Setting (Gmax), s | * 1E2 | | | * 13 | 84.6 |
| Max Q Clear Time (g_c+I1), s | 2.0 | | | 5.9 | 2.0 |
| Green Ext Time (p_c), s | 2.3 | | | 0.1 | 30.5 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 1.8 |
| HCM 6th LOS | A |

**Notes**

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

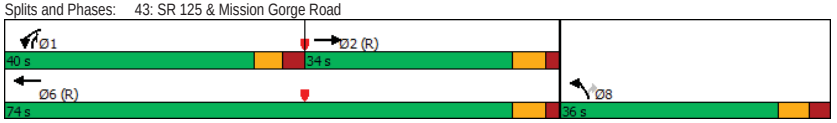




| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 658 | 247 | 1050 | 1206 | 672 | 927 |
| Future Volume (vph) | 658 | 247 | 1050 | 1206 | 672 | 927 |
| Confl. Peds. (#/hr) | | 11 | | | | |
| Confl. Bikes (#/hr) | | 3 | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | NA | | Prot | NA | Prot | pm+ov |
| Protected Phases | 2 | | 1 | 6 | 8 | 1 |
| Permitted Phases | | | | | | 8 |
| Detector Phase | 2 | | 1 | 6 | 8 | 1 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 11.0 | | 5.0 | 10.0 | 5.0 | 5.0 |
| Minimum Split (s) | 17.4 | | 11.7 | 20.0 | 20.0 | 11.7 |
| Total Split (s) | 34.0 | | 40.0 | 74.0 | 36.0 | 40.0 |
| Total Split (%) | 30.9% | | 36.4% | 67.3% | 32.7% | 36.4% |
| Yellow Time (s) | 4.4 | | 3.7 | 4.4 | 4.1 | 3.7 |
| All-Red Time (s) | 2.0 | | 3.0 | 2.0 | 3.0 | 3.0 |
| Lost Time Adjust (s) | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.4 | | 6.7 | 6.4 | 7.1 | 6.7 |
| Lead/Lag | Lag | | Lead | | | Lead |
| Lead-Lag Optimize? | Yes | | Yes | | | Yes |
| Recall Mode | C-Max | | None | C-Max | None | None |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 110 |
| Offset: 29 (26%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 90 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 43: SR 125 & Mission Gorge Road



| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 658 | 247 | 1050 | 1206 | 672 | 927 |
| Future Volume (veh/h) | 658 | 247 | 1050 | 1206 | 672 | 927 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | 0.95 | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 715 | 268 | 1141 | 1311 | 730 | 1008 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 909 | 335 | 1046 | 3138 | 908 | 1577 |
| Arrive On Green | 0.50 | 0.50 | 0.10 | 0.20 | 0.26 | 0.26 |
| Sat Flow, veh/h | 3792 | 1335 | 3456 | 5274 | 3456 | 2790 |
| Grp Volume(v), veh/h | 671 | 312 | 1141 | 1311 | 730 | 1008 |
| Grp Sat Flow(s),veh/h/ln | 1702 | 1554 | 1728 | 1702 | 1728 | 1395 |
| Q Serve(g_s), s | 17.8 | 18.4 | 33.3 | 24.6 | 21.7 | 27.0 |
| Cycle Q Clear(g_c), s | 17.8 | 18.4 | 33.3 | 24.6 | 21.7 | 27.0 |
| Prop In Lane | | 0.86 | 1.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 854 | 390 | 1046 | 3138 | 908 | 1577 |
| V/C Ratio(X) | 0.79 | 0.80 | 1.09 | 0.42 | 0.80 | 0.64 |
| Avail Cap(c_a), veh/h | 854 | 390 | 1046 | 3138 | 908 | 1577 |
| HCM Platoon Ratio | 2.00 | 2.00 | 0.33 | 0.33 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.97 | 0.97 | 0.74 | 0.74 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 25.0 | 25.1 | 49.5 | 26.7 | 37.9 | 16.3 |
| Incr Delay (d2), s/veh | 7.0 | 15.3 | 52.7 | 0.3 | 5.3 | 0.9 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 5.8 | 6.3 | 23.0 | 11.2 | 9.8 | 8.4 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 32.0 | 40.4 | 102.2 | 27.0 | 43.2 | 17.1 |
| LnGrp LOS | C | D | F | C | D | B |
| Approach Vol, veh/h | 983 | | | 2452 | 1738 | |
| Approach Delay, s/veh | 34.6 | | | 62.0 | 28.1 | |
| Approach LOS | C | | | E | C | |

| Timer - Assigned Phs | 1 | 2 | | | | 6 | 8 |
|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 40.0 | 34.0 | | | | 74.0 | 36.0 |
| Change Period (Y+Rc), s | * 6.7 | 6.4 | | | | 6.4 | 7.1 |
| Max Green Setting (Gmax), s | * 33 | 27.6 | | | | 67.6 | 28.9 |
| Max Q Clear Time (g_c+I1), s | 35.3 | 20.4 | | | | 26.6 | 29.0 |
| Green Ext Time (p_c), s | 0.0 | 3.5 | | | | 11.8 | 0.0 |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 45.4 | |
| HCM 6th LOS | | D | |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

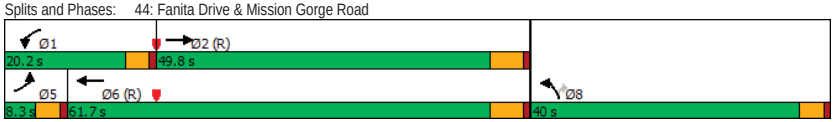




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 7 | 1115 | 394 | 321 | 1587 | 0 | 723 | 0 | 323 | 0 | 0 | 0 |
| Future Volume (vph) | 7 | 1115 | 394 | 321 | 1587 | 0 | 723 | 0 | 323 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | | | 4 | | | | | | | | | |
| Confl. Bikes (#/hr) | | | 2 | | | | | | 2 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | | Perm | | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | | | | | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | | 8 | | | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 7.0 | | 7.0 | | | |
| Minimum Split (s) | 8.2 | 33.3 | | 8.2 | 20.0 | | 34.2 | | 34.2 | | | |
| Total Split (s) | 8.3 | 49.8 | | 20.2 | 61.7 | | 40.0 | | 40.0 | | | |
| Total Split (%) | 7.5% | 45.3% | | 18.4% | 56.1% | | 36.4% | | 36.4% | | | |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | | 3.2 | | 3.2 | | | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | | 1.0 | | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | | 0.0 | | | |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | | 4.2 | | 4.2 | | | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | | None | | | |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 110 |
| Offset: 52 (47%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 80 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 44: Fanita Drive & Mission Gorge Road



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 7 | 1115 | 394 | 321 | 1587 | 0 | 723 | 0 | 323 | 0 | 0 | 0 |
| Future Volume (veh/h) | 7 | 1115 | 394 | 321 | 1587 | 0 | 723 | 0 | 323 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 1.00 | 1.00 | | 1.00 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 0 | 1870 | 0 | 1870 | | | |
| Adj Flow Rate, veh/h | 8 | 1212 | 428 | 349 | 1725 | 0 | 786 | 0 | 351 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 0 | 2 | 0 | 2 | | | |
| Cap, veh/h | 14 | 1794 | 632 | 416 | 3053 | 0 | 932 | 0 | 427 | | | |
| Arrive On Green | 0.00 | 0.16 | 0.16 | 0.04 | 0.20 | 0.00 | 0.27 | 0.00 | 0.27 | | | |
| Sat Flow, veh/h | 1781 | 3697 | 1303 | 3456 | 5274 | 0 | 3456 | 0 | 1585 | | | |
| Grp Volume(v), veh/h | 8 | 1116 | 524 | 349 | 1725 | 0 | 786 | 0 | 351 | | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1702 | 1596 | 1728 | 1702 | 0 | 1728 | 0 | 1585 | | | |
| Q Serve(g_s), s | 0.5 | 34.0 | 34.0 | 11.0 | 33.6 | 0.0 | 23.7 | 0.0 | 22.8 | | | |
| Cycle Q Clear(g_c), s | 0.5 | 34.0 | 34.0 | 11.0 | 33.6 | 0.0 | 23.7 | 0.0 | 22.8 | | | |
| Prop In Lane | 1.00 | | 0.82 | 1.00 | | 0.00 | 1.00 | | 1.00 | | | |
| Lane Grp Cap(c), veh/h | 14 | 1652 | 774 | 416 | 3053 | 0 | 932 | 0 | 427 | | | |
| V/C Ratio(X) | 0.57 | 0.68 | 0.68 | 0.84 | 0.57 | 0.00 | 0.84 | 0.00 | 0.82 | | | |
| Avail Cap(c_a), veh/h | 66 | 1652 | 774 | 503 | 3053 | 0 | 1125 | 0 | 516 | | | |
| HCM Platoon Ratio | 0.33 | 0.33 | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 0.69 | 0.69 | 0.69 | 0.56 | 0.56 | 0.00 | 1.00 | 0.00 | 1.00 | | | |
| Uniform Delay (d), s/veh | 54.7 | 38.0 | 38.1 | 51.7 | 31.2 | 0.0 | 38.0 | 0.0 | 37.7 | | | |
| Incr Delay (d2), s/veh | 22.6 | 1.5 | 3.3 | 5.1 | 0.4 | 0.0 | 5.4 | 0.0 | 9.2 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ln | 0.3 | 15.7 | 15.2 | 5.3 | 15.3 | 0.0 | 10.4 | 0.0 | 9.6 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 77.3 | 39.6 | 41.4 | 56.9 | 31.7 | 0.0 | 43.3 | 0.0 | 46.8 | | | |
| LnGrp LOS | E | D | D | E | C | A | D | A | D | | | |
| Approach Vol, veh/h | | 1648 | | | 2074 | | | 1137 | | | | |
| Approach Delay, s/veh | | 40.3 | | | 35.9 | | | 44.4 | | | | |
| Approach LOS | | D | | | D | | | D | | | | |

| Timer - Assigned Phs | 1 | 2 | | | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 17.5 | 58.7 | | | 5.1 | 71.1 | | 33.9 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | | | * 4.2 | 5.3 | | 4.2 | | | | |
| Max Green Setting (Gmax), s | * 16 | 44.5 | | | * 4.1 | 56.4 | | 35.8 | | | | |
| Max Q Clear Time (g_c+I1), s | 13.0 | 36.0 | | | 2.5 | 35.6 | | 25.7 | | | | |
| Green Ext Time (p_c), s | 0.2 | 6.5 | | | 0.0 | 13.8 | | 4.0 | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 39.4 | |
| HCM 6th LOS | | D | |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

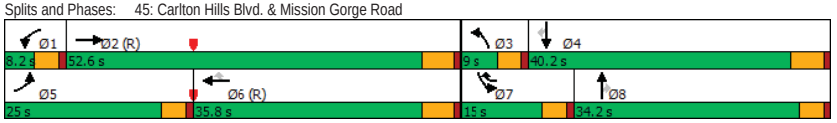




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 743 | 702 | 22 | 13 | 787 | 405 | 38 | 38 | 8 | 385 | 16 | 1072 |
| Future Volume (vph) | 743 | 702 | 22 | 13 | 787 | 405 | 38 | 38 | 8 | 385 | 16 | 1072 |
| Confl. Peds. (#/hr) | | | 13 | | | 3 | | | 5 | | | 5 |
| Confl. Bikes (#/hr) | | | 2 | | | 2 | | | 3 | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | 49% |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | 6 | | | 8 | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | 8 | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 23.3 | | 8.2 | 34.3 | 8.2 | 8.2 | 34.2 | 34.2 | 8.2 | 32.4 | 32.4 |
| Total Split (s) | 25.0 | 52.6 | | 8.2 | 35.8 | 15.0 | 9.0 | 34.2 | 34.2 | 15.0 | 40.2 | 40.2 |
| Total Split (%) | 22.7% | 47.8% | | 7.5% | 32.5% | 13.6% | 8.2% | 31.1% | 31.1% | 13.6% | 36.5% | 36.5% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | 3.2 | 3.2 | 3.2 | 3.2 | 3.2 | 4.4 | 4.4 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | 4.2 | 4.2 | 4.2 | 4.2 | 4.2 | 5.4 | 5.4 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | C-Min | | None | C-Min | None | None | None | None | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 110 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 115 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 45: Carlton Hills Blvd. & Mission Gorge Road



Existing + Proj AM (No School) — Fanita Ranch
45: Carlton Hills Blvd. & Mission Gorge Road — 06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 743 | 702 | 22 | 13 | 787 | 405 | 38 | 38 | 8 | 385 | 16 | 1072 |
| Future Volume (veh/h) | 743 | 702 | 22 | 13 | 787 | 405 | 38 | 38 | 8 | 385 | 16 | 1072 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.96 | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 808 | 763 | 24 | 14 | 855 | 440 | 41 | 41 | 9 | 418 | 0 | 1062 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 653 | 2377 | 75 | 23 | 1489 | 610 | 52 | 463 | 384 | 350 | 0 | 983 |
| Arrive On Green | 0.06 | 0.15 | 0.15 | 0.00 | 0.10 | 0.10 | 0.03 | 0.25 | 0.25 | 0.10 | 0.00 | 0.32 |
| Sat Flow, veh/h | 3456 | 5080 | 159 | 1781 | 5106 | 1559 | 1781 | 1870 | 1552 | 3563 | 0 | 3108 |
| Grp Volume(v), veh/h | 808 | 511 | 276 | 14 | 855 | 440 | 41 | 41 | 9 | 418 | 0 | 1062 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1702 | 1835 | 1781 | 1702 | 1559 | 1781 | 1870 | 1552 | 1781 | 0 | 1554 |
| Q Serve(g_s), s | 20.8 | 14.7 | 14.7 | 0.9 | 17.6 | 26.7 | 2.5 | 1.9 | 0.5 | 10.8 | 0.0 | 34.8 |
| Cycle Q Clear(g_c), s | 20.8 | 14.7 | 14.7 | 0.9 | 17.6 | 26.7 | 2.5 | 1.9 | 0.5 | 10.8 | 0.0 | 34.8 |
| Prop In Lane | 1.00 | | 0.09 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 653 | 1593 | 859 | 23 | 1489 | 610 | 52 | 463 | 384 | 350 | 0 | 983 |
| V/C Ratio(X) | 1.24 | 0.32 | 0.32 | 0.62 | 0.57 | 0.72 | 0.78 | 0.09 | 0.02 | 1.20 | 0.00 | 1.08 |
| Avail Cap(c_a), veh/h | 653 | 1593 | 859 | 65 | 1489 | 610 | 78 | 510 | 423 | 350 | 0 | 983 |
| HCM Platoon Ratio | 0.33 | 0.33 | 0.33 | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.65 | 0.65 | 0.65 | 0.90 | 0.90 | 0.90 | 1.00 | 1.00 | 1.00 | 0.37 | 0.00 | 0.37 |
| Uniform Delay (d), s/veh | 51.6 | 30.9 | 31.0 | 54.5 | 43.2 | 36.5 | 53.0 | 31.8 | 31.3 | 49.6 | 0.0 | 37.6 |
| Incr Delay (d2), s/veh | 115.1 | 0.3 | 0.6 | 9.0 | 1.5 | 6.5 | 25.7 | 0.0 | 0.0 | 98.2 | 0.0 | 43.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 20.0 | 6.7 | 7.4 | 0.4 | 8.2 | 12.2 | 1.5 | 0.8 | 0.2 | 9.5 | 0.0 | 18.9 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 166.7 | 31.3 | 31.6 | 63.5 | 44.6 | 43.0 | 78.8 | 31.9 | 31.3 | 147.8 | 0.0 | 81.1 |
| LnGrp LOS | F | C | C | E | D | D | E | C | C | F | A | F |
| Approach Vol, veh/h | | 1595 | | | 1309 | | | 91 | | | 1480 | |
| Approach Delay, s/veh | | 99.9 | | | 44.3 | | | 52.9 | | | 100.0 | |
| Approach LOS | | F | | | D | | | D | | | F | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.6 | 56.8 | 7.4 | 40.2 | 25.0 | 37.4 | 15.0 | 32.6 |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | * 4.2 | 5.4 | * 4.2 | 5.3 | * 4.2 | * 5.4 |
| Max Green Setting (Gmax), s | * 4 | 47.3 | * 4.8 | 34.8 | * 21 | 30.5 | * 11 | * 30 |
| Max Q Clear Time (g_c+I1), s | 2.9 | 16.7 | 4.5 | 36.8 | 22.8 | 28.7 | 12.8 | 3.9 |
| Green Ext Time (p_c), s | 0.0 | 5.9 | 0.0 | 0.0 | 0.0 | 1.6 | 0.0 | 0.1 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 82.7 |
| HCM 6th LOS | F |

Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

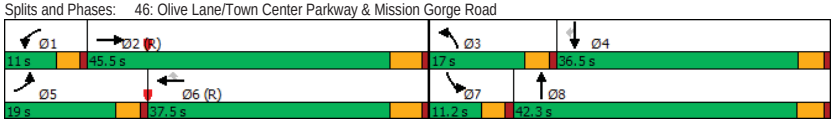


Existing + Proj AM (No School) — Fanita Ranch
46: Olive Lane/Town Center Parkway & Mission Gorge Road — 06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 252 | 573 | 125 | 37 | 822 | 89 | 203 | 118 | 33 | 90 | 84 | 285 |
| Future Volume (vph) | 252 | 573 | 125 | 37 | 822 | 89 | 203 | 118 | 33 | 90 | 84 | 285 |
| Confl. Peds. (#/hr) | | | 5 | | | 8 | | | 11 | | | 3 |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | Perm | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | 10.0 | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 26.3 | | 8.2 | 36.3 | 36.3 | 8.2 | 34.6 | | 8.2 | 36.5 | 36.5 |
| Total Split (s) | 19.0 | 45.5 | | 11.0 | 37.5 | 37.5 | 17.0 | 42.3 | | 11.2 | 36.5 | 36.5 |
| Total Split (%) | 17.3% | 41.4% | | 10.0% | 34.1% | 34.1% | 15.5% | 38.5% | | 10.2% | 33.2% | 33.2% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | 4.3 | 3.2 | 3.6 | | 3.2 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | 5.3 | 4.2 | 4.6 | | 4.2 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | C-Min | | None | C-Min | C-Min | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 110 |
| Offset: 40 (36%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 90 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 46: Olive Lane/Town Center Parkway & Mission Gorge Road



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 252 | 573 | 125 | 37 | 822 | 89 | 203 | 118 | 33 | 90 | 84 | 285 |
| Future Volume (veh/h) | 252 | 573 | 125 | 37 | 822 | 89 | 203 | 118 | 33 | 90 | 84 | 285 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.99 | 1.00 | | 0.97 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 274 | 623 | 136 | 40 | 893 | 97 | 221 | 128 | 36 | 98 | 91 | 310 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 333 | 2294 | 492 | 51 | 2441 | 754 | 284 | 300 | 84 | 152 | 331 | 492 |
| Arrive On Green | 0.19 | 1.00 | 1.00 | 0.03 | 0.48 | 0.48 | 0.08 | 0.22 | 0.22 | 0.04 | 0.18 | 0.18 |
| Sat Flow, veh/h | 3456 | 4205 | 903 | 1781 | 5106 | 1577 | 3456 | 1394 | 392 | 3456 | 1870 | 2776 |
| Grp Volume(v), veh/h | 274 | 502 | 257 | 40 | 893 | 97 | 221 | 0 | 164 | 98 | 91 | 310 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1702 | 1703 | 1781 | 1702 | 1577 | 1728 | 0 | 1786 | 1728 | 1870 | 1388 |
| Q Serve(g_s), s | 8.4 | 0.0 | 0.0 | 2.5 | 12.2 | 3.8 | 6.9 | 0.0 | 8.7 | 3.1 | 4.6 | 11.4 |
| Cycle Q Clear(g_c), s | 8.4 | 0.0 | 0.0 | 2.5 | 12.2 | 3.8 | 6.9 | 0.0 | 8.7 | 3.1 | 4.6 | 11.4 |
| Prop In Lane | 1.00 | | 0.53 | 1.00 | | 1.00 | 1.00 | | 0.22 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 333 | 1857 | 929 | 51 | 2441 | 754 | 284 | 0 | 385 | 152 | 331 | 492 |
| V/C Ratio(X) | 0.82 | 0.27 | 0.28 | 0.79 | 0.37 | 0.13 | 0.78 | 0.00 | 0.43 | 0.64 | 0.27 | 0.63 |
| Avail Cap(c_a), veh/h | 465 | 1857 | 929 | 110 | 2441 | 754 | 402 | 0 | 612 | 220 | 544 | 807 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.91 | 0.91 | 0.91 | 0.73 | 0.73 | 0.73 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 43.5 | 0.0 | 0.0 | 53.1 | 18.2 | 16.0 | 49.5 | 0.0 | 37.3 | 51.7 | 39.1 | 41.9 |
| Incr Delay (d2), s/veh | 5.3 | 0.3 | 0.7 | 7.1 | 0.3 | 0.3 | 3.7 | 0.0 | 1.1 | 1.7 | 0.8 | 2.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 3.4 | 0.1 | 0.2 | 1.2 | 4.6 | 1.4 | 3.1 | 0.0 | 3.9 | 1.4 | 2.2 | 4.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 48.8 | 0.3 | 0.7 | 60.1 | 18.5 | 16.2 | 53.2 | 0.0 | 38.3 | 53.4 | 40.0 | 44.4 |
| LnGrp LOS | D | A | A | E | B | B | D | A | D | D | D | D |
| Approach Vol, veh/h | | 1033 | | | 1030 | | | 385 | | | 499 | |
| Approach Delay, s/veh | | 13.3 | | | 19.9 | | | 46.9 | | | 45.4 | |
| Approach LOS | | B | | | B | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.3 | 65.3 | 13.2 | 24.1 | 14.8 | 57.9 | 9.0 | 28.3 |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | * 4.2 | * 4.6 | * 4.2 | 5.3 | * 4.2 | 4.6 |
| Max Green Setting (Gmax), s | * 6.8 | 40.2 | * 13 | * 32 | * 15 | 32.2 | * 7 | 37.7 |
| Max Q Clear Time (g_c+I1), s | 4.5 | 2.0 | 8.9 | 13.4 | 10.4 | 14.2 | 5.1 | 10.7 |
| Green Ext Time (p_c), s | 0.0 | 6.3 | 0.2 | 3.1 | 0.2 | 8.3 | 0.0 | 1.3 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 25.4 |
| HCM 6th LOS | C |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

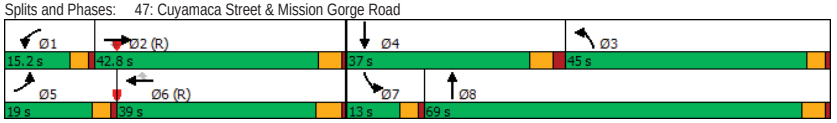




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 159 | 385 | 278 | 148 | 501 | 133 | 668 | 543 | 114 | 114 | 576 | 166 |
| Future Volume (vph) | 159 | 385 | 278 | 148 | 501 | 133 | 668 | 543 | 114 | 114 | 576 | 166 |
| Confl. Peds. (#/hr) | | | 11 | | | 14 | | | 19 | | | 16 |
| Confl. Bikes (#/hr) | | | 4 | | | | | | | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | 10.0 | 4.0 | 7.0 | | 4.0 | 15.0 | |
| Minimum Split (s) | 19.0 | 34.8 | 34.8 | 8.2 | 34.3 | 34.3 | 8.2 | 38.0 | | 8.2 | 37.0 | |
| Total Split (s) | 19.0 | 42.8 | 42.8 | 15.2 | 39.0 | 39.0 | 45.0 | 69.0 | | 13.0 | 37.0 | |
| Total Split (%) | 13.6% | 30.6% | 30.6% | 10.9% | 27.9% | 27.9% | 32.1% | 49.3% | | 9.3% | 26.4% | |
| Yellow Time (s) | 3.2 | 3.8 | 3.8 | 3.2 | 4.3 | 4.3 | 3.2 | 4.0 | | 3.2 | 4.0 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 2.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.2 | 4.8 | 4.8 | 4.2 | 5.3 | 5.3 | 4.2 | 5.0 | | 4.2 | 6.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lag | Lag | | Lead | Lead | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | C-Min | C-Min | None | C-Min | C-Min | None | None | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 140 |
| Actuated Cycle Length: 140 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green, Master Intersection |
| Natural Cycle: 120 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 47: Cuyamaca Street & Mission Gorge Road



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 159 | 385 | 278 | 148 | 501 | 133 | 668 | 543 | 114 | 114 | 576 | 166 |
| Future Volume (veh/h) | 159 | 385 | 278 | 148 | 501 | 133 | 668 | 543 | 114 | 114 | 576 | 166 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 0.96 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1683 | 1683 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 173 | 418 | 302 | 161 | 545 | 145 | 726 | 590 | 124 | 124 | 626 | 180 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 223 | 1803 | 546 | 209 | 1782 | 547 | 789 | 1058 | 222 | 171 | 831 | 233 |
| Arrive On Green | 0.06 | 0.35 | 0.35 | 0.06 | 0.35 | 0.35 | 0.23 | 0.40 | 0.40 | 0.05 | 0.21 | 0.21 |
| Sat Flow, veh/h | 3456 | 5106 | 1548 | 3456 | 5106 | 1566 | 3456 | 2624 | 550 | 3456 | 3923 | 1102 |
| Grp Volume(v), veh/h | 173 | 418 | 302 | 161 | 545 | 145 | 726 | 359 | 355 | 124 | 541 | 265 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1702 | 1548 | 1728 | 1702 | 1566 | 1728 | 1599 | 1575 | 1728 | 1702 | 1620 |
| Q Serve(g_s), s | 6.9 | 8.1 | 11.7 | 6.4 | 10.9 | 9.3 | 28.7 | 24.2 | 24.3 | 5.0 | 20.9 | 21.5 |
| Cycle Q Clear(g_c), s | 6.9 | 8.1 | 11.7 | 6.4 | 10.9 | 9.3 | 28.7 | 24.2 | 24.3 | 5.0 | 20.9 | 21.5 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.35 | 1.00 | | 0.68 |
| Lane Grp Cap(c), veh/h | 223 | 1803 | 546 | 209 | 1782 | 547 | 789 | 645 | 635 | 171 | 721 | 343 |
| V/C Ratio(X) | 0.78 | 0.23 | 0.55 | 0.77 | 0.31 | 0.27 | 0.92 | 0.56 | 0.56 | 0.73 | 0.75 | 0.77 |
| Avail Cap(c_a), veh/h | 365 | 1803 | 546 | 272 | 1782 | 547 | 1007 | 731 | 720 | 217 | 754 | 359 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.83 | 0.83 | 0.83 | 0.97 | 0.97 | 0.97 |
| Uniform Delay (d), s/veh | 64.5 | 31.9 | 10.4 | 64.8 | 33.2 | 32.7 | 52.8 | 32.1 | 32.2 | 65.6 | 51.7 | 52.0 |
| Incr Delay (d2), s/veh | 2.1 | 0.3 | 3.9 | 6.6 | 0.4 | 1.1 | 8.6 | 1.0 | 1.0 | 5.4 | 5.5 | 12.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 3.1 | 3.4 | 4.5 | 3.0 | 4.5 | 3.7 | 13.3 | 9.5 | 9.4 | 2.3 | 9.4 | 9.9 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 66.6 | 32.2 | 14.2 | 71.4 | 33.6 | 33.8 | 61.4 | 33.1 | 33.2 | 71.0 | 57.2 | 64.3 |
| LnGrp LOS | E | C | B | E | C | C | E | C | C | E | E | E |
| Approach Vol, veh/h | | 893 | | | 851 | | | 1440 | | | 930 | |
| Approach Delay, s/veh | | 32.8 | | | 40.8 | | | 47.4 | | | 61.1 | |
| Approach LOS | | C | | | D | | | D | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 12.7 | 54.7 | 36.9 | 35.7 | 13.2 | 54.2 | 11.1 | 61.5 |
| Change Period (Y+Rc), s | * 4.2 | * 5.3 | 5.0 | * 6 | * 4.2 | 5.3 | * 4.2 | 5.0 |
| Max Green Setting (Gmax), s | * 11 | * 38 | 40.8 | * 31 | * 15 | 33.7 | * 8.8 | 64.0 |
| Max Q Clear Time (g_c+I1), s | 8.4 | 13.7 | 30.7 | 23.5 | 8.9 | 12.9 | 7.0 | 26.3 |
| Green Ext Time (p_c), s | 0.1 | 9.3 | 1.2 | 4.8 | 0.1 | 6.3 | 0.0 | 7.8 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 46.0 |
| HCM 6th LOS | D |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

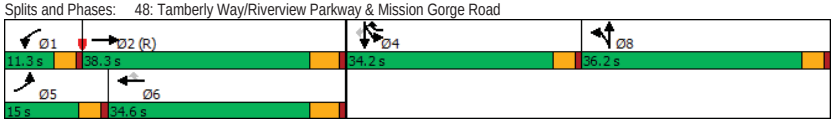




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 128 | 410 | 10 | 39 | 706 | 220 | 35 | 8 | 17 | 85 | 19 | 38 |
| Future Volume (vph) | 128 | 410 | 10 | 39 | 706 | 220 | 35 | 8 | 17 | 85 | 19 | 38 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | 1 | | | 3 | | | | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | 39% | | |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Split | NA | | Split | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 4 | 8 | 8 | | 4 | 4 | |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 4 | 8 | 8 | | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | 7.0 | 4.0 | 4.0 | | 7.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 23.3 | | 8.2 | 34.3 | 34.2 | 36.2 | 36.2 | | 34.2 | 34.2 | 34.2 |
| Total Split (s) | 15.0 | 38.3 | | 11.3 | 34.6 | 34.2 | 36.2 | 36.2 | | 34.2 | 34.2 | 34.2 |
| Total Split (%) | 12.5% | 31.9% | | 9.4% | 28.8% | 28.5% | 30.2% | 30.2% | | 28.5% | 28.5% | 28.5% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | 3.2 | 3.2 | 3.2 | | 3.2 | 3.2 | 3.2 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | 4.2 | 4.2 | 4.2 | | 4.2 | 4.2 | 4.2 |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | Min | None | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 0 (0%), Referenced to phase 2:EBT, Start of Green |
| Natural Cycle: 115 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 48: Tamberly Way/Riverview Parkway & Mission Gorge Road



Existing + Proj AM (No School) — Fanita Ranch
48: Tamberly Way/Riverview Parkway & Mission Gorge Road — 06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 128 | 410 | 10 | 39 | 706 | 220 | 35 | 8 | 17 | 85 | 19 | 38 |
| Future Volume (veh/h) | 128 | 410 | 10 | 39 | 706 | 220 | 35 | 8 | 17 | 85 | 19 | 38 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.99 | 1.00 | | 1.00 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 139 | 446 | 11 | 42 | 767 | 239 | 38 | 9 | 18 | 107 | 0 | 41 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 160 | 3732 | 92 | 54 | 3414 | 1138 | 61 | 19 | 38 | 206 | 0 | 90 |
| Arrive On Green | 0.09 | 0.73 | 0.73 | 0.03 | 0.67 | 0.67 | 0.03 | 0.03 | 0.03 | 0.06 | 0.00 | 0.06 |
| Sat Flow, veh/h | 1781 | 5123 | 126 | 1781 | 5106 | 1564 | 1781 | 557 | 1113 | 3563 | 0 | 1560 |
| Grp Volume(v), veh/h | 139 | 296 | 161 | 42 | 767 | 239 | 38 | 0 | 27 | 107 | 0 | 41 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1702 | 1845 | 1781 | 1702 | 1564 | 1781 | 0 | 1670 | 1781 | 0 | 1560 |
| Q Serve(g_s), s | 9.2 | 3.1 | 3.1 | 2.8 | 7.0 | 5.9 | 2.5 | 0.0 | 1.9 | 3.5 | 0.0 | 3.1 |
| Cycle Q Clear(g_c), s | 9.2 | 3.1 | 3.1 | 2.8 | 7.0 | 5.9 | 2.5 | 0.0 | 1.9 | 3.5 | 0.0 | 3.1 |
| Prop In Lane | 1.00 | | 0.07 | 1.00 | | 1.00 | 1.00 | | 0.67 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 160 | 2480 | 1344 | 54 | 3414 | 1138 | 61 | 0 | 57 | 206 | 0 | 90 |
| V/C Ratio(X) | 0.87 | 0.12 | 0.12 | 0.78 | 0.22 | 0.21 | 0.62 | 0.00 | 0.47 | 0.52 | 0.00 | 0.45 |
| Avail Cap(c_a), veh/h | 160 | 2480 | 1344 | 105 | 3414 | 1138 | 475 | 0 | 445 | 891 | 0 | 390 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.96 | 0.96 | 0.96 | 0.98 | 0.98 | 0.98 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 53.9 | 4.8 | 4.8 | 57.8 | 7.8 | 5.3 | 57.2 | 0.0 | 56.9 | 54.9 | 0.0 | 54.7 |
| Incr Delay (d2), s/veh | 33.9 | 0.1 | 0.2 | 8.6 | 0.1 | 0.2 | 3.8 | 0.0 | 2.2 | 0.8 | 0.0 | 1.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 5.6 | 1.0 | 1.1 | 1.4 | 2.3 | 2.2 | 1.2 | 0.0 | 0.8 | 1.6 | 0.0 | 1.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 87.8 | 4.9 | 5.0 | 66.4 | 7.8 | 5.4 | 61.0 | 0.0 | 59.1 | 55.7 | 0.0 | 56.0 |
| LnGrp LOS | F | A | A | E | A | A | E | A | E | E | A | E |
| Approach Vol, veh/h | | 596 | | | 1048 | | | 65 | | | 148 | |
| Approach Delay, s/veh | | 24.3 | | | 9.6 | | | 60.2 | | | 55.8 | |
| Approach LOS | | C | | | A | | | E | | | E | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.8 | 92.7 | | 11.1 | 15.0 | 85.5 | | 8.3 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | | * 4.2 | * 4.2 | 5.3 | | 4.2 | | | | |
| Max Green Setting (Gmax), s | * 7.1 | 33.0 | | * 30 | * 11 | 29.3 | | 32.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 4.8 | 5.1 | | 5.5 | 11.2 | 9.0 | | 4.5 | | | | |
| Green Ext Time (p_c), s | 0.0 | 5.0 | | 0.2 | 0.0 | 9.2 | | 0.1 | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | | 19.8 |
| HCM 6th LOS | | | B |

**Notes**

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

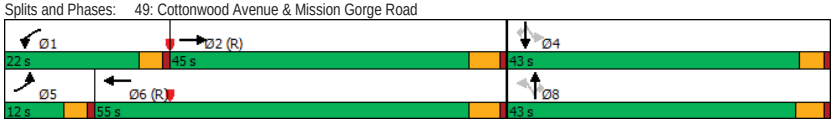


Existing + Proj AM (No School) — Fanita Ranch
49: Cottonwood Avenue & Mission Gorge Road — 06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 7 | 405 | 52 | 56 | 889 | 2 | 83 | 4 | 50 | 7 | 8 | 22 |
| Future Volume (vph) | 7 | 405 | 52 | 56 | 889 | 2 | 83 | 4 | 50 | 7 | 8 | 22 |
| Confl. Peds. (#/hr) | | | 6 | | | 19 | | | 1 | | | 4 |
| Confl. Bikes (#/hr) | | | 2 | | | 1 | | | | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Perm | NA | Perm | Perm | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | 8 | 4 | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | 8 | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 4.0 | 4.0 | 4.0 | 7.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 23.3 | | 8.2 | 24.3 | | 33.8 | 33.8 | 33.8 | 32.2 | 32.2 | 32.2 |
| Total Split (s) | 12.0 | 45.0 | | 22.0 | 55.0 | | 43.0 | 43.0 | 43.0 | 43.0 | 43.0 | 43.0 |
| Total Split (%) | 10.9% | 40.9% | | 20.0% | 50.0% | | 39.1% | 39.1% | 39.1% | 39.1% | 39.1% | 39.1% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | | 3.8 | 3.8 | 3.8 | 3.2 | 3.2 | 3.2 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | | | 4.8 | 4.8 | | 4.2 | 4.2 |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | None | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 110 |
| Offset: 21 (19%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 70 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 49: Cottonwood Avenue & Mission Gorge Road



Existing + Proj AM (No School) — Fanita Ranch
49: Cottonwood Avenue & Mission Gorge Road — 06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 7 | 405 | 52 | 56 | 889 | 2 | 83 | 4 | 50 | 7 | 8 | 22 |
| Future Volume (veh/h) | 7 | 405 | 52 | 56 | 889 | 2 | 83 | 4 | 50 | 7 | 8 | 22 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.96 | 1.00 | | 1.00 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 8 | 440 | 57 | 61 | 966 | 2 | 90 | 4 | 54 | 8 | 9 | 24 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 14 | 2164 | 274 | 78 | 2681 | 6 | 65 | 2 | 558 | 49 | 39 | 549 |
| Arrive On Green | 0.01 | 0.47 | 0.47 | 0.09 | 1.00 | 1.00 | 0.35 | 0.35 | 0.35 | 0.35 | 0.35 | 0.35 |
| Sat Flow, veh/h | 1781 | 4571 | 579 | 1781 | 5261 | 11 | 4 | 4 | 1584 | 1 | 110 | 1557 |
| Grp Volume(v), veh/h | 8 | 325 | 172 | 61 | 625 | 343 | 94 | 0 | 54 | 17 | 0 | 24 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1702 | 1747 | 1781 | 1702 | 1868 | 8 | 0 | 1584 | 111 | 0 | 1557 |
| Q Serve(g_s), s | 0.5 | 6.1 | 6.3 | 3.7 | 0.0 | 0.0 | 0.1 | 0.0 | 2.5 | 0.1 | 0.0 | 1.1 |
| Cycle Q Clear(g_c), s | 0.5 | 6.1 | 6.3 | 3.7 | 0.0 | 0.0 | 38.8 | 0.0 | 2.5 | 38.8 | 0.0 | 1.1 |
| Prop In Lane | 1.00 | | 0.33 | 1.00 | | 0.01 | 0.96 | | 1.00 | 0.47 | | 1.00 |
| Lane Grp Cap(c), veh/h | 14 | 1612 | 827 | 78 | 1735 | 952 | 67 | 0 | 558 | 87 | 0 | 549 |
| V/C Ratio(X) | 0.57 | 0.20 | 0.21 | 0.78 | 0.36 | 0.36 | 1.40 | 0.00 | 0.10 | 0.19 | 0.00 | 0.04 |
| Avail Cap(c_a), veh/h | 126 | 1612 | 827 | 288 | 1735 | 952 | 67 | 0 | 558 | 88 | 0 | 549 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.99 | 0.99 | 0.99 | 0.67 | 0.67 | 0.67 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 54.4 | 16.9 | 16.9 | 49.6 | 0.0 | 0.0 | 54.1 | 0.0 | 23.9 | 29.3 | 0.0 | 23.4 |
| Incr Delay (d2), s/veh | 12.6 | 0.3 | 0.6 | 4.2 | 0.4 | 0.7 | 249.9 | 0.0 | 0.0 | 0.4 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.3 | 2.4 | 2.6 | 1.6 | 0.1 | 0.2 | 6.5 | 0.0 | 1.0 | 0.3 | 0.0 | 0.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 67.0 | 17.1 | 17.5 | 53.8 | 0.4 | 0.7 | 304.0 | 0.0 | 23.9 | 29.7 | 0.0 | 23.4 |
| LnGrp LOS | E | B | B | D | A | A | F | A | C | C | A | C |
| Approach Vol, veh/h | | 505 | | | 1029 | | | 148 | | | 41 | |
| Approach Delay, s/veh | | 18.0 | | | 3.7 | | | 201.8 | | | 26.0 | |
| Approach LOS | | B | | | A | | | F | | | C | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 9.0 | 57.4 | | 43.6 | 5.1 | 61.3 | | 43.6 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | | * 4.8 | * 4.2 | 5.3 | | * 4.8 | | | | |
| Max Green Setting (Gmax), s | * 18 | 39.7 | | * 39 | * 7.8 | 49.7 | | * 38 | | | | |
| Max Q Clear Time (g_c+I1), s | 5.7 | 8.3 | | 40.8 | 2.5 | 2.0 | | 40.8 | | | | |
| Green Ext Time (p_c), s | 0.0 | 2.6 | | 0.0 | 0.0 | 11.4 | | 0.0 | | | | |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 25.4 |
| HCM 6th LOS | C |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

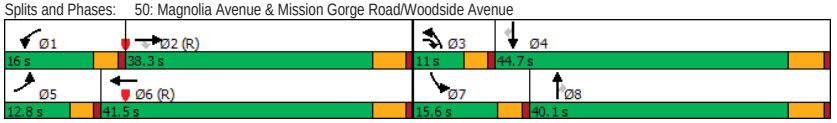


Existing + Proj AM (No School) — Fanita Ranch
50: Magnolia Avenue & Mission Gorge Road/Woodside Avenue — 06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 143 | 210 | 118 | 371 | 539 | 242 | 171 | 771 | 352 | 252 | 1121 | 270 |
| Future Volume (vph) | 143 | 210 | 118 | 371 | 539 | 242 | 171 | 771 | 352 | 252 | 1121 | 270 |
| Confl. Peds. (#/hr) | | | 6 | | | 11 | | | 19 | | | 6 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | | | | 8 | | | 4 |
| Detector Phase | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | 8 | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 4.0 | 4.0 | 10.0 | | 4.0 | 7.0 | 7.0 | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 38.3 | 8.2 | 8.2 | 35.3 | | 8.2 | 34.7 | 34.7 | 8.2 | 35.7 | 35.7 |
| Total Split (s) | 12.8 | 38.3 | 11.0 | 16.0 | 41.5 | | 11.0 | 40.1 | 40.1 | 15.6 | 44.7 | 44.7 |
| Total Split (%) | 11.6% | 34.8% | 10.0% | 14.5% | 37.7% | | 10.0% | 36.5% | 36.5% | 14.2% | 40.6% | 40.6% |
| Yellow Time (s) | 3.2 | 4.3 | 3.2 | 3.2 | 4.3 | | 3.2 | 4.7 | 4.7 | 3.2 | 4.7 | 4.7 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | 4.2 | 4.2 | 5.3 | | 4.2 | 5.7 | 5.7 | 4.2 | 5.7 | 5.7 |
| Lead/Lag | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | C-Min | None | None | C-Min | | None | None | None | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 110 |
| Offset: 24 (22%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 105 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 50: Magnolia Avenue & Mission Gorge Road/Woodside Avenue



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 143 | 210 | 118 | 371 | 539 | 242 | 171 | 771 | 352 | 252 | 1121 | 270 |
| Future Volume (veh/h) | 143 | 210 | 118 | 371 | 539 | 242 | 171 | 771 | 352 | 252 | 1121 | 270 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 155 | 228 | 128 | 403 | 586 | 237 | 186 | 838 | 345 | 274 | 1218 | 265 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 213 | 1066 | 571 | 371 | 851 | 344 | 214 | 1137 | 498 | 333 | 1260 | 559 |
| Arrive On Green | 0.10 | 0.50 | 0.50 | 0.11 | 0.35 | 0.35 | 0.12 | 0.64 | 0.64 | 0.10 | 0.35 | 0.35 |
| Sat Flow, veh/h | 3456 | 3554 | 1576 | 3456 | 2463 | 994 | 3456 | 3554 | 1557 | 3456 | 3554 | 1577 |
| Grp Volume(v), veh/h | 155 | 228 | 128 | 403 | 423 | 400 | 186 | 838 | 345 | 274 | 1218 | 265 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1576 | 1728 | 1777 | 1680 | 1728 | 1777 | 1557 | 1728 | 1777 | 1577 |
| Q Serve(g_s), s | 4.8 | 3.9 | 4.7 | 11.8 | 22.5 | 22.5 | 5.8 | 17.7 | 15.8 | 8.6 | 37.0 | 14.3 |
| Cycle Q Clear(g_c), s | 4.8 | 3.9 | 4.7 | 11.8 | 22.5 | 22.5 | 5.8 | 17.7 | 15.8 | 8.6 | 37.0 | 14.3 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.59 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 213 | 1066 | 571 | 371 | 614 | 581 | 214 | 1137 | 498 | 333 | 1260 | 559 |
| V/C Ratio(X) | 0.73 | 0.21 | 0.22 | 1.09 | 0.69 | 0.69 | 0.87 | 0.74 | 0.69 | 0.82 | 0.97 | 0.47 |
| Avail Cap(c_a), veh/h | 270 | 1066 | 571 | 371 | 614 | 581 | 214 | 1137 | 498 | 358 | 1260 | 559 |
| HCM Platoon Ratio | 1.67 | 1.67 | 1.67 | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.99 | 0.99 | 0.99 | 1.00 | 1.00 | 1.00 | 0.90 | 0.90 | 0.90 | 0.79 | 0.79 | 0.79 |
| Uniform Delay (d), s/veh | 48.5 | 20.2 | 17.0 | 49.1 | 30.9 | 30.9 | 47.8 | 16.7 | 16.3 | 48.8 | 34.9 | 27.5 |
| Incr Delay (d2), s/veh | 4.7 | 0.5 | 0.9 | 72.1 | 6.2 | 6.6 | 26.7 | 2.5 | 4.1 | 10.0 | 15.4 | 0.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.1 | 1.6 | 1.7 | 8.7 | 10.3 | 9.8 | 3.1 | 4.8 | 4.1 | 4.0 | 17.6 | 5.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 53.1 | 20.6 | 17.9 | 121.2 | 37.1 | 37.5 | 74.4 | 19.1 | 20.4 | 58.7 | 50.3 | 28.2 |
| LnGrp LOS | D | C | B | F | D | D | E | B | C | E | D | C |
| Approach Vol, veh/h | | 511 | | | 1226 | | | 1369 | | | 1757 | |
| Approach Delay, s/veh | | 29.8 | | | 64.9 | | | 27.0 | | | 48.2 | |
| Approach LOS | | C | | | E | | | C | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 16.0 | 38.3 | 11.0 | 44.7 | 11.0 | 43.3 | 14.8 | 40.9 |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | * 4.2 | 5.7 | * 4.2 | 5.3 | * 4.2 | 5.7 |
| Max Green Setting (Gmax), s | * 12 | 33.0 | * 6.8 | 39.0 | * 8.6 | 36.2 | * 11 | 34.4 |
| Max Q Clear Time (g_c+I1), s | 13.8 | 6.7 | 7.8 | 39.0 | 6.8 | 24.5 | 10.6 | 19.7 |
| Green Ext Time (p_c), s | 0.0 | 2.2 | 0.0 | 0.0 | 0.0 | 5.8 | 0.1 | 7.7 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 44.5 |
| HCM 6th LOS | | D |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 26.2 |
| Intersection LOS | D |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 6 | 132 | 332 | 9 | 0 | 294 | 0 | 0 | 9 | 532 | 36 |
| Future Vol, veh/h | 0 | 6 | 132 | 332 | 9 | 0 | 294 | 0 | 0 | 9 | 532 | 36 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 7 | 143 | 361 | 10 | 0 | 320 | 0 | 0 | 10 | 578 | 39 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 2 | 0 |

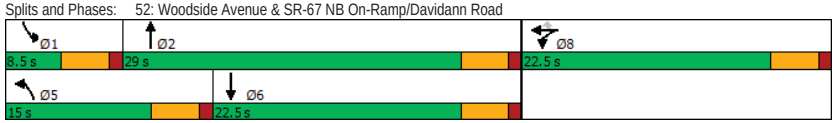
| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay | 14.3 | 31.1 | 31.7 | 23.3 |
| HCM LOS | B | D | D | C |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 97% | 3% | 0% |
| Vol Thru, % | 0% | 100% | 4% | 3% | 97% | 88% |
| Vol Right, % | 0% | 0% | 96% | 0% | 0% | 12% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 294 | 0 | 138 | 341 | 275 | 302 |
| LT Vol | 294 | 0 | 0 | 332 | 9 | 0 |
| Through Vol | 0 | 0 | 6 | 9 | 266 | 266 |
| RT Vol | 0 | 0 | 132 | 0 | 0 | 36 |
| Lane Flow Rate | 320 | 0 | 150 | 371 | 299 | 328 |
| Geometry Grp | 7 | 7 | 2 | 2 | 7 | 7 |
| Degree of Util (X) | 0.743 | 0 | 0.32 | 0.765 | 0.625 | 0.677 |
| Departure Headway (Hd) | 8.37 | 7.853 | 7.69 | 7.553 | 7.532 | 7.429 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 435 | 0 | 468 | 482 | 481 | 489 |
| Service Time | 6.083 | 5.566 | 5.727 | 5.553 | 5.244 | 5.142 |
| HCM Lane V/C Ratio | 0.736 | 0 | 0.321 | 0.77 | 0.622 | 0.671 |
| HCM Control Delay | 31.7 | 10.6 | 14.3 | 31.1 | 22 | 24.4 |
| HCM Lane LOS | D | N | B | D | C | C |
| HCM 95th-tile Q | 6 | 0 | 1.4 | 6.6 | 4.2 | 5 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 0 | 45 | 4 | 3 | 187 | 195 | 20 | 2 | 276 | 2 |
| Future Volume (vph) | 0 | 0 | 0 | 45 | 4 | 3 | 187 | 195 | 20 | 2 | 276 | 2 |
| Confl. Peds. (#/hr) | | | | | | | | | 1 | | | |
| Confl. Bikes (#/hr) | | | | | | 2 | | | 2 | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | | | | Split | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | | | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | 8 | | | | | | |
| Detector Phase | | | | 8 | 8 | 8 | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | | | | 22.5 | 22.5 | 22.5 | 8.5 | 22.5 | | 8.5 | 22.5 | |
| Total Split (s) | | | | 22.5 | 22.5 | 22.5 | 15.0 | 29.0 | | 8.5 | 22.5 | |
| Total Split (%) | | | | 37.5% | 37.5% | 37.5% | 25.0% | 48.3% | | 14.2% | 37.5% | |
| Yellow Time (s) | | | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | | | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | | | | | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | | | | | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | | | | None | None | None | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 38.4 |
| Natural Cycle: 60 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 52: Woodside Avenue & SR-67 NB On-Ramp/Davidann Road








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 45 | 4 | 3 | 187 | 195 | 20 | 2 | 276 | 2 |
| Future Volume (veh/h) | 0 | 0 | 0 | 45 | 4 | 3 | 187 | 195 | 20 | 2 | 276 | 2 |
| Initial Q (Qb), veh | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | | | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.97 |
| Parking Bus, Adj | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | | | | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | | | | 49 | 4 | 3 | 203 | 212 | 22 | 2 | 300 | 2 |
| Peak Hour Factor | | | | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | | | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | | | | 85 | 7 | 79 | 269 | 699 | 73 | 7 | 504 | 3 |
| Arrive On Green | | | | 0.05 | 0.05 | 0.05 | 0.15 | 0.42 | 0.42 | 0.00 | 0.27 | 0.27 |
| Sat Flow, veh/h | | | | 1653 | 135 | 1546 | 1781 | 1662 | 172 | 1781 | 1855 | 12 |
| Grp Volume(v), veh/h | | | | 53 | 0 | 3 | 203 | 0 | 234 | 2 | 0 | 302 |
| Grp Sat Flow(s),veh/h/ln | | | | 1788 | 0 | 1546 | 1781 | 0 | 1835 | 1781 | 0 | 1868 |
| Q Serve(g_s), s | | | | 0.7 | 0.0 | 0.0 | 2.8 | 0.0 | 2.2 | 0.0 | 0.0 | 3.6 |
| Cycle Q Clear(g_c), s | | | | 0.7 | 0.0 | 0.0 | 2.8 | 0.0 | 2.2 | 0.0 | 0.0 | 3.6 |
| Prop In Lane | | | | 0.92 | | 1.00 | 1.00 | | 0.09 | 1.00 | | 0.01 |
| Lane Grp Cap(c), veh/h | | | | 92 | 0 | 79 | 269 | 0 | 772 | 7 | 0 | 508 |
| V/C Ratio(X) | | | | 0.58 | 0.00 | 0.04 | 0.75 | 0.00 | 0.30 | 0.29 | 0.00 | 0.60 |
| Avail Cap(c_a), veh/h | | | | 1254 | 0 | 1084 | 729 | 0 | 1751 | 278 | 0 | 1310 |
| HCM Platoon Ratio | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | | | | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | | | | 11.9 | 0.0 | 11.6 | 10.4 | 0.0 | 4.9 | 12.8 | 0.0 | 8.1 |
| Incr Delay (d2), s/veh | | | | 5.6 | 0.0 | 0.2 | 4.3 | 0.0 | 0.2 | 21.3 | 0.0 | 1.1 |
| Initial Q Delay(d3),s/veh | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | | 0.4 | 0.0 | 0.0 | 1.0 | 0.0 | 0.4 | 0.0 | 0.0 | 1.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | 17.5 | 0.0 | 11.8 | 14.7 | 0.0 | 5.2 | 34.1 | 0.0 | 9.2 |
| LnGrp LOS | | | | B | A | B | B | A | A | C | A | A |
| Approach Vol, veh/h | | | | | 56 | | | 437 | | | 304 | |
| Approach Delay, s/veh | | | | | 17.2 | | | 9.6 | | | 9.4 | |
| Approach LOS | | | | | B | | | A | | | A | |

| Timer - Assigned Phs | 1 | 2 | | 5 | 6 | | 8 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 4.6 | 15.3 | | 8.4 | 11.5 | | 5.8 | | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | | | | | |
| Max Green Setting (Gmax), s | 4.0 | 24.5 | | 10.5 | 18.0 | | 18.0 | | | | | |
| Max Q Clear Time (g_c+I1), s | 2.0 | 4.2 | | 4.8 | 5.6 | | 2.7 | | | | | |
| Green Ext Time (p_c), s | 0.0 | 1.3 | | 0.3 | 1.4 | | 0.2 | | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 10.1 |
| HCM 6th LOS | | B |

| Intersection | |
|---|---|
| Int Delay, s/veh | 8.6 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 94 | 519 | 568 | 0 | 0 | 736 |
| Future Vol, veh/h | 94 | 519 | 568 | 0 | 0 | 736 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | 300 | - | - | - | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 102 | 564 | 617 | 0 | 0 | 800 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 1017 | 309 | 0 | - | - | - |
| Stage 1 | 617 | - | - | - | - | - |
| Stage 2 | 400 | - | - | - | - | - |
| Critical Hdwy | 6.84 | 6.8 | - | - | - | - |
| Critical Hdwy Stg 1 | 5.84 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.84 | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 3.32 | - | - | - | - |
| Pot Cap-1 Maneuver | 234 | 695 | - | 0 | 0 | - |
| Stage 1 | 501 | - | - | 0 | 0 | - |
| Stage 2 | 646 | - | - | 0 | 0 | - |
| Platoon blocked, % | | | - | | | - |
| Mov Cap-1 Maneuver | 234 | 695 | - | - | - | - |
| Mov Cap-2 Maneuver | 362 | - | - | - | - | - |
| Stage 1 | 501 | - | - | - | - | - |
| Stage 2 | 646 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 27 | 0 | 0 |
| HCM LOS | D | | |

| Minor Lane/Major Mvmt | NBT | WBLn1 | WBLn2 | SBT |
|---|---|---|---|---|
| Capacity (veh/h) | - | 362 | 695 | - |
| HCM Lane V/C Ratio | - | 0.282 | 0.812 | - |
| HCM Control Delay (s) | - | 18.8 | 28.5 | - |
| HCM Lane LOS | - | C | D | - |
| HCM 95th %tile Q(veh) | - | 1.1 | 8.5 | - |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 568 | 196 | 444 | 386 |
| Future Volume (Veh/h) | 0 | 0 | 568 | 196 | 444 | 386 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 0 | 617 | 213 | 483 | 420 |
| Pedestrians | 2 | | | | | |
| Lane Width (ft) | 0.0 | | | | | |
| Walking Speed (ft/s) | 4.0 | | | | | |
| Percent Blockage | 0 | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | 769 | | | 1029 |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 1902 | 417 | | | 832 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 1902 | 417 | | | 832 | |
| tC, single (s) | 6.8 | 6.9 | | | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 100 | 100 | | | 39 | |
| cM capacity (veh/h) | 24 | 585 | | | 796 | |

| Direction, Lane # | NB 1 | NB 2 | SB 1 | SB 2 | SB 3 |
|---|---|---|---|---|---|
| Volume Total | 411 | 419 | 483 | 210 | 210 |
| Volume Left | 0 | 0 | 483 | 0 | 0 |
| Volume Right | 0 | 213 | 0 | 0 | 0 |
| cSH | 1700 | 1700 | 796 | 1700 | 1700 |
| Volume to Capacity | 0.24 | 0.25 | 0.61 | 0.12 | 0.12 |
| Queue Length 95th (ft) | 0 | 0 | 104 | 0 | 0 |
| Control Delay (s) | 0.0 | 0.0 | 16.2 | 0.0 | 0.0 |
| Lane LOS | | | C | | |
| Approach Delay (s) | 0.0 | | 8.7 | | |
| Approach LOS | | | | | |

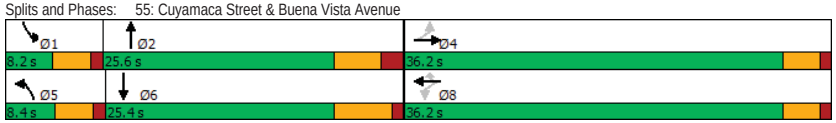
| Intersection Summary | | | | |
|---|---|---|---|---|
| Average Delay | 4.5 | | | |
| Intersection Capacity Utilization | 54.5% | ICU Level of Service | | A |
| Analysis Period (min) | 15 | | | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 10 | 2 | 12 | 151 | 1 | 52 | 43 | 1307 | 152 | 29 | 1089 | 27 |
| Future Volume (vph) | 10 | 2 | 12 | 151 | 1 | 52 | 43 | 1307 | 152 | 29 | 1089 | 27 |
| Confl. Peds. (#/hr) | | | 3 | | | 7 | | | 5 | | | 2 |
| Confl. Bikes (#/hr) | | | 1 | | | 4 | | | 3 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Perm | NA | | Perm | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | 8 | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | 8 | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 10.0 | | 4.0 | 10.0 | |
| Minimum Split (s) | 36.2 | 36.2 | | 34.2 | 34.2 | 34.2 | 8.2 | 24.0 | | 8.2 | 24.0 | |
| Total Split (s) | 36.2 | 36.2 | | 36.2 | 36.2 | 36.2 | 8.4 | 25.6 | | 8.2 | 25.4 | |
| Total Split (%) | 51.7% | 51.7% | | 51.7% | 51.7% | 51.7% | 12.0% | 36.6% | | 11.7% | 36.3% | |
| Yellow Time (s) | 3.2 | 3.2 | | 3.2 | 3.2 | 3.2 | 3.2 | 4.0 | | 3.2 | 4.9 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 2.0 | | 1.0 | 1.1 | |
| Lost Time Adjust (s) | | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | | 4.2 | | | 4.2 | 4.2 | 4.2 | 6.0 | | 4.2 | 6.0 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | None | None | Min | | None | Min | |

**Intersection Summary**

Cycle Length: 70
Actuated Cycle Length: 47.6
Natural Cycle: 75
Control Type: Actuated-Uncoordinated

Splits and Phases: 55: Cuyamaca Street & Buena Vista Avenue






Existing + Proj AM (No School) Fanita Ranch
55: Cuyamaca Street & Buena Vista Avenue 06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 10 | 2 | 12 | 151 | 1 | 52 | 43 | 1307 | 152 | 29 | 1089 | 27 |
| Future Volume (veh/h) | 10 | 2 | 12 | 151 | 1 | 52 | 43 | 1307 | 152 | 29 | 1089 | 27 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 0.99 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 11 | 2 | 13 | 164 | 1 | 57 | 47 | 1421 | 165 | 32 | 1184 | 29 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 189 | 61 | 129 | 468 | 2 | 296 | 72 | 2019 | 234 | 53 | 2185 | 54 |
| Arrive On Green | 0.19 | 0.19 | 0.19 | 0.19 | 0.19 | 0.19 | 0.04 | 0.44 | 0.44 | 0.03 | 0.43 | 0.43 |
| Sat Flow, veh/h | 354 | 320 | 674 | 1551 | 9 | 1542 | 1781 | 4623 | 537 | 1781 | 5126 | 126 |
| Grp Volume(v), veh/h | 26 | 0 | 0 | 165 | 0 | 57 | 47 | 1046 | 540 | 32 | 786 | 427 |
| Grp Sat Flow(s),veh/h/ln | 1348 | 0 | 0 | 1560 | 0 | 1542 | 1781 | 1702 | 1755 | 1781 | 1702 | 1847 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.3 | 1.1 | 10.5 | 10.5 | 0.7 | 7.3 | 7.3 |
| Cycle Q Clear(g_c), s | 3.5 | 0.0 | 0.0 | 3.5 | 0.0 | 1.3 | 1.1 | 10.5 | 10.5 | 0.7 | 7.3 | 7.3 |
| Prop In Lane | 0.42 | | 0.50 | 0.99 | | 1.00 | 1.00 | | 0.31 | 1.00 | | 0.07 |
| Lane Grp Cap(c), veh/h | 380 | 0 | 0 | 470 | 0 | 296 | 72 | 1487 | 767 | 53 | 1451 | 788 |
| V/C Ratio(X) | 0.07 | 0.00 | 0.00 | 0.35 | 0.00 | 0.19 | 0.66 | 0.70 | 0.70 | 0.61 | 0.54 | 0.54 |
| Avail Cap(c_a), veh/h | 1215 | 0 | 0 | 1261 | 0 | 1171 | 177 | 1583 | 816 | 169 | 1567 | 850 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 14.0 | 0.0 | 0.0 | 15.2 | 0.0 | 14.3 | 19.9 | 9.6 | 9.7 | 20.2 | 9.0 | 9.0 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 0.0 | 0.2 | 0.0 | 0.1 | 3.8 | 1.5 | 2.9 | 4.1 | 0.5 | 0.9 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.2 | 0.0 | 0.0 | 1.2 | 0.0 | 0.4 | 0.5 | 2.9 | 3.3 | 0.3 | 1.9 | 2.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 14.0 | 0.0 | 0.0 | 15.3 | 0.0 | 14.4 | 23.7 | 11.2 | 12.6 | 24.3 | 9.5 | 9.9 |
| LnGrp LOS | B | A | A | B | A | B | C | B | B | C | A | A |
| Approach Vol, veh/h | | 26 | | | 222 | | | 1633 | | | 1245 | |
| Approach Delay, s/veh | | 14.0 | | | 15.1 | | | 12.0 | | | 10.0 | |
| Approach LOS | | B | | | B | | | B | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.4 | 24.4 | | 12.3 | 5.9 | 24.0 | | 12.3 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 6.0 | | * 4.2 | * 4.2 | * 6 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | * 4 | 19.6 | | * 32 | * 4.2 | * 19 | | * 32 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.7 | 12.5 | | 5.5 | 3.1 | 9.3 | | 5.5 | | | | |
| Green Ext Time (p_c), s | 0.0 | 5.9 | | 0.1 | 0.0 | 6.7 | | 0.7 | | | | |

**Intersection Summary**

| | | |
|---|---|---|
| HCM 6th Ctrl Delay | 11.4 | |
| HCM 6th LOS | B | |

**Notes**

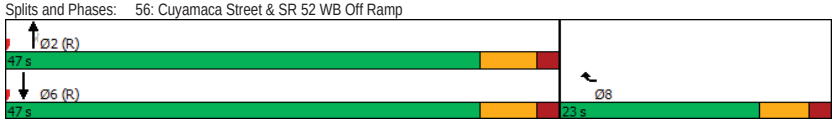
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\No School Alt\3 Existing + Proj AM.syn

| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 789 | 794 | 185 | 0 | 1369 |
| Future Volume (vph) | 0 | 789 | 794 | 185 | 0 | 1369 |
| Confl. Peds. (#/hr) | | | | 9 | | |
| Confl. Bikes (#/hr) | | | | 3 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | 0% | | | 0% |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | | Prot | NA | Perm | | NA |
| Protected Phases | | 8 | 2 | | | 6 |
| Permitted Phases | | | | 2 | | |
| Detector Phase | | 8 | 2 | 2 | | 6 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | | 5.0 | 14.0 | 14.0 | | 14.0 |
| Minimum Split (s) | | 20.0 | 45.8 | 45.8 | | 45.8 |
| Total Split (s) | | 23.0 | 47.0 | 47.0 | | 47.0 |
| Total Split (%) | | 32.9% | 67.1% | 67.1% | | 67.1% |
| Yellow Time (s) | | 4.1 | 4.8 | 4.8 | | 4.8 |
| All-Red Time (s) | | 2.0 | 2.0 | 2.0 | | 2.0 |
| Lost Time Adjust (s) | | 0.0 | 0.0 | 0.0 | | 0.0 |
| Total Lost Time (s) | | 6.1 | 6.8 | 6.8 | | 6.8 |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | | None | C-Max | C-Max | | C-Max |

| Intersection Summary |
|---|
| Cycle Length: 70 |
| Actuated Cycle Length: 70 |
| Offset: 22 (31%), Referenced to phase 2:NBT and 6:SBT, Start of Green |
| Natural Cycle: 70 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 56: Cuyamaca Street & SR 52 WB Off Ramp






Existing + Proj AM (No School)
56: Cuyamaca Street & SR 52 WB Off Ramp
Fanita Ranch
06/06/2019

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 789 | 794 | 185 | 0 | 1369 |
| Future Volume (veh/h) | 0 | 789 | 794 | 185 | 0 | 1369 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | | 0.97 | 1.00 | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | No | | | No |
| Adj Sat Flow, veh/h/ln | 0 | 1870 | 1870 | 1870 | 0 | 1870 |
| Adj Flow Rate, veh/h | 0 | 858 | 863 | 201 | 0 | 1488 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 0 | 2 | 2 | 2 | 0 | 2 |
| Cap, veh/h | 0 | 0 | 4610 | 1394 | 0 | 4610 |
| Arrive On Green | 0.00 | 0.00 | 0.30 | 0.30 | 0.00 | 0.90 |
| Sat Flow, veh/h | 0 | | 5274 | 1544 | 0 | 5443 |
| Grp Volume(v), veh/h | 0.0 | | 863 | 201 | 0 | 1488 |
| Grp Sat Flow(s),veh/h/ln | | | 1702 | 1544 | 0 | 1702 |
| Q Serve(g_s), s | | | 8.8 | 6.7 | 0.0 | 2.8 |
| Cycle Q Clear(g_c), s | | | 8.8 | 6.7 | 0.0 | 2.8 |
| Prop In Lane | | | | 1.00 | 0.00 | |
| Lane Grp Cap(c), veh/h | | | 4610 | 1394 | 0 | 4610 |
| V/C Ratio(X) | | | 0.19 | 0.14 | 0.00 | 0.32 |
| Avail Cap(c_a), veh/h | | | 4610 | 1394 | 0 | 4610 |
| HCM Platoon Ratio | | | 0.33 | 0.33 | 1.00 | 1.00 |
| Upstream Filter(I) | | | 1.00 | 1.00 | 0.00 | 0.90 |
| Uniform Delay (d), s/veh | | | 5.5 | 4.7 | 0.0 | 0.5 |
| Incr Delay (d2), s/veh | | | 0.1 | 0.2 | 0.0 | 0.2 |
| Initial Q Delay(d3),s/veh | | | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | 0.0 | 0.1 | 0.0 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | | | 5.6 | 5.0 | 0.0 | 0.6 |
| LnGrp LOS | | | A | A | A | A |
| Approach Vol, veh/h | | | 1064 | | | 1488 |
| Approach Delay, s/veh | | | 5.4 | | | 0.6 |
| Approach LOS | | | A | | | A |

| Timer - Assigned Phs | 2 | | | | | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 70.0 | | | | | 70.0 |
| Change Period (Y+Rc), s | 6.8 | | | | | 6.8 |
| Max Green Setting (Gmax), s | 40.2 | | | | | 40.2 |
| Max Q Clear Time (g_c+I1), s | 10.8 | | | | | 4.8 |
| Green Ext Time (p_c), s | 7.5 | | | | | 14.2 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 2.6 |
| HCM 6th LOS | | A |

Fanita Ranch
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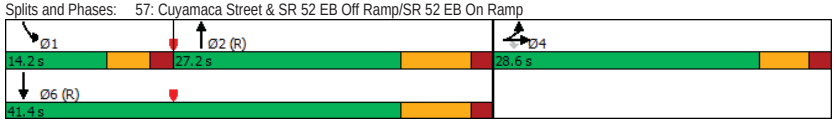
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 258 | 2 | 471 | 0 | 0 | 0 | 0 | 721 | 84 | 308 | 725 | 0 |
| Future Volume (vph) | 258 | 2 | 471 | 0 | 0 | 0 | 0 | 721 | 84 | 308 | 725 | 0 |
| Confl. Peds. (#/hr) | | | | | | | | | 5 | | | 24 |
| Confl. Bikes (#/hr) | | | | | | | | | 2 | | | 9 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | 50% | | | | | | | | | | | |
| Turn Type | Split | NA | Perm | | | | | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | | | | | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | | | | |
| Detector Phase | 4 | 4 | 4 | | | | | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | | | | | 11.0 | | 5.0 | 12.0 | |
| Minimum Split (s) | 22.1 | 22.1 | 22.1 | | | | | 27.0 | | 10.7 | 32.0 | |
| Total Split (s) | 28.6 | 28.6 | 28.6 | | | | | 27.2 | | 14.2 | 41.4 | |
| Total Split (%) | 40.9% | 40.9% | 40.9% | | | | | 38.9% | | 20.3% | 59.1% | |
| Yellow Time (s) | 4.1 | 4.1 | 4.1 | | | | | 6.0 | | 3.7 | 6.0 | |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | | | | | 2.0 | | 2.0 | 2.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | | | | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 6.1 | 6.1 | 6.1 | | | | | 8.0 | | 5.7 | 8.0 | |
| Lead/Lag | | | | | | | | Lag | | Lead | | |
| Lead-Lag Optimize? | | | | | | | | Yes | | Yes | | |
| Recall Mode | None | None | None | | | | | C-Min | | None | C-Min | |

**Intersection Summary**

Cycle Length: 70
Actuated Cycle Length: 70
Offset: 10 (14%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 57: Cuyamaca Street & SR 52 EB Off Ramp/SR 52 EB On Ramp






Existing + Proj AM (No School) Fanita Ranch
57: Cuyamaca Street & SR 52 EB Off Ramp/SR 52 EB On Ramp 06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 258 | 2 | 471 | 0 | 0 | 0 | 0 | 721 | 84 | 308 | 725 | 0 |
| Future Volume (veh/h) | 258 | 2 | 471 | 0 | 0 | 0 | 0 | 721 | 84 | 308 | 725 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | | | | 1.00 | | 0.98 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | | | | 0 | 1870 | 1870 | 1870 | 1870 | 0 |
| Adj Flow Rate, veh/h | 281 | 0 | 512 | | | | 0 | 784 | 91 | 335 | 788 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | | | | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | | | | 0 | 2 | 2 | 2 | 2 | 0 |
| Cap, veh/h | 1145 | 0 | 509 | | | | 0 | 1271 | 146 | 420 | 1696 | 0 |
| Arrive On Green | 0.32 | 0.00 | 0.32 | | | | 0.00 | 0.36 | 0.36 | 0.04 | 0.16 | 0.00 |
| Sat Flow, veh/h | 3563 | 0 | 1585 | | | | 0 | 4800 | 534 | 3456 | 3647 | 0 |
| Grp Volume(v), veh/h | 281 | 0 | 512 | | | | 0 | 575 | 300 | 335 | 788 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1585 | | | | 0 | 1702 | 1762 | 1728 | 1777 | 0 |
| Q Serve(g_s), s | 4.1 | 0.0 | 22.5 | | | | 0.0 | 9.7 | 9.8 | 6.7 | 14.1 | 0.0 |
| Cycle Q Clear(g_c), s | 4.1 | 0.0 | 22.5 | | | | 0.0 | 9.7 | 9.8 | 6.7 | 14.1 | 0.0 |
| Prop In Lane | 1.00 | | 1.00 | | | | 0.00 | | 0.30 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 1145 | 0 | 509 | | | | 0 | 934 | 483 | 420 | 1696 | 0 |
| V/C Ratio(X) | 0.25 | 0.00 | 1.00 | | | | 0.00 | 0.62 | 0.62 | 0.80 | 0.46 | 0.00 |
| Avail Cap(c_a), veh/h | 1145 | 0 | 509 | | | | 0 | 934 | 483 | 420 | 1696 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.33 | 1.33 | 0.33 | 0.33 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | | | | 0.00 | 0.93 | 0.93 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | 17.5 | 0.0 | 23.8 | | | | 0.0 | 19.2 | 19.2 | 32.7 | 21.4 | 0.0 |
| Incr Delay (d2), s/veh | 0.1 | 0.0 | 41.1 | | | | 0.0 | 2.8 | 5.5 | 9.7 | 0.9 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.6 | 0.0 | 13.5 | | | | 0.0 | 3.6 | 4.1 | 3.4 | 6.7 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 17.6 | 0.0 | 64.8 | | | | 0.0 | 22.0 | 24.8 | 42.4 | 22.3 | 0.0 |
| LnGrp LOS | B | A | F | | | | A | C | C | D | C | A |
| Approach Vol, veh/h | | 793 | | | | | | 875 | | | 1123 | |
| Approach Delay, s/veh | | 48.1 | | | | | | 23.0 | | | 28.3 | |
| Approach LOS | | D | | | | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | 4 | 6 |
|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 14.2 | 27.2 | 28.6 | 41.4 |
| Change Period (Y+Rc), s | * 5.7 | 8.0 | 6.1 | 8.0 |
| Max Green Setting (Gmax), s | * 8.5 | 19.2 | 22.5 | 33.4 |
| Max Q Clear Time (g_c+I1), s | 8.7 | 11.8 | 24.5 | 16.1 |
| Green Ext Time (p_c), s | 0.0 | 3.2 | 0.0 | 5.0 |

**Intersection Summary**

| | |
|---|---|
| HCM 6th Ctrl Delay | 32.2 |
| HCM 6th LOS | C |

**Notes**

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Fanita Ranch
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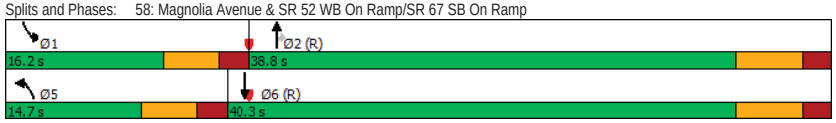
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 269 | 1193 | 134 | 602 | 604 | 237 |
| Future Volume (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 269 | 1193 | 134 | 602 | 604 | 237 |
| Confl. Peds. (#/hr) | | | | | | | | | 5 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | | | | | | | Prot | NA | Perm | Prot | NA | |
| Protected Phases | | | | | | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | | | 2 | | | |
| Detector Phase | | | | | | | 5 | 2 | 2 | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | | | | | | 5.0 | 6.0 | 6.0 | 5.0 | 7.0 | |
| Minimum Split (s) | | | | | | | 10.7 | 38.4 | 38.4 | 10.7 | 39.4 | |
| Total Split (s) | | | | | | | 14.7 | 38.8 | 38.8 | 16.2 | 40.3 | |
| Total Split (%) | | | | | | | 26.7% | 70.5% | 70.5% | 29.5% | 73.3% | |
| Yellow Time (s) | | | | | | | 3.7 | 4.4 | 4.4 | 3.7 | 4.4 | |
| All-Red Time (s) | | | | | | | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | |
| Lost Time Adjust (s) | | | | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | | | | | | | 5.7 | 6.4 | 6.4 | 5.7 | 6.4 | |
| Lead/Lag | | | | | | | Lead | Lag | Lag | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | Yes | Yes | Yes | |
| Recall Mode | | | | | | | None | C-Max | C-Max | None | C-Max | |

| Intersection Summary |
|---|
| Cycle Length: 55 |
| Actuated Cycle Length: 55 |
| Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green |
| Natural Cycle: 60 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 58: Magnolia Avenue & SR 52 WB On Ramp/SR 67 SB On Ramp








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 0 | 0 | 0 | 269 | 1193 | 134 | 602 | 604 | 237 |
| Future Volume (veh/h) | 0 | 0 | 0 | 0 | 0 | 0 | 269 | 1193 | 134 | 602 | 604 | 237 |
| Initial Q (Qb), veh | | | | | | | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | | | | | | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | | | | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | | | | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | | | | | | | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | | | | | | | 292 | 1297 | 146 | 654 | 657 | 258 |
| Peak Hour Factor | | | | | | | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | | | | | | | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | | | | | | | 401 | 3008 | 911 | 660 | 1643 | 645 |
| Arrive On Green | | | | | | | 0.23 | 1.00 | 1.00 | 0.32 | 1.00 | 1.00 |
| Sat Flow, veh/h | | | | | | | 3456 | 5106 | 1546 | 3456 | 2474 | 971 |
| Grp Volume(v), veh/h | | | | | | | 292 | 1297 | 146 | 654 | 472 | 443 |
| Grp Sat Flow(s),veh/h/ln | | | | | | | 1728 | 1702 | 1546 | 1728 | 1777 | 1669 |
| Q Serve(g_s), s | | | | | | | 4.3 | 0.0 | 0.0 | 10.4 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | | | | | | | 4.3 | 0.0 | 0.0 | 10.4 | 0.0 | 0.0 |
| Prop In Lane | | | | | | | 1.00 | | 1.00 | 1.00 | | 0.58 |
| Lane Grp Cap(c), veh/h | | | | | | | 401 | 3008 | 911 | 660 | 1180 | 1108 |
| V/C Ratio(X) | | | | | | | 0.73 | 0.43 | 0.16 | 0.99 | 0.40 | 0.40 |
| Avail Cap(c_a), veh/h | | | | | | | 565 | 3008 | 911 | 660 | 1180 | 1108 |
| HCM Platoon Ratio | | | | | | | 2.00 | 2.00 | 2.00 | 1.67 | 1.67 | 1.67 |
| Upstream Filter(I) | | | | | | | 0.63 | 0.63 | 0.63 | 0.32 | 0.32 | 0.32 |
| Uniform Delay (d), s/veh | | | | | | | 20.3 | 0.0 | 0.0 | 18.7 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | | | | | | | 0.8 | 0.3 | 0.2 | 17.7 | 0.3 | 0.3 |
| Initial Q Delay(d3),s/veh | | | | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | | | | | 1.5 | 0.1 | 0.1 | 4.5 | 0.1 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | | | | 21.1 | 0.3 | 0.2 | 36.4 | 0.3 | 0.3 |
| LnGrp LOS | | | | | | | C | A | A | D | A | A |
| Approach Vol, veh/h | | | | | | | | 1735 | | | 1569 | |
| Approach Delay, s/veh | | | | | | | | 3.8 | | | 15.4 | |
| Approach LOS | | | | | | | | A | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 5 | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 16.2 | 38.8 | | 12.1 | 42.9 |
| Change Period (Y+Rc), s | * 5.7 | 6.4 | | * 5.7 | 6.4 |
| Max Green Setting (Gmax), s | * 11 | 32.4 | | * 9 | 33.9 |
| Max Q Clear Time (g_c+I1), s | 12.4 | 2.0 | | 6.3 | 2.0 |
| Green Ext Time (p_c), s | 0.0 | 12.4 | | 0.2 | 6.2 |

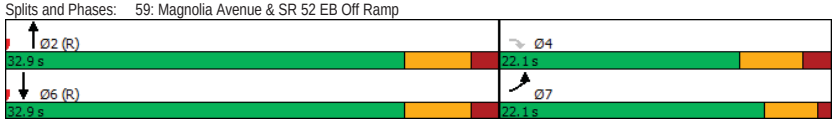
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 9.3 | |
| HCM 6th LOS | A | |

| Notes |
|---|
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. |

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 205 | 192 | 0 | 1391 | 604 | 0 |
| Future Volume (vph) | 205 | 192 | 0 | 1391 | 604 | 0 |
| Confl. Peds. (#/hr) | | | | | | |
| Confl. Bikes (#/hr) | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | | NA | NA | |
| Protected Phases | 7 | | | 2 | 6 | |
| Permitted Phases | | 4 | | | | |
| Detector Phase | 7 | 4 | | 2 | 6 | |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 5.0 | | 5.0 | 5.0 | |
| Minimum Split (s) | 8.5 | 22.1 | | 22.4 | 27.4 | |
| Total Split (s) | 22.1 | 22.1 | | 32.9 | 32.9 | |
| Total Split (%) | 40.2% | 40.2% | | 59.8% | 59.8% | |
| Yellow Time (s) | 3.5 | 4.1 | | 4.4 | 4.4 | |
| All-Red Time (s) | 1.0 | 2.0 | | 2.0 | 2.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 6.1 | | 6.4 | 6.4 | |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | None | None | | C-Max | C-Max | |

| Intersection Summary |
|---|
| Cycle Length: 55 |
| Actuated Cycle Length: 55 |
| Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green |
| Natural Cycle: 60 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 59: Magnolia Avenue & SR 52 EB Off Ramp






Existing + Proj AM (No School)
59: Magnolia Avenue & SR 52 EB Off Ramp
Fanita Ranch
06/06/2019

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 205 | 192 | 0 | 1391 | 604 | 0 |
| Future Volume (veh/h) | 205 | 192 | 0 | 1391 | 604 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 0 | 1870 | 1870 | 0 |
| Adj Flow Rate, veh/h | 223 | 209 | 0 | 1512 | 657 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 0 | 2 | 2 | 0 |
| Cap, veh/h | 318 | 283 | 0 | 2215 | 2215 | 0 |
| Arrive On Green | 0.18 | 0.18 | 0.00 | 0.62 | 1.00 | 0.00 |
| Sat Flow, veh/h | 1781 | 1585 | 0 | 3741 | 3741 | 0 |
| Grp Volume(v), veh/h | 223 | 209 | 0 | 1512 | 657 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 0 | 1777 | 1777 | 0 |
| Q Serve(g_s), s | 6.5 | 6.9 | 0.0 | 15.3 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 6.5 | 6.9 | 0.0 | 15.3 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | 1.00 | 0.00 | | | 0.00 |
| Lane Grp Cap(c), veh/h | 318 | 283 | 0 | 2215 | 2215 | 0 |
| V/C Ratio(X) | 0.70 | 0.74 | 0.00 | 0.68 | 0.30 | 0.00 |
| Avail Cap(c_a), veh/h | 570 | 507 | 0 | 2215 | 2215 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 2.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.69 | 0.91 | 0.00 |
| Uniform Delay (d), s/veh | 21.2 | 21.4 | 0.0 | 6.8 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 2.8 | 3.8 | 0.0 | 1.2 | 0.3 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.7 | 2.6 | 0.0 | 3.3 | 0.1 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 24.0 | 25.1 | 0.0 | 8.0 | 0.3 | 0.0 |
| LnGrp LOS | C | C | A | A | A | A |
| Approach Vol, veh/h | 432 | | | 1512 | 657 | |
| Approach Delay, s/veh | 24.6 | | | 8.0 | 0.3 | |
| Approach LOS | C | | | A | A | |

| Timer - Assigned Phs | | 2 | | 4 | | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 40.7 | | 14.3 | | 40.7 |
| Change Period (Y+Rc), s | | 6.4 | | 4.5 | | 6.4 |
| Max Green Setting (Gmax), s | | 26.5 | | 17.6 | | 26.5 |
| Max Q Clear Time (g_c+I1), s | | 17.3 | | 8.9 | | 2.0 |
| Green Ext Time (p_c), s | | 6.2 | | 1.0 | | 4.2 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 8.8 | |
| HCM 6th LOS | A | |

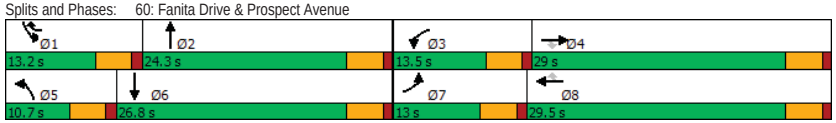
Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\No School Alt\3 Existing + Proj AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 146 | 55 | 51 | 71 | 166 | 265 | 70 | 304 | 59 | 155 | 147 | 93 |
| Future Volume (vph) | 146 | 55 | 51 | 71 | 166 | 265 | 70 | 304 | 59 | 155 | 147 | 93 |
| Confl. Peds. (#/hr) | | | 5 | | | 3 | | | 4 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | 1 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | pm+ov | Prot | NA | | Prot | NA | |
| Protected Phases | 7 | 4 | | 3 | 8 | 1 | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | | | | |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | 1 | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | 8.5 | 24.5 | 24.5 | 8.5 | 29.5 | 8.5 | 8.5 | 22.5 | | 8.5 | 24.5 | |
| Total Split (s) | 13.0 | 29.0 | 29.0 | 13.5 | 29.5 | 13.2 | 10.7 | 24.3 | | 13.2 | 26.8 | |
| Total Split (%) | 16.3% | 36.3% | 36.3% | 16.9% | 36.9% | 16.5% | 13.4% | 30.4% | | 16.5% | 33.5% | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | None | None | None | None | None | Min | | None | Min | |

**Intersection Summary**

Cycle Length: 80
Actuated Cycle Length: 66.7
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 60: Fanita Drive & Prospect Avenue






Existing + Proj AM (No School)
60: Fanita Drive & Prospect Avenue
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 146 | 55 | 51 | 71 | 166 | 265 | 70 | 304 | 59 | 155 | 147 | 93 |
| Future Volume (veh/h) | 146 | 55 | 51 | 71 | 166 | 265 | 70 | 304 | 59 | 155 | 147 | 93 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 159 | 60 | 55 | 77 | 180 | 288 | 76 | 330 | 64 | 168 | 160 | 101 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 200 | 522 | 440 | 99 | 416 | 533 | 97 | 389 | 75 | 210 | 685 | 408 |
| Arrive On Green | 0.11 | 0.28 | 0.28 | 0.06 | 0.22 | 0.22 | 0.05 | 0.26 | 0.26 | 0.12 | 0.32 | 0.32 |
| Sat Flow, veh/h | 1781 | 1870 | 1577 | 1781 | 1870 | 1558 | 1781 | 1514 | 294 | 1781 | 2138 | 1275 |
| Grp Volume(v), veh/h | 159 | 60 | 55 | 77 | 180 | 288 | 76 | 0 | 394 | 168 | 131 | 130 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1577 | 1781 | 1870 | 1558 | 1781 | 0 | 1807 | 1781 | 1777 | 1636 |
| Q Serve(g_s), s | 5.4 | 1.5 | 1.6 | 2.6 | 5.1 | 9.3 | 2.6 | 0.0 | 12.8 | 5.7 | 3.4 | 3.6 |
| Cycle Q Clear(g_c), s | 5.4 | 1.5 | 1.6 | 2.6 | 5.1 | 9.3 | 2.6 | 0.0 | 12.8 | 5.7 | 3.4 | 3.6 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.16 | 1.00 | | 0.78 |
| Lane Grp Cap(c), veh/h | 200 | 522 | 440 | 99 | 416 | 533 | 97 | 0 | 465 | 210 | 569 | 524 |
| V/C Ratio(X) | 0.80 | 0.11 | 0.13 | 0.78 | 0.43 | 0.54 | 0.78 | 0.00 | 0.85 | 0.80 | 0.23 | 0.25 |
| Avail Cap(c_a), veh/h | 244 | 739 | 623 | 259 | 754 | 815 | 178 | 0 | 577 | 250 | 639 | 589 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 26.8 | 16.6 | 16.7 | 28.9 | 20.7 | 16.5 | 28.9 | 0.0 | 21.9 | 26.6 | 15.5 | 15.5 |
| Incr Delay (d2), s/veh | 13.8 | 0.1 | 0.1 | 12.2 | 0.7 | 0.9 | 12.8 | 0.0 | 9.5 | 14.4 | 0.2 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.9 | 0.6 | 0.5 | 1.4 | 2.1 | 3.0 | 1.4 | 0.0 | 6.0 | 3.0 | 1.2 | 1.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 40.6 | 16.7 | 16.8 | 41.1 | 21.4 | 17.4 | 41.7 | 0.0 | 31.4 | 41.0 | 15.7 | 15.8 |
| LnGrp LOS | D | B | B | D | C | B | D | A | C | D | B | B |
| Approach Vol, veh/h | | 274 | | | 545 | | | 470 | | | 429 | |
| Approach Delay, s/veh | | 30.6 | | | 22.1 | | | 33.1 | | | 25.6 | |
| Approach LOS | | C | | | C | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 11.8 | 20.4 | 7.9 | 21.8 | 7.9 | 24.4 | 11.5 | 18.3 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 8.7 | 19.8 | 9.0 | 24.5 | 6.2 | 22.3 | 8.5 | 25.0 |
| Max Q Clear Time (g_c+I1), s | 7.7 | 14.8 | 4.6 | 3.6 | 4.6 | 5.6 | 7.4 | 11.3 |
| Green Ext Time (p_c), s | 0.0 | 1.0 | 0.0 | 0.4 | 0.0 | 1.2 | 0.0 | 1.7 |

**Intersection Summary**

| | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 27.3 | |
| HCM 6th LOS | | C | |

Fanita Ranch
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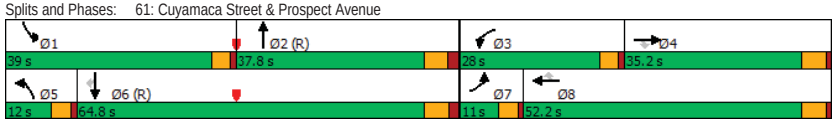
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 19 | 52 | 47 | 146 | 47 | 295 | 30 | 535 | 66 | 234 | 919 | 48 |
| Future Volume (vph) | 19 | 52 | 47 | 146 | 47 | 295 | 30 | 535 | 66 | 234 | 919 | 48 |
| Confl. Peds. (#/hr) | | | 20 | | | 8 | | | 8 | | | 4 |
| Confl. Bikes (#/hr) | | | 1 | | | 4 | | | 4 | | | 7 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | | | | 6 |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | 8 | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 7.0 | 7.0 | 4.0 | 7.0 | 7.0 | 4.0 | 10.0 | | 4.0 | 10.0 | 10.0 |
| Minimum Split (s) | 8.2 | 35.2 | 35.2 | 8.2 | 36.2 | 36.2 | 8.2 | 33.0 | | 8.2 | 31.0 | 31.0 |
| Total Split (s) | 11.0 | 35.2 | 35.2 | 28.0 | 52.2 | 52.2 | 12.0 | 37.8 | | 39.0 | 64.8 | 64.8 |
| Total Split (%) | 7.9% | 25.1% | 25.1% | 20.0% | 37.3% | 37.3% | 8.6% | 27.0% | | 27.9% | 46.3% | 46.3% |
| Yellow Time (s) | 3.2 | 4.2 | 4.2 | 3.2 | 4.2 | 4.2 | 3.2 | 4.0 | | 3.2 | 4.1 | 4.1 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 2.0 | | 1.0 | 1.9 | 1.9 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.2 | 5.2 | 4.2 | 5.2 | 5.2 | 4.2 | 6.0 | | 4.2 | 6.0 | 6.0 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | None | None | C-Min | | None | C-Min | C-Min |

| Intersection Summary |
|---|
| Cycle Length: 140 |
| Actuated Cycle Length: 140 |
| Offset: 26 (19%), Referenced to phase 2:NBT and 6:SBT, Start of Green |
| Natural Cycle: 100 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 61: Cuyamaca Street & Prospect Avenue








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 19 | 52 | 47 | 146 | 47 | 295 | 30 | 535 | 66 | 234 | 919 | 48 |
| Future Volume (veh/h) | 19 | 52 | 47 | 146 | 47 | 295 | 30 | 535 | 66 | 234 | 919 | 48 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.94 | 1.00 | | 0.97 | 1.00 | | 0.97 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 21 | 57 | 51 | 159 | 51 | 321 | 33 | 582 | 72 | 254 | 999 | 52 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 28 | 257 | 205 | 183 | 797 | 346 | 42 | 2138 | 261 | 275 | 2118 | 929 |
| Arrive On Green | 0.02 | 0.14 | 0.14 | 0.10 | 0.22 | 0.22 | 0.02 | 0.47 | 0.47 | 0.31 | 1.00 | 1.00 |
| Sat Flow, veh/h | 1781 | 1870 | 1496 | 1781 | 3554 | 1543 | 1781 | 4592 | 560 | 1781 | 3554 | 1559 |
| Grp Volume(v), veh/h | 21 | 57 | 51 | 159 | 51 | 321 | 33 | 429 | 225 | 254 | 999 | 52 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1496 | 1781 | 1777 | 1543 | 1781 | 1702 | 1748 | 1781 | 1777 | 1559 |
| Q Serve(g_s), s | 1.6 | 3.8 | 4.3 | 12.3 | 1.6 | 28.5 | 2.6 | 10.8 | 11.0 | 19.3 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 1.6 | 3.8 | 4.3 | 12.3 | 1.6 | 28.5 | 2.6 | 10.8 | 11.0 | 19.3 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.32 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 28 | 257 | 205 | 183 | 797 | 346 | 42 | 1584 | 814 | 275 | 2118 | 929 |
| V/C Ratio(X) | 0.74 | 0.22 | 0.25 | 0.87 | 0.06 | 0.93 | 0.78 | 0.27 | 0.28 | 0.92 | 0.47 | 0.06 |
| Avail Cap(c_a), veh/h | 87 | 401 | 321 | 303 | 1193 | 518 | 99 | 1584 | 814 | 443 | 2118 | 929 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 2.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 0.92 | 0.92 | 0.92 | 1.00 | 1.00 | 1.00 | 0.75 | 0.75 | 0.75 |
| Uniform Delay (d), s/veh | 68.6 | 53.7 | 53.9 | 61.8 | 42.7 | 53.2 | 68.0 | 22.9 | 23.0 | 47.6 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 13.0 | 0.5 | 0.7 | 6.7 | 0.0 | 14.4 | 11.1 | 0.4 | 0.8 | 10.0 | 0.6 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.8 | 1.8 | 1.6 | 5.9 | 0.7 | 12.3 | 1.3 | 4.4 | 4.8 | 8.1 | 0.2 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 81.6 | 54.2 | 54.6 | 68.5 | 42.8 | 67.6 | 79.1 | 23.3 | 23.8 | 57.6 | 0.6 | 0.1 |
| LnGrp LOS | F | D | D | E | D | E | E | C | C | E | A | A |
| Approach Vol, veh/h | | 129 | | | 531 | | | 687 | | | 1305 | |
| Approach Delay, s/veh | | 58.8 | | | 65.5 | | | 26.1 | | | 11.6 | |
| Approach LOS | | E | | | E | | | C | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 25.8 | 71.2 | 18.6 | 24.4 | 7.5 | 89.5 | 6.4 | 36.6 |
| Change Period (Y+Rc), s | * 4.2 | 6.0 | * 4.2 | 5.2 | * 4.2 | * 6 | * 4.2 | 5.2 |
| Max Green Setting (Gmax), s | * 35 | 31.8 | * 24 | 30.0 | * 7.8 | * 59 | * 6.8 | 47.0 |
| Max Q Clear Time (g_c+I1), s | 21.3 | 13.0 | 14.3 | 6.3 | 4.6 | 2.0 | 3.6 | 30.5 |
| Green Ext Time (p_c), s | 0.3 | 5.5 | 0.1 | 0.4 | 0.0 | 14.1 | 0.0 | 0.9 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 28.5 |
| HCM 6th LOS | C |

Notes

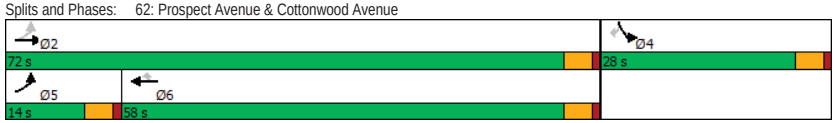
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 59 | 167 | 399 | 102 | 62 | 114 |
| Future Volume (vph) | 59 | 167 | 399 | 102 | 62 | 114 |
| Confl. Peds. (#/hr) | | | | 3 | | 6 |
| Confl. Bikes (#/hr) | | | | 1 | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | pm+pt | NA | NA | Perm | Prot | Perm |
| Protected Phases | 5 | 2 | 6 | | 4 | |
| Permitted Phases | 2 | | | 6 | | 4 |
| Detector Phase | 5 | 2 | 6 | 6 | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 |
| Total Split (s) | 14.0 | 72.0 | 58.0 | 58.0 | 28.0 | 28.0 |
| Total Split (%) | 14.0% | 72.0% | 58.0% | 58.0% | 28.0% | 28.0% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | | Lag | Lag | | |
| Lead-Lag Optimize? | Yes | | Yes | Yes | | |
| Recall Mode | None | Min | Min | Min | None | None |

**Intersection Summary**

Cycle Length: 100
Actuated Cycle Length: 44.5
Natural Cycle: 55
Control Type: Actuated-Uncoordinated

Splits and Phases: 62: Prospect Avenue & Cottonwood Avenue






Existing + Proj AM (No School)
62: Prospect Avenue & Cottonwood Avenue
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 59 | 167 | 399 | 102 | 62 | 114 |
| Future Volume (veh/h) | 59 | 167 | 399 | 102 | 62 | 114 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 0.98 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 64 | 182 | 434 | 111 | 67 | 124 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 492 | 1074 | 691 | 571 | 224 | 200 |
| Arrive On Green | 0.06 | 0.57 | 0.37 | 0.37 | 0.13 | 0.13 |
| Sat Flow, veh/h | 1781 | 1870 | 1870 | 1545 | 1781 | 1585 |
| Grp Volume(v), veh/h | 64 | 182 | 434 | 111 | 67 | 124 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1870 | 1545 | 1781 | 1585 |
| Q Serve(g_s), s | 0.6 | 1.4 | 5.7 | 1.5 | 1.0 | 2.2 |
| Cycle Q Clear(g_c), s | 0.6 | 1.4 | 5.7 | 1.5 | 1.0 | 2.2 |
| Prop In Lane | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 492 | 1074 | 691 | 571 | 224 | 200 |
| V/C Ratio(X) | 0.13 | 0.17 | 0.63 | 0.19 | 0.30 | 0.62 |
| Avail Cap(c_a), veh/h | 957 | 4203 | 3331 | 2752 | 1394 | 1240 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 5.1 | 3.0 | 7.8 | 6.4 | 11.9 | 12.4 |
| Incr Delay (d2), s/veh | 0.1 | 0.1 | 0.9 | 0.2 | 0.7 | 3.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.1 | 0.1 | 1.4 | 0.3 | 0.4 | 0.2 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 5.2 | 3.1 | 8.7 | 6.6 | 12.7 | 15.6 |
| LnGrp LOS | A | A | A | A | B | B |
| Approach Vol, veh/h | | 246 | 545 | | 191 | |
| Approach Delay, s/veh | | 3.6 | 8.3 | | 14.6 | |
| Approach LOS | | A | A | | B | |

| Timer - Assigned Phs | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 21.8 | | 8.3 | 6.2 | 15.6 |
| Change Period (Y+Rc), s | 4.5 | | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 67.5 | | 23.5 | 9.5 | 53.5 |
| Max Q Clear Time (g_c+I1), s | 3.4 | | 4.2 | 2.6 | 7.7 |
| Green Ext Time (p_c), s | 1.1 | | 0.5 | 0.1 | 3.3 |

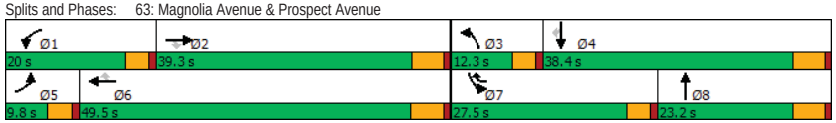
| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 8.3 |
| HCM 6th LOS | A |

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\No School Alt\3 Existing + Proj AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 65 | 91 | 67 | 147 | 406 | 1151 | 28 | 175 | 41 | 316 | 369 | 111 |
| Future Volume (vph) | 65 | 91 | 67 | 147 | 406 | 1151 | 28 | 175 | 41 | 316 | 369 | 111 |
| Confl. Peds. (#/hr) | | | 1 | | | 1 | | | 2 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | pm+ov | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | 4.0 | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 39.3 | 39.3 | 8.2 | 37.4 | 8.2 | 8.2 | 23.2 | | 8.2 | 36.2 | 36.2 |
| Total Split (s) | 9.8 | 39.3 | 39.3 | 20.0 | 49.5 | 27.5 | 12.3 | 23.2 | | 27.5 | 38.4 | 38.4 |
| Total Split (%) | 8.9% | 35.7% | 35.7% | 18.2% | 45.0% | 25.0% | 11.2% | 21.1% | | 25.0% | 34.9% | 34.9% |
| Yellow Time (s) | 3.2 | 4.3 | 4.3 | 3.2 | 4.4 | 3.2 | 3.2 | 4.2 | | 3.2 | 4.2 | 4.2 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | 5.3 | 4.2 | 5.4 | 4.2 | 4.2 | 5.2 | | 4.2 | 5.2 | 5.2 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | Min | Min | None | Min | None | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 73.3 |
| Natural Cycle: 95 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 63: Magnolia Avenue & Prospect Avenue








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 65 | 91 | 67 | 147 | 406 | 1151 | 28 | 175 | 41 | 316 | 369 | 111 |
| Future Volume (veh/h) | 65 | 91 | 67 | 147 | 406 | 1151 | 28 | 175 | 41 | 316 | 369 | 111 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.98 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 71 | 99 | 73 | 160 | 441 | 1251 | 30 | 190 | 45 | 343 | 401 | 121 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 142 | 739 | 626 | 201 | 1660 | 1679 | 44 | 298 | 69 | 468 | 764 | 336 |
| Arrive On Green | 0.04 | 0.40 | 0.40 | 0.11 | 0.47 | 0.47 | 0.02 | 0.10 | 0.10 | 0.14 | 0.22 | 0.22 |
| Sat Flow, veh/h | 3456 | 1870 | 1584 | 1781 | 3554 | 2787 | 1781 | 2854 | 659 | 3456 | 3554 | 1563 |
| Grp Volume(v), veh/h | 71 | 99 | 73 | 160 | 441 | 1251 | 30 | 116 | 119 | 343 | 401 | 121 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1870 | 1584 | 1781 | 1777 | 1393 | 1781 | 1777 | 1736 | 1728 | 1777 | 1563 |
| Q Serve(g_s), s | 1.5 | 2.5 | 2.2 | 6.6 | 5.7 | 24.4 | 1.3 | 4.7 | 5.0 | 7.2 | 7.5 | 5.0 |
| Cycle Q Clear(g_c), s | 1.5 | 2.5 | 2.2 | 6.6 | 5.7 | 24.4 | 1.3 | 4.7 | 5.0 | 7.2 | 7.5 | 5.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.38 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 142 | 739 | 626 | 201 | 1660 | 1679 | 44 | 186 | 181 | 468 | 764 | 336 |
| V/C Ratio(X) | 0.50 | 0.13 | 0.12 | 0.80 | 0.27 | 0.74 | 0.68 | 0.63 | 0.65 | 0.73 | 0.52 | 0.36 |
| Avail Cap(c_a), veh/h | 257 | 844 | 714 | 373 | 2079 | 2008 | 191 | 424 | 415 | 1068 | 1565 | 688 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 35.4 | 14.6 | 14.5 | 32.6 | 12.2 | 10.8 | 36.5 | 32.3 | 32.4 | 31.3 | 26.2 | 25.2 |
| Incr Delay (d2), s/veh | 2.7 | 0.1 | 0.1 | 7.0 | 0.1 | 1.3 | 16.8 | 3.4 | 3.9 | 2.2 | 0.6 | 0.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.7 | 1.0 | 0.8 | 3.1 | 2.1 | 6.5 | 0.7 | 2.2 | 2.2 | 3.0 | 3.1 | 1.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 38.1 | 14.6 | 14.5 | 39.6 | 12.3 | 12.1 | 53.3 | 35.8 | 36.4 | 33.5 | 26.7 | 25.8 |
| LnGrp LOS | D | B | B | D | B | B | D | D | D | C | C | C |
| Approach Vol, veh/h | | 243 | | | 1852 | | | 265 | | | 865 | |
| Approach Delay, s/veh | | 21.5 | | | 14.5 | | | 38.0 | | | 29.3 | |
| Approach LOS | | C | | | B | | | D | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 12.7 | 35.2 | 6.1 | 21.4 | 7.3 | 40.6 | 14.4 | 13.1 |
| Change Period (Y+Rc), s | * 4.2 | * 5.4 | * 4.2 | 5.2 | * 4.2 | 5.4 | * 4.2 | 5.2 |
| Max Green Setting (Gmax), s | * 16 | * 34 | * 8.1 | 33.2 | * 5.6 | 44.1 | * 23 | 18.0 |
| Max Q Clear Time (g_c+I1), s | 8.6 | 4.5 | 3.3 | 9.5 | 3.5 | 26.4 | 9.2 | 7.0 |
| Green Ext Time (p_c), s | 0.2 | 0.8 | 0.0 | 3.1 | 0.0 | 8.8 | 1.0 | 0.9 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 20.9 |
| HCM 6th LOS | | C |

Notes

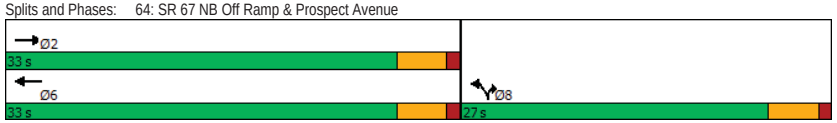
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 448 | 0 | 0 | 937 | 767 | 41 |
| Future Volume (vph) | 448 | 0 | 0 | 937 | 767 | 41 |
| Confl. Peds. (#/hr) | | | | | | |
| Confl. Bikes (#/hr) | | 1 | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | NA | | | NA | Prot | Prot |
| Protected Phases | 2 | | | 6 | 8 | 8 |
| Permitted Phases | | | | | | |
| Detector Phase | 2 | | | 6 | 8 | 8 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 5.0 | | | 10.0 | 5.0 | 5.0 |
| Minimum Split (s) | 20.6 | | | 20.6 | 20.6 | 20.6 |
| Total Split (s) | 33.0 | | | 33.0 | 27.0 | 27.0 |
| Total Split (%) | 55.0% | | | 55.0% | 45.0% | 45.0% |
| Yellow Time (s) | 3.6 | | | 3.6 | 3.6 | 3.6 |
| All-Red Time (s) | 1.0 | | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.6 | | | 4.6 | 4.6 | 4.6 |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | Min | | | Min | None | None |

**Intersection Summary**

Cycle Length: 60
Actuated Cycle Length: 46.6
Natural Cycle: 45
Control Type: Actuated-Uncoordinated

Splits and Phases: 64: SR 67 NB Off Ramp & Prospect Avenue






Existing + Proj AM (No School)
64: SR 67 NB Off Ramp & Prospect Avenue
Fanita Ranch
06/06/2019

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 448 | 0 | 0 | 937 | 767 | 41 |
| Future Volume (veh/h) | 448 | 0 | 0 | 937 | 767 | 41 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | 1.00 | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 0 | 0 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 487 | 0 | 0 | 1018 | 834 | 45 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 0 | 0 | 2 | 2 | 2 |
| Cap, veh/h | 1596 | 0 | 0 | 1596 | 1080 | 495 |
| Arrive On Green | 0.45 | 0.00 | 0.00 | 0.45 | 0.31 | 0.31 |
| Sat Flow, veh/h | 3741 | 0 | 0 | 3741 | 3456 | 1585 |
| Grp Volume(v), veh/h | 487 | 0 | 0 | 1018 | 834 | 45 |
| Grp Sat Flow(s),veh/h/ln | 1777 | 0 | 0 | 1777 | 1728 | 1585 |
| Q Serve(g_s), s | 3.4 | 0.0 | 0.0 | 8.5 | 8.4 | 0.8 |
| Cycle Q Clear(g_c), s | 3.4 | 0.0 | 0.0 | 8.5 | 8.4 | 0.8 |
| Prop In Lane | | 0.00 | 0.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 1596 | 0 | 0 | 1596 | 1080 | 495 |
| V/C Ratio(X) | 0.31 | 0.00 | 0.00 | 0.64 | 0.77 | 0.09 |
| Avail Cap(c_a), veh/h | 2614 | 0 | 0 | 2614 | 2005 | 920 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 6.8 | 0.0 | 0.0 | 8.2 | 12.0 | 9.4 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 0.0 | 0.4 | 0.5 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.8 | 0.0 | 0.0 | 2.1 | 2.5 | 0.2 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 6.8 | 0.0 | 0.0 | 8.6 | 12.5 | 9.4 |
| LnGrp LOS | A | A | A | A | B | A |
| Approach Vol, veh/h | 487 | | | 1018 | 879 | |
| Approach Delay, s/veh | 6.8 | | | 8.6 | 12.3 | |
| Approach LOS | A | | | A | B | |

| Timer - Assigned Phs | 2 | | | 6 | 8 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 21.9 | | | 21.9 | 16.7 |
| Change Period (Y+Rc), s | 4.6 | | | 4.6 | 4.6 |
| Max Green Setting (Gmax), s | 28.4 | | | 28.4 | 22.4 |
| Max Q Clear Time (g_c+I1), s | 5.4 | | | 10.5 | 10.4 |
| Green Ext Time (p_c), s | 2.1 | | | 6.8 | 1.6 |

**Intersection Summary**

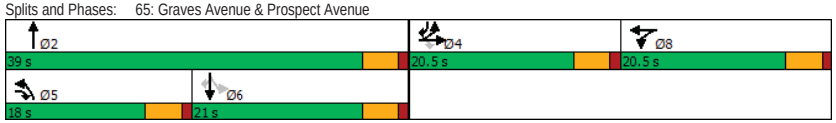
| | | |
|---|---|---|
| HCM 6th Ctrl Delay | 9.6 | |
| HCM 6th LOS | A | |

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\No School Alt\3 Existing + Proj AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 106 | 11 | 372 | 3 | 5 | 1 | 621 | 18 | 6 | 1 | 63 | 311 |
| Future Volume (vph) | 106 | 11 | 372 | 3 | 5 | 1 | 621 | 18 | 6 | 1 | 63 | 311 |
| Confl. Peds. (#/hr) | | | 1 | | | 1 | | | 12 | | | |
| Confl. Bikes (#/hr) | | | 3 | | | | | | 1 | | | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | 45% | | | | | | | | | | | |
| Turn Type | Split | NA | pm+ov | Split | NA | | Prot | NA | | Perm | NA | pm+ov |
| Protected Phases | 4 | 4 | 5 | 8 | 8 | | 5 | 2 | | | 6 | 4 |
| Permitted Phases | | | 4 | | | | | | | 6 | | 6 |
| Detector Phase | 4 | 4 | 5 | 8 | 8 | | 5 | 2 | | 6 | 6 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 20.5 | 20.5 | 8.5 | 20.5 | 20.5 | | 8.5 | 20.5 | | 20.5 | 20.5 | 20.5 |
| Total Split (s) | 20.5 | 20.5 | 18.0 | 20.5 | 20.5 | | 18.0 | 39.0 | | 21.0 | 21.0 | 20.5 |
| Total Split (%) | 25.6% | 25.6% | 22.5% | 25.6% | 25.6% | | 22.5% | 48.8% | | 26.3% | 26.3% | 25.6% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | | | 4.5 | 4.5 |
| Lead/Lag | | | Lead | | | | Lead | | | Lag | Lag | |
| Lead-Lag Optimize? | | | Yes | | | | Yes | | | Yes | Yes | |
| Recall Mode | None | None | None | None | None | | None | Min | | Min | Min | None |

| Intersection Summary |
|---|
| Cycle Length: 80 |
| Actuated Cycle Length: 44.2 |
| Natural Cycle: 80 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 65: Graves Avenue & Prospect Avenue








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 106 | 11 | 372 | 3 | 5 | 1 | 621 | 18 | 6 | 1 | 63 | 311 |
| Future Volume (veh/h) | 106 | 11 | 372 | 3 | 5 | 1 | 621 | 18 | 6 | 1 | 63 | 311 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 1.00 | 1.00 | | 0.97 | 0.97 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 124 | 0 | 404 | 3 | 5 | 1 | 675 | 20 | 7 | 1 | 68 | 338 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 845 | 0 | 726 | 20 | 17 | 3 | 785 | 676 | 236 | 65 | 390 | 703 |
| Arrive On Green | 0.24 | 0.00 | 0.24 | 0.01 | 0.01 | 0.01 | 0.23 | 0.52 | 0.52 | 0.21 | 0.21 | 0.21 |
| Sat Flow, veh/h | 3563 | 0 | 1543 | 1781 | 1512 | 302 | 3456 | 1311 | 459 | 6 | 1862 | 1561 |
| Grp Volume(v), veh/h | 124 | 0 | 404 | 3 | 0 | 6 | 675 | 0 | 27 | 69 | 0 | 338 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1543 | 1781 | 0 | 1814 | 1728 | 0 | 1770 | 1868 | 0 | 1561 |
| Q Serve(g_s), s | 1.6 | 0.0 | 10.9 | 0.1 | 0.0 | 0.2 | 10.7 | 0.0 | 0.4 | 0.0 | 0.0 | 8.7 |
| Cycle Q Clear(g_c), s | 1.6 | 0.0 | 10.9 | 0.1 | 0.0 | 0.2 | 10.7 | 0.0 | 0.4 | 1.7 | 0.0 | 8.7 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.17 | 1.00 | | 0.26 | 0.01 | | 1.00 |
| Lane Grp Cap(c), veh/h | 845 | 0 | 726 | 20 | 0 | 21 | 785 | 0 | 912 | 455 | 0 | 703 |
| V/C Ratio(X) | 0.15 | 0.00 | 0.56 | 0.15 | 0.00 | 0.29 | 0.86 | 0.00 | 0.03 | 0.15 | 0.00 | 0.48 |
| Avail Cap(c_a), veh/h | 996 | 0 | 791 | 498 | 0 | 507 | 815 | 0 | 1067 | 602 | 0 | 826 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 17.2 | 0.0 | 11.1 | 28.0 | 0.0 | 28.0 | 21.2 | 0.0 | 6.8 | 18.6 | 0.0 | 11.2 |
| Incr Delay (d2), s/veh | 0.1 | 0.0 | 0.7 | 3.2 | 0.0 | 7.4 | 9.0 | 0.0 | 0.0 | 0.2 | 0.0 | 0.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.6 | 0.0 | 3.2 | 0.1 | 0.0 | 0.1 | 4.9 | 0.0 | 0.1 | 0.7 | 0.0 | 4.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 17.3 | 0.0 | 11.8 | 31.2 | 0.0 | 35.4 | 30.3 | 0.0 | 6.8 | 18.7 | 0.0 | 11.7 |
| LnGrp LOS | B | A | B | C | A | D | C | A | A | B | A | B |
| Approach Vol, veh/h | | 528 | | | 9 | | | 702 | | | 407 | |
| Approach Delay, s/veh | | 13.1 | | | 34.0 | | | 29.4 | | | 12.9 | |
| Approach LOS | | B | | | C | | | C | | | B | |

| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 34.0 | | 18.1 | 17.5 | 16.5 | | 5.2 | | | | |
| Change Period (Y+Rc), s | | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | | 34.5 | | 16.0 | 13.5 | 16.5 | | 16.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 2.4 | | 12.9 | 12.7 | 10.7 | | 2.2 | | | | |
| Green Ext Time (p_c), s | | 0.1 | | 0.7 | 0.3 | 0.8 | | 0.0 | | | | |

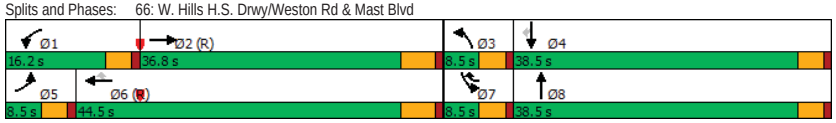
| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 20.1 |
| HCM 6th LOS | C |

| Notes |
|---|
| User approved volume balancing among the lanes for turning movement. |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 569 | 44 | 88 | 2073 | 0 | 16 | 0 | 78 | 0 | 0 | 0 |
| Future Volume (vph) | 0 | 569 | 44 | 88 | 2073 | 0 | 16 | 0 | 78 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Prot | NA | | Prot | | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | 4.0 | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.5 | 22.5 | | 8.5 | 27.3 | 8.5 | 8.5 | 38.5 | | 8.5 | 33.5 | 33.5 |
| Total Split (s) | 8.5 | 36.8 | | 16.2 | 44.5 | 8.5 | 8.5 | 38.5 | | 8.5 | 38.5 | 38.5 |
| Total Split (%) | 8.5% | 36.8% | | 16.2% | 44.5% | 8.5% | 8.5% | 38.5% | | 8.5% | 38.5% | 38.5% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | 3.2 | 3.2 | 3.2 | | 3.2 | 3.2 | 3.2 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | 4.2 | 4.2 | 4.2 | | 4.2 | 4.2 | 4.2 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | C-Min | | None | C-Min | None | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 84 (84%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 145 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 66: W. Hills H.S. Drwy/Weston Rd & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 569 | 44 | 88 | 2073 | 0 | 16 | 0 | 78 | 0 | 0 | 0 |
| Future Volume (veh/h) | 0 | 569 | 44 | 88 | 2073 | 0 | 16 | 0 | 78 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 618 | 48 | 96 | 2253 | 0 | 17 | 0 | 85 | 0 | 0 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 2 | 2413 | 187 | 122 | 2958 | 1253 | 27 | 0 | 115 | 2 | 29 | 25 |
| Arrive On Green | 0.00 | 1.00 | 1.00 | 0.09 | 1.00 | 0.00 | 0.02 | 0.00 | 0.07 | 0.00 | 0.00 | 0.00 |
| Sat Flow, veh/h | 1781 | 3341 | 259 | 1781 | 3554 | 1585 | 1781 | 0 | 1585 | 1781 | 1870 | 1585 |
| Grp Volume(v), veh/h | 0 | 328 | 338 | 96 | 2253 | 0 | 17 | 0 | 85 | 0 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1824 | 1781 | 1777 | 1585 | 1781 | 0 | 1585 | 1781 | 1870 | 1585 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.0 | 5.3 | 0.0 | 4.2 | 0.9 | 0.0 | 5.3 | 0.0 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 0.0 | 0.0 | 0.0 | 5.3 | 0.0 | 4.2 | 0.9 | 0.0 | 5.3 | 0.0 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | | 0.14 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 2 | 1283 | 1317 | 122 | 2958 | 1253 | 27 | 0 | 115 | 2 | 29 | 25 |
| V/C Ratio(X) | 0.00 | 0.26 | 0.26 | 0.79 | 0.76 | 0.00 | 0.63 | 0.00 | 0.74 | 0.00 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 77 | 1283 | 1317 | 214 | 2958 | 1253 | 77 | 0 | 544 | 77 | 642 | 544 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 1.33 | 1.33 | 1.33 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.00 | 0.99 | 0.99 | 0.71 | 0.71 | 0.00 | 1.00 | 0.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 0.0 | 0.0 | 0.0 | 44.7 | 0.0 | 0.0 | 49.0 | 0.0 | 45.4 | 0.0 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 0.0 | 0.5 | 0.5 | 7.8 | 1.4 | 0.0 | 22.1 | 0.0 | 8.9 | 0.0 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.2 | 0.2 | 2.5 | 0.6 | 0.0 | 0.6 | 0.0 | 2.3 | 0.0 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 0.5 | 0.5 | 52.5 | 1.4 | 0.0 | 71.1 | 0.0 | 54.4 | 0.0 | 0.0 | 0.0 |
| LnGrp LOS | A | A | A | D | A | A | E | A | D | A | A | A |
| Approach Vol, veh/h | | 666 | | | 2349 | | | 102 | | | 0 | |
| Approach Delay, s/veh | | 0.5 | | | 3.5 | | | 57.1 | | | 0.0 | |
| Approach LOS | | A | | | A | | | E | | | | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 11.0 | 77.5 | 5.7 | 5.7 | 0.0 | 88.5 | 0.0 | 11.5 |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | * 4.2 | * 4.2 | * 4.2 | 5.3 | * 4.2 | * 4.2 |
| Max Green Setting (Gmax), s | * 12 | 31.5 | * 4.3 | * 34 | * 4.3 | 39.2 | * 4.3 | * 34 |
| Max Q Clear Time (g_c+I1), s | 7.3 | 2.0 | 2.9 | 0.0 | 0.0 | 6.2 | 0.0 | 7.3 |
| Green Ext Time (p_c), s | 0.1 | 4.1 | 0.0 | 0.0 | 0.0 | 24.6 | 0.0 | 0.5 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 4.6 | |
| HCM 6th LOS | A | |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.2 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 11 | 0 | 500 | 22 | 0 | 239 |
| Future Vol, veh/h | 11 | 0 | 500 | 22 | 0 | 239 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | 150 | 50 | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 12 | 0 | 543 | 24 | 0 | 260 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 803 | 543 | 0 | 0 | 567 | 0 |
| Stage 1 | 543 | - | - | - | - | - |
| Stage 2 | 260 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | - | - | 4.12 | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | - | - | 2.218 | - |
| Pot Cap-1 Maneuver | 353 | 540 | - | - | 1005 | - |
| Stage 1 | 582 | - | - | - | - | - |
| Stage 2 | 783 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 353 | 540 | - | - | 1005 | - |
| Mov Cap-2 Maneuver | 353 | - | - | - | - | - |
| Stage 1 | 582 | - | - | - | - | - |
| Stage 2 | 783 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 15.6 | 0 | 0 |
| HCM LOS | C | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | SBL | SBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 353 | 1005 | - |
| HCM Lane V/C Ratio | - | - | 0.034 | - | - |
| HCM Control Delay (s) | - | - | 15.6 | 0 | - |
| HCM Lane LOS | - | - | C | A | - |
| HCM 95th %tile Q(veh) | - | - | 0.1 | 0 | - |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 12.6 |
| Intersection LOS | B |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 1 | 3 | 23 | 20 | 0 | 3 | 59 | 417 | 34 | 0 | 204 | 2 |
| Future Vol, veh/h | 1 | 3 | 23 | 20 | 0 | 3 | 59 | 417 | 34 | 0 | 204 | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 1 | 3 | 25 | 22 | 0 | 3 | 64 | 453 | 37 | 0 | 222 | 2 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 3 | 3 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 3 | 3 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 3 | 3 | 1 | 1 |
| HCM Control Delay | 8.8 | 9.7 | 13.8 | 10.3 |
| HCM LOS | A | A | B | B |

| Lane | NBLn1 | NBLn2 | NBLn3 | EBLn1 | WBLn1 | SBLn1 | SBLn2 | SBLn3 |
|---|---|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 4% | 87% | 0% | 0% | 0% |
| Vol Thru, % | 0% | 100% | 0% | 11% | 0% | 100% | 100% | 0% |
| Vol Right, % | 0% | 0% | 100% | 85% | 13% | 0% | 0% | 100% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 59 | 417 | 34 | 27 | 23 | 0 | 204 | 2 |
| LT Vol | 59 | 0 | 0 | 1 | 20 | 0 | 0 | 0 |
| Through Vol | 0 | 417 | 0 | 3 | 0 | 0 | 204 | 0 |
| RT Vol | 0 | 0 | 34 | 23 | 3 | 0 | 0 | 2 |
| Lane Flow Rate | 64 | 453 | 37 | 29 | 25 | 0 | 222 | 2 |
| Geometry Grp | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| Degree of Util (X) | 0.096 | 0.614 | 0.043 | 0.047 | 0.046 | 0 | 0.317 | 0.003 |
| Departure Headway (Hd) | 5.381 | 4.879 | 4.177 | 5.724 | 6.651 | 5.152 | 5.152 | 4.45 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 666 | 739 | 857 | 623 | 537 | 0 | 696 | 802 |
| Service Time | 3.11 | 2.608 | 1.905 | 3.482 | 4.411 | 2.889 | 2.889 | 2.187 |
| HCM Lane V/C Ratio | 0.096 | 0.613 | 0.043 | 0.047 | 0.047 | 0 | 0.319 | 0.002 |
| HCM Control Delay | 8.7 | 15.1 | 7.1 | 8.8 | 9.7 | 7.9 | 10.3 | 7.2 |
| HCM Lane LOS | A | C | A | A | A | N | B | A |
| HCM 95th-tile Q | 0.3 | 4.3 | 0.1 | 0.1 | 0.1 | 0 | 1.4 | 0 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 3.7 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 0 | 0 | 10 | 62 | 0 | 1 | 18 | 810 | 101 | 1 | 388 | 0 |
| Future Vol, veh/h | 0 | 0 | 10 | 62 | 0 | 1 | 18 | 810 | 101 | 1 | 388 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 11 | 67 | 0 | 1 | 20 | 880 | 110 | 1 | 422 | 0 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1400 | 1455 | 422 | 1406 | 1400 | 936 | 422 | 0 | 0 | 991 | 0 | 0 |
| Stage 1 | 424 | 424 | - | 976 | 976 | - | - | - | - | - | - | - |
| Stage 2 | 976 | 1031 | - | 430 | 424 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | 4.12 | - | - | 4.12 | - | - |
| Critical Hdwy Stg 1 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | 2.218 | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 118 | 130 | 632 | 117 | 140 | 321 | 1137 | - | - | 698 | - | - |
| Stage 1 | 608 | 587 | - | 302 | 329 | - | - | - | - | - | - | - |
| Stage 2 | 302 | 310 | - | 603 | 587 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 114 | 124 | 632 | 111 | 134 | 321 | 1137 | - | - | 697 | - | - |
| Mov Cap-2 Maneuver | 114 | 124 | - | 111 | 134 | - | - | - | - | - | - | - |
| Stage 1 | 584 | 586 | - | 290 | 316 | - | - | - | - | - | - | - |
| Stage 2 | 289 | 297 | - | 591 | 586 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 10.8 | 78.1 | 0.2 | 0 |
| HCM LOS | B | F | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1137 | - | - | 632 | 112 | 697 | - | - |
| HCM Lane V/C Ratio | 0.017 | - | - | 0.017 | 0.611 | 0.002 | - | - |
| HCM Control Delay (s) | 8.2 | 0 | - | 10.8 | 78.1 | 10.2 | 0 | - |
| HCM Lane LOS | A | A | - | B | F | B | A | - |
| HCM 95th %tile Q(veh) | 0.1 | - | - | 0.1 | 3 | 0 | - | - |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 86.6 |
| Intersection LOS | F |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 0 | 1 | 7 | 108 | 2 | 11 | 7 | 555 | 232 | 3 | 264 | 2 |
| Future Vol, veh/h | 0 | 1 | 7 | 108 | 2 | 11 | 7 | 555 | 232 | 3 | 264 | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 1 | 8 | 117 | 2 | 12 | 8 | 603 | 252 | 3 | 287 | 2 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |

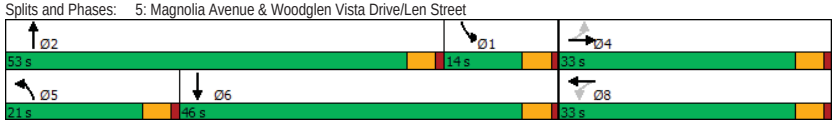
| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay | 9.8 | 12.1 | 123.5 | 13.4 |
| HCM LOS | A | B | F | B |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 89% | 100% | 0% |
| Vol Thru, % | 0% | 71% | 12% | 2% | 0% | 99% |
| Vol Right, % | 0% | 29% | 88% | 9% | 0% | 1% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 7 | 787 | 8 | 121 | 3 | 266 |
| LT Vol | 7 | 0 | 0 | 108 | 3 | 0 |
| Through Vol | 0 | 555 | 1 | 2 | 0 | 264 |
| RT Vol | 0 | 232 | 7 | 11 | 0 | 2 |
| Lane Flow Rate | 8 | 855 | 9 | 132 | 3 | 289 |
| Geometry Grp | 7 | 7 | 2 | 2 | 7 | 7 |
| Degree of Util (X) | 0.012 | 1.206 | 0.015 | 0.236 | 0.006 | 0.452 |
| Departure Headway (Hd) | 5.789 | 5.077 | 6.731 | 6.929 | 6.41 | 5.897 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 614 | 710 | 535 | 522 | 562 | 616 |
| Service Time | 3.562 | 2.849 | 4.731 | 4.929 | 4.11 | 3.597 |
| HCM Lane V/C Ratio | 0.013 | 1.204 | 0.017 | 0.253 | 0.005 | 0.469 |
| HCM Control Delay | 8.6 | 124.5 | 9.8 | 12.1 | 9.1 | 13.4 |
| HCM Lane LOS | A | F | A | B | A | B |
| HCM 95th-tile Q | 0 | 28.9 | 0 | 0.9 | 0 | 2.3 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 13 | 32 | 79 | 31 | 7 | 7 | 79 | 739 | 44 | 3 | 417 | 8 |
| Future Volume (vph) | 13 | 32 | 79 | 31 | 7 | 7 | 79 | 739 | 44 | 3 | 417 | 8 |
| Confl. Peds. (#/hr) | 4 | | 6 | 6 | | 4 | 8 | | | | | 8 |
| Confl. Bikes (#/hr) | | | 5 | | | 4 | | | 4 | | | 5 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Perm | NA | | Perm | NA | | Prot | NA | | Prot | NA | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 26.5 | 26.5 | | 26.5 | 26.5 | | 11.5 | 22.5 | | 11.5 | 22.5 | |
| Total Split (s) | 33.0 | 33.0 | | 33.0 | 33.0 | | 21.0 | 53.0 | | 14.0 | 46.0 | |
| Total Split (%) | 33.0% | 33.0% | | 33.0% | 33.0% | | 21.0% | 53.0% | | 14.0% | 46.0% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | | | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lead | | Lag | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 42.7 |
| Natural Cycle: 65 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 5: Magnolia Avenue & Woodglen Vista Drive/Len Street








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 13 | 32 | 79 | 31 | 7 | 7 | 79 | 739 | 44 | 3 | 417 | 8 |
| Future Volume (veh/h) | 13 | 32 | 79 | 31 | 7 | 7 | 79 | 739 | 44 | 3 | 417 | 8 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 0.99 | | 0.97 | 0.99 | | 0.97 | 1.00 | | 0.97 | 1.00 | | 0.96 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 14 | 35 | 86 | 34 | 8 | 8 | 86 | 803 | 48 | 3 | 453 | 9 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 501 | 91 | 224 | 294 | 69 | 36 | 202 | 1405 | 84 | 10 | 1088 | 22 |
| Arrive On Green | 0.19 | 0.19 | 0.19 | 0.19 | 0.19 | 0.19 | 0.11 | 0.41 | 0.41 | 0.01 | 0.31 | 0.31 |
| Sat Flow, veh/h | 1387 | 470 | 1155 | 622 | 353 | 186 | 1781 | 3399 | 203 | 1781 | 3560 | 71 |
| Grp Volume(v), veh/h | 14 | 0 | 121 | 50 | 0 | 0 | 86 | 420 | 431 | 3 | 226 | 236 |
| Grp Sat Flow(s),veh/h/ln | 1387 | 0 | 1626 | 1161 | 0 | 0 | 1781 | 1777 | 1826 | 1781 | 1777 | 1854 |
| Q Serve(g_s), s | 0.0 | 0.0 | 2.3 | 0.1 | 0.0 | 0.0 | 1.6 | 6.3 | 6.3 | 0.1 | 3.5 | 3.5 |
| Cycle Q Clear(g_c), s | 0.2 | 0.0 | 2.3 | 2.3 | 0.0 | 0.0 | 1.6 | 6.3 | 6.3 | 0.1 | 3.5 | 3.5 |
| Prop In Lane | 1.00 | | 0.71 | 0.68 | | 0.16 | 1.00 | | 0.11 | 1.00 | | 0.04 |
| Lane Grp Cap(c), veh/h | 501 | 0 | 315 | 399 | 0 | 0 | 202 | 734 | 754 | 10 | 543 | 567 |
| V/C Ratio(X) | 0.03 | 0.00 | 0.38 | 0.13 | 0.00 | 0.00 | 0.43 | 0.57 | 0.57 | 0.29 | 0.42 | 0.42 |
| Avail Cap(c_a), veh/h | 1365 | 0 | 1328 | 1255 | 0 | 0 | 843 | 2471 | 2539 | 485 | 2114 | 2206 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 11.4 | 0.0 | 12.2 | 11.7 | 0.0 | 0.0 | 14.4 | 7.9 | 7.9 | 17.3 | 9.6 | 9.6 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 0.8 | 0.1 | 0.0 | 0.0 | 1.4 | 0.7 | 0.7 | 15.0 | 0.5 | 0.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.1 | 0.0 | 0.7 | 0.3 | 0.0 | 0.0 | 0.6 | 1.4 | 1.5 | 0.1 | 1.0 | 1.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 11.4 | 0.0 | 13.0 | 11.8 | 0.0 | 0.0 | 15.8 | 8.6 | 8.5 | 32.3 | 10.1 | 10.1 |
| LnGrp LOS | B | A | B | B | A | A | B | A | A | C | B | B |
| Approach Vol, veh/h | | 135 | | | 50 | | | 937 | | | 465 | |
| Approach Delay, s/veh | | 12.8 | | | 11.8 | | | 9.2 | | | 10.3 | |
| Approach LOS | | B | | | B | | | A | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 4.7 | 18.9 | | 11.3 | 8.5 | 15.2 | | 11.3 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 9.5 | 48.5 | | 28.5 | 16.5 | 41.5 | | 28.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.1 | 8.3 | | 4.3 | 3.6 | 5.5 | | 4.3 | | | | |
| Green Ext Time (p_c), s | 0.0 | 5.8 | | 0.7 | 0.1 | 2.7 | | 0.2 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 9.9 | |
| HCM 6th LOS | A | |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 50.8 |
| Intersection LOS | F |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 1 | 1 | 5 | 99 | 8 | 3 | 13 | 798 | 106 | 3 | 384 | 0 |
| Future Vol, veh/h | 1 | 1 | 5 | 99 | 8 | 3 | 13 | 798 | 106 | 3 | 384 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 1 | 1 | 5 | 108 | 9 | 3 | 14 | 867 | 115 | 3 | 417 | 0 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay | 10.7 | 12.7 | 224 | 19.3 |
| HCM LOS | B | B | F | C |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 14% | 90% | 100% | 0% |
| Vol Thru, % | 0% | 88% | 14% | 7% | 0% | 100% |
| Vol Right, % | 0% | 12% | 71% | 3% | 0% | 0% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 13 | 904 | 7 | 110 | 3 | 384 |
| LT Vol | 13 | 0 | 1 | 99 | 3 | 0 |
| Through Vol | 0 | 798 | 1 | 8 | 0 | 384 |
| RT Vol | 0 | 106 | 5 | 3 | 0 | 0 |
| Lane Flow Rate | 14 | 983 | 8 | 120 | 3 | 417 |
| Geometry Grp | 7 | 7 | 2 | 2 | 7 | 7 |
| Degree of Util (X) | 0.023 | 1.451 | 0.014 | 0.224 | 0.006 | 0.652 |
| Departure Headway (Hd) | 5.905 | 5.317 | 7.551 | 7.57 | 6.559 | 6.051 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 603 | 688 | 477 | 477 | 549 | 601 |
| Service Time | 3.674 | 3.086 | 5.551 | 5.57 | 4.259 | 3.751 |
| HCM Lane V/C Ratio | 0.023 | 1.429 | 0.017 | 0.252 | 0.005 | 0.694 |
| HCM Control Delay | 8.8 | 227.1 | 10.7 | 12.7 | 9.3 | 19.4 |
| HCM Lane LOS | A | F | B | B | A | C |
| HCM 95th-tile Q | 0.1 | 45.6 | 0 | 0.9 | 0 | 4.7 |

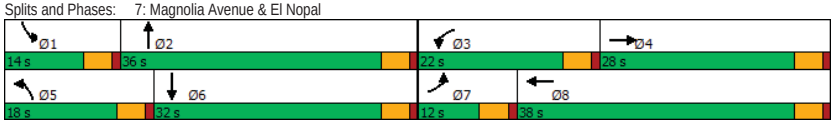




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 6 | 69 | 60 | 142 | 106 | 239 | 92 | 622 | 199 | 137 | 391 | 9 |
| Future Volume (vph) | 6 | 69 | 60 | 142 | 106 | 239 | 92 | 622 | 199 | 137 | 391 | 9 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | 1 | | | 1 | | | 3 | | | 5 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | | Prot | NA | |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 11.5 | 26.5 | | 11.5 | 25.5 | | 11.5 | 22.5 | | 11.5 | 22.5 | |
| Total Split (s) | 12.0 | 28.0 | | 22.0 | 38.0 | | 18.0 | 36.0 | | 14.0 | 32.0 | |
| Total Split (%) | 12.0% | 28.0% | | 22.0% | 38.0% | | 18.0% | 36.0% | | 14.0% | 32.0% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 77.6 |
| Natural Cycle: 80 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 7: Magnolia Avenue & El Nopal



Existing + Proj PM (No School)
7: Magnolia Avenue & El Nopal

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 6 | 69 | 60 | 142 | 106 | 239 | 92 | 622 | 199 | 137 | 391 | 9 |
| Future Volume (veh/h) | 6 | 69 | 60 | 142 | 106 | 239 | 92 | 622 | 199 | 137 | 391 | 9 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 7 | 75 | 65 | 154 | 115 | 260 | 100 | 676 | 216 | 149 | 425 | 10 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 23 | 166 | 144 | 198 | 141 | 319 | 158 | 873 | 279 | 188 | 1237 | 29 |
| Arrive On Green | 0.01 | 0.18 | 0.18 | 0.11 | 0.28 | 0.28 | 0.09 | 0.33 | 0.33 | 0.11 | 0.35 | 0.35 |
| Sat Flow, veh/h | 1781 | 918 | 796 | 1781 | 505 | 1142 | 1781 | 2632 | 841 | 1781 | 3546 | 83 |
| Grp Volume(v), veh/h | 7 | 0 | 140 | 154 | 0 | 375 | 100 | 456 | 436 | 149 | 213 | 222 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1714 | 1781 | 0 | 1647 | 1781 | 1777 | 1695 | 1781 | 1777 | 1853 |
| Q Serve(g_s), s | 0.3 | 0.0 | 4.8 | 5.6 | 0.0 | 14.1 | 3.6 | 15.3 | 15.4 | 5.4 | 5.9 | 5.9 |
| Cycle Q Clear(g_c), s | 0.3 | 0.0 | 4.8 | 5.6 | 0.0 | 14.1 | 3.6 | 15.3 | 15.4 | 5.4 | 5.9 | 5.9 |
| Prop In Lane | 1.00 | | 0.46 | 1.00 | | 0.69 | 1.00 | | 0.50 | 1.00 | | 0.04 |
| Lane Grp Cap(c), veh/h | 23 | 0 | 309 | 198 | 0 | 460 | 158 | 590 | 563 | 188 | 620 | 646 |
| V/C Ratio(X) | 0.31 | 0.00 | 0.45 | 0.78 | 0.00 | 0.82 | 0.63 | 0.77 | 0.77 | 0.79 | 0.34 | 0.34 |
| Avail Cap(c_a), veh/h | 201 | 0 | 606 | 469 | 0 | 830 | 362 | 842 | 804 | 255 | 735 | 767 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 32.5 | 0.0 | 24.3 | 28.7 | 0.0 | 22.4 | 29.2 | 20.0 | 20.0 | 29.0 | 16.0 | 16.0 |
| Incr Delay (d2), s/veh | 7.4 | 0.0 | 1.0 | 6.4 | 0.0 | 3.6 | 4.1 | 2.9 | 3.0 | 11.4 | 0.3 | 0.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.2 | 0.0 | 2.0 | 2.7 | 0.0 | 5.6 | 1.6 | 6.0 | 5.7 | 2.7 | 2.1 | 2.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 39.9 | 0.0 | 25.3 | 35.1 | 0.0 | 26.0 | 33.4 | 22.8 | 23.0 | 40.4 | 16.3 | 16.3 |
| LnGrp LOS | D | A | C | D | A | C | C | C | C | D | B | B |
| Approach Vol, veh/h | | 147 | | | 529 | | | 992 | | | 584 | |
| Approach Delay, s/veh | | 26.0 | | | 28.6 | | | 24.0 | | | 22.5 | |
| Approach LOS | | C | | | C | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 11.5 | 26.6 | 11.9 | 16.5 | 10.4 | 27.7 | 5.3 | 23.0 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 9.5 | 31.5 | 17.5 | 23.5 | 13.5 | 27.5 | 7.5 | 33.5 |
| Max Q Clear Time (g_c+I1), s | 7.4 | 17.4 | 7.6 | 6.8 | 5.6 | 7.9 | 2.3 | 16.1 |
| Green Ext Time (p_c), s | 0.1 | 4.7 | 0.3 | 0.7 | 0.1 | 2.2 | 0.0 | 2.4 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 24.8 |
| HCM 6th LOS | C |

HCM 6th Signalized Intersection Summary
N:\2462\Analysis\Intersections\Synchro\No School Alt\4 Existing + Proj PM.syn

Existing + Proj PM (No School)
8: Los Ranchitos Road & El Nopal

Fanita Ranch
06/06/2019

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 35.9 |
| Intersection LOS | E |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 325 | 11 | 151 | 459 | 9 | 194 |
| Future Vol, veh/h | 325 | 11 | 151 | 459 | 9 | 194 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 353 | 12 | 164 | 499 | 10 | 211 |
| Number of Lanes | 1 | 1 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB |
|---|---|---|---|
| Opposing Approach | WB | EB | |
| Opposing Lanes | 1 | 2 | 0 |
| Conflicting Approach Left | | NB | EB |
| Conflicting Lanes Left | 0 | 1 | 2 |
| Conflicting Approach Right | NB | | WB |
| Conflicting Lanes Right | 1 | 0 | 1 |
| HCM Control Delay | 16.8 | 54.3 | 12.5 |
| HCM LOS | C | F | B |

| Lane | NBLn1 | EBLn1 | EBLn2 | WBLn1 |
|---|---|---|---|---|
| Vol Left, % | 4% | 0% | 0% | 25% |
| Vol Thru, % | 0% | 100% | 0% | 75% |
| Vol Right, % | 96% | 0% | 100% | 0% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 203 | 325 | 11 | 610 |
| LT Vol | 9 | 0 | 0 | 151 |
| Through Vol | 0 | 325 | 0 | 459 |
| RT Vol | 194 | 0 | 11 | 0 |
| Lane Flow Rate | 221 | 353 | 12 | 663 |
| Geometry Grp | 2 | 7 | 7 | 5 |
| Degree of Util (X) | 0.366 | 0.589 | 0.018 | 0.986 |
| Departure Headway (Hd) | 5.969 | 5.999 | 5.288 | 5.353 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 600 | 601 | 674 | 676 |
| Service Time | 4.037 | 3.754 | 3.042 | 3.399 |
| HCM Lane V/C Ratio | 0.368 | 0.587 | 0.018 | 0.981 |
| HCM Control Delay | 12.5 | 17.1 | 8.1 | 54.3 |
| HCM Lane LOS | B | C | A | F |
| HCM 95th-tile Q | 1.7 | 3.8 | 0.1 | 15.1 |

HCM 6th AWSC
N:\2462\Analysis\Intersections\Synchro\No School Alt\4 Existing + Proj PM.syn

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 50.6 |
| Intersection LOS | F |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 52 | 89 | 868 | 91 | 40 | 430 |
| Future Vol, veh/h | 52 | 89 | 868 | 91 | 40 | 430 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 57 | 97 | 943 | 99 | 43 | 467 |
| Number of Lanes | 1 | 0 | 1 | 0 | 0 | 1 |

| Approach | WB | NB | SB |
|---|---|---|---|
| Opposing Approach | | SB | NB |
| Opposing Lanes | 0 | 1 | 1 |
| Conflicting Approach Left | NB | | WB |
| Conflicting Lanes Left | 1 | 0 | 1 |
| Conflicting Approach Right | SB | WB | |
| Conflicting Lanes Right | 1 | 1 | 0 |
| HCM Control Delay | 12.9 | 232.5 | 24.9 |
| HCM LOS | B | F | C |

| Lane | NBLn1 | WBLn1 | SBLn1 |
|---|---|---|---|
| Vol Left, % | 0% | 37% | 9% |
| Vol Thru, % | 91% | 0% | 91% |
| Vol Right, % | 9% | 63% | 0% |
| Sign Control | Stop | Stop | Stop |
| Traffic Vol by Lane | 959 | 141 | 470 |
| LT Vol | 0 | 52 | 40 |
| Through Vol | 868 | 0 | 430 |
| RT Vol | 91 | 89 | 0 |
| Lane Flow Rate | 1042 | 153 | 511 |
| Geometry Grp | 1 | 1 | 1 |
| Degree of Util (X) | 1.465 | 0.272 | 0.758 |
| Departure Headway (Hd) | 5.058 | 7.202 | 5.878 |
| Convergence, Y/N | Yes | Yes | Yes |
| Cap | 719 | 503 | 618 |
| Service Time | 3.132 | 5.202 | 3.878 |
| HCM Lane V/C Ratio | 1.449 | 0.304 | 0.827 |
| HCM Control Delay | 232.5 | 12.9 | 24.9 |
| HCM Lane LOS | F | B | C |
| HCM 95th-tile Q | 48.7 | 1.1 | 6.9 |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 10.4 |
| Intersection LOS | B |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 3 | 15 | 193 | 11 | 6 | 5 | 220 | 48 | 24 | 3 | 33 | 3 |
| Future Vol, veh/h | 3 | 15 | 193 | 11 | 6 | 5 | 220 | 48 | 24 | 3 | 33 | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 3 | 16 | 210 | 12 | 7 | 5 | 239 | 52 | 26 | 3 | 36 | 3 |
| Number of Lanes | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 2 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 2 | 2 | 3 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 3 | 2 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 3 | 2 | 1 | 2 |
| HCM Control Delay | 9.6 | 9.2 | 11.3 | 9.1 |
| HCM LOS | A | A | B | A |

| Lane | NBLn1 | NBLn2 | NBLn3 | EBLn1 | EBLn2 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 17% | 0% | 50% | 100% | 0% |
| Vol Thru, % | 0% | 100% | 40% | 83% | 0% | 27% | 0% | 92% |
| Vol Right, % | 0% | 0% | 60% | 0% | 100% | 23% | 0% | 8% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 220 | 32 | 40 | 18 | 193 | 22 | 3 | 36 |
| LT Vol | 220 | 0 | 0 | 3 | 0 | 11 | 3 | 0 |
| Through Vol | 0 | 32 | 16 | 15 | 0 | 6 | 0 | 33 |
| RT Vol | 0 | 0 | 24 | 0 | 193 | 5 | 0 | 3 |
| Lane Flow Rate | 239 | 35 | 43 | 20 | 210 | 24 | 3 | 39 |
| Geometry Grp | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| Degree of Util (X) | 0.387 | 0.051 | 0.059 | 0.031 | 0.287 | 0.041 | 0.006 | 0.064 |
| Departure Headway (Hd) | 5.825 | 5.322 | 4.9 | 5.712 | 4.928 | 6.116 | 6.43 | 5.866 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 615 | 667 | 724 | 624 | 726 | 580 | 552 | 604 |
| Service Time | 3.6 | 3.097 | 2.675 | 3.471 | 2.686 | 3.911 | 4.227 | 3.663 |
| HCM Lane V/C Ratio | 0.389 | 0.052 | 0.059 | 0.032 | 0.289 | 0.041 | 0.005 | 0.065 |
| HCM Control Delay | 12.3 | 8.4 | 8 | 8.7 | 9.7 | 9.2 | 9.3 | 9.1 |
| HCM Lane LOS | B | A | A | A | A | A | A | A |
| HCM 95th-tile Q | 1.8 | 0.2 | 0.2 | 0.1 | 1.2 | 0.1 | 0 | 0.2 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 5.1 |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 9 | 33 | 35 | 31 | 0 | 15 |
| Future Vol, veh/h | 9 | 33 | 35 | 31 | 0 | 15 |
| Conflicting Peds, #/hr | 4 | 1 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | 150 | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 10 | 36 | 38 | 34 | 0 | 16 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 122 | 9 | 16 | 0 | - | 0 |
| Stage 1 | 8 | - | - | - | - | - |
| Stage 2 | 114 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | 4.12 | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | 2.218 | - | - | - |
| Pot Cap-1 Maneuver | 873 | 1073 | 1602 | - | - | - |
| Stage 1 | 1015 | - | - | - | - | - |
| Stage 2 | 911 | - | - | - | - | - |
| Platoon blocked, % | | | | | - | - |
| Mov Cap-1 Maneuver | 852 | 1072 | 1602 | - | - | - |
| Mov Cap-2 Maneuver | 852 | - | - | - | - | - |
| Stage 1 | 991 | - | - | - | - | - |
| Stage 2 | 911 | - | - | - | - | - |

| Approach | EB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 8.7 | 3.9 | 0 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1602 | - | 1016 | - | - |
| HCM Lane V/C Ratio | 0.024 | - | 0.045 | - | - |
| HCM Control Delay (s) | 7.3 | - | 8.7 | - | - |
| HCM Lane LOS | A | - | A | - | - |
| HCM 95th %tile Q(veh) | 0.1 | - | 0.1 | - | - |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 165.5 |
| Intersection LOS | F |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 6 | 54 | 2 | 2 | 9 | 929 | 63 | 2 | 467 | 3 |
| Future Vol, veh/h | 0 | 0 | 6 | 54 | 2 | 2 | 9 | 929 | 63 | 2 | 467 | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 7 | 59 | 2 | 2 | 10 | 1010 | 68 | 2 | 508 | 3 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 3 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 3 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 3 | 2 | 1 | 1 |
| HCM Control Delay | 10.7 | 12.9 | 231.5 | 46.2 |
| HCM LOS | B | B | F | E |

| Lane | NBLn1 | NBLn2 | NBLn3 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 0% | 93% | 100% | 0% |
| Vol Thru, % | 0% | 100% | 0% | 0% | 3% | 0% | 99% |
| Vol Right, % | 0% | 0% | 100% | 100% | 3% | 0% | 1% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 9 | 929 | 63 | 6 | 58 | 2 | 470 |
| LT Vol | 9 | 0 | 0 | 0 | 54 | 2 | 0 |
| Through Vol | 0 | 929 | 0 | 0 | 2 | 0 | 467 |
| RT Vol | 0 | 0 | 63 | 6 | 2 | 0 | 3 |
| Lane Flow Rate | 10 | 1010 | 68 | 7 | 63 | 2 | 511 |
| Geometry Grp | 7 | 7 | 7 | 7 | 7 | 8 | 8 |
| Degree of Util (X) | 0.016 | 1.501 | 0.088 | 0.013 | 0.139 | 0.004 | 0.904 |
| Departure Headway (Hd) | 5.858 | 5.353 | 4.647 | 7.897 | 8.762 | 7.667 | 7.158 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 608 | 677 | 766 | 456 | 412 | 470 | 511 |
| Service Time | 3.62 | 3.115 | 2.409 | 5.597 | 6.462 | 5.367 | 4.858 |
| HCM Lane V/C Ratio | 0.016 | 1.492 | 0.089 | 0.015 | 0.153 | 0.004 | 1 |
| HCM Control Delay | 8.7 | 248.8 | 7.9 | 10.7 | 12.9 | 10.4 | 46.4 |
| HCM Lane LOS | A | F | A | B | B | B | E |
| HCM 95th-tile Q | 0 | 49.2 | 0.3 | 0 | 0.5 | 0 | 10.4 |

| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 80 | 20 | 977 | 156 | 28 | 629 |
| Future Volume (vph) | 80 | 20 | 977 | 156 | 28 | 629 |
| Confl. Peds. (#/hr) | | 8 | | 6 | | |
| Confl. Bikes (#/hr) | | | | 5 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | 0% | | | 0% |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | NA | | Prot | NA |
| Protected Phases | 8 | | 2 | | 1 | 6 |
| Permitted Phases | | 8 | | | | |
| Detector Phase | 8 | 8 | 2 | | 1 | 6 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | | 8.5 | 20.5 |
| Total Split (s) | 22.6 | 22.6 | 28.4 | | 9.0 | 37.4 |
| Total Split (%) | 37.7% | 37.7% | 47.3% | | 15.0% | 62.3% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Lead/Lag | | | Lag | | Lead | |
| Lead-Lag Optimize? | | | Yes | | Yes | |
| Recall Mode | None | None | Min | | None | Min |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 44 |
| Natural Cycle: 60 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 13: Magnolia Avenue & 2nd Street

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 80 | 20 | 977 | 156 | 28 | 629 |
| Future Volume (veh/h) | 80 | 20 | 977 | 156 | 28 | 629 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | | 0.97 | 1.00 | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | No | | | No |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 87 | 22 | 1062 | 170 | 30 | 684 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 134 | 119 | 1544 | 247 | 52 | 2362 |
| Arrive On Green | 0.08 | 0.08 | 0.51 | 0.51 | 0.03 | 0.66 |
| Sat Flow, veh/h | 1781 | 1585 | 3148 | 488 | 1781 | 3647 |
| Grp Volume(v), veh/h | 87 | 22 | 617 | 615 | 30 | 684 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 1777 | 1765 | 1781 | 1777 |
| Q Serve(g_s), s | 1.6 | 0.5 | 9.1 | 9.1 | 0.6 | 2.8 |
| Cycle Q Clear(g_c), s | 1.6 | 0.5 | 9.1 | 9.1 | 0.6 | 2.8 |
| Prop In Lane | 1.00 | 1.00 | | 0.28 | 1.00 | |
| Lane Grp Cap(c), veh/h | 134 | 119 | 898 | 892 | 52 | 2362 |
| V/C Ratio(X) | 0.65 | 0.18 | 0.69 | 0.69 | 0.58 | 0.29 |
| Avail Cap(c_a), veh/h | 933 | 830 | 1228 | 1220 | 232 | 3381 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 15.5 | 15.0 | 6.5 | 6.5 | 16.6 | 2.4 |
| Incr Delay (d2), s/veh | 5.2 | 0.7 | 1.0 | 1.0 | 10.0 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.7 | 0.2 | 1.6 | 1.6 | 0.3 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 20.8 | 15.7 | 7.4 | 7.5 | 26.5 | 2.5 |
| LnGrp LOS | C | B | A | A | C | A |
| Approach Vol, veh/h | 109 | | 1232 | | | 714 |
| Approach Delay, s/veh | 19.8 | | 7.5 | | | 3.5 |
| Approach LOS | B | | A | | | A |

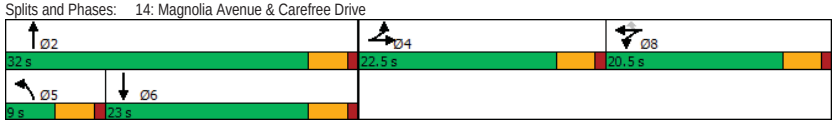
| Timer - Assigned Phs | 1 | 2 | | | 6 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.5 | 22.0 | | | 27.5 | 7.1 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 4.5 | 23.9 | | | 32.9 | 18.1 |
| Max Q Clear Time (g_c+I1), s | 2.6 | 11.1 | | | 4.8 | 3.6 |
| Green Ext Time (p_c), s | 0.0 | 6.3 | | | 4.7 | 0.2 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 6.7 | |
| HCM 6th LOS | A | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 23 | 0 | 51 | 4 | 0 | 0 | 76 | 1112 | 0 | 0 | 673 | 16 |
| Future Volume (vph) | 23 | 0 | 51 | 4 | 0 | 0 | 76 | 1112 | 0 | 0 | 673 | 16 |
| Confl. Peds. (#/hr) | | | 22 | | | | | | 8 | | | 12 |
| Confl. Bikes (#/hr) | | | 4 | | | | | | | | | 6 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | 50% | | | | | | | | |
| Turn Type | Split | NA | | Split | NA | Perm | Prot | NA | | | NA | |
| Protected Phases | 4 | 4 | | 8 | 8 | | 5 | 2 | | | 6 | |
| Permitted Phases | | | | | | 8 | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | 8 | 5 | 2 | | | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | | 4.0 | |
| Minimum Split (s) | 22.5 | 22.5 | | 20.5 | 20.5 | 20.5 | 8.5 | 22.5 | | | 22.5 | |
| Total Split (s) | 22.5 | 22.5 | | 20.5 | 20.5 | 20.5 | 9.0 | 32.0 | | | 23.0 | |
| Total Split (%) | 30.0% | 30.0% | | 27.3% | 27.3% | 27.3% | 12.0% | 42.7% | | | 30.7% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | 0.0 | |
| Total Lost Time (s) | | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | | 4.5 | |
| Lead/Lag | | | | | | | Lead | | | | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | | | | Yes | |
| Recall Mode | None | None | | None | None | None | None | Min | | | Min | |

| Intersection Summary |
|---|
| Cycle Length: 75 |
| Actuated Cycle Length: 43.6 |
| Natural Cycle: 75 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 14: Magnolia Avenue & Carefree Drive








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 23 | 0 | 51 | 4 | 0 | 0 | 76 | 1112 | 0 | 0 | 673 | 16 |
| Future Volume (veh/h) | 23 | 0 | 51 | 4 | 0 | 0 | 76 | 1112 | 0 | 0 | 673 | 16 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.92 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.96 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 0 | 0 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 25 | 0 | 55 | 4 | 0 | 0 | 83 | 1209 | 0 | 0 | 732 | 17 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 0 | 0 | 2 | 2 |
| Cap, veh/h | 52 | 0 | 115 | 16 | 0 | 7 | 111 | 1832 | 0 | 0 | 1167 | 27 |
| Arrive On Green | 0.11 | 0.00 | 0.11 | 0.00 | 0.00 | 0.00 | 0.06 | 0.52 | 0.00 | 0.00 | 0.33 | 0.33 |
| Sat Flow, veh/h | 484 | 0 | 1064 | 3563 | 0 | 1585 | 1781 | 3647 | 0 | 0 | 3639 | 82 |
| Grp Volume(v), veh/h | 80 | 0 | 0 | 4 | 0 | 0 | 83 | 1209 | 0 | 0 | 367 | 382 |
| Grp Sat Flow(s),veh/h/ln | 1548 | 0 | 0 | 1781 | 0 | 1585 | 1781 | 1777 | 0 | 0 | 1777 | 1851 |
| Q Serve(g_s), s | 1.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.7 | 9.1 | 0.0 | 0.0 | 6.3 | 6.3 |
| Cycle Q Clear(g_c), s | 1.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.7 | 9.1 | 0.0 | 0.0 | 6.3 | 6.3 |
| Prop In Lane | 0.31 | | 0.69 | 1.00 | | 1.00 | 1.00 | | 0.00 | 0.00 | | 0.04 |
| Lane Grp Cap(c), veh/h | 168 | 0 | 0 | 16 | 0 | 7 | 111 | 1832 | 0 | 0 | 585 | 609 |
| V/C Ratio(X) | 0.48 | 0.00 | 0.00 | 0.26 | 0.00 | 0.00 | 0.75 | 0.66 | 0.00 | 0.00 | 0.63 | 0.63 |
| Avail Cap(c_a), veh/h | 768 | 0 | 0 | 1570 | 0 | 698 | 221 | 2692 | 0 | 0 | 905 | 943 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 15.2 | 0.0 | 0.0 | 18.0 | 0.0 | 0.0 | 16.7 | 6.5 | 0.0 | 0.0 | 10.3 | 10.3 |
| Incr Delay (d2), s/veh | 2.1 | 0.0 | 0.0 | 8.5 | 0.0 | 0.0 | 9.5 | 0.4 | 0.0 | 0.0 | 1.1 | 1.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.8 | 1.5 | 0.0 | 0.0 | 1.8 | 1.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 17.3 | 0.0 | 0.0 | 26.5 | 0.0 | 0.0 | 26.2 | 6.9 | 0.0 | 0.0 | 11.4 | 11.4 |
| LnGrp LOS | B | A | A | C | A | A | C | A | A | A | B | B |
| Approach Vol, veh/h | | 80 | | | 4 | | | 1292 | | | 749 | |
| Approach Delay, s/veh | | 17.3 | | | 26.5 | | | 8.1 | | | 11.4 | |
| Approach LOS | | B | | | C | | | A | | | B | |

| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 23.2 | | 8.4 | 6.8 | 16.5 | | 4.7 | | | | |
| Change Period (Y+Rc), s | | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | | 27.5 | | 18.0 | 4.5 | 18.5 | | 16.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 11.1 | | 3.8 | 3.7 | 8.3 | | 2.0 | | | | |
| Green Ext Time (p_c), s | | 7.6 | | 0.3 | 0.0 | 3.1 | | 0.0 | | | | |

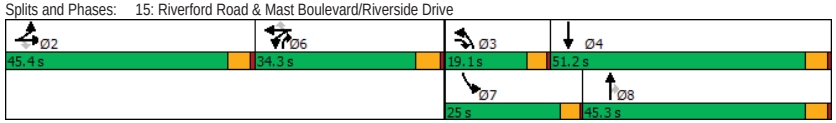
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 9.6 | |
| HCM 6th LOS | A | |

| Notes |
|---|
| User approved volume balancing among the lanes for turning movement. |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 15 | 7 | 31 | 506 | 38 | 371 | 65 | 325 | 450 | 234 | 221 | 22 |
| Future Volume (vph) | 15 | 7 | 31 | 506 | 38 | 371 | 65 | 325 | 450 | 234 | 221 | 22 |
| Confl. Peds. (#/hr) | | | | | | | | | 4 | | | |
| Confl. Bikes (#/hr) | | | 3 | | | 1 | | | 3 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Split | NA | pm+ov | Split | NA | Perm | Prot | NA | pm+ov | Prot | NA | |
| Protected Phases | 2 | 2 | 3 | 6 | 6 | | 3 | 8 | 6 | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | 8 | | | |
| Detector Phase | 2 | 2 | 3 | 6 | 6 | 6 | 3 | 8 | 6 | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 6.0 | 6.0 | 5.0 | 4.0 | 4.0 | 4.0 | 5.0 | 6.0 | 4.0 | 4.0 | 6.0 | |
| Minimum Split (s) | 45.3 | 45.3 | 9.1 | 34.3 | 34.3 | 34.3 | 9.1 | 45.3 | 34.3 | 8.6 | 49.9 | |
| Total Split (s) | 45.4 | 45.4 | 19.1 | 34.3 | 34.3 | 34.3 | 19.1 | 45.3 | 34.3 | 25.0 | 51.2 | |
| Total Split (%) | 30.3% | 30.3% | 12.7% | 22.9% | 22.9% | 22.9% | 12.7% | 30.2% | 22.9% | 16.7% | 34.1% | |
| Yellow Time (s) | 4.3 | 4.3 | 3.6 | 4.3 | 4.3 | 4.3 | 3.6 | 3.9 | 4.3 | 3.6 | 3.9 | |
| All-Red Time (s) | 1.0 | 1.0 | 0.5 | 1.0 | 1.0 | 1.0 | 0.5 | 1.0 | 1.0 | 0.5 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 5.3 | 5.3 | 4.1 | 5.3 | 5.3 | 5.3 | 4.1 | 4.9 | 5.3 | 4.1 | 4.9 | |
| Lead/Lag | | | Lead | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | Yes | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | None | None | None | None | None | Min | None | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 150 |
| Actuated Cycle Length: 99.5 |
| Natural Cycle: 150 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 15: Riverford Road & Mast Boulevard/Riverside Drive






Existing + Proj PM (No School) Fanita Ranch
15: Riverford Road & Mast Boulevard/Riverside Drive 06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 15 | 7 | 31 | 506 | 38 | 371 | 65 | 325 | 450 | 234 | 221 | 22 |
| Future Volume (veh/h) | 15 | 7 | 31 | 506 | 38 | 371 | 65 | 325 | 450 | 234 | 221 | 22 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.96 | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 16 | 8 | 34 | 550 | 41 | 403 | 71 | 353 | 489 | 254 | 240 | 24 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 91 | 181 | 282 | 1005 | 1033 | 451 | 92 | 515 | 889 | 294 | 649 | 65 |
| Arrive On Green | 0.05 | 0.05 | 0.05 | 0.29 | 0.29 | 0.29 | 0.05 | 0.28 | 0.28 | 0.17 | 0.39 | 0.39 |
| Sat Flow, veh/h | 1781 | 3554 | 2687 | 3456 | 3554 | 1551 | 1781 | 1870 | 1555 | 1781 | 1671 | 167 |
| Grp Volume(v), veh/h | 16 | 8 | 34 | 550 | 41 | 403 | 71 | 353 | 489 | 254 | 0 | 264 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1344 | 1728 | 1777 | 1551 | 1781 | 1870 | 1555 | 1781 | 0 | 1838 |
| Q Serve(g_s), s | 0.8 | 0.2 | 1.0 | 12.1 | 0.7 | 22.4 | 3.5 | 15.2 | 17.9 | 12.5 | 0.0 | 9.2 |
| Cycle Q Clear(g_c), s | 0.8 | 0.2 | 1.0 | 12.1 | 0.7 | 22.4 | 3.5 | 15.2 | 17.9 | 12.5 | 0.0 | 9.2 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.09 |
| Lane Grp Cap(c), veh/h | 91 | 181 | 282 | 1005 | 1033 | 451 | 92 | 515 | 889 | 294 | 0 | 714 |
| V/C Ratio(X) | 0.18 | 0.04 | 0.12 | 0.55 | 0.04 | 0.89 | 0.77 | 0.69 | 0.55 | 0.86 | 0.00 | 0.37 |
| Avail Cap(c_a), veh/h | 794 | 1584 | 1343 | 1114 | 1145 | 500 | 297 | 840 | 1159 | 414 | 0 | 946 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 40.9 | 40.6 | 36.7 | 26.9 | 22.9 | 30.6 | 42.1 | 29.1 | 12.4 | 36.6 | 0.0 | 19.7 |
| Incr Delay (d2), s/veh | 0.9 | 0.1 | 0.2 | 0.5 | 0.0 | 17.1 | 12.4 | 1.6 | 0.5 | 12.6 | 0.0 | 0.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.4 | 0.1 | 0.3 | 4.8 | 0.3 | 10.2 | 1.9 | 6.9 | 10.9 | 6.4 | 0.0 | 3.9 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 41.8 | 40.7 | 36.9 | 27.4 | 22.9 | 47.7 | 54.5 | 30.8 | 12.9 | 49.2 | 0.0 | 20.0 |
| LnGrp LOS | D | D | D | C | C | D | D | C | B | D | A | B |
| Approach Vol, veh/h | | 58 | | | 994 | | | 913 | | | 518 | |
| Approach Delay, s/veh | | 38.7 | | | 35.4 | | | 23.0 | | | 34.3 | |
| Approach LOS | | D | | | D | | | C | | | C | |

| Timer - Assigned Phs | | 2 | 3 | 4 | | 6 | 7 | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 9.9 | 8.8 | 39.8 | | 31.5 | 19.0 | 29.7 | | | | |
| Change Period (Y+Rc), s | | 5.3 | 4.1 | 4.9 | | 5.3 | 4.1 | 4.9 | | | | |
| Max Green Setting (Gmax), s | | 40.1 | 15.0 | 46.3 | | 29.0 | 20.9 | 40.4 | | | | |
| Max Q Clear Time (g_c+I1), s | | 3.0 | 5.5 | 11.2 | | 24.4 | 14.5 | 19.9 | | | | |
| Green Ext Time (p_c), s | | 0.2 | 0.1 | 1.7 | | 1.8 | 0.4 | 4.1 | | | | |

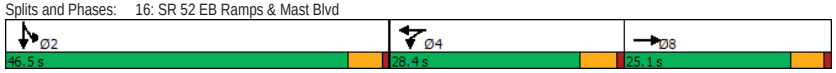
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 30.7 | |
| HCM 6th LOS | C | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 5 | 8 | 214 | 0 | 0 | 0 | 0 | 0 | 1558 | 1 | 6 |
| Future Volume (vph) | 0 | 5 | 8 | 214 | 0 | 0 | 0 | 0 | 0 | 1558 | 1 | 6 |
| Confl. Peds. (#/hr) | | | 5 | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | 50% | | |
| Turn Type | | NA | | Split | | | | | | Split | NA | |
| Protected Phases | | 8 | | 4 | 4 | | | | | 2 | 2 | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | | 8 | | 4 | 4 | | | | | 2 | 2 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | 7.0 | | 8.0 | 8.0 | | | | | 5.0 | 5.0 | |
| Minimum Split (s) | | 25.1 | | 28.4 | 28.4 | | | | | 32.3 | 32.3 | |
| Total Split (s) | | 25.1 | | 28.4 | 28.4 | | | | | 46.5 | 46.5 | |
| Total Split (%) | | 25.1% | | 28.4% | 28.4% | | | | | 46.5% | 46.5% | |
| Yellow Time (s) | | 4.1 | | 4.4 | 4.4 | | | | | 4.1 | 4.1 | |
| All-Red Time (s) | | 1.0 | | 1.0 | 1.0 | | | | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | | 0.0 | 0.0 | | | | | 0.0 | 0.0 | |
| Total Lost Time (s) | | 5.1 | | 5.4 | 5.4 | | | | | 5.1 | 5.1 | |
| Lead/Lag | | | | | | | | | | | | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Recall Mode | | None | | None | None | | | | | None | None | |

**Intersection Summary**

Cycle Length: 100
Actuated Cycle Length: 74.5
Natural Cycle: 120
Control Type: Actuated-Uncoordinated

Splits and Phases: 16: SR 52 EB Ramps & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 5 | 8 | 214 | 0 | 0 | 0 | 0 | 0 | 1558 | 1 | 6 |
| Future Volume (veh/h) | 0 | 5 | 8 | 214 | 0 | 0 | 0 | 0 | 0 | 1558 | 1 | 6 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | | | | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 1.00 | | | | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | | | | No | |
| Adj Sat Flow, veh/h/ln | 0 | 1870 | 1870 | 1870 | 1870 | 0 | | | | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 5 | 9 | 233 | 0 | 0 | | | | 1700 | 0 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 0 | 2 | 2 | 2 | 2 | 0 | | | | 2 | 2 | 2 |
| Cap, veh/h | 0 | 22 | 39 | 291 | 305 | 0 | | | | 1962 | 1030 | 0 |
| Arrive On Green | 0.00 | 0.04 | 0.04 | 0.16 | 0.00 | 0.00 | | | | 0.55 | 0.00 | 0.00 |
| Sat Flow, veh/h | 0 | 593 | 1068 | 1781 | 1870 | 0 | | | | 3563 | 1870 | 0 |
| Grp Volume(v), veh/h | 0 | 0 | 14 | 233 | 0 | 0 | | | | 1700 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 0 | 0 | 1661 | 1781 | 1870 | 0 | | | | 1781 | 1870 | 0 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.5 | 7.9 | 0.0 | 0.0 | | | | 25.7 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 0.0 | 0.0 | 0.5 | 7.9 | 0.0 | 0.0 | | | | 25.7 | 0.0 | 0.0 |
| Prop In Lane | 0.00 | | 0.64 | 1.00 | | 0.00 | | | | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 0 | 0 | 61 | 291 | 305 | 0 | | | | 1962 | 1030 | 0 |
| V/C Ratio(X) | 0.00 | 0.00 | 0.23 | 0.80 | 0.00 | 0.00 | | | | 0.87 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 0 | 0 | 530 | 654 | 686 | 0 | | | | 2353 | 1236 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | | | | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 0.0 | 0.0 | 29.3 | 25.2 | 0.0 | 0.0 | | | | 12.1 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 0.7 | 5.1 | 0.0 | 0.0 | | | | 3.2 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.0 | 0.2 | 3.5 | 0.0 | 0.0 | | | | 8.9 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 0.0 | 30.0 | 30.3 | 0.0 | 0.0 | | | | 15.3 | 0.0 | 0.0 |
| LnGrp LOS | A | A | C | C | A | A | | | | B | A | A |
| Approach Vol, veh/h | | 14 | | | 233 | | | | | | 1700 | |
| Approach Delay, s/veh | | 30.0 | | | 30.3 | | | | | | 15.3 | |
| Approach LOS | | C | | | C | | | | | | B | |

| Timer - Assigned Phs | 2 | 4 | 8 |
|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 39.6 | 15.6 | 7.4 |
| Change Period (Y+Rc), s | 5.1 | 5.4 | 5.1 |
| Max Green Setting (Gmax), s | 41.4 | 23.0 | 20.0 |
| Max Q Clear Time (g_c+I1), s | 27.7 | 9.9 | 2.5 |
| Green Ext Time (p_c), s | 6.8 | 0.5 | 0.0 |

**Intersection Summary**

HCM 6th Ctrl Delay 17.2
HCM 6th LOS B

**Notes**

User approved volume balancing among the lanes for turning movement.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 5 | 1558 | 0 | 0 | 214 | 518 | 0 | 3 | 495 | 0 | 0 | 0 |
| Future Volume (vph) | 5 | 1558 | 0 | 0 | 214 | 518 | 0 | 3 | 495 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | | | 6 | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | 4 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | 32% | | | 50% | | | |
| Turn Type | Prot | NA | | | NA | Perm | | NA | Perm | | | |
| Protected Phases | 5 | 2 | | | 6 | | | 8 | | | | |
| Permitted Phases | | | | | | 6 | 8 | | 8 | | | |
| Detector Phase | 5 | 2 | | | 6 | 6 | 8 | 8 | 8 | | | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 10.0 | | | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | | | |
| Minimum Split (s) | 11.7 | 38.6 | | | 28.4 | 28.4 | 43.1 | 43.1 | 43.1 | | | |
| Total Split (s) | 11.7 | 56.9 | | | 45.2 | 45.2 | 43.1 | 43.1 | 43.1 | | | |
| Total Split (%) | 11.7% | 56.9% | | | 45.2% | 45.2% | 43.1% | 43.1% | 43.1% | | | |
| Yellow Time (s) | 3.7 | 4.1 | | | 4.4 | 4.4 | 4.1 | 4.1 | 4.1 | | | |
| All-Red Time (s) | 1.0 | 1.0 | | | 1.0 | 1.0 | 2.0 | 2.0 | 2.0 | | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | 0.0 | | | |
| Total Lost Time (s) | 4.7 | 5.1 | | | 5.4 | 5.4 | | 6.1 | 6.1 | | | |
| Lead/Lag | Lead | | | | Lag | Lag | | | | | | |
| Lead-Lag Optimize? | Yes | | | | Yes | Yes | | | | | | |
| Recall Mode | None | Min | | | Min | Min | None | None | None | | | |

**Intersection Summary**

Cycle Length: 100
Actuated Cycle Length: 77.5
Natural Cycle: 85
Control Type: Actuated-Uncoordinated

Splits and Phases: 17: SR-52 WB Ramps & Mast Blvd

Existing + Proj PM (No School)
17: SR-52 WB Ramps & Mast Blvd
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 5 | 1558 | 0 | 0 | 214 | 518 | 0 | 3 | 495 | 0 | 0 | 0 |
| Future Volume (veh/h) | 5 | 1558 | 0 | 0 | 214 | 518 | 0 | 3 | 495 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.99 | 1.00 | | 1.00 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.99 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 0 | 0 | 1870 | 1945 | 1870 | 1870 | 1870 | | | |
| Adj Flow Rate, veh/h | 5 | 1693 | 0 | 0 | 480 | 398 | 0 | 0 | 540 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | |
| Percent Heavy Veh, % | 2 | 2 | 0 | 0 | 2 | 2 | 2 | 2 | 2 | | | |
| Cap, veh/h | 17 | 2186 | 0 | 0 | 1000 | 869 | 0 | 390 | 670 | | | |
| Arrive On Green | 0.01 | 0.62 | 0.00 | 0.00 | 0.53 | 0.53 | 0.00 | 0.00 | 0.21 | | | |
| Sat Flow, veh/h | 1781 | 3647 | 0 | 0 | 1870 | 1626 | 0 | 1848 | 3170 | | | |
| Grp Volume(v), veh/h | 5 | 1693 | 0 | 0 | 480 | 398 | 0 | 0 | 540 | | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 0 | 0 | 1870 | 1626 | 0 | 1848 | 1585 | | | |
| Q Serve(g_s), s | 0.2 | 23.2 | 0.0 | 0.0 | 10.6 | 10.0 | 0.0 | 0.0 | 10.7 | | | |
| Cycle Q Clear(g_c), s | 0.2 | 23.2 | 0.0 | 0.0 | 10.6 | 10.0 | 0.0 | 0.0 | 10.7 | | | |
| Prop In Lane | 1.00 | | 0.00 | 0.00 | | 1.00 | 0.00 | | 1.00 | | | |
| Lane Grp Cap(c), veh/h | 17 | 2186 | 0 | 0 | 1000 | 869 | 0 | 390 | 670 | | | |
| V/C Ratio(X) | 0.30 | 0.77 | 0.00 | 0.00 | 0.48 | 0.46 | 0.00 | 0.00 | 0.81 | | | |
| Avail Cap(c_a), veh/h | 188 | 2781 | 0 | 0 | 1125 | 978 | 0 | 1033 | 1772 | | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | | | |
| Uniform Delay (d), s/veh | 32.6 | 9.4 | 0.0 | 0.0 | 9.6 | 9.5 | 0.0 | 0.0 | 24.8 | | | |
| Incr Delay (d2), s/veh | 3.7 | 1.1 | 0.0 | 0.0 | 0.4 | 0.4 | 0.0 | 0.0 | 0.9 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ln | 0.1 | 6.7 | 0.0 | 0.0 | 3.6 | 3.0 | 0.0 | 0.0 | 3.9 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 36.3 | 10.4 | 0.0 | 0.0 | 10.0 | 9.9 | 0.0 | 0.0 | 25.7 | | | |
| LnGrp LOS | D | B | A | A | A | A | A | A | C | | | |
| Approach Vol, veh/h | | 1698 | | | 878 | | | 540 | | | | |
| Approach Delay, s/veh | | 10.5 | | | 9.9 | | | 25.7 | | | | |
| Approach LOS | | B | | | A | | | C | | | | |

| Timer - Assigned Phs | 2 | 5 | 6 | 8 |
|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 46.1 | 5.3 | 40.8 | 20.1 |
| Change Period (Y+Rc), s | * 5.4 | * 4.7 | 5.4 | 6.1 |
| Max Green Setting (Gmax), s | * 52 | * 7 | 39.8 | 37.0 |
| Max Q Clear Time (g_c+I1), s | 25.2 | 2.2 | 12.6 | 12.7 |
| Green Ext Time (p_c), s | 15.5 | 0.0 | 4.7 | 1.3 |

**Intersection Summary**

| | | |
|---|---|---|
| HCM 6th Ctrl Delay | 13.0 | |
| HCM 6th LOS | B | |

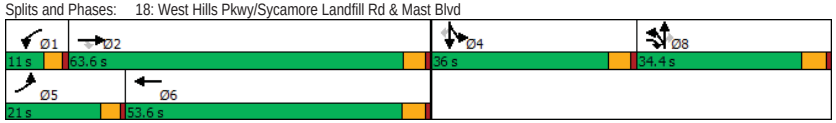
**Notes**

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 2 | 1559 | 450 | 171 | 515 | 0 | 190 | 1 | 446 | 0 | 3 | 16 |
| Future Volume (vph) | 2 | 1559 | 450 | 171 | 515 | 0 | 190 | 1 | 446 | 0 | 3 | 16 |
| Confl. Peds. (#/hr) | | | 12 | | | | | | | | | 4 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | 50% | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | | Split | NA | Perm | | NA | Perm |
| Protected Phases | 5 | 2 | 8 | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Permitted Phases | | | 2 | | | | | | 8 | | | 4 |
| Detector Phase | 5 | 2 | 8 | 1 | 6 | | 8 | 8 | 8 | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 10.0 | 10.0 | 4.0 | 10.0 | | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| Minimum Split (s) | 20.0 | 34.9 | 33.4 | 8.4 | 35.2 | | 33.4 | 33.4 | 33.4 | 34.9 | 34.9 | 34.9 |
| Total Split (s) | 21.0 | 63.6 | 34.4 | 11.0 | 53.6 | | 34.4 | 34.4 | 34.4 | 36.0 | 36.0 | 36.0 |
| Total Split (%) | 14.5% | 43.9% | 23.7% | 7.6% | 37.0% | | 23.7% | 23.7% | 23.7% | 24.8% | 24.8% | 24.8% |
| Yellow Time (s) | 3.4 | 3.9 | 4.4 | 3.4 | 4.2 | | 4.4 | 4.4 | 4.4 | 3.9 | 3.9 | 3.9 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.4 | 4.9 | 5.4 | 4.4 | 5.2 | | 5.4 | 5.4 | 5.4 | | 4.9 | 4.9 |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | Min | None | None | Min | | None | None | None | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 145 |
| Actuated Cycle Length: 108.2 |
| Natural Cycle: 145 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 18: West Hills Pkwy/Sycamore Landfill Rd & Mast Blvd






Existing + Proj PM (No School) Fanita Ranch
18: West Hills Pkwy/Sycamore Landfill Rd & Mast Blvd 06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 2 | 1559 | 450 | 171 | 515 | 0 | 190 | 1 | 446 | 0 | 3 | 16 |
| Future Volume (veh/h) | 2 | 1559 | 450 | 171 | 515 | 0 | 190 | 1 | 446 | 0 | 3 | 16 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 2 | 1695 | 489 | 186 | 560 | 0 | 208 | 0 | 438 | 0 | 3 | 17 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 103 | 1728 | 1146 | 189 | 1717 | 0 | 856 | 0 | 381 | 0 | 100 | 84 |
| Arrive On Green | 0.06 | 0.49 | 0.49 | 0.05 | 0.48 | 0.00 | 0.24 | 0.00 | 0.24 | 0.00 | 0.05 | 0.05 |
| Sat Flow, veh/h | 1781 | 3554 | 1573 | 3456 | 3647 | 0 | 3563 | 0 | 1585 | 0 | 1870 | 1562 |
| Grp Volume(v), veh/h | 2 | 1695 | 489 | 186 | 560 | 0 | 208 | 0 | 438 | 0 | 3 | 17 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1573 | 1728 | 1777 | 0 | 1781 | 0 | 1585 | 0 | 1870 | 1562 |
| Q Serve(g_s), s | 0.1 | 56.5 | 14.9 | 6.5 | 11.7 | 0.0 | 5.7 | 0.0 | 29.0 | 0.0 | 0.2 | 1.3 |
| Cycle Q Clear(g_c), s | 0.1 | 56.5 | 14.9 | 6.5 | 11.7 | 0.0 | 5.7 | 0.0 | 29.0 | 0.0 | 0.2 | 1.3 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.00 | 1.00 | | 1.00 | 0.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 103 | 1728 | 1146 | 189 | 1717 | 0 | 856 | 0 | 381 | 0 | 100 | 84 |
| V/C Ratio(X) | 0.02 | 0.98 | 0.43 | 0.98 | 0.33 | 0.00 | 0.24 | 0.00 | 1.15 | 0.00 | 0.03 | 0.20 |
| Avail Cap(c_a), veh/h | 245 | 1729 | 1146 | 189 | 1717 | 0 | 856 | 0 | 381 | 0 | 482 | 403 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 53.6 | 30.4 | 6.5 | 57.0 | 19.1 | 0.0 | 37.0 | 0.0 | 45.8 | 0.0 | 54.1 | 54.6 |
| Incr Delay (d2), s/veh | 0.0 | 17.2 | 0.3 | 60.5 | 0.2 | 0.0 | 0.2 | 0.0 | 93.6 | 0.0 | 0.1 | 1.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.1 | 26.6 | 9.9 | 4.4 | 4.7 | 0.0 | 2.4 | 0.0 | 20.9 | 0.0 | 0.1 | 0.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 53.6 | 47.7 | 6.9 | 117.5 | 19.4 | 0.0 | 37.2 | 0.0 | 139.4 | 0.0 | 54.2 | 55.8 |
| LnGrp LOS | D | D | A | F | B | A | D | A | F | A | D | E |
| Approach Vol, veh/h | | 2186 | | | 746 | | | 646 | | | 20 | |
| Approach Delay, s/veh | | 38.5 | | | 43.8 | | | 106.5 | | | 55.6 | |
| Approach LOS | | D | | | D | | | F | | | E | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 11.0 | 63.9 | | 11.4 | 11.4 | 63.5 | | 34.4 | | | | |
| Change Period (Y+Rc), s | 4.4 | * 5.2 | | 4.9 | 4.4 | 5.2 | | 5.4 | | | | |
| Max Green Setting (Gmax), s | 6.6 | * 59 | | 31.1 | 16.6 | 48.4 | | 29.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 8.5 | 58.5 | | 3.3 | 2.1 | 13.7 | | 31.0 | | | | |
| Green Ext Time (p_c), s | 0.0 | 0.2 | | 0.0 | 0.0 | 7.6 | | 0.0 | | | | |

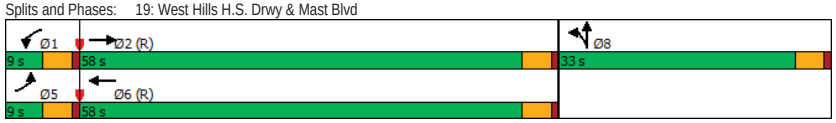
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 51.9 | |
| HCM 6th LOS | D | |

| Notes |
|---|
| User approved volume balancing among the lanes for turning movement. |
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 6 | 1689 | 20 | 38 | 654 | 0 | 46 | 0 | 109 | 0 | 0 | 0 |
| Future Volume (vph) | 6 | 1689 | 20 | 38 | 654 | 0 | 46 | 0 | 109 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | 4 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Split | NA | | | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | | | | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | | | | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | | | | |
| Minimum Split (s) | 8.5 | 22.5 | | 8.5 | 20.5 | | 31.5 | 31.5 | | | | |
| Total Split (s) | 9.0 | 58.0 | | 9.0 | 58.0 | | 33.0 | 33.0 | | | | |
| Total Split (%) | 9.0% | 58.0% | | 9.0% | 58.0% | | 33.0% | 33.0% | | | | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | | | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | | |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | | 4.5 | | | | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | | | | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 90 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 19: West Hills H.S. Drwy & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 6 | 1689 | 20 | 38 | 654 | 0 | 46 | 0 | 109 | 0 | 0 | 0 |
| Future Volume (veh/h) | 6 | 1689 | 20 | 38 | 654 | 0 | 46 | 0 | 109 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 0 | 1900 | 1870 | 1900 | | | |
| Adj Flow Rate, veh/h | 7 | 1836 | 22 | 41 | 711 | 0 | 50 | 0 | 118 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 0 | 0 | 2 | 0 | | | |
| Cap, veh/h | 13 | 2550 | 31 | 52 | 2598 | 0 | 62 | 0 | 146 | | | |
| Arrive On Green | 0.01 | 0.71 | 0.71 | 0.02 | 0.49 | 0.00 | 0.13 | 0.00 | 0.13 | | | |
| Sat Flow, veh/h | 1781 | 3596 | 43 | 1781 | 3647 | 0 | 488 | 0 | 1151 | | | |
| Grp Volume(v), veh/h | 7 | 906 | 952 | 41 | 711 | 0 | 168 | 0 | 0 | | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1863 | 1781 | 1777 | 0 | 1639 | 0 | 0 | | | |
| Q Serve(g_s), s | 0.4 | 30.2 | 30.5 | 2.3 | 11.8 | 0.0 | 10.0 | 0.0 | 0.0 | | | |
| Cycle Q Clear(g_c), s | 0.4 | 30.2 | 30.5 | 2.3 | 11.8 | 0.0 | 10.0 | 0.0 | 0.0 | | | |
| Prop In Lane | 1.00 | | 0.02 | 1.00 | | 0.00 | 0.30 | | 0.70 | | | |
| Lane Grp Cap(c), veh/h | 13 | 1260 | 1321 | 52 | 2598 | 0 | 208 | 0 | 0 | | | |
| V/C Ratio(X) | 0.56 | 0.72 | 0.72 | 0.79 | 0.27 | 0.00 | 0.81 | 0.00 | 0.00 | | | |
| Avail Cap(c_a), veh/h | 80 | 1260 | 1321 | 80 | 2598 | 0 | 467 | 0 | 0 | | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 0.67 | 0.67 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 0.42 | 0.42 | 0.42 | 0.97 | 0.97 | 0.00 | 1.00 | 0.00 | 0.00 | | | |
| Uniform Delay (d), s/veh | 49.5 | 8.6 | 8.7 | 48.7 | 9.9 | 0.0 | 42.5 | 0.0 | 0.0 | | | |
| Incr Delay (d2), s/veh | 15.1 | 1.5 | 1.5 | 23.5 | 0.3 | 0.0 | 7.3 | 0.0 | 0.0 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ln | 0.2 | 9.3 | 9.9 | 1.3 | 4.6 | 0.0 | 4.4 | 0.0 | 0.0 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 64.6 | 10.2 | 10.1 | 72.2 | 10.1 | 0.0 | 49.7 | 0.0 | 0.0 | | | |
| LnGrp LOS | E | B | B | E | B | A | D | A | A | | | |
| Approach Vol, veh/h | | 1865 | | | 752 | | | 168 | | | | |
| Approach Delay, s/veh | | 10.3 | | | 13.5 | | | 49.7 | | | | |
| Approach LOS | | B | | | B | | | D | | | | |

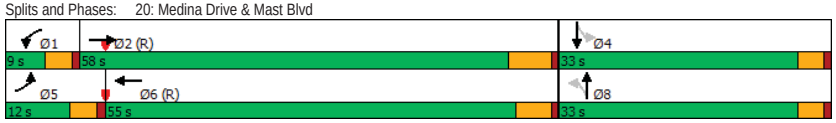
| Timer - Assigned Phs | 1 | 2 | | | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.4 | 75.4 | | | 5.2 | 77.6 | | 17.2 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 4.5 | 53.5 | | | 4.5 | 53.5 | | 28.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 4.3 | 32.5 | | | 2.4 | 13.8 | | 12.0 | | | | |
| Green Ext Time (p_c), s | 0.0 | 13.9 | | | 0.0 | 5.2 | | 0.8 | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 13.6 | |
| HCM 6th LOS | | B | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 35 | 1682 | 32 | 5 | 646 | 25 | 12 | 3 | 14 | 18 | 4 | 27 |
| Future Volume (vph) | 35 | 1682 | 32 | 5 | 646 | 25 | 12 | 3 | 14 | 18 | 4 | 27 |
| Confl. Peds. (#/hr) | | | 2 | | | | | | 2 | | | |
| Confl. Bikes (#/hr) | | | 2 | | | 5 | | | 2 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Perm | NA | | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | | 4 | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 22.0 | | 8.2 | 22.0 | | 32.2 | 32.2 | | 32.2 | 32.2 | |
| Total Split (s) | 12.0 | 58.0 | | 9.0 | 55.0 | | 33.0 | 33.0 | | 33.0 | 33.0 | |
| Total Split (%) | 12.0% | 58.0% | | 9.0% | 55.0% | | 33.0% | 33.0% | | 33.0% | 33.0% | |
| Yellow Time (s) | 3.2 | 5.1 | | 3.2 | 4.3 | | 3.2 | 3.2 | | 3.2 | 3.2 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | 0.0 | |
| Total Lost Time (s) | 4.2 | 6.1 | | 4.2 | 5.3 | | | 4.2 | | | 4.2 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 90 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 20: Medina Drive & Mast Blvd






Existing + Proj PM (No School)
20: Medina Drive & Mast Blvd
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 35 | 1682 | 32 | 5 | 646 | 25 | 12 | 3 | 14 | 18 | 4 | 27 |
| Future Volume (veh/h) | 35 | 1682 | 32 | 5 | 646 | 25 | 12 | 3 | 14 | 18 | 4 | 27 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.97 | 0.99 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 38 | 1828 | 35 | 5 | 702 | 27 | 13 | 3 | 15 | 20 | 4 | 29 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 48 | 2783 | 53 | 9 | 2645 | 102 | 81 | 27 | 54 | 79 | 20 | 59 |
| Arrive On Green | 0.05 | 1.00 | 1.00 | 0.01 | 1.00 | 1.00 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 |
| Sat Flow, veh/h | 1781 | 3565 | 68 | 1781 | 3485 | 134 | 430 | 396 | 774 | 422 | 287 | 858 |
| Grp Volume(v), veh/h | 38 | 908 | 955 | 5 | 358 | 371 | 31 | 0 | 0 | 53 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1856 | 1781 | 1777 | 1843 | 1600 | 0 | 0 | 1568 | 0 | 0 |
| Q Serve(g_s), s | 2.1 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.3 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 2.1 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 | 1.7 | 0.0 | 0.0 | 3.1 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | | 0.04 | 1.00 | | 0.07 | 0.42 | | 0.48 | 0.38 | | 0.55 |
| Lane Grp Cap(c), veh/h | 48 | 1387 | 1449 | 9 | 1348 | 1398 | 162 | 0 | 0 | 158 | 0 | 0 |
| V/C Ratio(X) | 0.79 | 0.65 | 0.66 | 0.54 | 0.27 | 0.27 | 0.19 | 0.00 | 0.00 | 0.34 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 139 | 1387 | 1449 | 86 | 1348 | 1398 | 488 | 0 | 0 | 491 | 0 | 0 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.57 | 0.57 | 0.57 | 0.97 | 0.97 | 0.97 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 47.0 | 0.0 | 0.0 | 49.4 | 0.0 | 0.0 | 44.1 | 0.0 | 0.0 | 44.7 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 15.3 | 1.4 | 1.4 | 16.6 | 0.5 | 0.5 | 0.2 | 0.0 | 0.0 | 0.5 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.1 | 0.5 | 0.5 | 0.2 | 0.2 | 0.2 | 0.7 | 0.0 | 0.0 | 1.3 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 62.3 | 1.4 | 1.4 | 65.9 | 0.5 | 0.5 | 44.3 | 0.0 | 0.0 | 45.2 | 0.0 | 0.0 |
| LnGrp LOS | E | A | A | E | A | A | D | A | A | D | A | A |
| Approach Vol, veh/h | | 1901 | | | 734 | | | 31 | | | 53 | |
| Approach Delay, s/veh | | 2.6 | | | 0.9 | | | 44.3 | | | 45.2 | |
| Approach LOS | | A | | | A | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 4.7 | 84.2 | | 11.1 | 6.9 | 82.0 | | 11.1 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 6.1 | | * 4.2 | * 4.2 | * 6.1 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | * 4.8 | 51.9 | | * 29 | * 7.8 | * 50 | | * 29 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.3 | 2.0 | | 5.1 | 4.1 | 2.0 | | 3.7 | | | | |
| Green Ext Time (p_c), s | 0.0 | 36.1 | | 0.1 | 0.0 | 8.5 | | 0.1 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 3.4 | |
| HCM 6th LOS | A | |

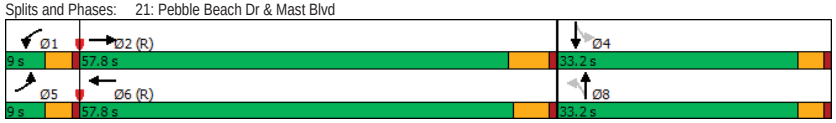
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 7 | 1656 | 13 | 6 | 643 | 47 | 10 | 3 | 13 | 49 | 0 | 12 |
| Future Volume (vph) | 7 | 1656 | 13 | 6 | 643 | 47 | 10 | 3 | 13 | 49 | 0 | 12 |
| Confl. Peds. (#/hr) | | | 9 | | | | | | 1 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Perm | NA | | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | | 4 | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 23.9 | | 8.2 | 23.3 | | 33.2 | 33.2 | | 32.2 | 32.2 | |
| Total Split (s) | 9.0 | 57.8 | | 9.0 | 57.8 | | 33.2 | 33.2 | | 33.2 | 33.2 | |
| Total Split (%) | 9.0% | 57.8% | | 9.0% | 57.8% | | 33.2% | 33.2% | | 33.2% | 33.2% | |
| Yellow Time (s) | 3.2 | 4.9 | | 3.2 | 4.3 | | 3.2 | 3.2 | | 3.2 | 3.2 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | 0.0 | |
| Total Lost Time (s) | 4.2 | 5.9 | | 4.2 | 5.3 | | | 4.2 | | | 4.2 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Max | | None | C-Max | | None | None | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 90 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 21: Pebble Beach Dr & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 7 | 1656 | 13 | 6 | 643 | 47 | 10 | 3 | 13 | 49 | 0 | 12 |
| Future Volume (veh/h) | 7 | 1656 | 13 | 6 | 643 | 47 | 10 | 3 | 13 | 49 | 0 | 12 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 8 | 1800 | 14 | 7 | 699 | 51 | 11 | 3 | 14 | 53 | 0 | 13 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 14 | 2826 | 22 | 13 | 2623 | 191 | 78 | 29 | 57 | 143 | 4 | 20 |
| Arrive On Green | 0.02 | 1.00 | 1.00 | 0.01 | 1.00 | 1.00 | 0.07 | 0.07 | 0.07 | 0.07 | 0.00 | 0.07 |
| Sat Flow, veh/h | 1781 | 3614 | 28 | 1781 | 3358 | 245 | 406 | 428 | 834 | 1154 | 58 | 297 |
| Grp Volume(v), veh/h | 8 | 884 | 930 | 7 | 370 | 380 | 28 | 0 | 0 | 66 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1865 | 1781 | 1777 | 1826 | 1667 | 0 | 0 | 1509 | 0 | 0 |
| Q Serve(g_s), s | 0.4 | 0.0 | 0.0 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.6 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 0.4 | 0.0 | 0.0 | 0.4 | 0.0 | 0.0 | 1.5 | 0.0 | 0.0 | 4.1 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | | 0.02 | 1.00 | | 0.13 | 0.39 | | 0.50 | 0.80 | | 0.20 |
| Lane Grp Cap(c), veh/h | 14 | 1389 | 1458 | 13 | 1388 | 1426 | 164 | 0 | 0 | 168 | 0 | 0 |
| V/C Ratio(X) | 0.56 | 0.64 | 0.64 | 0.56 | 0.27 | 0.27 | 0.17 | 0.00 | 0.00 | 0.39 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 86 | 1389 | 1458 | 86 | 1388 | 1426 | 503 | 0 | 0 | 484 | 0 | 0 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.70 | 0.70 | 0.70 | 0.77 | 0.77 | 0.77 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 49.0 | 0.0 | 0.0 | 49.1 | 0.0 | 0.0 | 44.2 | 0.0 | 0.0 | 45.2 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 8.8 | 1.6 | 1.5 | 10.5 | 0.4 | 0.4 | 0.2 | 0.0 | 0.0 | 0.6 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.2 | 0.6 | 0.6 | 0.2 | 0.1 | 0.1 | 0.7 | 0.0 | 0.0 | 1.6 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 57.8 | 1.6 | 1.5 | 59.6 | 0.4 | 0.4 | 44.3 | 0.0 | 0.0 | 45.8 | 0.0 | 0.0 |
| LnGrp LOS | E | A | A | E | A | A | D | A | A | D | A | A |
| Approach Vol, veh/h | | 1822 | | | 757 | | | 28 | | | 66 | |
| Approach Delay, s/veh | | 1.8 | | | 0.9 | | | 44.3 | | | 45.8 | |
| Approach LOS | | A | | | A | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 4.9 | 84.1 | | 11.0 | 5.0 | 84.0 | | 11.0 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 5.9 | | * 4.2 | * 4.2 | * 5.9 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | * 4.8 | 51.9 | | * 29 | * 4.8 | * 53 | | * 29 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.4 | 2.0 | | 6.1 | 2.4 | 2.0 | | 3.5 | | | | |
| Green Ext Time (p_c), s | 0.0 | 38.3 | | 0.2 | 0.0 | 12.4 | | 0.1 | | | | |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 3.1 |
| HCM 6th LOS | A |

| Notes |
|---|
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 626 | 1064 | 49 | 26 | 434 | 83 | 33 | 269 | 29 | 60 | 138 | 281 |
| Future Volume (vph) | 626 | 1064 | 49 | 26 | 434 | 83 | 33 | 269 | 29 | 60 | 138 | 281 |
| Confl. Peds. (#/hr) | | | 12 | | | 1 | | | 3 | | | 5 |
| Confl. Bikes (#/hr) | | | | | | 5 | | | 1 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | | | | | | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 27.5 | 27.5 | 8.2 | 28.1 | | 8.2 | 35.1 | | 8.2 | 28.1 | 28.1 |
| Total Split (s) | 28.0 | 48.5 | 48.5 | 8.2 | 28.7 | | 10.5 | 35.1 | | 8.2 | 32.8 | 32.8 |
| Total Split (%) | 28.0% | 48.5% | 48.5% | 8.2% | 28.7% | | 10.5% | 35.1% | | 8.2% | 32.8% | 32.8% |
| Yellow Time (s) | 3.2 | 4.5 | 4.5 | 3.2 | 4.1 | | 3.2 | 4.1 | | 3.2 | 4.1 | 4.1 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.5 | 5.5 | 4.2 | 5.1 | | 4.2 | 5.1 | | 4.2 | 5.1 | 5.1 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | C-Max | C-Max | None | C-Max | | None | None | | None | None | None |

**Intersection Summary**

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 14.1 (14%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated

Splits and Phases: 22: Fanita Parkway & Mast Blvd

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 626 | 1064 | 49 | 26 | 434 | 83 | 33 | 269 | 29 | 60 | 138 | 281 |
| Future Volume (veh/h) | 626 | 1064 | 49 | 26 | 434 | 83 | 33 | 269 | 29 | 60 | 138 | 281 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.97 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 680 | 1157 | 53 | 28 | 472 | 90 | 36 | 292 | 32 | 65 | 150 | 305 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 424 | 1862 | 821 | 39 | 912 | 173 | 45 | 371 | 41 | 71 | 447 | 372 |
| Arrive On Green | 0.32 | 0.70 | 0.70 | 0.01 | 0.21 | 0.21 | 0.03 | 0.22 | 0.22 | 0.04 | 0.24 | 0.24 |
| Sat Flow, veh/h | 1781 | 3554 | 1567 | 1781 | 2966 | 562 | 1781 | 1653 | 181 | 1781 | 1870 | 1555 |
| Grp Volume(v), veh/h | 680 | 1157 | 53 | 28 | 281 | 281 | 36 | 0 | 324 | 65 | 150 | 305 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1567 | 1781 | 1777 | 1750 | 1781 | 0 | 1834 | 1781 | 1870 | 1555 |
| Q Serve(g_s), s | 23.8 | 17.4 | 1.1 | 1.6 | 14.1 | 14.3 | 2.0 | 0.0 | 16.6 | 3.6 | 6.6 | 18.6 |
| Cycle Q Clear(g_c), s | 23.8 | 17.4 | 1.1 | 1.6 | 14.1 | 14.3 | 2.0 | 0.0 | 16.6 | 3.6 | 6.6 | 18.6 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.32 | 1.00 | | 0.10 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 424 | 1862 | 821 | 39 | 546 | 538 | 45 | 0 | 412 | 71 | 447 | 372 |
| V/C Ratio(X) | 1.60 | 0.62 | 0.06 | 0.73 | 0.52 | 0.52 | 0.80 | 0.00 | 0.79 | 0.91 | 0.34 | 0.82 |
| Avail Cap(c_a), veh/h | 424 | 1862 | 821 | 71 | 546 | 538 | 112 | 0 | 550 | 71 | 518 | 431 |
| HCM Platoon Ratio | 1.33 | 1.33 | 1.33 | 0.67 | 0.67 | 0.67 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.72 | 0.72 | 0.72 | 0.89 | 0.89 | 0.89 | 0.96 | 0.00 | 0.96 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 34.2 | 9.9 | 7.4 | 49.0 | 33.1 | 33.2 | 48.5 | 0.0 | 36.5 | 47.8 | 31.5 | 36.0 |
| Incr Delay (d2), s/veh | 279.7 | 1.1 | 0.1 | 15.7 | 3.1 | 3.2 | 19.7 | 0.0 | 11.4 | 76.3 | 1.4 | 15.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 41.9 | 4.9 | 0.4 | 0.9 | 6.8 | 6.8 | 1.1 | 0.0 | 8.5 | 3.1 | 3.1 | 8.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 313.8 | 11.0 | 7.5 | 64.7 | 36.2 | 36.3 | 68.2 | 0.0 | 47.9 | 124.2 | 32.9 | 51.4 |
| LnGrp LOS | F | B | A | E | D | D | E | A | D | F | C | D |
| Approach Vol, veh/h | | 1890 | | | 590 | | | 360 | | | 520 | |
| Approach Delay, s/veh | | 119.9 | | | 37.6 | | | 50.0 | | | 55.1 | |
| Approach LOS | | F | | | D | | | D | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 6.4 | 57.9 | 6.7 | 29.0 | 28.0 | 36.2 | 8.2 | 27.6 |
| Change Period (Y+Rc), s | * 4.2 | 5.5 | * 4.2 | 5.1 | * 4.2 | * 5.5 | * 4.2 | 5.1 |
| Max Green Setting (Gmax), s | * 4 | 43.0 | * 6.3 | 27.7 | * 24 | * 24 | * 4 | 30.0 |
| Max Q Clear Time (g_c+I1), s | 3.6 | 19.4 | 4.0 | 20.6 | 25.8 | 16.3 | 5.6 | 18.6 |
| Green Ext Time (p_c), s | 0.0 | 16.9 | 0.0 | 2.4 | 0.0 | 3.8 | 0.0 | 2.9 |

**Intersection Summary**

| | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 87.9 |
| HCM 6th LOS | | F |

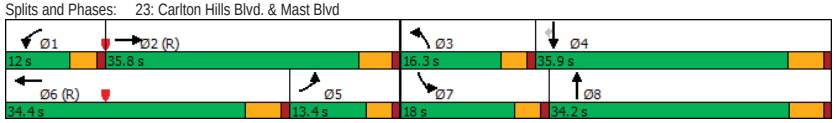
**Notes**

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 63 | 946 | 89 | 98 | 354 | 98 | 125 | 294 | 177 | 186 | 208 | 40 |
| Future Volume (vph) | 63 | 946 | 89 | 98 | 354 | 98 | 125 | 294 | 177 | 186 | 208 | 40 |
| Confl. Peds. (#/hr) | | | 3 | | | 7 | | | 11 | | | 8 |
| Confl. Bikes (#/hr) | | | 4 | | | 2 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 33.1 | | 8.2 | 32.4 | | 8.2 | 34.2 | | 8.2 | 32.4 | 32.4 |
| Total Split (s) | 13.4 | 35.8 | | 12.0 | 34.4 | | 16.3 | 34.2 | | 18.0 | 35.9 | 35.9 |
| Total Split (%) | 13.4% | 35.8% | | 12.0% | 34.4% | | 16.3% | 34.2% | | 18.0% | 35.9% | 35.9% |
| Yellow Time (s) | 3.2 | 4.1 | | 3.2 | 4.4 | | 3.2 | 4.2 | | 3.2 | 4.4 | 4.4 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.1 | | 4.2 | 5.4 | | 4.2 | 5.2 | | 4.2 | 5.4 | 5.4 |
| Lead/Lag | Lag | Lag | | Lead | Lead | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | C-Min | | None | C-Min | | None | Min | | None | Min | Min |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 95 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 23: Carlton Hills Blvd. & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 63 | 946 | 89 | 98 | 354 | 98 | 125 | 294 | 177 | 186 | 208 | 40 |
| Future Volume (veh/h) | 63 | 946 | 89 | 98 | 354 | 98 | 125 | 294 | 177 | 186 | 208 | 40 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.99 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 68 | 1028 | 97 | 107 | 385 | 107 | 136 | 320 | 192 | 202 | 226 | 43 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 401 | 1236 | 117 | 135 | 591 | 162 | 166 | 487 | 285 | 233 | 942 | 416 |
| Arrive On Green | 0.07 | 0.12 | 0.12 | 0.02 | 0.07 | 0.07 | 0.09 | 0.23 | 0.23 | 0.13 | 0.26 | 0.26 |
| Sat Flow, veh/h | 1781 | 3276 | 309 | 1781 | 2739 | 751 | 1781 | 2144 | 1255 | 1781 | 3554 | 1571 |
| Grp Volume(v), veh/h | 68 | 557 | 568 | 107 | 248 | 244 | 136 | 264 | 248 | 202 | 226 | 43 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1809 | 1781 | 1777 | 1714 | 1781 | 1777 | 1623 | 1781 | 1777 | 1571 |
| Q Serve(g_s), s | 3.6 | 30.6 | 30.7 | 6.0 | 13.6 | 13.9 | 7.5 | 13.5 | 14.0 | 11.1 | 5.0 | 1.1 |
| Cycle Q Clear(g_c), s | 3.6 | 30.6 | 30.7 | 6.0 | 13.6 | 13.9 | 7.5 | 13.5 | 14.0 | 11.1 | 5.0 | 1.1 |
| Prop In Lane | 1.00 | | 0.17 | 1.00 | | 0.44 | 1.00 | | 0.77 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 401 | 670 | 682 | 135 | 383 | 370 | 166 | 404 | 369 | 233 | 942 | 416 |
| V/C Ratio(X) | 0.17 | 0.83 | 0.83 | 0.79 | 0.65 | 0.66 | 0.82 | 0.65 | 0.67 | 0.87 | 0.24 | 0.10 |
| Avail Cap(c_a), veh/h | 401 | 670 | 682 | 139 | 515 | 497 | 216 | 515 | 471 | 246 | 1084 | 479 |
| HCM Platoon Ratio | 0.33 | 0.33 | 0.33 | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.70 | 0.70 | 0.70 | 0.98 | 0.98 | 0.98 | 0.71 | 0.71 | 0.71 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 37.5 | 40.7 | 40.7 | 48.0 | 42.7 | 42.9 | 44.5 | 35.1 | 35.2 | 42.6 | 28.8 | 8.4 |
| Incr Delay (d2), s/veh | 0.1 | 8.4 | 8.3 | 23.3 | 8.0 | 8.8 | 10.0 | 3.7 | 4.5 | 24.0 | 0.6 | 0.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.6 | 16.0 | 16.3 | 3.6 | 7.3 | 7.2 | 3.7 | 6.1 | 5.8 | 6.3 | 2.2 | 0.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 37.6 | 49.0 | 48.9 | 71.2 | 50.8 | 51.7 | 54.5 | 38.8 | 39.8 | 66.6 | 29.4 | 8.9 |
| LnGrp LOS | D | D | D | E | D | D | D | D | D | E | C | A |
| Approach Vol, veh/h | | 1193 | | | 599 | | | 648 | | | 471 | |
| Approach Delay, s/veh | | 48.3 | | | 54.8 | | | 42.5 | | | 43.5 | |
| Approach LOS | | D | | | D | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 11.8 | 42.8 | 13.5 | 31.9 | 27.6 | 27.0 | 17.3 | 28.1 |
| Change Period (Y+Rc), s | * 4.2 | 5.1 | * 4.2 | 5.4 | 5.1 | * 5.4 | * 4.2 | * 5.4 |
| Max Green Setting (Gmax), s | * 7.8 | 30.7 | * 12 | 30.5 | 9.2 | * 29 | * 14 | * 29 |
| Max Q Clear Time (g_c+I1), s | 8.0 | 32.7 | 9.5 | 7.0 | 5.6 | 15.9 | 13.1 | 16.0 |
| Green Ext Time (p_c), s | 0.0 | 0.0 | 0.0 | 3.8 | 0.0 | 4.9 | 0.0 | 4.8 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 47.6 | |
| HCM 6th LOS | D | |

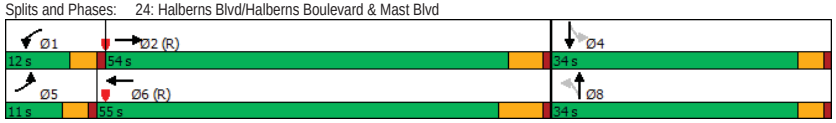
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 24 | 1128 | 44 | 38 | 544 | 44 | 29 | 56 | 124 | 45 | 37 | 18 |
| Future Volume (vph) | 24 | 1128 | 44 | 38 | 544 | 44 | 29 | 56 | 124 | 45 | 37 | 18 |
| Confl. Peds. (#/hr) | | | 1 | | | 5 | | | 1 | | | 2 |
| Confl. Bikes (#/hr) | | | 1 | | | 1 | | | 1 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Perm | NA | | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | | 4 | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 29.2 | | 8.2 | 28.3 | | 32.2 | 32.2 | | 32.2 | 32.2 | |
| Total Split (s) | 11.0 | 54.0 | | 12.0 | 55.0 | | 34.0 | 34.0 | | 34.0 | 34.0 | |
| Total Split (%) | 11.0% | 54.0% | | 12.0% | 55.0% | | 34.0% | 34.0% | | 34.0% | 34.0% | |
| Yellow Time (s) | 3.2 | 4.2 | | 3.2 | 5.3 | | 3.2 | 3.2 | | 3.2 | 3.2 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.2 | 5.2 | | 4.2 | 6.3 | | 4.2 | 4.2 | | 4.2 | 4.2 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Max | | None | C-Max | | None | None | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 75 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 24: Halberns Blvd/Halberns Boulevard & Mast Blvd






Existing + Proj PM (No School) Fanita Ranch
24: Halberns Blvd/Halberns Boulevard & Mast Blvd 06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 24 | 1128 | 44 | 38 | 544 | 44 | 29 | 56 | 124 | 45 | 37 | 18 |
| Future Volume (veh/h) | 24 | 1128 | 44 | 38 | 544 | 44 | 29 | 56 | 124 | 45 | 37 | 18 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.99 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 26 | 1226 | 48 | 41 | 591 | 48 | 32 | 61 | 135 | 49 | 40 | 20 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 37 | 2251 | 88 | 52 | 2175 | 176 | 271 | 91 | 201 | 151 | 209 | 104 |
| Arrive On Green | 0.04 | 1.00 | 1.00 | 0.01 | 0.22 | 0.22 | 0.18 | 0.18 | 0.18 | 0.18 | 0.18 | 0.18 |
| Sat Flow, veh/h | 1781 | 3484 | 136 | 1781 | 3322 | 269 | 1339 | 512 | 1134 | 1186 | 1175 | 587 |
| Grp Volume(v), veh/h | 26 | 625 | 649 | 41 | 316 | 323 | 32 | 0 | 196 | 49 | 0 | 60 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1844 | 1781 | 1777 | 1814 | 1339 | 0 | 1646 | 1186 | 0 | 1762 |
| Q Serve(g_s), s | 1.4 | 0.0 | 0.0 | 2.3 | 14.8 | 14.8 | 2.1 | 0.0 | 11.1 | 4.0 | 0.0 | 2.9 |
| Cycle Q Clear(g_c), s | 1.4 | 0.0 | 0.0 | 2.3 | 14.8 | 14.8 | 5.0 | 0.0 | 11.1 | 15.1 | 0.0 | 2.9 |
| Prop In Lane | 1.00 | | 0.07 | 1.00 | | 0.15 | 1.00 | | 0.69 | 1.00 | | 0.33 |
| Lane Grp Cap(c), veh/h | 37 | 1148 | 1191 | 52 | 1163 | 1188 | 271 | 0 | 292 | 151 | 0 | 313 |
| V/C Ratio(X) | 0.71 | 0.54 | 0.55 | 0.79 | 0.27 | 0.27 | 0.12 | 0.00 | 0.67 | 0.32 | 0.00 | 0.19 |
| Avail Cap(c_a), veh/h | 121 | 1148 | 1191 | 139 | 1163 | 1188 | 432 | 0 | 491 | 294 | 0 | 525 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.36 | 0.36 | 0.36 | 0.85 | 0.85 | 0.85 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 47.6 | 0.0 | 0.0 | 49.2 | 19.3 | 19.4 | 37.1 | 0.0 | 38.4 | 45.4 | 0.0 | 35.0 |
| Incr Delay (d2), s/veh | 3.4 | 0.7 | 0.6 | 8.0 | 0.5 | 0.5 | 0.1 | 0.0 | 1.0 | 0.5 | 0.0 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.7 | 0.2 | 0.2 | 1.1 | 7.1 | 7.3 | 0.7 | 0.0 | 4.5 | 1.2 | 0.0 | 1.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 51.0 | 0.7 | 0.6 | 57.2 | 19.8 | 19.8 | 37.2 | 0.0 | 39.4 | 45.9 | 0.0 | 35.1 |
| LnGrp LOS | D | A | A | E | B | B | D | A | D | D | A | D |
| Approach Vol, veh/h | | 1300 | | | 680 | | | 228 | | | 109 | |
| Approach Delay, s/veh | | 1.7 | | | 22.1 | | | 39.1 | | | 40.0 | |
| Approach LOS | | A | | | C | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.1 | 70.9 | | 22.0 | 6.3 | 71.8 | | 22.0 | | | | |
| Change Period (Y+Rc), s | * 4.2 | * 6.3 | | * 4.2 | * 4.2 | 6.3 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | * 7.8 | * 49 | | * 30 | * 6.8 | 48.7 | | * 30 | | | | |
| Max Q Clear Time (g_c+I1), s | 4.3 | 2.0 | | 17.1 | 3.4 | 16.8 | | 13.1 | | | | |
| Green Ext Time (p_c), s | 0.0 | 24.5 | | 0.2 | 0.0 | 8.4 | | 0.7 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 13.1 | |
| HCM 6th LOS | B | |

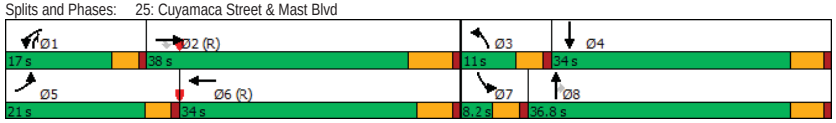
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 355 | 611 | 254 | 310 | 270 | 17 | 238 | 641 | 432 | 12 | 360 | 195 |
| Future Volume (vph) | 355 | 611 | 254 | 310 | 270 | 17 | 238 | 641 | 432 | 12 | 360 | 195 |
| Confl. Peds. (#/hr) | | | 11 | | | 3 | | | | | | 3 |
| Confl. Bikes (#/hr) | | | 2 | | | 2 | | | | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | | Prot | NA | pm+ov | Prot | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | 1 | 7 | 4 | |
| Permitted Phases | | | 2 | | | | | | 8 | | | |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | | 3 | 8 | 1 | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | | 4.0 | 7.0 | 4.0 | 4.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 34.3 | 34.3 | 8.2 | 32.3 | | 8.2 | 33.1 | 8.2 | 8.2 | 34.0 | |
| Total Split (s) | 21.0 | 38.0 | 38.0 | 17.0 | 34.0 | | 11.0 | 36.8 | 17.0 | 8.2 | 34.0 | |
| Total Split (%) | 21.0% | 38.0% | 38.0% | 17.0% | 34.0% | | 11.0% | 36.8% | 17.0% | 8.2% | 34.0% | |
| Yellow Time (s) | 3.2 | 5.3 | 5.3 | 3.2 | 4.3 | | 3.2 | 4.1 | 3.2 | 3.2 | 4.0 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.2 | 6.3 | 6.3 | 4.2 | 5.3 | | 4.2 | 5.1 | 4.2 | 4.2 | 5.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | |
| Recall Mode | None | C-Min | C-Min | None | C-Min | | None | None | None | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 21 (21%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 105 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 25: Cuyamaca Street & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 355 | 611 | 254 | 310 | 270 | 17 | 238 | 641 | 432 | 12 | 360 | 195 |
| Future Volume (veh/h) | 355 | 611 | 254 | 310 | 270 | 17 | 238 | 641 | 432 | 12 | 360 | 195 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 1.00 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 386 | 664 | 276 | 337 | 293 | 18 | 259 | 697 | 470 | 13 | 391 | 212 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 299 | 1327 | 579 | 402 | 1094 | 67 | 235 | 1066 | 660 | 22 | 542 | 290 |
| Arrive On Green | 0.06 | 0.12 | 0.12 | 0.12 | 0.32 | 0.32 | 0.07 | 0.30 | 0.30 | 0.01 | 0.24 | 0.24 |
| Sat Flow, veh/h | 1781 | 3554 | 1550 | 3456 | 3398 | 208 | 3456 | 3554 | 1585 | 1781 | 2223 | 1187 |
| Grp Volume(v), veh/h | 386 | 664 | 276 | 337 | 152 | 159 | 259 | 697 | 470 | 13 | 311 | 292 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1550 | 1728 | 1777 | 1829 | 1728 | 1777 | 1585 | 1781 | 1777 | 1633 |
| Q Serve(g_s), s | 16.8 | 17.5 | 16.6 | 9.5 | 6.4 | 6.4 | 6.8 | 17.1 | 24.6 | 0.7 | 16.1 | 16.4 |
| Cycle Q Clear(g_c), s | 16.8 | 17.5 | 16.6 | 9.5 | 6.4 | 6.4 | 6.8 | 17.1 | 24.6 | 0.7 | 16.1 | 16.4 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.11 | 1.00 | | 1.00 | 1.00 | | 0.73 |
| Lane Grp Cap(c), veh/h | 299 | 1327 | 579 | 402 | 572 | 589 | 235 | 1066 | 660 | 22 | 434 | 398 |
| V/C Ratio(X) | 1.29 | 0.50 | 0.48 | 0.84 | 0.27 | 0.27 | 1.10 | 0.65 | 0.71 | 0.60 | 0.72 | 0.73 |
| Avail Cap(c_a), veh/h | 299 | 1327 | 579 | 442 | 572 | 589 | 235 | 1127 | 687 | 71 | 515 | 474 |
| HCM Platoon Ratio | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.84 | 0.84 | 0.84 | 0.98 | 0.98 | 0.98 | 0.32 | 0.32 | 0.32 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 47.2 | 35.1 | 34.7 | 43.2 | 25.1 | 25.2 | 46.6 | 30.5 | 24.2 | 49.2 | 34.6 | 34.8 |
| Incr Delay (d2), s/veh | 150.0 | 1.1 | 2.4 | 11.0 | 1.1 | 1.1 | 64.8 | 0.5 | 1.2 | 9.6 | 4.9 | 5.8 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 20.4 | 8.4 | 7.2 | 4.6 | 2.8 | 2.9 | 5.0 | 7.2 | 9.0 | 0.4 | 7.3 | 7.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 197.2 | 36.3 | 37.1 | 54.3 | 26.3 | 26.3 | 111.4 | 31.0 | 25.4 | 58.8 | 39.5 | 40.6 |
| LnGrp LOS | F | D | D | D | C | C | F | C | C | E | D | D |
| Approach Vol, veh/h | | 1326 | | | 648 | | | 1426 | | | 616 | |
| Approach Delay, s/veh | | 83.3 | | | 40.8 | | | 43.7 | | | 40.4 | |
| Approach LOS | | F | | | D | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 15.8 | 43.7 | 11.0 | 29.5 | 21.0 | 38.5 | 5.4 | 35.1 |
| Change Period (Y+Rc), s | * 4.2 | 6.3 | * 4.2 | * 5.1 | * 4.2 | * 6.3 | * 4.2 | 5.1 |
| Max Green Setting (Gmax), s | * 13 | 31.7 | * 6.8 | * 29 | * 17 | * 29 | * 4 | 31.7 |
| Max Q Clear Time (g_c+I1), s | 11.5 | 19.5 | 8.8 | 18.4 | 18.8 | 8.4 | 2.7 | 26.6 |
| Green Ext Time (p_c), s | 0.1 | 5.7 | 0.0 | 3.8 | 0.0 | 2.0 | 0.0 | 3.4 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 55.8 |
| HCM 6th LOS | E |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 946 | 28 | 103 | 605 | 16 | 117 |
| Future Volume (vph) | 946 | 28 | 103 | 605 | 16 | 117 |
| Confl. Peds. (#/hr) | | 12 | | | | 20 |
| Confl. Bikes (#/hr) | | 4 | | | | 8 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | NA | | Prot | NA | Prot | Perm |
| Protected Phases | 2 | | 1 | 6 | 8 | |
| Permitted Phases | | | | | | 8 |
| Detector Phase | 2 | | 1 | 6 | 8 | 8 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 22.5 | | 8.5 | 20.5 | 22.5 | 22.5 |
| Total Split (s) | 55.0 | | 20.0 | 75.0 | 25.0 | 25.0 |
| Total Split (%) | 55.0% | | 20.0% | 75.0% | 25.0% | 25.0% |
| Yellow Time (s) | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lag | | Lead | | | |
| Lead-Lag Optimize? | Yes | | Yes | | | |
| Recall Mode | Min | | None | Min | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 56.3 |
| Natural Cycle: 60 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 26: Park Center Drive & Mast Blvd

Existing + Proj PM (No School)
26: Park Center Drive & Mast Blvd
Fanita Ranch
06/06/2019

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 946 | 28 | 103 | 605 | 16 | 117 |
| Future Volume (veh/h) | 946 | 28 | 103 | 605 | 16 | 117 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | 0.96 | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 1028 | 30 | 112 | 658 | 17 | 127 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 1648 | 48 | 147 | 2360 | 194 | 172 |
| Arrive On Green | 0.47 | 0.47 | 0.08 | 0.66 | 0.11 | 0.11 |
| Sat Flow, veh/h | 3615 | 103 | 1781 | 3647 | 1781 | 1585 |
| Grp Volume(v), veh/h | 519 | 539 | 112 | 658 | 17 | 127 |
| Grp Sat Flow(s),veh/h/ln | 1777 | 1847 | 1781 | 1777 | 1781 | 1585 |
| Q Serve(g_s), s | 8.7 | 8.7 | 2.4 | 3.0 | 0.3 | 3.1 |
| Cycle Q Clear(g_c), s | 8.7 | 8.7 | 2.4 | 3.0 | 0.3 | 3.1 |
| Prop In Lane | | 0.06 | 1.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 831 | 864 | 147 | 2360 | 194 | 172 |
| V/C Ratio(X) | 0.62 | 0.62 | 0.76 | 0.28 | 0.09 | 0.74 |
| Avail Cap(c_a), veh/h | 2265 | 2355 | 697 | 6325 | 922 | 820 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 7.9 | 7.9 | 17.8 | 2.7 | 15.9 | 17.1 |
| Incr Delay (d2), s/veh | 0.8 | 0.7 | 7.9 | 0.1 | 0.2 | 6.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.0 | 2.1 | 1.1 | 0.2 | 0.1 | 1.2 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 8.7 | 8.7 | 25.7 | 2.8 | 16.1 | 23.1 |
| LnGrp LOS | A | A | C | A | B | C |
| Approach Vol, veh/h | 1058 | | | 770 | 144 | |
| Approach Delay, s/veh | 8.7 | | | 6.1 | 22.3 | |
| Approach LOS | A | | | A | C | |

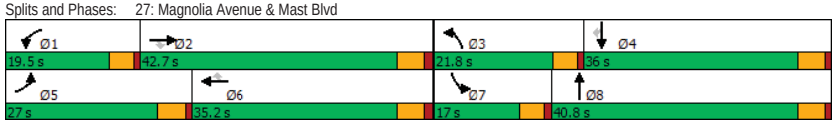
| Timer - Assigned Phs | 1 | 2 | | | 6 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.8 | 23.0 | | | 30.8 | 8.8 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 15.5 | 50.5 | | | 70.5 | 20.5 |
| Max Q Clear Time (g_c+I1), s | 4.4 | 10.7 | | | 5.0 | 5.1 |
| Green Ext Time (p_c), s | 0.2 | 7.8 | | | 4.9 | 0.3 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 8.7 | |
| HCM 6th LOS | A | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 395 | 239 | 248 | 102 | 133 | 27 | 286 | 716 | 100 | 81 | 497 | 212 |
| Future Volume (vph) | 395 | 239 | 248 | 102 | 133 | 27 | 286 | 716 | 100 | 81 | 497 | 212 |
| Confl. Peds. (#/hr) | | | 14 | | | 20 | | | 3 | | | 24 |
| Confl. Bikes (#/hr) | | | 1 | | | 4 | | | 2 | | | 6 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 11.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 9.0 | | 7.0 | 9.0 | 9.0 |
| Minimum Split (s) | 16.0 | 34.5 | 34.5 | 11.5 | 34.5 | 34.5 | 11.5 | 35.0 | | 11.5 | 36.0 | 36.0 |
| Total Split (s) | 27.0 | 42.7 | 42.7 | 19.5 | 35.2 | 35.2 | 21.8 | 40.8 | | 17.0 | 36.0 | 36.0 |
| Total Split (%) | 22.5% | 35.6% | 35.6% | 16.3% | 29.3% | 29.3% | 18.2% | 34.0% | | 14.2% | 30.0% | 30.0% |
| Yellow Time (s) | 4.0 | 4.0 | 4.0 | 3.5 | 4.0 | 4.0 | 3.5 | 4.0 | | 3.5 | 4.0 | 4.0 |
| All-Red Time (s) | 1.0 | 1.5 | 1.5 | 1.0 | 1.5 | 1.5 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 5.0 | 5.5 | 5.5 | 4.5 | 5.5 | 5.5 | 4.5 | 5.0 | | 4.5 | 5.0 | 5.0 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | Min | Min | None | Min | Min | None | Min | | None | Min | Min |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 85.8 |
| Natural Cycle: 100 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 27: Magnolia Avenue & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 395 | 239 | 248 | 102 | 133 | 27 | 286 | 716 | 100 | 81 | 497 | 212 |
| Future Volume (veh/h) | 395 | 239 | 248 | 102 | 133 | 27 | 286 | 716 | 100 | 81 | 497 | 212 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.95 | 1.00 | | 0.98 | 1.00 | | 0.96 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 429 | 260 | 270 | 111 | 145 | 29 | 311 | 778 | 109 | 88 | 540 | 230 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 561 | 949 | 411 | 144 | 637 | 270 | 406 | 1026 | 144 | 135 | 1020 | 436 |
| Arrive On Green | 0.16 | 0.27 | 0.27 | 0.08 | 0.18 | 0.18 | 0.12 | 0.33 | 0.33 | 0.08 | 0.29 | 0.29 |
| Sat Flow, veh/h | 3456 | 3554 | 1540 | 1781 | 3554 | 1507 | 3456 | 3123 | 437 | 1781 | 3554 | 1520 |
| Grp Volume(v), veh/h | 429 | 260 | 270 | 111 | 145 | 29 | 311 | 443 | 444 | 88 | 540 | 230 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1540 | 1781 | 1777 | 1507 | 1728 | 1777 | 1783 | 1781 | 1777 | 1520 |
| Q Serve(g_s), s | 9.4 | 4.6 | 12.3 | 4.8 | 2.8 | 1.3 | 6.9 | 17.5 | 17.6 | 3.8 | 10.1 | 10.0 |
| Cycle Q Clear(g_c), s | 9.4 | 4.6 | 12.3 | 4.8 | 2.8 | 1.3 | 6.9 | 17.5 | 17.6 | 3.8 | 10.1 | 10.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.25 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 561 | 949 | 411 | 144 | 637 | 270 | 406 | 584 | 586 | 135 | 1020 | 436 |
| V/C Ratio(X) | 0.76 | 0.27 | 0.66 | 0.77 | 0.23 | 0.11 | 0.77 | 0.76 | 0.76 | 0.65 | 0.53 | 0.53 |
| Avail Cap(c_a), veh/h | 965 | 1678 | 727 | 339 | 1340 | 568 | 759 | 807 | 810 | 283 | 1398 | 598 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 31.6 | 22.8 | 25.7 | 35.5 | 27.7 | 27.1 | 33.7 | 23.6 | 23.6 | 35.4 | 23.6 | 23.6 |
| Incr Delay (d2), s/veh | 2.7 | 0.2 | 2.2 | 3.2 | 0.2 | 0.2 | 1.2 | 2.7 | 2.7 | 2.0 | 0.4 | 1.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 3.9 | 1.8 | 4.4 | 2.1 | 1.1 | 0.4 | 2.8 | 7.1 | 7.2 | 1.6 | 4.0 | 3.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 34.2 | 23.0 | 27.8 | 38.7 | 27.9 | 27.3 | 34.9 | 26.4 | 26.4 | 37.4 | 24.0 | 24.6 |
| LnGrp LOS | C | C | C | D | C | C | C | C | C | D | C | C |
| Approach Vol, veh/h | | 959 | | | 285 | | | 1198 | | | 858 | |
| Approach Delay, s/veh | | 29.4 | | | 32.0 | | | 28.6 | | | 25.5 | |
| Approach LOS | | C | | | C | | | C | | | C | |

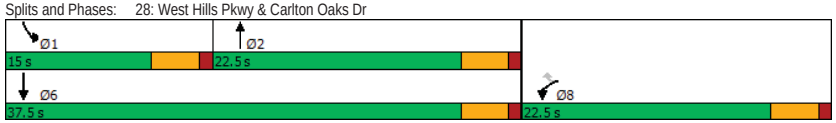
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 10.9 | 26.5 | 13.8 | 27.6 | 17.8 | 19.6 | 10.5 | 30.9 |
| Change Period (Y+Rc), s | 4.5 | 5.5 | 4.5 | 5.0 | 5.0 | 5.5 | 4.5 | 5.0 |
| Max Green Setting (Gmax), s | 15.0 | 37.2 | 17.3 | 31.0 | 22.0 | 29.7 | 12.5 | 35.8 |
| Max Q Clear Time (g_c+I1), s | 6.8 | 14.3 | 8.9 | 12.1 | 11.4 | 4.8 | 5.8 | 19.6 |
| Green Ext Time (p_c), s | 0.1 | 3.1 | 0.4 | 4.1 | 1.4 | 1.1 | 0.0 | 4.9 |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 28.3 | |
| HCM 6th LOS | | C | |

| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 80 | 121 | 506 | 184 | 249 | 510 |
| Future Volume (vph) | 80 | 121 | 506 | 184 | 249 | 510 |
| Confl. Peds. (#/hr) | | | | 1 | | |
| Confl. Bikes (#/hr) | | 1 | | 5 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | 0% | | | 0% |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | NA | | Prot | NA |
| Protected Phases | 8 | | 2 | | 1 | 6 |
| Permitted Phases | | 8 | | | | |
| Detector Phase | 8 | 8 | 2 | | 1 | 6 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | | 8.5 | 20.5 |
| Total Split (s) | 22.5 | 22.5 | 22.5 | | 15.0 | 37.5 |
| Total Split (%) | 37.5% | 37.5% | 37.5% | | 25.0% | 62.5% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Lead/Lag | | | Lag | | Lead | |
| Lead-Lag Optimize? | | | Yes | | Yes | |
| Recall Mode | None | None | Min | | None | Min |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 47.6 |
| Natural Cycle: 60 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 28: West Hills Pkwy & Carlton Oaks Dr








| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 80 | 121 | 506 | 184 | 249 | 510 |
| Future Volume (veh/h) | 80 | 121 | 506 | 184 | 249 | 510 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | | 0.97 | 1.00 | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | No | | | No |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 87 | 132 | 550 | 200 | 271 | 554 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 187 | 293 | 827 | 300 | 345 | 2292 |
| Arrive On Green | 0.10 | 0.10 | 0.33 | 0.33 | 0.19 | 0.64 |
| Sat Flow, veh/h | 1781 | 2790 | 2627 | 918 | 1781 | 3647 |
| Grp Volume(v), veh/h | 87 | 132 | 385 | 365 | 271 | 554 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1395 | 1777 | 1675 | 1781 | 1777 |
| Q Serve(g_s), s | 1.7 | 1.6 | 6.7 | 6.8 | 5.2 | 2.4 |
| Cycle Q Clear(g_c), s | 1.7 | 1.6 | 6.7 | 6.8 | 5.2 | 2.4 |
| Prop In Lane | 1.00 | 1.00 | | 0.55 | 1.00 | |
| Lane Grp Cap(c), veh/h | 187 | 293 | 580 | 547 | 345 | 2292 |
| V/C Ratio(X) | 0.47 | 0.45 | 0.66 | 0.67 | 0.79 | 0.24 |
| Avail Cap(c_a), veh/h | 891 | 1396 | 889 | 838 | 520 | 3259 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 15.2 | 15.1 | 10.4 | 10.4 | 13.8 | 2.7 |
| Incr Delay (d2), s/veh | 1.8 | 1.1 | 1.3 | 1.4 | 4.6 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.6 | 0.5 | 1.8 | 1.7 | 1.9 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 16.9 | 16.2 | 11.7 | 11.9 | 18.4 | 2.7 |
| LnGrp LOS | B | B | B | B | B | A |
| Approach Vol, veh/h | 219 | | 750 | | | 825 |
| Approach Delay, s/veh | 16.5 | | 11.8 | | | 7.9 |
| Approach LOS | B | | B | | | A |

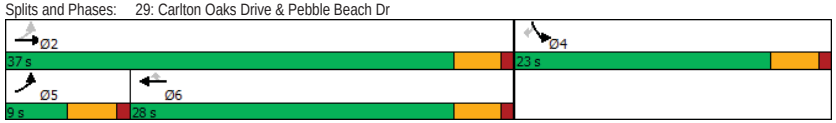
| Timer - Assigned Phs | 1 | 2 | | | 6 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 11.5 | 16.2 | | | 27.7 | 8.3 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 10.5 | 18.0 | | | 33.0 | 18.0 |
| Max Q Clear Time (g_c+I1), s | 7.2 | 8.8 | | | 4.4 | 3.7 |
| Green Ext Time (p_c), s | 0.2 | 3.0 | | | 3.6 | 0.6 |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 10.6 | |
| HCM 6th LOS | | B | |

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 10 | 380 | 284 | 35 | 24 | 7 |
| Future Volume (vph) | 10 | 380 | 284 | 35 | 24 | 7 |
| Confl. Peds. (#/hr) | | | | 8 | | |
| Confl. Bikes (#/hr) | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | pm+pt | NA | NA | Perm | Prot | Perm |
| Protected Phases | 5 | 2 | 6 | | 4 | |
| Permitted Phases | 2 | | | 6 | | 4 |
| Detector Phase | 5 | 2 | 6 | 6 | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 |
| Total Split (s) | 9.0 | 37.0 | 28.0 | 28.0 | 23.0 | 23.0 |
| Total Split (%) | 15.0% | 61.7% | 46.7% | 46.7% | 38.3% | 38.3% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | | Lag | Lag | | |
| Lead-Lag Optimize? | Yes | | Yes | Yes | | |
| Recall Mode | None | Min | Min | Min | None | None |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 35.8 |
| Natural Cycle: 55 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 29: Carlton Oaks Drive & Pebble Beach Dr






Existing + Proj PM (No School)
29: Carlton Oaks Drive & Pebble Beach Dr
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 10 | 380 | 284 | 35 | 24 | 7 |
| Future Volume (veh/h) | 10 | 380 | 284 | 35 | 24 | 7 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 0.99 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 11 | 413 | 309 | 38 | 26 | 8 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 553 | 1022 | 607 | 508 | 61 | 54 |
| Arrive On Green | 0.01 | 0.55 | 0.32 | 0.32 | 0.03 | 0.03 |
| Sat Flow, veh/h | 1781 | 1870 | 1870 | 1566 | 1781 | 1585 |
| Grp Volume(v), veh/h | 11 | 413 | 309 | 38 | 26 | 8 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1870 | 1566 | 1781 | 1585 |
| Q Serve(g_s), s | 0.1 | 2.8 | 2.9 | 0.4 | 0.3 | 0.1 |
| Cycle Q Clear(g_c), s | 0.1 | 2.8 | 2.9 | 0.4 | 0.3 | 0.1 |
| Prop In Lane | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 553 | 1022 | 607 | 508 | 61 | 54 |
| V/C Ratio(X) | 0.02 | 0.40 | 0.51 | 0.07 | 0.43 | 0.15 |
| Avail Cap(c_a), veh/h | 906 | 2833 | 2049 | 1715 | 1536 | 1367 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 4.1 | 2.8 | 5.9 | 5.0 | 10.2 | 10.1 |
| Incr Delay (d2), s/veh | 0.0 | 0.3 | 0.7 | 0.1 | 4.7 | 1.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.1 | 0.5 | 0.1 | 0.2 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 4.1 | 3.1 | 6.5 | 5.1 | 14.8 | 11.3 |
| LnGrp LOS | A | A | A | A | B | B |
| Approach Vol, veh/h | | 424 | 347 | | 34 | |
| Approach Delay, s/veh | | 3.1 | 6.4 | | 14.0 | |
| Approach LOS | | A | A | | B | |

| Timer - Assigned Phs | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 16.2 | | 5.2 | 4.8 | 11.5 |
| Change Period (Y+Rc), s | 4.5 | | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 32.5 | | 18.5 | 4.5 | 23.5 |
| Max Q Clear Time (g_c+I1), s | 4.8 | | 2.3 | 2.1 | 4.9 |
| Green Ext Time (p_c), s | 2.6 | | 0.0 | 0.0 | 1.8 |

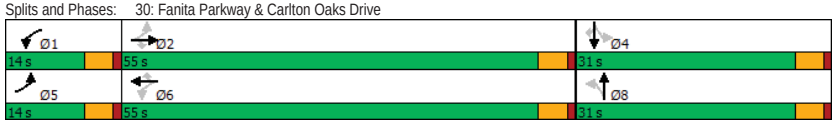
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 5.0 |
| HCM 6th LOS | | A |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 73 | 322 | 2 | 9 | 254 | 251 | 2 | 0 | 8 | 179 | 1 | 43 |
| Future Volume (vph) | 73 | 322 | 2 | 9 | 254 | 251 | 2 | 0 | 8 | 179 | 1 | 43 |
| Confl. Peds. (#/hr) | | | 7 | | | 9 | | | 9 | | | 7 |
| Confl. Bikes (#/hr) | | | 3 | | | 1 | | | 1 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | pm+pt | NA | Perm | pm+pt | NA | Perm | Perm | NA | | Perm | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | 2 | | 2 | 6 | | 6 | 8 | | | 4 | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 8 | 8 | | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | | 7.0 | 7.0 | 7.0 |
| Minimum Split (s) | 11.5 | 26.5 | 26.5 | 11.5 | 20.5 | 20.5 | 22.5 | 22.5 | | 22.5 | 22.5 | 22.5 |
| Total Split (s) | 14.0 | 55.0 | 55.0 | 14.0 | 55.0 | 55.0 | 31.0 | 31.0 | | 31.0 | 31.0 | 31.0 |
| Total Split (%) | 14.0% | 55.0% | 55.0% | 14.0% | 55.0% | 55.0% | 31.0% | 31.0% | | 31.0% | 31.0% | 31.0% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | | | | | | |
| Recall Mode | None | Min | Min | None | Min | Min | None | None | | None | None | None |

**Intersection Summary**

Cycle Length: 100
Actuated Cycle Length: 45.9
Natural Cycle: 65
Control Type: Actuated-Uncoordinated

Splits and Phases: 30: Fanita Parkway & Carlton Oaks Drive








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 73 | 322 | 2 | 9 | 254 | 251 | 2 | 0 | 8 | 179 | 1 | 43 |
| Future Volume (veh/h) | 73 | 322 | 2 | 9 | 254 | 251 | 2 | 0 | 8 | 179 | 1 | 43 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 0.99 | | 0.97 | 0.99 | | 0.96 | 0.98 | | 0.96 | 0.98 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 79 | 350 | 2 | 10 | 276 | 273 | 2 | 0 | 9 | 195 | 1 | 47 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 543 | 711 | 583 | 483 | 544 | 444 | 143 | 39 | 267 | 502 | 397 | 331 |
| Arrive On Green | 0.11 | 0.38 | 0.38 | 0.02 | 0.29 | 0.29 | 0.21 | 0.00 | 0.21 | 0.21 | 0.21 | 0.21 |
| Sat Flow, veh/h | 1781 | 1870 | 1534 | 1781 | 1870 | 1527 | 97 | 182 | 1259 | 1377 | 1870 | 1559 |
| Grp Volume(v), veh/h | 79 | 350 | 2 | 10 | 276 | 273 | 11 | 0 | 0 | 195 | 1 | 47 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1534 | 1781 | 1870 | 1527 | 1539 | 0 | 0 | 1377 | 1870 | 1559 |
| Q Serve(g_s), s | 0.9 | 5.0 | 0.0 | 0.1 | 4.3 | 5.4 | 0.0 | 0.0 | 0.0 | 4.3 | 0.0 | 0.8 |
| Cycle Q Clear(g_c), s | 0.9 | 5.0 | 0.0 | 0.1 | 4.3 | 5.4 | 0.2 | 0.0 | 0.0 | 4.4 | 0.0 | 0.8 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 0.18 | | 0.82 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 543 | 711 | 583 | 483 | 544 | 444 | 449 | 0 | 0 | 502 | 397 | 331 |
| V/C Ratio(X) | 0.15 | 0.49 | 0.00 | 0.02 | 0.51 | 0.61 | 0.02 | 0.00 | 0.00 | 0.39 | 0.00 | 0.14 |
| Avail Cap(c_a), veh/h | 839 | 2724 | 2234 | 938 | 2724 | 2224 | 1267 | 0 | 0 | 1262 | 1429 | 1191 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 6.6 | 8.2 | 6.7 | 8.4 | 10.2 | 10.6 | 10.8 | 0.0 | 0.0 | 12.5 | 10.8 | 11.1 |
| Incr Delay (d2), s/veh | 0.1 | 0.5 | 0.0 | 0.0 | 0.7 | 1.4 | 0.0 | 0.0 | 0.0 | 0.5 | 0.0 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.2 | 1.3 | 0.0 | 0.0 | 1.3 | 1.4 | 0.1 | 0.0 | 0.0 | 1.1 | 0.0 | 0.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 6.7 | 8.7 | 6.7 | 8.4 | 11.0 | 12.0 | 10.9 | 0.0 | 0.0 | 13.0 | 10.8 | 11.3 |
| LnGrp LOS | A | A | A | A | B | B | B | A | A | B | B | B |
| Approach Vol, veh/h | | 431 | | | 559 | | | 11 | | | 243 | |
| Approach Delay, s/veh | | 8.4 | | | 11.4 | | | 10.9 | | | 12.6 | |
| Approach LOS | | A | | | B | | | B | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.1 | 17.7 | | 11.9 | 8.2 | 14.6 | | 11.9 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 9.5 | 50.5 | | 26.5 | 9.5 | 50.5 | | 26.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.1 | 7.0 | | 6.4 | 2.9 | 7.4 | | 2.2 | | | | |
| Green Ext Time (p_c), s | 0.0 | 2.2 | | 0.7 | 0.1 | 2.7 | | 0.0 | | | | |

**Intersection Summary**

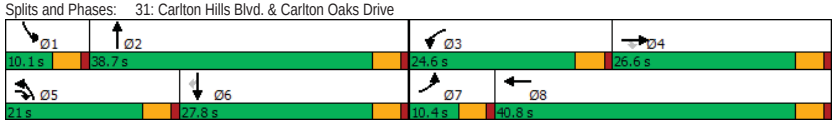
| | | |
|---|---|---|
| HCM 6th Ctrl Delay | 10.6 | |
| HCM 6th LOS | B | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 26 | 177 | 368 | 184 | 81 | 14 | 507 | 670 | 238 | 22 | 381 | 15 |
| Future Volume (vph) | 26 | 177 | 368 | 184 | 81 | 14 | 507 | 670 | 238 | 22 | 381 | 15 |
| Confl. Peds. (#/hr) | | | 9 | | | 1 | | | 6 | | | 4 |
| Confl. Bikes (#/hr) | | | 5 | | | 3 | | | 1 | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 7 | 4 | 5 | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | | | | 6 |
| Detector Phase | 7 | 4 | 5 | 3 | 8 | | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 26.5 | 8.5 | 8.5 | 26.5 | | 8.5 | 22.5 | | 8.5 | 22.5 | 22.5 |
| Total Split (s) | 10.4 | 26.6 | 21.0 | 24.6 | 40.8 | | 21.0 | 38.7 | | 10.1 | 27.8 | 27.8 |
| Total Split (%) | 10.4% | 26.6% | 21.0% | 24.6% | 40.8% | | 21.0% | 38.7% | | 10.1% | 27.8% | 27.8% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | | None | Min | | None | Min | Min |

**Intersection Summary**

Cycle Length: 100
Actuated Cycle Length: 79.7
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

Splits and Phases: 31: Carlton Hills Blvd. & Carlton Oaks Drive






Existing + Proj PM (No School)
31: Carlton Hills Blvd. & Carlton Oaks Drive
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 26 | 177 | 368 | 184 | 81 | 14 | 507 | 670 | 238 | 22 | 381 | 15 |
| Future Volume (veh/h) | 26 | 177 | 368 | 184 | 81 | 14 | 507 | 670 | 238 | 22 | 381 | 15 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 28 | 192 | 400 | 200 | 88 | 15 | 551 | 728 | 259 | 24 | 414 | 16 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 42 | 462 | 681 | 247 | 1101 | 183 | 654 | 904 | 321 | 37 | 658 | 287 |
| Arrive On Green | 0.02 | 0.25 | 0.25 | 0.14 | 0.36 | 0.36 | 0.19 | 0.35 | 0.35 | 0.02 | 0.19 | 0.19 |
| Sat Flow, veh/h | 1781 | 1870 | 1542 | 1781 | 3042 | 506 | 3456 | 2555 | 909 | 1781 | 3554 | 1552 |
| Grp Volume(v), veh/h | 28 | 192 | 400 | 200 | 50 | 53 | 551 | 506 | 481 | 24 | 414 | 16 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1542 | 1781 | 1777 | 1770 | 1728 | 1777 | 1687 | 1781 | 1777 | 1552 |
| Q Serve(g_s), s | 1.2 | 6.5 | 14.8 | 8.2 | 1.4 | 1.5 | 11.5 | 19.3 | 19.3 | 1.0 | 8.1 | 0.6 |
| Cycle Q Clear(g_c), s | 1.2 | 6.5 | 14.8 | 8.2 | 1.4 | 1.5 | 11.5 | 19.3 | 19.3 | 1.0 | 8.1 | 0.6 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.29 | 1.00 | | 0.54 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 42 | 462 | 681 | 247 | 643 | 641 | 654 | 628 | 597 | 37 | 658 | 287 |
| V/C Ratio(X) | 0.67 | 0.42 | 0.59 | 0.81 | 0.08 | 0.08 | 0.84 | 0.81 | 0.81 | 0.64 | 0.63 | 0.06 |
| Avail Cap(c_a), veh/h | 140 | 551 | 755 | 477 | 860 | 857 | 760 | 810 | 770 | 133 | 1104 | 482 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 36.3 | 23.7 | 16.1 | 31.3 | 15.7 | 15.7 | 29.3 | 21.9 | 21.9 | 36.4 | 28.2 | 25.2 |
| Incr Delay (d2), s/veh | 16.7 | 0.6 | 1.0 | 6.3 | 0.1 | 0.1 | 7.5 | 4.6 | 4.9 | 16.9 | 1.0 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.7 | 2.8 | 5.0 | 3.8 | 0.5 | 0.6 | 5.2 | 8.1 | 7.8 | 0.6 | 3.3 | 0.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 53.0 | 24.3 | 17.1 | 37.6 | 15.8 | 15.8 | 36.8 | 26.6 | 26.8 | 53.3 | 29.2 | 25.2 |
| LnGrp LOS | D | C | B | D | B | B | D | C | C | D | C | C |
| Approach Vol, veh/h | | 620 | | | 303 | | | 1538 | | | 454 | |
| Approach Delay, s/veh | | 20.9 | | | 30.2 | | | 30.3 | | | 30.3 | |
| Approach LOS | | C | | | C | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 6.1 | 31.0 | 14.9 | 23.0 | 18.7 | 18.4 | 6.3 | 31.6 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 5.6 | 34.2 | 20.1 | 22.1 | 16.5 | 23.3 | 5.9 | 36.3 |
| Max Q Clear Time (g_c+I1), s | 3.0 | 21.3 | 10.2 | 16.8 | 13.5 | 10.1 | 3.2 | 3.5 |
| Green Ext Time (p_c), s | 0.0 | 5.2 | 0.4 | 1.3 | 0.7 | 2.2 | 0.0 | 0.5 |

**Intersection Summary**

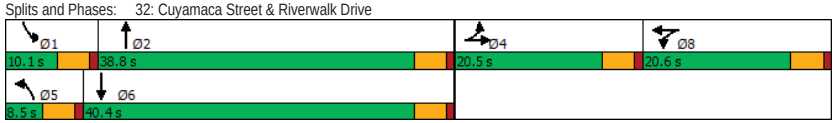
| | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 28.3 |
| HCM 6th LOS | | C |

Existing + Proj PM (No School) Fanita Ranch
32: Cuyamaca Street & Riverwalk Drive 06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 17 | 6 | 15 | 118 | 0 | 32 | 13 | 1329 | 174 | 78 | 1061 | 1 |
| Future Volume (vph) | 17 | 6 | 15 | 118 | 0 | 32 | 13 | 1329 | 174 | 78 | 1061 | 1 |
| Confl. Peds. (#/hr) | | | 7 | | | 5 | | | 15 | | | 5 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | 3 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Split | NA | | Split | NA | | Prot | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | 20.5 | 20.5 | | 20.5 | 20.5 | | 8.5 | 20.5 | | 8.5 | 20.5 | |
| Total Split (s) | 20.5 | 20.5 | | 20.6 | 20.6 | | 8.5 | 38.8 | | 10.1 | 40.4 | |
| Total Split (%) | 22.8% | 22.8% | | 22.9% | 22.9% | | 9.4% | 43.1% | | 11.2% | 44.9% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 90 |
| Actuated Cycle Length: 73.8 |
| Natural Cycle: 100 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 32: Cuyamaca Street & Riverwalk Drive




Timings
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Existing + Proj PM (No School) Fanita Ranch
32: Cuyamaca Street & Riverwalk Drive 06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 17 | 6 | 15 | 118 | 0 | 32 | 13 | 1329 | 174 | 78 | 1061 | 1 |
| Future Volume (veh/h) | 17 | 6 | 15 | 118 | 0 | 32 | 13 | 1329 | 174 | 78 | 1061 | 1 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.97 | 1.00 | | 0.96 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 18 | 7 | 16 | 128 | 0 | 35 | 14 | 1445 | 189 | 85 | 1153 | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 81 | 22 | 51 | 189 | 0 | 164 | 24 | 1610 | 208 | 109 | 2036 | 2 |
| Arrive On Green | 0.05 | 0.05 | 0.05 | 0.11 | 0.00 | 0.11 | 0.01 | 0.51 | 0.51 | 0.06 | 0.56 | 0.56 |
| Sat Flow, veh/h | 1781 | 493 | 1127 | 1781 | 0 | 1541 | 1781 | 3149 | 407 | 1781 | 3643 | 3 |
| Grp Volume(v), veh/h | 18 | 0 | 23 | 128 | 0 | 35 | 14 | 807 | 827 | 85 | 562 | 592 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1620 | 1781 | 0 | 1541 | 1781 | 1777 | 1779 | 1781 | 1777 | 1870 |
| Q Serve(g_s), s | 0.6 | 0.0 | 0.9 | 4.5 | 0.0 | 1.4 | 0.5 | 26.5 | 27.7 | 3.1 | 13.3 | 13.3 |
| Cycle Q Clear(g_c), s | 0.6 | 0.0 | 0.9 | 4.5 | 0.0 | 1.4 | 0.5 | 26.5 | 27.7 | 3.1 | 13.3 | 13.3 |
| Prop In Lane | 1.00 | | 0.70 | 1.00 | | 1.00 | 1.00 | | 0.23 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 81 | 0 | 74 | 189 | 0 | 164 | 24 | 909 | 910 | 109 | 993 | 1045 |
| V/C Ratio(X) | 0.22 | 0.00 | 0.31 | 0.68 | 0.00 | 0.21 | 0.57 | 0.89 | 0.91 | 0.78 | 0.57 | 0.57 |
| Avail Cap(c_a), veh/h | 437 | 0 | 397 | 440 | 0 | 380 | 109 | 934 | 935 | 153 | 993 | 1045 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 30.0 | 0.0 | 30.2 | 28.1 | 0.0 | 26.7 | 32.0 | 14.3 | 14.6 | 30.2 | 9.3 | 9.3 |
| Incr Delay (d2), s/veh | 1.4 | 0.0 | 2.4 | 4.2 | 0.0 | 0.6 | 19.3 | 10.3 | 12.4 | 15.4 | 0.8 | 0.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.3 | 0.0 | 0.4 | 2.1 | 0.0 | 0.5 | 0.3 | 11.1 | 12.0 | 1.7 | 4.2 | 4.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 31.4 | 0.0 | 32.5 | 32.3 | 0.0 | 27.3 | 51.3 | 24.6 | 27.0 | 45.6 | 10.0 | 10.0 |
| LnGrp LOS | C | A | C | C | A | C | D | C | C | D | B | B |
| Approach Vol, veh/h | | 41 | | | 163 | | | 1648 | | | 1239 | |
| Approach Delay, s/veh | | 32.0 | | | 31.2 | | | 26.0 | | | 12.5 | |
| Approach LOS | | C | | | C | | | C | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 8.5 | 37.9 | | 7.5 | 5.4 | 41.0 | | 11.4 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 5.6 | 34.3 | | 16.0 | 4.0 | 35.9 | | 16.1 | | | | |
| Max Q Clear Time (g_c+I1), s | 5.1 | 29.7 | | 2.9 | 2.5 | 15.3 | | 6.5 | | | | |
| Green Ext Time (p_c), s | 0.0 | 3.7 | | 0.1 | 0.0 | 7.7 | | 0.3 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 20.9 | |
| HCM 6th LOS | C | |

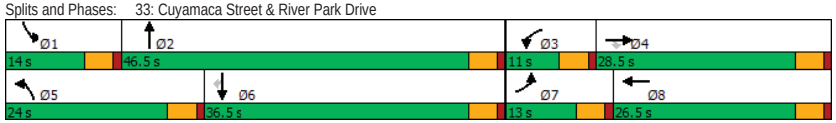
HCM 6th Signalized Intersection Summary
N:\2462\Analysis\Intersections\Synchro\No School Alt\4 Existing + Proj PM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 101 | 21 | 103 | 59 | 11 | 33 | 241 | 1315 | 82 | 96 | 1036 | 56 |
| Future Volume (vph) | 101 | 21 | 103 | 59 | 11 | 33 | 241 | 1315 | 82 | 96 | 1036 | 56 |
| Confl. Peds. (#/hr) | | | 3 | | | 5 | | | 6 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | | | | 6 |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 26.5 | 26.5 | 8.5 | 26.5 | | 8.5 | 22.5 | | 8.5 | 26.5 | 26.5 |
| Total Split (s) | 13.0 | 28.5 | 28.5 | 11.0 | 26.5 | | 24.0 | 46.5 | | 14.0 | 36.5 | 36.5 |
| Total Split (%) | 13.0% | 28.5% | 28.5% | 11.0% | 26.5% | | 24.0% | 46.5% | | 14.0% | 36.5% | 36.5% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | | None | Min | | None | Min | Min |

**Intersection Summary**

Cycle Length: 100
Actuated Cycle Length: 82.3
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 33: Cuyamaca Street & River Park Drive








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 101 | 21 | 103 | 59 | 11 | 33 | 241 | 1315 | 82 | 96 | 1036 | 56 |
| Future Volume (veh/h) | 101 | 21 | 103 | 59 | 11 | 33 | 241 | 1315 | 82 | 96 | 1036 | 56 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 110 | 23 | 112 | 64 | 12 | 36 | 262 | 1429 | 89 | 104 | 1126 | 61 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 141 | 219 | 184 | 82 | 34 | 102 | 313 | 1730 | 107 | 134 | 1456 | 648 |
| Arrive On Green | 0.08 | 0.12 | 0.12 | 0.05 | 0.08 | 0.08 | 0.18 | 0.51 | 0.51 | 0.08 | 0.41 | 0.41 |
| Sat Flow, veh/h | 1781 | 1870 | 1573 | 1781 | 406 | 1219 | 1781 | 3392 | 210 | 1781 | 3554 | 1581 |
| Grp Volume(v), veh/h | 110 | 23 | 112 | 64 | 0 | 48 | 262 | 746 | 772 | 104 | 1126 | 61 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1573 | 1781 | 0 | 1625 | 1781 | 1777 | 1826 | 1781 | 1777 | 1581 |
| Q Serve(g_s), s | 4.3 | 0.8 | 4.8 | 2.5 | 0.0 | 2.0 | 10.2 | 25.3 | 25.6 | 4.1 | 19.5 | 1.7 |
| Cycle Q Clear(g_c), s | 4.3 | 0.8 | 4.8 | 2.5 | 0.0 | 2.0 | 10.2 | 25.3 | 25.6 | 4.1 | 19.5 | 1.7 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.75 | 1.00 | | 0.12 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 141 | 219 | 184 | 82 | 0 | 136 | 313 | 906 | 931 | 134 | 1456 | 648 |
| V/C Ratio(X) | 0.78 | 0.11 | 0.61 | 0.78 | 0.00 | 0.35 | 0.84 | 0.82 | 0.83 | 0.78 | 0.77 | 0.09 |
| Avail Cap(c_a), veh/h | 212 | 629 | 529 | 162 | 0 | 501 | 486 | 1045 | 1074 | 237 | 1592 | 709 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 32.3 | 28.2 | 30.0 | 33.7 | 0.0 | 30.9 | 28.5 | 14.8 | 14.9 | 32.4 | 18.2 | 12.9 |
| Incr Delay (d2), s/veh | 10.1 | 0.2 | 3.2 | 14.9 | 0.0 | 1.6 | 7.5 | 4.8 | 4.9 | 9.2 | 2.2 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.2 | 0.4 | 1.9 | 1.4 | 0.0 | 0.8 | 4.7 | 9.7 | 10.1 | 2.0 | 7.5 | 0.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 42.3 | 28.4 | 33.2 | 48.6 | 0.0 | 32.5 | 36.0 | 19.6 | 19.8 | 41.6 | 20.4 | 13.0 |
| LnGrp LOS | D | C | C | D | A | C | D | B | B | D | C | B |
| Approach Vol, veh/h | | 245 | | | 112 | | | 1780 | | | 1291 | |
| Approach Delay, s/veh | | 36.9 | | | 41.7 | | | 22.1 | | | 21.8 | |
| Approach LOS | | D | | | D | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 9.9 | 40.9 | 7.8 | 12.8 | 17.0 | 33.8 | 10.2 | 10.5 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 9.5 | 42.0 | 6.5 | 24.0 | 19.5 | 32.0 | 8.5 | 22.0 |
| Max Q Clear Time (g_c+I1), s | 6.1 | 27.6 | 4.5 | 6.8 | 12.2 | 21.5 | 6.3 | 4.0 |
| Green Ext Time (p_c), s | 0.1 | 8.8 | 0.0 | 0.4 | 0.4 | 5.6 | 0.0 | 0.2 |

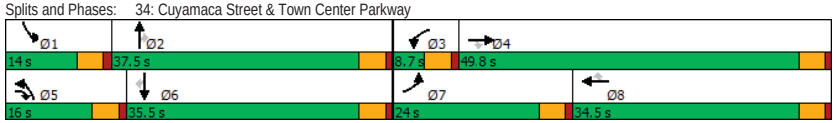
**Intersection Summary**

| | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 23.7 |
| HCM 6th LOS | | C |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 647 | 68 | 135 | 43 | 61 | 91 | 372 | 1228 | 33 | 160 | 978 | 281 |
| Future Volume (vph) | 647 | 68 | 135 | 43 | 61 | 91 | 372 | 1228 | 33 | 160 | 978 | 281 |
| Confl. Peds. (#/hr) | | | 12 | | | 9 | | | 17 | | | 4 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | 2 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 7 | 4 | 5 | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | 2 | | | 6 |
| Detector Phase | 7 | 4 | 5 | 3 | 8 | 8 | 5 | 2 | 2 | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 34.5 | 8.5 | 8.5 | 34.5 | 34.5 | 8.5 | 34.5 | 34.5 | 8.5 | 34.5 | 34.5 |
| Total Split (s) | 24.0 | 49.8 | 16.0 | 8.7 | 34.5 | 34.5 | 16.0 | 37.5 | 37.5 | 14.0 | 35.5 | 35.5 |
| Total Split (%) | 21.8% | 45.3% | 14.5% | 7.9% | 31.4% | 31.4% | 14.5% | 34.1% | 34.1% | 12.7% | 32.3% | 32.3% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lead | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | None | None | Min | Min | None | Min | Min |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 89 |
| Natural Cycle: 110 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 34: Cuyamaca Street & Town Center Parkway








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 647 | 68 | 135 | 43 | 61 | 91 | 372 | 1228 | 33 | 160 | 978 | 281 |
| Future Volume (veh/h) | 647 | 68 | 135 | 43 | 61 | 91 | 372 | 1228 | 33 | 160 | 978 | 281 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.97 | 1.00 | | 0.95 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 703 | 74 | 147 | 47 | 66 | 99 | 404 | 1335 | 36 | 174 | 1063 | 305 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 752 | 623 | 726 | 106 | 520 | 224 | 444 | 1680 | 497 | 189 | 1566 | 478 |
| Arrive On Green | 0.22 | 0.33 | 0.33 | 0.03 | 0.15 | 0.15 | 0.13 | 0.33 | 0.33 | 0.11 | 0.31 | 0.31 |
| Sat Flow, veh/h | 3456 | 1870 | 1568 | 3456 | 3554 | 1535 | 3456 | 5106 | 1510 | 1781 | 5106 | 1559 |
| Grp Volume(v), veh/h | 703 | 74 | 147 | 47 | 66 | 99 | 404 | 1335 | 36 | 174 | 1063 | 305 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1870 | 1568 | 1728 | 1777 | 1535 | 1728 | 1702 | 1510 | 1781 | 1702 | 1559 |
| Q Serve(g_s), s | 17.9 | 2.5 | 5.0 | 1.2 | 1.4 | 5.3 | 10.3 | 21.3 | 1.5 | 8.7 | 16.3 | 15.1 |
| Cycle Q Clear(g_c), s | 17.9 | 2.5 | 5.0 | 1.2 | 1.4 | 5.3 | 10.3 | 21.3 | 1.5 | 8.7 | 16.3 | 15.1 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 752 | 623 | 726 | 106 | 520 | 224 | 444 | 1680 | 497 | 189 | 1566 | 478 |
| V/C Ratio(X) | 0.93 | 0.12 | 0.20 | 0.44 | 0.13 | 0.44 | 0.91 | 0.79 | 0.07 | 0.92 | 0.68 | 0.64 |
| Avail Cap(c_a), veh/h | 752 | 946 | 997 | 162 | 1190 | 514 | 444 | 1881 | 556 | 189 | 1767 | 540 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 34.4 | 20.7 | 14.3 | 42.6 | 33.3 | 34.9 | 38.5 | 27.3 | 20.7 | 39.7 | 27.2 | 26.8 |
| Incr Delay (d2), s/veh | 18.7 | 0.1 | 0.1 | 2.9 | 0.1 | 1.4 | 22.7 | 2.2 | 0.1 | 43.6 | 0.9 | 2.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 9.3 | 1.1 | 1.7 | 0.5 | 0.6 | 2.0 | 5.6 | 8.5 | 0.5 | 6.0 | 6.5 | 5.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 53.1 | 20.8 | 14.5 | 45.5 | 33.4 | 36.3 | 61.2 | 29.5 | 20.7 | 83.3 | 28.1 | 28.9 |
| LnGrp LOS | D | C | B | D | C | D | E | C | C | F | C | C |
| Approach Vol, veh/h | | 924 | | | 212 | | | 1775 | | | 1542 | |
| Approach Delay, s/veh | | 44.4 | | | 37.4 | | | 36.5 | | | 34.5 | |
| Approach LOS | | D | | | D | | | D | | | C | |

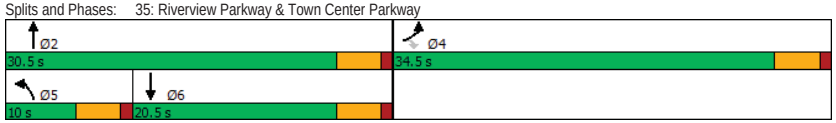
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 14.0 | 34.0 | 7.3 | 34.3 | 16.0 | 32.0 | 24.0 | 17.6 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 9.5 | 33.0 | 4.2 | 45.3 | 11.5 | 31.0 | 19.5 | 30.0 |
| Max Q Clear Time (g_c+I1), s | 10.7 | 23.3 | 3.2 | 7.0 | 12.3 | 18.3 | 19.9 | 7.3 |
| Green Ext Time (p_c), s | 0.0 | 6.0 | 0.0 | 0.9 | 0.0 | 6.6 | 0.0 | 0.7 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 37.5 | |
| HCM 6th LOS | D | |

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 186 | 150 | 23 | 18 | 0 |
| Future Volume (vph) | 0 | 186 | 150 | 23 | 18 | 0 |
| Confl. Peds. (#/hr) | | | | | | |
| Confl. Bikes (#/hr) | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | Prot | NA | NA | |
| Protected Phases | 4 | | 5 | 2 | 6 | |
| Permitted Phases | | 4 | | | | |
| Detector Phase | 4 | 4 | 5 | 2 | 6 | |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Minimum Split (s) | 34.5 | 34.5 | 8.5 | 25.5 | 20.5 | |
| Total Split (s) | 34.5 | 34.5 | 10.0 | 30.5 | 20.5 | |
| Total Split (%) | 53.1% | 53.1% | 15.4% | 46.9% | 31.5% | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lead/Lag | | | Lead | | Lag | |
| Lead-Lag Optimize? | | | Yes | | Yes | |
| Recall Mode | None | None | None | Min | Min | |

| Intersection Summary |
|---|
| Cycle Length: 65 |
| Actuated Cycle Length: 36.2 |
| Natural Cycle: 65 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 35: Riverview Parkway & Town Center Parkway






Existing + Proj PM (No School)
35: Riverview Parkway & Town Center Parkway
Fanita Ranch
06/06/2019

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 186 | 150 | 23 | 18 | 0 |
| Future Volume (veh/h) | 0 | 186 | 150 | 23 | 18 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 202 | 163 | 25 | 20 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 305 | 271 | 206 | 1642 | 579 | 0 |
| Arrive On Green | 0.00 | 0.17 | 0.12 | 0.46 | 0.16 | 0.00 |
| Sat Flow, veh/h | 1781 | 1585 | 1781 | 3647 | 3741 | 0 |
| Grp Volume(v), veh/h | 0 | 202 | 163 | 25 | 20 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 1781 | 1777 | 1777 | 0 |
| Q Serve(g_s), s | 0.0 | 3.0 | 2.2 | 0.1 | 0.1 | 0.0 |
| Cycle Q Clear(g_c), s | 0.0 | 3.0 | 2.2 | 0.1 | 0.1 | 0.0 |
| Prop In Lane | 1.00 | 1.00 | 1.00 | | | 0.00 |
| Lane Grp Cap(c), veh/h | 305 | 271 | 206 | 1642 | 579 | 0 |
| V/C Ratio(X) | 0.00 | 0.74 | 0.79 | 0.02 | 0.03 | 0.00 |
| Avail Cap(c_a), veh/h | 2177 | 1937 | 399 | 3764 | 2317 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | 0.0 | 9.7 | 10.6 | 3.6 | 8.6 | 0.0 |
| Incr Delay (d2), s/veh | 0.0 | 4.0 | 6.6 | 0.0 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.3 | 0.9 | 0.0 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 13.7 | 17.2 | 3.6 | 8.7 | 0.0 |
| LnGrp LOS | A | B | B | A | A | A |
| Approach Vol, veh/h | 202 | | | 188 | 20 | |
| Approach Delay, s/veh | 13.7 | | | 15.4 | 8.7 | |
| Approach LOS | B | | | B | A | |

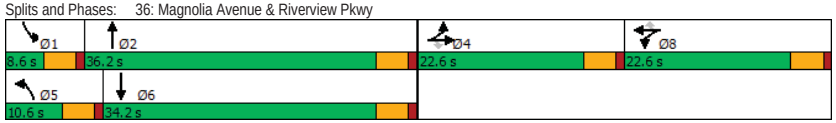
| Timer - Assigned Phs | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 15.8 | | 8.7 | 7.3 | 8.5 |
| Change Period (Y+Rc), s | 4.5 | | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 26.0 | | 30.0 | 5.5 | 16.0 |
| Max Q Clear Time (g_c+I1), s | 2.1 | | 5.0 | 4.2 | 2.1 |
| Green Ext Time (p_c), s | 0.1 | | 0.6 | 0.1 | 0.0 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 14.2 | |
| HCM 6th LOS | B | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 1 | 0 | 28 | 47 | 0 | 13 | 56 | 1357 | 44 | 13 | 838 | 7 |
| Future Volume (vph) | 1 | 0 | 28 | 47 | 0 | 13 | 56 | 1357 | 44 | 13 | 838 | 7 |
| Confl. Peds. (#/hr) | | | 8 | | | | | | | | | 1 |
| Confl. Bikes (#/hr) | | | | | | 6 | | | 4 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Split | NA | Perm | Split | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | | | | |
| Detector Phase | 4 | 4 | 4 | 8 | 8 | 8 | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 8.5 | 22.5 | | 8.5 | 22.5 | |
| Total Split (s) | 22.6 | 22.6 | 22.6 | 22.6 | 22.6 | 22.6 | 10.6 | 36.2 | | 8.6 | 34.2 | |
| Total Split (%) | 25.1% | 25.1% | 25.1% | 25.1% | 25.1% | 25.1% | 11.8% | 40.2% | | 9.6% | 38.0% | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | None | None | None | None | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 90 |
| Actuated Cycle Length: 56.4 |
| Natural Cycle: 100 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 36: Magnolia Avenue & Riverview Pkwy








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 1 | 0 | 28 | 47 | 0 | 13 | 56 | 1357 | 44 | 13 | 838 | 7 |
| Future Volume (veh/h) | 1 | 0 | 28 | 47 | 0 | 13 | 56 | 1357 | 44 | 13 | 838 | 7 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.97 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 1 | 0 | 30 | 51 | 0 | 14 | 61 | 1475 | 48 | 14 | 911 | 8 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 82 | 0 | 71 | 85 | 0 | 73 | 81 | 1874 | 61 | 25 | 1814 | 16 |
| Arrive On Green | 0.05 | 0.00 | 0.05 | 0.05 | 0.00 | 0.05 | 0.05 | 0.53 | 0.53 | 0.01 | 0.50 | 0.50 |
| Sat Flow, veh/h | 1781 | 0 | 1537 | 1781 | 0 | 1539 | 1781 | 3510 | 114 | 1781 | 3609 | 32 |
| Grp Volume(v), veh/h | 1 | 0 | 30 | 51 | 0 | 14 | 61 | 745 | 778 | 14 | 449 | 470 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1537 | 1781 | 0 | 1539 | 1781 | 1777 | 1847 | 1781 | 1777 | 1864 |
| Q Serve(g_s), s | 0.0 | 0.0 | 1.0 | 1.4 | 0.0 | 0.4 | 1.7 | 16.9 | 17.0 | 0.4 | 8.4 | 8.4 |
| Cycle Q Clear(g_c), s | 0.0 | 0.0 | 1.0 | 1.4 | 0.0 | 0.4 | 1.7 | 16.9 | 17.0 | 0.4 | 8.4 | 8.4 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.06 | 1.00 | | 0.02 |
| Lane Grp Cap(c), veh/h | 82 | 0 | 71 | 85 | 0 | 73 | 81 | 949 | 986 | 25 | 893 | 937 |
| V/C Ratio(X) | 0.01 | 0.00 | 0.42 | 0.60 | 0.00 | 0.19 | 0.75 | 0.79 | 0.79 | 0.56 | 0.50 | 0.50 |
| Avail Cap(c_a), veh/h | 641 | 0 | 554 | 641 | 0 | 554 | 216 | 1121 | 1165 | 145 | 1050 | 1101 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 22.9 | 0.0 | 23.3 | 23.5 | 0.0 | 23.0 | 23.7 | 9.4 | 9.4 | 24.6 | 8.3 | 8.3 |
| Incr Delay (d2), s/veh | 0.1 | 0.0 | 3.9 | 6.7 | 0.0 | 1.3 | 12.9 | 3.2 | 3.2 | 17.8 | 0.4 | 0.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.0 | 0.4 | 0.7 | 0.0 | 0.2 | 0.9 | 4.9 | 5.1 | 0.3 | 2.1 | 2.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 22.9 | 0.0 | 27.3 | 30.2 | 0.0 | 24.3 | 36.6 | 12.6 | 12.6 | 42.4 | 8.8 | 8.7 |
| LnGrp LOS | C | A | C | C | A | C | D | B | B | D | A | A |
| Approach Vol, veh/h | | 31 | | | 65 | | | 1584 | | | 933 | |
| Approach Delay, s/veh | | 27.1 | | | 28.9 | | | 13.5 | | | 9.3 | |
| Approach LOS | | C | | | C | | | B | | | A | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.2 | 31.3 | | 6.8 | 6.8 | 29.8 | | 6.9 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 4.1 | 31.7 | | 18.1 | 6.1 | 29.7 | | 18.1 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.4 | 19.0 | | 3.0 | 3.7 | 10.4 | | 3.4 | | | | |
| Green Ext Time (p_c), s | 0.0 | 7.8 | | 0.0 | 0.0 | 5.2 | | 0.2 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 12.5 | |
| HCM 6th LOS | B | |

| Intersection | |
|---|---|
| Int Delay, s/veh | 6.8 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 0 | 14 | 0 | 140 | 280 | 670 | 0 | 0 | 290 | 656 |
| Future Vol, veh/h | 0 | 0 | 0 | 14 | 0 | 140 | 280 | 670 | 0 | 0 | 290 | 656 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| Sign Control | Free | Free | Free | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | 190 | - | - | - | - | - |
| Veh in Median Storage, # | - | 2 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 0 | 15 | 0 | 152 | 304 | 728 | 0 | 0 | 315 | 713 |

| Major/Minor | Minor1 | | | Major1 | | | Major2 | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 2008 | 2364 | 728 | 1028 | 0 | - | - | - | 0 |
| Stage 1 | 1336 | 1336 | - | - | - | - | - | - | - |
| Stage 2 | 672 | 1028 | - | - | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.52 | 6.22 | 4.12 | - | - | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 2.218 | - | - | - | - | - |
| Pot Cap-1 Maneuver | 65 | 35 | 423 | 676 | - | 0 | 0 | - | - |
| Stage 1 | 245 | 222 | - | - | - | 0 | 0 | - | - |
| Stage 2 | 508 | 311 | - | - | - | 0 | 0 | - | - |
| Platoon blocked, % | | | | | - | | | - | - |
| Mov Cap-1 Maneuver | 36 | 0 | 423 | 676 | - | - | - | - | - |
| Mov Cap-2 Maneuver | 36 | 0 | - | - | - | - | - | - | - |
| Stage 1 | 135 | 0 | - | - | - | - | - | - | - |
| Stage 2 | 508 | 0 | - | - | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 64 | 4.3 | 0 |
| HCM LOS | F | | |

| Minor Lane/Major Mvmt | NBL | NBT | WBLn1 | SBT | SBR |
|---|---|---|---|---|---|
| Capacity (veh/h) | 676 | - | 214 | - | - |
| HCM Lane V/C Ratio | 0.45 | - | 0.782 | - | - |
| HCM Control Delay (s) | 14.6 | - | 64 | - | - |
| HCM Lane LOS | B | - | F | - | - |
| HCM 95th %tile Q(veh) | 2.3 | - | 5.5 | - | - |

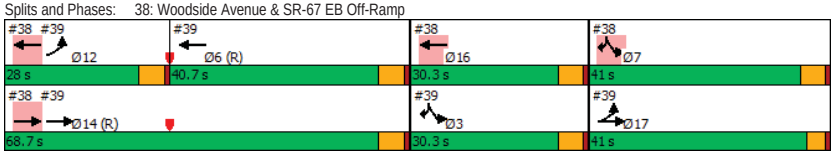




| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR | Ø3 | Ø6 | Ø12 | Ø16 | Ø17 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 588 | 134 | 0 | 760 | 112 | | | | | |
| Future Volume (vph) | 0 | 588 | 134 | 0 | 760 | 112 | | | | | |
| Confl. Peds. (#/hr) | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | | | |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | | | | | |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| Parking (#/hr) | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | | | | | | |
| Shared Lane Traffic (%) | | | | | | | | | | | |
| Turn Type | | NA | NA | | Prot | Prot | | | | | |
| Protected Phases | | 14 | 12 16 | | 7 | 7 | 3 | 6 | 12 | 16 | 17 |
| Permitted Phases | | | | | | | | | | | |
| Detector Phase | | 14 | 12 16 | | 7 | 7 | | | | | |
| Switch Phase | | | | | | | | | | | |
| Minimum Initial (s) | | 4.0 | | | 8.0 | 8.0 | 5.0 | 5.0 | 5.0 | 2.0 | 5.0 |
| Minimum Split (s) | | 20.0 | | | 27.3 | 27.3 | 30.3 | 29.3 | 24.3 | 20.0 | 9.2 |
| Total Split (s) | | 68.7 | | | 41.0 | 41.0 | 30.3 | 40.7 | 28.0 | 30.3 | 41.0 |
| Total Split (%) | | 49.1% | | | 29.3% | 29.3% | 22% | 29% | 20% | 22% | 29% |
| Yellow Time (s) | | 4.3 | | | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 3.2 |
| All-Red Time (s) | | 1.0 | | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | | 0.0 | | | 0.0 | 0.0 | | | | | |
| Total Lost Time (s) | | 5.3 | | | 5.3 | 5.3 | | | | | |
| Lead/Lag | | | | | | | | Lag | Lead | | |
| Lead-Lag Optimize? | | | | | | | | Yes | Yes | | |
| Recall Mode | | C-Max | | | Max | Max | None | C-Max | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 140 |
| Actuated Cycle Length: 140 |
| Offset: 0 (0%), Referenced to phase 6:WBT and 14:EBT, Start of Green |
| Natural Cycle: 125 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 38: Woodside Avenue & SR-67 EB Off-Ramp



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 588 | 134 | 0 | 760 | 112 |
| Future Volume (vph) | 0 | 588 | 134 | 0 | 760 | 112 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 5.3 | 5.3 | | 5.3 | 5.3 |
| Lane Util. Factor | | 0.95 | 1.00 | | 0.97 | 1.00 |
| Frt | | 1.00 | 1.00 | | 1.00 | 0.85 |
| Flt Protected | | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | | 3539 | 1863 | | 3433 | 1583 |
| Flt Permitted | | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (perm) | | 3539 | 1863 | | 3433 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 639 | 146 | 0 | 826 | 122 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 22 |
| Lane Group Flow (vph) | 0 | 639 | 146 | 0 | 826 | 100 |
| Turn Type | | NA | NA | | Prot | Prot |
| Protected Phases | | 14 | 12 16 | | 7 | 7 |
| Permitted Phases | | | | | | |
| Actuated Green, G (s) | | 63.4 | 42.2 | | 37.6 | 37.6 |
| Effective Green, g (s) | | 63.4 | 42.2 | | 37.6 | 37.6 |
| Actuated g/C Ratio | | 0.45 | 0.30 | | 0.27 | 0.27 |
| Clearance Time (s) | | 5.3 | | | 5.3 | 5.3 |
| Vehicle Extension (s) | | 1.0 | | | 3.0 | 3.0 |
| Lane Grp Cap (vph) | | 1602 | 561 | | 922 | 425 |
| v/s Ratio Prot | | c0.18 | c0.08 | | c0.24 | 0.06 |
| v/s Ratio Perm | | | | | | |
| v/c Ratio | | 0.40 | 0.26 | | 0.90 | 0.24 |
| Uniform Delay, d1 | | 25.6 | 37.1 | | 49.3 | 40.0 |
| Progression Factor | | 1.00 | 1.19 | | 1.00 | 1.00 |
| Incremental Delay, d2 | | 0.7 | 0.2 | | 13.1 | 1.3 |
| Delay (s) | | 26.3 | 44.2 | | 62.4 | 41.3 |
| Level of Service | | C | D | | E | D |
| Approach Delay (s) | | 26.3 | 44.2 | | 59.7 | |
| Approach LOS | | C | D | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 46.1 | HCM 2000 Level of Service | D |
| HCM 2000 Volume to Capacity ratio | 0.55 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 21.2 |
| Intersection Capacity Utilization | 46.8% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

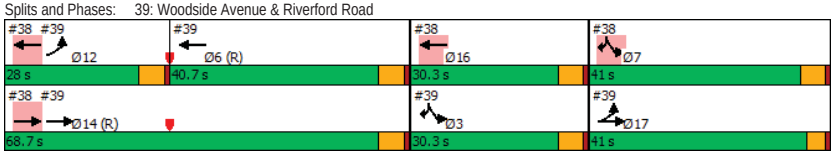




| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR | Ø7 | Ø12 | Ø14 | Ø16 | Ø17 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | |
| Traffic Volume (vph) | 637 | 713 | 104 | 322 | 232 | 34 | | | | | |
| Future Volume (vph) | 637 | 713 | 104 | 322 | 232 | 34 | | | | | |
| Confl. Peds. (#/hr) | | | | | | 2 | | | | | |
| Confl. Bikes (#/hr) | | | | 2 | | 1 | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | | | |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | | | | | |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| Parking (#/hr) | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | | | | | | |
| Shared Lane Traffic (%) | | | | | | | | | | | |
| Turn Type | Prot | NA | NA | | Prot | Prot | | | | | |
| Protected Phases | 12 17 | 14 17 | 6 | | 3 | 3 | 7 | 12 | 14 | 16 | 17 |
| Permitted Phases | | | | | | | | | | | |
| Detector Phase | 12 17 | 14 17 | 6 | | 3 | 3 | | | | | |
| Switch Phase | | | | | | | | | | | |
| Minimum Initial (s) | | | 5.0 | | 5.0 | 5.0 | 8.0 | 5.0 | 4.0 | 2.0 | 5.0 |
| Minimum Split (s) | | | 29.3 | | 30.3 | 30.3 | 27.3 | 24.3 | 20.0 | 20.0 | 9.2 |
| Total Split (s) | | | 40.7 | | 30.3 | 30.3 | 41.0 | 28.0 | 68.7 | 30.3 | 41.0 |
| Total Split (%) | | | 29.1% | | 21.6% | 21.6% | 29% | 20% | 49% | 22% | 29% |
| Yellow Time (s) | | | 4.3 | | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 3.2 |
| All-Red Time (s) | | | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | | | 0.0 | | 0.0 | 0.0 | | | | | |
| Total Lost Time (s) | | | 5.3 | | 5.3 | 5.3 | | | | | |
| Lead/Lag | | | Lag | | | | | Lead | | | |
| Lead-Lag Optimize? | | | Yes | | | | | Yes | | | |
| Recall Mode | | | C-Max | | None | None | Max | None | C-Max | None | None |

| Intersection Summary |
|---|
| Cycle Length: 140 |
| Actuated Cycle Length: 140 |
| Offset: 0 (0%), Referenced to phase 6:WBT and 14:EBT, Start of Green |
| Natural Cycle: 125 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 39: Woodside Avenue & Riverford Road



Existing + Proj PM (No School)
39: Woodside Avenue & Riverford Road

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 637 | 713 | 104 | 322 | 232 | 34 |
| Future Volume (vph) | 637 | 713 | 104 | 322 | 232 | 34 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.3 | 5.3 | 5.3 | | 5.3 | 5.3 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.98 | | 1.00 | 1.00 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.90 | | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | 1770 | 1863 | 1644 | | 1770 | 1583 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (perm) | 1770 | 1863 | 1644 | | 1770 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 692 | 775 | 113 | 350 | 252 | 37 |
| RTOR Reduction (vph) | 0 | 0 | 77 | 0 | 0 | 23 |
| Lane Group Flow (vph) | 692 | 775 | 386 | 0 | 252 | 14 |
| Confl. Peds. (#/hr) | | | | | | 2 |
| Confl. Bikes (#/hr) | | | | 2 | | 1 |
| Turn Type | Prot | NA | NA | | Prot | Prot |
| Protected Phases | 12 17 | 14 17 | 6 | | 3 | 3 |
| Permitted Phases | | | | | | |
| Actuated Green, G (s) | 62.0 | 106.3 | 39.0 | | 23.1 | 23.1 |
| Effective Green, g (s) | 57.8 | 102.1 | 39.0 | | 23.1 | 23.1 |
| Actuated g/C Ratio | 0.41 | 0.73 | 0.28 | | 0.17 | 0.17 |
| Clearance Time (s) | | | 5.3 | | 5.3 | 5.3 |
| Vehicle Extension (s) | | | 3.0 | | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 730 | 1358 | 457 | | 292 | 261 |
| v/s Ratio Prot | c0.39 | 0.42 | c0.23 | | c0.14 | 0.01 |
| v/s Ratio Perm | | | | | | |
| v/c Ratio | 0.95 | 0.57 | 0.84 | | 0.86 | 0.05 |
| Uniform Delay, d1 | 39.6 | 8.8 | 47.6 | | 56.9 | 49.2 |
| Progression Factor | 0.43 | 0.12 | 1.00 | | 1.00 | 1.00 |
| Incremental Delay, d2 | 17.1 | 0.4 | 17.1 | | 22.2 | 0.1 |
| Delay (s) | 34.2 | 1.5 | 64.8 | | 79.1 | 49.3 |
| Level of Service | C | A | E | | E | D |
| Approach Delay (s) | | 16.9 | 64.8 | | 75.3 | |
| Approach LOS | | B | E | | E | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| HCM 2000 Control Delay | 34.5 | HCM 2000 Level of Service | C |
| HCM 2000 Volume to Capacity ratio | 0.91 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 21.2 |
| Intersection Capacity Utilization | 87.2% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
N:\2462\Analysis\Intersections\Synchro\No School Alt\4 Existing + Proj PM.syn

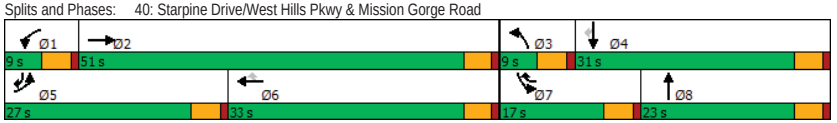
Existing + Proj PM (No School)
40: Starpine Drive/West Hills Pkwy & Mission Gorge Road

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 589 | 756 | 10 | 12 | 301 | 131 | 10 | 11 | 28 | 190 | 17 | 365 |
| Future Volume (vph) | 589 | 756 | 10 | 12 | 301 | 131 | 10 | 11 | 28 | 190 | 17 | 365 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | 1 |
| Confl. Bikes (#/hr) | | | 5 | | | 6 | | | | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Prot | NA | | Prot | NA | pm+ov |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 5 |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 5 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 29.5 | | 8.5 | 29.5 | 8.5 | 8.5 | 22.5 | | 8.5 | 29.5 | 8.5 |
| Total Split (s) | 27.0 | 51.0 | | 9.0 | 33.0 | 17.0 | 9.0 | 23.0 | | 17.0 | 31.0 | 27.0 |
| Total Split (%) | 27.0% | 51.0% | | 9.0% | 33.0% | 17.0% | 9.0% | 23.0% | | 17.0% | 31.0% | 27.0% |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | Lead |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | Min | | None | Min | None | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 62.9 |
| Natural Cycle: 90 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 40: Starpine Drive/West Hills Pkwy & Mission Gorge Road




Timings
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| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 589 | 756 | 10 | 12 | 301 | 131 | 10 | 11 | 28 | 190 | 17 | 365 |
| Future Volume (veh/h) | 589 | 756 | 10 | 12 | 301 | 131 | 10 | 11 | 28 | 190 | 17 | 365 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 1.00 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 640 | 822 | 11 | 13 | 327 | 142 | 11 | 12 | 30 | 207 | 18 | 397 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 874 | 1486 | 20 | 24 | 620 | 431 | 20 | 42 | 104 | 348 | 332 | 1185 |
| Arrive On Green | 0.25 | 0.41 | 0.41 | 0.01 | 0.17 | 0.17 | 0.01 | 0.09 | 0.09 | 0.10 | 0.18 | 0.18 |
| Sat Flow, veh/h | 3456 | 3589 | 48 | 1781 | 3554 | 1554 | 1781 | 474 | 1184 | 3456 | 1870 | 2703 |
| Grp Volume(v), veh/h | 640 | 407 | 426 | 13 | 327 | 142 | 11 | 0 | 42 | 207 | 18 | 397 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1860 | 1781 | 1777 | 1554 | 1781 | 0 | 1657 | 1728 | 1870 | 1351 |
| Q Serve(g_s), s | 8.0 | 8.2 | 8.2 | 0.3 | 3.9 | 3.4 | 0.3 | 0.0 | 1.1 | 2.7 | 0.4 | 4.6 |
| Cycle Q Clear(g_c), s | 8.0 | 8.2 | 8.2 | 0.3 | 3.9 | 3.4 | 0.3 | 0.0 | 1.1 | 2.7 | 0.4 | 4.6 |
| Prop In Lane | 1.00 | | 0.03 | 1.00 | | 1.00 | 1.00 | | 0.71 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 874 | 736 | 770 | 24 | 620 | 431 | 20 | 0 | 146 | 348 | 332 | 1185 |
| V/C Ratio(X) | 0.73 | 0.55 | 0.55 | 0.55 | 0.53 | 0.33 | 0.54 | 0.00 | 0.29 | 0.59 | 0.05 | 0.34 |
| Avail Cap(c_a), veh/h | 1659 | 1763 | 1845 | 171 | 2161 | 1104 | 171 | 0 | 654 | 922 | 1057 | 2233 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 16.1 | 10.4 | 10.4 | 23.0 | 17.6 | 13.6 | 23.0 | 0.0 | 20.0 | 20.2 | 16.0 | 8.9 |
| Incr Delay (d2), s/veh | 1.2 | 0.7 | 0.6 | 18.4 | 0.7 | 0.4 | 20.6 | 0.0 | 1.1 | 1.6 | 0.1 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.4 | 2.0 | 2.1 | 0.2 | 1.3 | 1.1 | 0.2 | 0.0 | 0.4 | 1.0 | 0.1 | 1.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 17.3 | 11.1 | 11.1 | 41.3 | 18.3 | 14.0 | 43.7 | 0.0 | 21.1 | 21.8 | 16.1 | 9.1 |
| LnGrp LOS | B | B | B | D | B | B | D | A | C | C | B | A |
| Approach Vol, veh/h | | 1473 | | | 482 | | | 53 | | | 622 | |
| Approach Delay, s/veh | | 13.8 | | | 17.6 | | | 25.8 | | | 13.5 | |
| Approach LOS | | B | | | B | | | C | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.1 | 23.9 | 5.0 | 12.8 | 16.3 | 12.7 | 9.2 | 8.6 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 4.5 | 46.5 | 4.5 | 26.5 | 22.5 | 28.5 | 12.5 | 18.5 |
| Max Q Clear Time (g_c+I1), s | 2.3 | 10.2 | 2.3 | 6.6 | 10.0 | 5.9 | 4.7 | 3.1 |
| Green Ext Time (p_c), s | 0.0 | 4.8 | 0.0 | 1.6 | 1.9 | 2.3 | 0.4 | 0.1 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 14.7 |
| HCM 6th LOS | B |

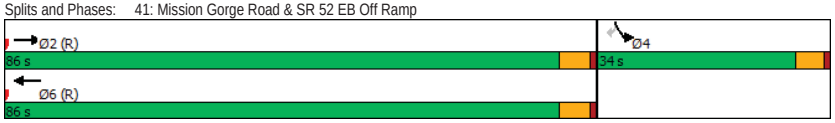




| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 1050 | 601 | 0 | 315 | 41 |
| Future Volume (vph) | 0 | 1050 | 601 | 0 | 315 | 41 |
| Confl. Peds. (#/hr) | | | | | | |
| Confl. Bikes (#/hr) | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | | NA | NA | | Prot | Perm |
| Protected Phases | | 2 | 6 | | 4 | |
| Permitted Phases | | | | | | 4 |
| Detector Phase | | 2 | 6 | | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | | 6.0 | 11.0 | | 10.0 | 10.0 |
| Minimum Split (s) | | 20.0 | 20.0 | | 20.0 | 20.0 |
| Total Split (s) | | 86.0 | 86.0 | | 34.0 | 34.0 |
| Total Split (%) | | 71.7% | 71.7% | | 28.3% | 28.3% |
| Yellow Time (s) | | 4.4 | 4.4 | | 4.1 | 4.1 |
| All-Red Time (s) | | 1.0 | 1.0 | | 1.0 | 1.0 |
| Lost Time Adjust (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | | 5.4 | 5.4 | | 5.1 | 5.1 |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | | C-Min | C-Min | | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green, Master Intersection |
| Natural Cycle: 45 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 41: Mission Gorge Road & SR 52 EB Off Ramp



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 1050 | 601 | 0 | 315 | 41 |
| Future Volume (veh/h) | 0 | 1050 | 601 | 0 | 315 | 41 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 0 | 1870 | 1870 | 0 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 1141 | 653 | 0 | 342 | 45 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 0 | 2 | 2 | 0 | 2 | 2 |
| Cap, veh/h | 0 | 2805 | 2805 | 0 | 425 | 195 |
| Arrive On Green | 0.00 | 0.79 | 1.00 | 0.00 | 0.12 | 0.12 |
| Sat Flow, veh/h | 0 | 3741 | 3741 | 0 | 3456 | 1585 |
| Grp Volume(v), veh/h | 0 | 1141 | 653 | 0 | 342 | 45 |
| Grp Sat Flow(s),veh/h/ln | 0 | 1777 | 1777 | 0 | 1728 | 1585 |
| Q Serve(g_s), s | 0.0 | 11.9 | 0.0 | 0.0 | 11.6 | 3.1 |
| Cycle Q Clear(g_c), s | 0.0 | 11.9 | 0.0 | 0.0 | 11.6 | 3.1 |
| Prop In Lane | 0.00 | | | 0.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 0 | 2805 | 2805 | 0 | 425 | 195 |
| V/C Ratio(X) | 0.00 | 0.41 | 0.23 | 0.00 | 0.80 | 0.23 |
| Avail Cap(c_a), veh/h | 0 | 2805 | 2805 | 0 | 832 | 382 |
| HCM Platoon Ratio | 1.00 | 1.00 | 2.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.00 | 1.00 | 0.99 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 0.0 | 3.9 | 0.0 | 0.0 | 51.2 | 47.5 |
| Incr Delay (d2), s/veh | 0.0 | 0.4 | 0.2 | 0.0 | 3.6 | 0.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 3.6 | 0.1 | 0.0 | 5.2 | 1.3 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 4.4 | 0.2 | 0.0 | 54.8 | 48.1 |
| LnGrp LOS | A | A | A | A | D | D |
| Approach Vol, veh/h | | 1141 | 653 | | 387 | |
| Approach Delay, s/veh | | 4.4 | 0.2 | | 54.0 | |
| Approach LOS | | A | A | | D | |

| Timer - Assigned Phs | 2 | 4 | 6 |
|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 100.1 | 19.9 | 100.1 |
| Change Period (Y+Rc), s | 5.4 | 5.1 | 5.4 |
| Max Green Setting (Gmax), s | 80.6 | 28.9 | 80.6 |
| Max Q Clear Time (g_c+I1), s | 13.9 | 13.6 | 2.0 |
| Green Ext Time (p_c), s | 11.8 | 1.2 | 4.8 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 11.9 |
| HCM 6th LOS | B |

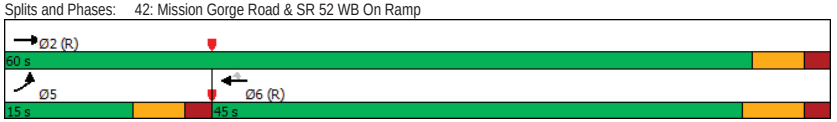




| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 16 | 1287 | 593 | 174 | 0 | 0 |
| Future Volume (vph) | 16 | 1287 | 593 | 174 | 0 | 0 |
| Confl. Peds. (#/hr) | | | | | | |
| Confl. Bikes (#/hr) | | | | 1 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | |
| Shared Lane Traffic (%) | | | | 10% | | |
| Turn Type | Prot | NA | NA | Perm | | |
| Protected Phases | 5 | 2 | 6 | | | |
| Permitted Phases | | | | 6 | | |
| Detector Phase | 5 | 2 | 6 | 6 | | |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 10.0 | 10.0 | | |
| Minimum Split (s) | 10.7 | 21.0 | 22.4 | 22.4 | | |
| Total Split (s) | 15.0 | 60.0 | 45.0 | 45.0 | | |
| Total Split (%) | 25.0% | 100.0% | 75.0% | 75.0% | | |
| Yellow Time (s) | 3.7 | 3.7 | 4.4 | 4.4 | | |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | | |
| Total Lost Time (s) | 5.7 | 5.7 | 6.4 | 6.4 | | |
| Lead/Lag | Lead | | Lag | Lag | | |
| Lead-Lag Optimize? | Yes | | Yes | Yes | | |
| Recall Mode | None | C-Min | C-Min | C-Min | | |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 60 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 40 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 42: Mission Gorge Road & SR 52 WB On Ramp



Existing + Proj PM (No School) — Fanita Ranch
42: Mission Gorge Road & SR 52 WB On Ramp — 06/06/2019

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 16 | 1287 | 593 | 174 | 0 | 0 |
| Future Volume (veh/h) | 16 | 1287 | 593 | 174 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 0.98 | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Work Zone On Approach | | No | No | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | | |
| Adj Flow Rate, veh/h | 17 | 1399 | 645 | 189 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | | |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | | |
| Cap, veh/h | 37 | 3175 | 2909 | 1208 | | |
| Arrive On Green | 0.04 | 1.00 | 1.00 | 1.00 | | |
| Sat Flow, veh/h | 1781 | 3647 | 3741 | 1553 | | |
| Grp Volume(v), veh/h | 17 | 1399 | 645 | 189 | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1870 | 1553 | | |
| Q Serve(g_s), s | 0.6 | 0.0 | 0.0 | 0.0 | | |
| Cycle Q Clear(g_c), s | 0.6 | 0.0 | 0.0 | 0.0 | | |
| Prop In Lane | 1.00 | | | 1.00 | | |
| Lane Grp Cap(c), veh/h | 37 | 3175 | 2909 | 1208 | | |
| V/C Ratio(X) | 0.46 | 0.44 | 0.22 | 0.16 | | |
| Avail Cap(c_a), veh/h | 276 | 3216 | 2909 | 1208 | | |
| HCM Platoon Ratio | 2.00 | 2.00 | 1.33 | 1.33 | | |
| Upstream Filter(I) | 0.87 | 0.87 | 0.98 | 0.98 | | |
| Uniform Delay (d), s/veh | 28.4 | 0.0 | 0.0 | 0.0 | | |
| Incr Delay (d2), s/veh | 7.8 | 0.4 | 0.2 | 0.3 | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | | |
| %ile BackOfQ(50%),veh/ln | 0.3 | 0.2 | 0.1 | 0.1 | | |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 36.2 | 0.4 | 0.2 | 0.3 | | |
| LnGrp LOS | D | A | A | A | | |
| Approach Vol, veh/h | | 1416 | 834 | | | |
| Approach Delay, s/veh | | 0.8 | 0.2 | | | |
| Approach LOS | | A | A | | | |

| Timer - Assigned Phs | | 2 | | | 5 | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 60.0 | | | 6.9 | 53.1 |
| Change Period (Y+Rc), s | | * 6.4 | | | * 5.7 | 6.4 |
| Max Green Setting (Gmax), s | | * 54 | | | * 9.3 | 38.6 |
| Max Q Clear Time (g_c+I1), s | | 2.0 | | | 2.6 | 2.0 |
| Green Ext Time (p_c), s | | 3.8 | | | 0.0 | 5.3 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 0.6 |
| HCM 6th LOS | A |

Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

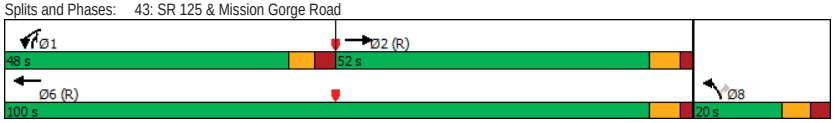


Existing + Proj PM (No School) — Fanita Ranch
43: SR 125 & Mission Gorge Road — 06/06/2019

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 1071 | 183 | 905 | 692 | 156 | 1207 |
| Future Volume (vph) | 1071 | 183 | 905 | 692 | 156 | 1207 |
| Confl. Peds. (#/hr) | | 5 | | | | |
| Confl. Bikes (#/hr) | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | NA | | Prot | NA | Prot | pm+ov |
| Protected Phases | 2 | | 1 | 6 | 8 | 1 |
| Permitted Phases | | | | | | 8 |
| Detector Phase | 2 | | 1 | 6 | 8 | 1 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 11.0 | | 5.0 | 10.0 | 5.0 | 5.0 |
| Minimum Split (s) | 17.4 | | 11.7 | 20.0 | 20.0 | 11.7 |
| Total Split (s) | 52.0 | | 48.0 | 100.0 | 20.0 | 48.0 |
| Total Split (%) | 43.3% | | 40.0% | 83.3% | 16.7% | 40.0% |
| Yellow Time (s) | 4.4 | | 3.7 | 4.4 | 4.1 | 3.7 |
| All-Red Time (s) | 2.0 | | 3.0 | 2.0 | 3.0 | 3.0 |
| Lost Time Adjust (s) | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.4 | | 6.7 | 6.4 | 7.1 | 6.7 |
| Lead/Lag | Lag | | Lead | | | Lead |
| Lead-Lag Optimize? | Yes | | Yes | | | Yes |
| Recall Mode | C-Max | | None | C-Max | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 107 (89%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 90 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 43: SR 125 & Mission Gorge Road



| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 1071 | 183 | 905 | 692 | 156 | 1207 |
| Future Volume (veh/h) | 1071 | 183 | 905 | 692 | 156 | 1207 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | 0.99 | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 1164 | 199 | 984 | 752 | 170 | 1312 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 1793 | 306 | 1090 | 3983 | 371 | 1179 |
| Arrive On Green | 0.82 | 0.82 | 0.10 | 0.26 | 0.11 | 0.11 |
| Sat Flow, veh/h | 4553 | 749 | 3456 | 5274 | 3456 | 2790 |
| Grp Volume(v), veh/h | 904 | 459 | 984 | 752 | 170 | 1312 |
| Grp Sat Flow(s),veh/h/ln | 1702 | 1730 | 1728 | 1702 | 1728 | 1395 |
| Q Serve(g_s), s | 12.4 | 12.4 | 33.8 | 13.8 | 5.5 | 12.9 |
| Cycle Q Clear(g_c), s | 12.4 | 12.4 | 33.8 | 13.8 | 5.5 | 12.9 |
| Prop In Lane | | 0.43 | 1.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 1392 | 707 | 1090 | 3983 | 371 | 1179 |
| V/C Ratio(X) | 0.65 | 0.65 | 0.90 | 0.19 | 0.46 | 1.11 |
| Avail Cap(c_a), veh/h | 1392 | 707 | 1189 | 3983 | 371 | 1179 |
| HCM Platoon Ratio | 2.00 | 2.00 | 0.33 | 0.33 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.92 | 0.92 | 0.92 | 0.92 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 7.6 | 7.6 | 51.9 | 14.9 | 50.3 | 34.6 |
| Incr Delay (d2), s/veh | 2.2 | 4.2 | 8.6 | 0.1 | 0.9 | 62.8 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.9 | 3.4 | 16.9 | 6.3 | 2.4 | 27.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 9.8 | 11.8 | 60.6 | 15.0 | 51.1 | 97.4 |
| LnGrp LOS | A | B | E | B | D | F |
| Approach Vol, veh/h | 1363 | | | 1736 | 1482 | |
| Approach Delay, s/veh | 10.5 | | | 40.8 | 92.1 | |
| Approach LOS | B | | | D | F | |

| Timer - Assigned Phs | 1 | 2 | | | | 6 | 8 |
|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 44.5 | 55.5 | | | | 100.0 | 20.0 |
| Change Period (Y+Rc), s | * 6.7 | 6.4 | | | | 6.4 | 7.1 |
| Max Green Setting (Gmax), s | * 41 | 45.6 | | | | 93.6 | 12.9 |
| Max Q Clear Time (g_c+I1), s | 35.8 | 14.4 | | | | 15.8 | 14.9 |
| Green Ext Time (p_c), s | 2.0 | 11.0 | | | | 5.8 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 48.4 |
| HCM 6th LOS | D |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

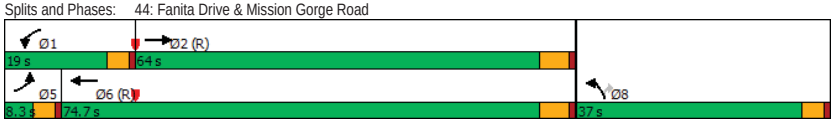




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 5 | 1871 | 406 | 303 | 1242 | 0 | 329 | 0 | 406 | 0 | 0 | 0 |
| Future Volume (vph) | 5 | 1871 | 406 | 303 | 1242 | 0 | 329 | 0 | 406 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | | | 6 | | | | | | | | | |
| Confl. Bikes (#/hr) | | | 4 | | | 3 | | | 3 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | | Perm | | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | | | | | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | | 8 | | | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 7.0 | | 7.0 | | | |
| Minimum Split (s) | 8.2 | 33.3 | | 8.2 | 20.0 | | 34.2 | | 34.2 | | | |
| Total Split (s) | 8.3 | 64.0 | | 19.0 | 74.7 | | 37.0 | | 37.0 | | | |
| Total Split (%) | 6.9% | 53.3% | | 15.8% | 62.3% | | 30.8% | | 30.8% | | | |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | | 3.2 | | 3.2 | | | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | | 1.0 | | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | | 0.0 | | | |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | | 4.2 | | 4.2 | | | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | | None | | | |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 9 (8%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 110 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 44: Fanita Drive & Mission Gorge Road



Existing + Proj PM (No School) — Fanita Ranch
44: Fanita Drive & Mission Gorge Road — 06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 5 | 1871 | 406 | 303 | 1242 | 0 | 329 | 0 | 406 | 0 | 0 | 0 |
| Future Volume (veh/h) | 5 | 1871 | 406 | 303 | 1242 | 0 | 329 | 0 | 406 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 1.00 | 1.00 | | 1.00 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 0 | 1870 | 0 | 1870 | | | |
| Adj Flow Rate, veh/h | 5 | 2034 | 441 | 329 | 1350 | 0 | 358 | 0 | 441 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 0 | 2 | 0 | 2 | | | |
| Cap, veh/h | 9 | 2110 | 439 | 384 | 3101 | 0 | 945 | 0 | 433 | | | |
| Arrive On Green | 0.00 | 0.34 | 0.34 | 0.11 | 0.61 | 0.00 | 0.27 | 0.00 | 0.27 | | | |
| Sat Flow, veh/h | 1781 | 4209 | 877 | 3456 | 5274 | 0 | 3456 | 0 | 1585 | | | |
| Grp Volume(v), veh/h | 5 | 1629 | 846 | 329 | 1350 | 0 | 358 | 0 | 441 | | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1702 | 1682 | 1728 | 1702 | 0 | 1728 | 0 | 1585 | | | |
| Q Serve(g_s), s | 0.3 | 56.1 | 60.2 | 11.2 | 16.9 | 0.0 | 10.1 | 0.0 | 32.8 | | | |
| Cycle Q Clear(g_c), s | 0.3 | 56.1 | 60.2 | 11.2 | 16.9 | 0.0 | 10.1 | 0.0 | 32.8 | | | |
| Prop In Lane | 1.00 | | 0.52 | 1.00 | | 0.00 | 1.00 | | 1.00 | | | |
| Lane Grp Cap(c), veh/h | 9 | 1706 | 843 | 384 | 3101 | 0 | 945 | 0 | 433 | | | |
| V/C Ratio(X) | 0.55 | 0.95 | 1.00 | 0.86 | 0.44 | 0.00 | 0.38 | 0.00 | 1.02 | | | |
| Avail Cap(c_a), veh/h | 61 | 1706 | 843 | 426 | 3101 | 0 | 945 | 0 | 433 | | | |
| HCM Platoon Ratio | 0.67 | 0.67 | 0.67 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 0.48 | 0.48 | 0.48 | 0.76 | 0.76 | 0.00 | 1.00 | 0.00 | 1.00 | | | |
| Uniform Delay (d), s/veh | 59.7 | 38.5 | 39.8 | 52.4 | 12.6 | 0.0 | 35.3 | 0.0 | 43.6 | | | |
| Incr Delay (d2), s/veh | 22.4 | 7.7 | 22.3 | 10.6 | 0.3 | 0.0 | 0.3 | 0.0 | 47.8 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ln | 0.2 | 25.7 | 30.5 | 5.3 | 6.1 | 0.0 | 4.2 | 0.0 | 18.2 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 82.1 | 46.2 | 62.2 | 63.0 | 12.9 | 0.0 | 35.6 | 0.0 | 91.4 | | | |
| LnGrp LOS | F | D | F | E | B | A | D | A | F | | | |
| Approach Vol, veh/h | | 2480 | | | 1679 | | | 799 | | | | |
| Approach Delay, s/veh | | 51.7 | | | 22.7 | | | 66.4 | | | | |
| Approach LOS | | D | | | C | | | E | | | | |

| Timer - Assigned Phs | 1 | 2 | | | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 17.5 | 65.5 | | | 4.8 | 78.2 | | 37.0 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | | | * 4.2 | 5.3 | | 4.2 | | | | |
| Max Green Setting (Gmax), s | * 15 | 58.7 | | | * 4.1 | 69.4 | | 32.8 | | | | |
| Max Q Clear Time (g_c+I1), s | 13.2 | 62.2 | | | 2.3 | 18.9 | | 34.8 | | | | |
| Green Ext Time (p_c), s | 0.1 | 0.0 | | | 0.0 | 15.3 | | 0.0 | | | | |

| Intersection Summary | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HCM 6th Ctrl Delay | | | 44.3 | | | | | | | | | |
| HCM 6th LOS | | | D | | | | | | | | | |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

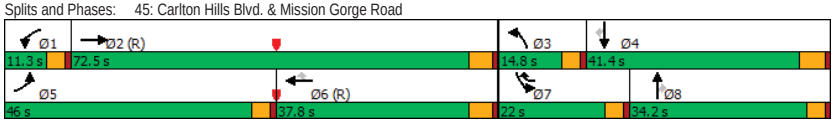
HCM 6th Signalized Intersection Summary
N:\2462\Analysis\Intersections\Synchro\No School Alt\4 Existing + Proj PM.syn

Existing + Proj PM (No School) — Fanita Ranch
45: Carlton Hills Blvd. & Mission Gorge Road — 06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 917 | 1279 | 67 | 33 | 904 | 505 | 58 | 79 | 22 | 353 | 31 | 634 |
| Future Volume (vph) | 917 | 1279 | 67 | 33 | 904 | 505 | 58 | 79 | 22 | 353 | 31 | 634 |
| Confl. Peds. (#/hr) | | | 8 | | | | | | 8 | | | 2 |
| Confl. Bikes (#/hr) | | | 1 | | | 2 | | | 1 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | 48% |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | 6 | | | 8 | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | 8 | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 23.3 | | 8.2 | 34.3 | 8.2 | 8.2 | 34.2 | 34.2 | 8.2 | 32.4 | 32.4 |
| Total Split (s) | 46.0 | 72.5 | | 11.3 | 37.8 | 22.0 | 14.8 | 34.2 | 34.2 | 22.0 | 41.4 | 41.4 |
| Total Split (%) | 32.9% | 51.8% | | 8.1% | 27.0% | 15.7% | 10.6% | 24.4% | 24.4% | 15.7% | 29.6% | 29.6% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | 3.2 | 3.2 | 3.2 | 3.2 | 3.2 | 4.4 | 4.4 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | 4.2 | 4.2 | 4.2 | 4.2 | 4.2 | 5.4 | 5.4 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | C-Min | | None | C-Min | None | None | None | None | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 140 |
| Actuated Cycle Length: 140 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 125 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 45: Carlton Hills Blvd. & Mission Gorge Road




Timings
N:\2462\Analysis\Intersections\Synchro\No School Alt\4 Existing + Proj PM.syn

Existing + Proj PM (No School) — Fanita Ranch
45: Carlton Hills Blvd. & Mission Gorge Road — 06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 917 | 1279 | 67 | 33 | 904 | 505 | 58 | 79 | 22 | 353 | 31 | 634 |
| Future Volume (veh/h) | 917 | 1279 | 67 | 33 | 904 | 505 | 58 | 79 | 22 | 353 | 31 | 634 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.99 | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 997 | 1390 | 73 | 36 | 983 | 549 | 63 | 86 | 24 | 384 | 0 | 644 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 1032 | 2819 | 148 | 46 | 1511 | 655 | 81 | 277 | 228 | 432 | 0 | 708 |
| Arrive On Green | 0.30 | 0.57 | 0.57 | 0.03 | 0.30 | 0.30 | 0.05 | 0.15 | 0.15 | 0.12 | 0.00 | 0.22 |
| Sat Flow, veh/h | 3456 | 4958 | 260 | 1781 | 5106 | 1564 | 1781 | 1870 | 1539 | 3563 | 0 | 3162 |
| Grp Volume(v), veh/h | 997 | 954 | 509 | 36 | 983 | 549 | 63 | 86 | 24 | 384 | 0 | 644 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1702 | 1815 | 1781 | 1702 | 1564 | 1781 | 1870 | 1539 | 1781 | 0 | 1581 |
| Q Serve(g_s), s | 39.8 | 23.5 | 23.5 | 2.8 | 23.5 | 41.4 | 4.9 | 5.7 | 1.9 | 14.9 | 0.0 | 27.8 |
| Cycle Q Clear(g_c), s | 39.8 | 23.5 | 23.5 | 2.8 | 23.5 | 41.4 | 4.9 | 5.7 | 1.9 | 14.9 | 0.0 | 27.8 |
| Prop In Lane | 1.00 | | 0.14 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 1032 | 1935 | 1032 | 46 | 1511 | 655 | 81 | 277 | 228 | 432 | 0 | 708 |
| V/C Ratio(X) | 0.97 | 0.49 | 0.49 | 0.78 | 0.65 | 0.84 | 0.78 | 0.31 | 0.11 | 0.89 | 0.00 | 0.91 |
| Avail Cap(c_a), veh/h | 1032 | 1935 | 1032 | 90 | 1511 | 655 | 135 | 401 | 330 | 453 | 0 | 813 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.26 | 0.26 | 0.26 | 0.81 | 0.81 | 0.81 | 1.00 | 1.00 | 1.00 | 0.79 | 0.00 | 0.79 |
| Uniform Delay (d), s/veh | 48.4 | 18.1 | 18.1 | 67.8 | 43.0 | 36.7 | 66.1 | 53.3 | 51.6 | 60.6 | 0.0 | 53.0 |
| Incr Delay (d2), s/veh | 8.0 | 0.2 | 0.4 | 8.3 | 1.8 | 10.1 | 15.0 | 0.2 | 0.1 | 14.8 | 0.0 | 10.8 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 17.9 | 9.0 | 9.6 | 1.4 | 10.0 | 18.6 | 2.6 | 2.7 | 0.7 | 7.6 | 0.0 | 12.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 56.4 | 18.3 | 18.5 | 76.1 | 44.7 | 46.8 | 81.1 | 53.5 | 51.7 | 75.4 | 0.0 | 63.8 |
| LnGrp LOS | E | B | B | E | D | D | F | D | D | E | A | E |
| Approach Vol, veh/h | | 2460 | | | 1568 | | | 173 | | | 1028 | |
| Approach Delay, s/veh | | 33.8 | | | 46.2 | | | 63.3 | | | 68.1 | |
| Approach LOS | | C | | | D | | | E | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.8 | 84.9 | 10.5 | 36.7 | 46.0 | 46.7 | 21.2 | 26.1 |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | * 4.2 | 5.4 | * 4.2 | 5.3 | * 4.2 | * 5.4 |
| Max Green Setting (Gmax), s | * 7.1 | 67.2 | * 11 | 36.0 | * 42 | 32.5 | * 18 | * 30 |
| Max Q Clear Time (g_c+I1), s | 4.8 | 25.5 | 6.9 | 29.8 | 41.8 | 43.4 | 16.9 | 7.7 |
| Green Ext Time (p_c), s | 0.0 | 14.8 | 0.0 | 1.5 | 0.0 | 0.0 | 0.1 | 0.3 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 45.2 |
| HCM 6th LOS | D |

Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

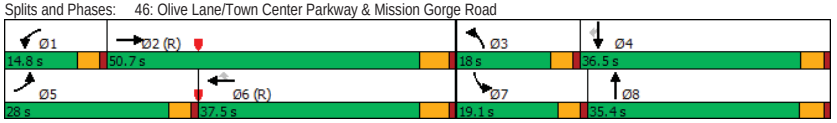
HCM 6th Signalized Intersection Summary
N:\2462\Analysis\Intersections\Synchro\No School Alt\4 Existing + Proj PM.syn

Existing + Proj PM (No School) — Fanita Ranch
46: Olive Lane/Town Center Parkway & Mission Gorge Road — 06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 584 | 1102 | 103 | 68 | 630 | 317 | 320 | 215 | 48 | 311 | 179 | 503 |
| Future Volume (vph) | 584 | 1102 | 103 | 68 | 630 | 317 | 320 | 215 | 48 | 311 | 179 | 503 |
| Confl. Peds. (#/hr) | | | 9 | | | 16 | | | 3 | | | 6 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | Perm | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | 10.0 | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 26.3 | | 8.2 | 36.3 | 36.3 | 8.2 | 34.6 | | 8.2 | 36.5 | 36.5 |
| Total Split (s) | 28.0 | 50.7 | | 14.8 | 37.5 | 37.5 | 18.0 | 35.4 | | 19.1 | 36.5 | 36.5 |
| Total Split (%) | 23.3% | 42.3% | | 12.3% | 31.3% | 31.3% | 15.0% | 29.5% | | 15.9% | 30.4% | 30.4% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | 4.3 | 3.2 | 3.6 | | 3.2 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | 5.3 | 4.2 | 4.6 | | 4.2 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | C-Min | | None | C-Min | C-Min | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 61 (51%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 110 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 46: Olive Lane/Town Center Parkway & Mission Gorge Road




Timings
N:\2462\Analysis\Intersections\Synchro\No School Alt\4 Existing + Proj PM.syn

Existing + Proj PM (No School) Fanita Ranch
46: Olive Lane/Town Center Parkway & Mission Gorge Road 06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 584 | 1102 | 103 | 68 | 630 | 317 | 320 | 215 | 48 | 311 | 179 | 503 |
| Future Volume (veh/h) | 584 | 1102 | 103 | 68 | 630 | 317 | 320 | 215 | 48 | 311 | 179 | 503 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 1.00 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 635 | 1198 | 112 | 74 | 685 | 345 | 348 | 234 | 52 | 338 | 195 | 547 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 683 | 2097 | 196 | 94 | 1518 | 464 | 397 | 354 | 79 | 393 | 445 | 658 |
| Arrive On Green | 0.20 | 0.44 | 0.44 | 0.05 | 0.30 | 0.30 | 0.12 | 0.24 | 0.24 | 0.11 | 0.24 | 0.24 |
| Sat Flow, veh/h | 3456 | 4746 | 444 | 1781 | 5106 | 1559 | 3456 | 1481 | 329 | 3456 | 1870 | 2769 |
| Grp Volume(v), veh/h | 635 | 859 | 451 | 74 | 685 | 345 | 348 | 0 | 286 | 338 | 195 | 547 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1702 | 1785 | 1781 | 1702 | 1559 | 1728 | 0 | 1810 | 1728 | 1870 | 1384 |
| Q Serve(g_s), s | 21.7 | 22.6 | 22.6 | 4.9 | 13.1 | 24.0 | 11.9 | 0.0 | 17.1 | 11.5 | 10.6 | 22.5 |
| Cycle Q Clear(g_c), s | 21.7 | 22.6 | 22.6 | 4.9 | 13.1 | 24.0 | 11.9 | 0.0 | 17.1 | 11.5 | 10.6 | 22.5 |
| Prop In Lane | 1.00 | | 0.25 | 1.00 | | 1.00 | 1.00 | | 0.18 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 683 | 1504 | 789 | 94 | 1518 | 464 | 397 | 0 | 432 | 393 | 445 | 658 |
| V/C Ratio(X) | 0.93 | 0.57 | 0.57 | 0.78 | 0.45 | 0.74 | 0.88 | 0.00 | 0.66 | 0.86 | 0.44 | 0.83 |
| Avail Cap(c_a), veh/h | 685 | 1504 | 789 | 157 | 1518 | 464 | 397 | 0 | 464 | 429 | 499 | 738 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.81 | 0.81 | 0.81 | 0.76 | 0.76 | 0.76 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 47.3 | 25.0 | 25.0 | 56.1 | 34.2 | 38.0 | 52.3 | 0.0 | 41.3 | 52.2 | 38.9 | 43.5 |
| Incr Delay (d2), s/veh | 16.2 | 1.3 | 2.4 | 4.1 | 0.7 | 8.0 | 18.5 | 0.0 | 3.7 | 14.0 | 1.3 | 8.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 10.6 | 9.0 | 9.7 | 2.3 | 5.4 | 10.1 | 6.2 | 0.0 | 8.1 | 5.8 | 5.1 | 8.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 63.6 | 26.3 | 27.4 | 60.2 | 35.0 | 46.1 | 70.7 | 0.0 | 45.0 | 66.3 | 40.2 | 51.8 |
| LnGrp LOS | E | C | C | E | C | D | E | A | D | E | D | D |
| Approach Vol, veh/h | | 1945 | | | 1104 | | | 634 | | | 1080 | |
| Approach Delay, s/veh | | 38.7 | | | 40.1 | | | 59.1 | | | 54.3 | |
| Approach LOS | | D | | | D | | | E | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 10.6 | 58.3 | 18.0 | 33.1 | 27.9 | 41.0 | 17.8 | 33.3 |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | * 4.2 | * 4.6 | * 4.2 | 5.3 | * 4.2 | 4.6 |
| Max Green Setting (Gmax), s | * 11 | 45.4 | * 14 | * 32 | * 24 | 32.2 | * 15 | 30.8 |
| Max Q Clear Time (g_c+I1), s | 6.9 | 24.6 | 13.9 | 24.5 | 23.7 | 26.0 | 13.5 | 19.1 |
| Green Ext Time (p_c), s | 0.0 | 9.9 | 0.0 | 3.4 | 0.0 | 3.8 | 0.1 | 1.7 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 45.3 |
| HCM 6th LOS | D |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

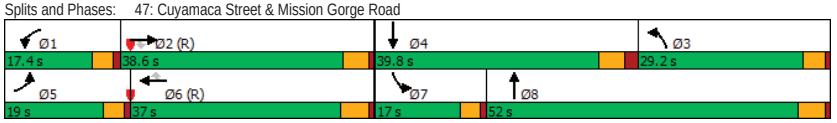


Existing + Proj PM (No School) Fanita Ranch
47: Cuyamaca Street & Mission Gorge Road 06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 384 | 633 | 293 | 265 | 481 | 173 | 534 | 925 | 178 | 283 | 865 | 188 |
| Future Volume (vph) | 384 | 633 | 293 | 265 | 481 | 173 | 534 | 925 | 178 | 283 | 865 | 188 |
| Confl. Peds. (#/hr) | | | 31 | | | 31 | | | 34 | | | 23 |
| Confl. Bikes (#/hr) | | | 4 | | | 2 | | | 3 | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | 10.0 | 4.0 | 7.0 | | 4.0 | 15.0 | |
| Minimum Split (s) | 19.0 | 34.8 | 34.8 | 8.2 | 34.3 | 34.3 | 8.2 | 38.0 | | 8.2 | 37.0 | |
| Total Split (s) | 19.0 | 38.6 | 38.6 | 17.4 | 37.0 | 37.0 | 29.2 | 52.0 | | 17.0 | 39.8 | |
| Total Split (%) | 15.2% | 30.9% | 30.9% | 13.9% | 29.6% | 29.6% | 23.4% | 41.6% | | 13.6% | 31.8% | |
| Yellow Time (s) | 3.2 | 3.8 | 3.8 | 3.2 | 4.3 | 4.3 | 3.2 | 4.0 | | 3.2 | 4.0 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 2.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.2 | 4.8 | 4.8 | 4.2 | 5.3 | 5.3 | 4.2 | 5.0 | | 4.2 | 6.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lag | Lag | | Lead | Lead | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | C-Min | C-Min | None | C-Min | C-Min | None | None | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 125 |
| Actuated Cycle Length: 125 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green, Master Intersection |
| Natural Cycle: 120 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 47: Cuyamaca Street & Mission Gorge Road



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 384 | 633 | 293 | 265 | 481 | 173 | 534 | 925 | 178 | 283 | 865 | 188 |
| Future Volume (veh/h) | 384 | 633 | 293 | 265 | 481 | 173 | 534 | 925 | 178 | 283 | 865 | 188 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.96 | 1.00 | | 0.96 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1683 | 1683 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 417 | 688 | 318 | 288 | 523 | 188 | 580 | 1005 | 193 | 308 | 940 | 204 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 409 | 1397 | 413 | 340 | 1295 | 382 | 692 | 999 | 191 | 354 | 1098 | 237 |
| Arrive On Green | 0.12 | 0.27 | 0.27 | 0.10 | 0.25 | 0.25 | 0.20 | 0.38 | 0.38 | 0.10 | 0.26 | 0.26 |
| Sat Flow, veh/h | 3456 | 5106 | 1508 | 3456 | 5106 | 1506 | 3456 | 2657 | 509 | 3456 | 4167 | 900 |
| Grp Volume(v), veh/h | 417 | 688 | 318 | 288 | 523 | 188 | 580 | 604 | 594 | 308 | 767 | 377 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1702 | 1508 | 1728 | 1702 | 1506 | 1728 | 1599 | 1566 | 1728 | 1702 | 1663 |
| Q Serve(g_s), s | 14.8 | 14.1 | 14.8 | 10.2 | 10.6 | 13.3 | 20.2 | 47.0 | 47.0 | 11.0 | 26.8 | 27.0 |
| Cycle Q Clear(g_c), s | 14.8 | 14.1 | 14.8 | 10.2 | 10.6 | 13.3 | 20.2 | 47.0 | 47.0 | 11.0 | 26.8 | 27.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.32 | 1.00 | | 0.54 |
| Lane Grp Cap(c), veh/h | 409 | 1397 | 413 | 340 | 1295 | 382 | 692 | 601 | 589 | 354 | 897 | 438 |
| V/C Ratio(X) | 1.02 | 0.49 | 0.77 | 0.85 | 0.40 | 0.49 | 0.84 | 1.00 | 1.01 | 0.87 | 0.85 | 0.86 |
| Avail Cap(c_a), veh/h | 409 | 1397 | 413 | 365 | 1295 | 382 | 692 | 601 | 589 | 354 | 920 | 450 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.76 | 0.76 | 0.76 | 0.96 | 0.96 | 0.96 | 0.20 | 0.20 | 0.20 | 0.79 | 0.79 | 0.79 |
| Uniform Delay (d), s/veh | 55.1 | 38.1 | 15.6 | 55.4 | 38.8 | 39.8 | 48.0 | 39.0 | 39.0 | 55.3 | 43.8 | 43.8 |
| Incr Delay (d2), s/veh | 43.7 | 0.9 | 10.1 | 14.2 | 0.9 | 4.3 | 1.8 | 17.5 | 18.6 | 16.1 | 7.4 | 14.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 8.8 | 5.9 | 6.1 | 5.1 | 4.5 | 5.4 | 8.8 | 20.8 | 20.6 | 5.5 | 12.0 | 12.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 98.8 | 39.1 | 25.7 | 69.6 | 39.7 | 44.1 | 49.9 | 56.5 | 57.6 | 71.4 | 51.1 | 58.1 |
| LnGrp LOS | F | D | C | E | D | D | D | F | F | E | D | E |
| Approach Vol, veh/h | | 1423 | | | 999 | | | 1778 | | | 1452 | |
| Approach Delay, s/veh | | 53.6 | | | 49.2 | | | 54.7 | | | 57.2 | |
| Approach LOS | | D | | | D | | | D | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 16.5 | 39.5 | 30.0 | 39.0 | 19.0 | 37.0 | 17.0 | 52.0 |
| Change Period (Y+Rc), s | * 4.2 | * 5.3 | 5.0 | * 6 | * 4.2 | 5.3 | * 4.2 | 5.0 |
| Max Green Setting (Gmax), s | * 13 | * 34 | 25.0 | * 34 | * 15 | 31.7 | * 13 | 47.0 |
| Max Q Clear Time (g_c+I1), s | 12.2 | 16.8 | 22.2 | 29.0 | 16.8 | 15.3 | 13.0 | 49.0 |
| Green Ext Time (p_c), s | 0.1 | 10.5 | 0.4 | 4.0 | 0.0 | 5.7 | 0.0 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 54.1 |
| HCM 6th LOS | D |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

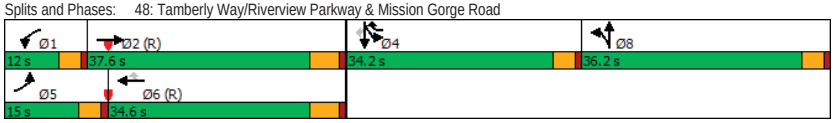




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 80 | 981 | 23 | 42 | 790 | 165 | 43 | 11 | 43 | 243 | 16 | 113 |
| Future Volume (vph) | 80 | 981 | 23 | 42 | 790 | 165 | 43 | 11 | 43 | 243 | 16 | 113 |
| Confl. Peds. (#/hr) | | | 13 | | | 13 | | | 10 | | | 8 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | 2 | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | 47% | | |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Split | NA | | Split | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 4 | 8 | 8 | | 4 | 4 | |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 4 | 8 | 8 | | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | 7.0 | 4.0 | 4.0 | | 7.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 23.3 | | 8.2 | 34.3 | 34.2 | 36.2 | 36.2 | | 34.2 | 34.2 | 34.2 |
| Total Split (s) | 15.0 | 37.6 | | 12.0 | 34.6 | 34.2 | 36.2 | 36.2 | | 34.2 | 34.2 | 34.2 |
| Total Split (%) | 12.5% | 31.3% | | 10.0% | 28.8% | 28.5% | 30.2% | 30.2% | | 28.5% | 28.5% | 28.5% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | 3.2 | 3.2 | 3.2 | | 3.2 | 3.2 | 3.2 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | 4.2 | 4.2 | 4.2 | | 4.2 | 4.2 | 4.2 |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | None | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 34 (28%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 115 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 48: Tamberly Way/Riverview Parkway & Mission Gorge Road



Existing + Proj PM (No School) Fanita Ranch
48: Tamberly Way/Riverview Parkway & Mission Gorge Road 06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 80 | 981 | 23 | 42 | 790 | 165 | 43 | 11 | 43 | 243 | 16 | 113 |
| Future Volume (veh/h) | 80 | 981 | 23 | 42 | 790 | 165 | 43 | 11 | 43 | 243 | 16 | 113 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.95 | 1.00 | | 0.96 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 87 | 1066 | 25 | 46 | 859 | 179 | 47 | 12 | 47 | 276 | 0 | 123 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 109 | 3143 | 74 | 59 | 2983 | 1097 | 154 | 28 | 108 | 423 | 0 | 182 |
| Arrive On Green | 0.06 | 0.61 | 0.61 | 0.07 | 1.00 | 1.00 | 0.09 | 0.09 | 0.09 | 0.12 | 0.00 | 0.12 |
| Sat Flow, veh/h | 1781 | 5131 | 120 | 1781 | 5106 | 1555 | 1781 | 319 | 1248 | 3563 | 0 | 1529 |
| Grp Volume(v), veh/h | 87 | 707 | 384 | 46 | 859 | 179 | 47 | 0 | 59 | 276 | 0 | 123 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1702 | 1847 | 1781 | 1702 | 1555 | 1781 | 0 | 1567 | 1781 | 0 | 1529 |
| Q Serve(g_s), s | 5.8 | 12.2 | 12.2 | 3.1 | 0.0 | 0.0 | 3.0 | 0.0 | 4.3 | 8.9 | 0.0 | 9.3 |
| Cycle Q Clear(g_c), s | 5.8 | 12.2 | 12.2 | 3.1 | 0.0 | 0.0 | 3.0 | 0.0 | 4.3 | 8.9 | 0.0 | 9.3 |
| Prop In Lane | 1.00 | | 0.07 | 1.00 | | 1.00 | 1.00 | | 0.80 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 109 | 2085 | 1132 | 59 | 2983 | 1097 | 154 | 0 | 135 | 423 | 0 | 182 |
| V/C Ratio(X) | 0.79 | 0.34 | 0.34 | 0.78 | 0.29 | 0.16 | 0.31 | 0.00 | 0.44 | 0.65 | 0.00 | 0.68 |
| Avail Cap(c_a), veh/h | 160 | 2085 | 1132 | 116 | 2983 | 1097 | 475 | 0 | 418 | 891 | 0 | 382 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.70 | 0.70 | 0.70 | 0.98 | 0.98 | 0.98 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 55.6 | 11.4 | 11.4 | 55.6 | 0.0 | 0.0 | 51.4 | 0.0 | 52.0 | 50.5 | 0.0 | 50.7 |
| Incr Delay (d2), s/veh | 6.6 | 0.3 | 0.6 | 7.9 | 0.2 | 0.3 | 0.4 | 0.0 | 0.8 | 0.6 | 0.0 | 1.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.8 | 4.4 | 4.8 | 1.4 | 0.1 | 0.1 | 1.3 | 0.0 | 1.7 | 4.0 | 0.0 | 3.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 62.2 | 11.7 | 11.9 | 63.5 | 0.2 | 0.3 | 51.9 | 0.0 | 52.9 | 51.1 | 0.0 | 52.3 |
| LnGrp LOS | E | B | B | E | A | A | D | A | D | D | A | D |
| Approach Vol, veh/h | | 1178 | | | 1084 | | | 106 | | | 399 | |
| Approach Delay, s/veh | | 15.5 | | | 2.9 | | | 52.4 | | | 51.5 | |
| Approach LOS | | B | | | A | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 8.2 | 78.8 | | 18.5 | 11.6 | 75.4 | | 14.6 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | | * 4.2 | * 4.2 | 5.3 | | 4.2 | | | | |
| Max Green Setting (Gmax), s | * 7.8 | 32.3 | | * 30 | * 11 | 29.3 | | 32.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 5.1 | 14.2 | | 11.3 | 7.8 | 2.0 | | 6.3 | | | | |
| Green Ext Time (p_c), s | 0.0 | 10.4 | | 0.7 | 0.0 | 11.3 | | 0.3 | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 17.2 | |
| HCM 6th LOS | | B | |

Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

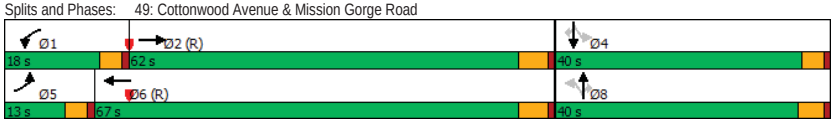
HCM 6th Signalized Intersection Summary
N:\2462\Analysis\Intersections\Synchro\No School Alt\4 Existing + Proj PM.syn

Existing + Proj PM (No School) Fanita Ranch
49: Cottonwood Avenue & Mission Gorge Road 06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 17 | 1191 | 98 | 54 | 838 | 4 | 90 | 1 | 81 | 3 | 2 | 9 |
| Future Volume (vph) | 17 | 1191 | 98 | 54 | 838 | 4 | 90 | 1 | 81 | 3 | 2 | 9 |
| Confl. Peds. (#/hr) | | | 3 | | | 14 | | | 1 | | | 4 |
| Confl. Bikes (#/hr) | | | 3 | | | 1 | | | 2 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Perm | NA | Perm | Perm | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | 8 | 4 | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | 8 | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 4.0 | 4.0 | 4.0 | 7.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 23.3 | | 8.2 | 24.3 | | 33.8 | 33.8 | 33.8 | 32.2 | 32.2 | 32.2 |
| Total Split (s) | 13.0 | 62.0 | | 18.0 | 67.0 | | 40.0 | 40.0 | 40.0 | 40.0 | 40.0 | 40.0 |
| Total Split (%) | 10.8% | 51.7% | | 15.0% | 55.8% | | 33.3% | 33.3% | 33.3% | 33.3% | 33.3% | 33.3% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | | 3.8 | 3.8 | 3.8 | 3.2 | 3.2 | 3.2 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | | | 4.8 | 4.8 | | 4.2 | 4.2 |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | None | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 44 (37%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 70 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 49: Cottonwood Avenue & Mission Gorge Road




Timings
N:\2462\Analysis\Intersections\Synchro\No School Alt\4 Existing + Proj PM.syn

Existing + Proj PM (No School) — Fanita Ranch
49: Cottonwood Avenue & Mission Gorge Road — 06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 17 | 1191 | 98 | 54 | 838 | 4 | 90 | 1 | 81 | 3 | 2 | 9 |
| Future Volume (veh/h) | 17 | 1191 | 98 | 54 | 838 | 4 | 90 | 1 | 81 | 3 | 2 | 9 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 0.99 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 18 | 1295 | 107 | 59 | 911 | 4 | 98 | 1 | 88 | 3 | 2 | 10 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 27 | 2590 | 214 | 76 | 2977 | 13 | 60 | 0 | 466 | 48 | 21 | 465 |
| Arrive On Green | 0.03 | 1.00 | 1.00 | 0.08 | 1.00 | 1.00 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 |
| Sat Flow, veh/h | 1781 | 4795 | 396 | 1781 | 5246 | 23 | 0 | 1 | 1562 | 0 | 70 | 1559 |
| Grp Volume(v), veh/h | 18 | 919 | 483 | 59 | 591 | 324 | 99 | 0 | 88 | 5 | 0 | 10 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1702 | 1787 | 1781 | 1702 | 1865 | 1 | 0 | 1562 | 70 | 0 | 1559 |
| Q Serve(g_s), s | 1.2 | 0.0 | 0.0 | 3.9 | 0.0 | 0.0 | 0.0 | 0.0 | 5.0 | 0.0 | 0.0 | 0.5 |
| Cycle Q Clear(g_c), s | 1.2 | 0.0 | 0.0 | 3.9 | 0.0 | 0.0 | 35.8 | 0.0 | 5.0 | 35.8 | 0.0 | 0.5 |
| Prop In Lane | 1.00 | | 0.22 | 1.00 | | 0.01 | 0.99 | | 1.00 | 0.60 | | 1.00 |
| Lane Grp Cap(c), veh/h | 27 | 1838 | 965 | 76 | 1932 | 1058 | 60 | 0 | 466 | 69 | 0 | 465 |
| V/C Ratio(X) | 0.67 | 0.50 | 0.50 | 0.78 | 0.31 | 0.31 | 1.65 | 0.00 | 0.19 | 0.07 | 0.00 | 0.02 |
| Avail Cap(c_a), veh/h | 131 | 1838 | 965 | 205 | 1932 | 1058 | 60 | 0 | 466 | 69 | 0 | 465 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.92 | 0.92 | 0.92 | 0.71 | 0.71 | 0.71 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 57.9 | 0.0 | 0.0 | 54.4 | 0.0 | 0.0 | 59.8 | 0.0 | 31.3 | 34.6 | 0.0 | 29.7 |
| Incr Delay (d2), s/veh | 9.5 | 0.9 | 1.7 | 4.6 | 0.3 | 0.5 | 353.8 | 0.0 | 0.1 | 0.2 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.6 | 0.2 | 0.5 | 1.8 | 0.1 | 0.2 | 7.8 | 0.0 | 1.9 | 0.1 | 0.0 | 0.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 67.4 | 0.9 | 1.7 | 59.0 | 0.3 | 0.5 | 413.7 | 0.0 | 31.4 | 34.7 | 0.0 | 29.7 |
| LnGrp LOS | E | A | A | E | A | A | F | A | C | C | A | C |
| Approach Vol, veh/h | | 1420 | | | 974 | | | 187 | | | 15 | |
| Approach Delay, s/veh | | 2.0 | | | 3.9 | | | 233.8 | | | 31.4 | |
| Approach LOS | | A | | | A | | | F | | | C | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 9.3 | 70.1 | | 40.6 | 6.0 | 73.4 | | 40.6 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | | * 4.8 | * 4.2 | 5.3 | | * 4.8 | | | | |
| Max Green Setting (Gmax), s | * 14 | 56.7 | | * 36 | * 8.8 | 61.7 | | * 35 | | | | |
| Max Q Clear Time (g_c+I1), s | 5.9 | 2.0 | | 37.8 | 3.2 | 2.0 | | 37.8 | | | | |
| Green Ext Time (p_c), s | 0.0 | 10.4 | | 0.0 | 0.0 | 10.8 | | 0.0 | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | | 19.6 |
| HCM 6th LOS | | | B |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

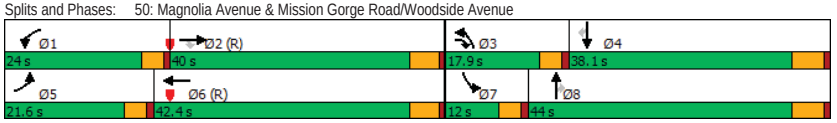
HCM 6th Signalized Intersection Summary
N:\2462\Analysis\Intersections\Synchro\No School Alt\4 Existing + Proj PM.syn

Existing + Proj PM (No School) — Fanita Ranch
50: Magnolia Avenue & Mission Gorge Road/Woodside Avenue — 06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 376 | 644 | 269 | 453 | 544 | 189 | 209 | 935 | 432 | 162 | 564 | 203 |
| Future Volume (vph) | 376 | 644 | 269 | 453 | 544 | 189 | 209 | 935 | 432 | 162 | 564 | 203 |
| Confl. Peds. (#/hr) | | | 2 | | | 9 | | | 13 | | | 1 |
| Confl. Bikes (#/hr) | | | 2 | | | 1 | | | 3 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | | | | 8 | | | 4 |
| Detector Phase | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | 8 | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 4.0 | 4.0 | 10.0 | | 4.0 | 7.0 | 7.0 | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 38.3 | 8.2 | 8.2 | 35.3 | | 8.2 | 34.7 | 34.7 | 8.2 | 35.7 | 35.7 |
| Total Split (s) | 21.6 | 40.0 | 17.9 | 24.0 | 42.4 | | 17.9 | 44.0 | 44.0 | 12.0 | 38.1 | 38.1 |
| Total Split (%) | 18.0% | 33.3% | 14.9% | 20.0% | 35.3% | | 14.9% | 36.7% | 36.7% | 10.0% | 31.8% | 31.8% |
| Yellow Time (s) | 3.2 | 4.3 | 3.2 | 3.2 | 4.3 | | 3.2 | 4.7 | 4.7 | 3.2 | 4.7 | 4.7 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | 4.2 | 4.2 | 5.3 | | 4.2 | 5.7 | 5.7 | 4.2 | 5.7 | 5.7 |
| Lead/Lag | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | C-Min | None | None | C-Min | | None | None | None | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 71 (59%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 105 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 50: Magnolia Avenue & Mission Gorge Road/Woodside Avenue




Timings
N:\2462\Analysis\Intersections\Synchro\No School Alt\4 Existing + Proj PM.syn

Existing + Proj PM (No School) — Fanita Ranch
50: Magnolia Avenue & Mission Gorge Road/Woodside Avenue — 06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 376 | 644 | 269 | 453 | 544 | 189 | 209 | 935 | 432 | 162 | 564 | 203 |
| Future Volume (veh/h) | 376 | 644 | 269 | 453 | 544 | 189 | 209 | 935 | 432 | 162 | 564 | 203 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 409 | 700 | 292 | 492 | 591 | 205 | 227 | 1016 | 470 | 176 | 613 | 221 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 459 | 1054 | 594 | 545 | 827 | 286 | 287 | 1134 | 493 | 225 | 1070 | 477 |
| Arrive On Green | 0.22 | 0.50 | 0.50 | 0.16 | 0.32 | 0.32 | 0.03 | 0.11 | 0.11 | 0.07 | 0.30 | 0.30 |
| Sat Flow, veh/h | 3456 | 3554 | 1561 | 3456 | 2574 | 891 | 3456 | 3554 | 1544 | 3456 | 3554 | 1583 |
| Grp Volume(v), veh/h | 409 | 700 | 292 | 492 | 408 | 388 | 227 | 1016 | 470 | 176 | 613 | 221 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1561 | 1728 | 1777 | 1688 | 1728 | 1777 | 1544 | 1728 | 1777 | 1583 |
| Q Serve(g_s), s | 13.8 | 17.8 | 14.5 | 16.8 | 24.2 | 24.3 | 7.8 | 33.9 | 36.3 | 6.0 | 17.5 | 13.6 |
| Cycle Q Clear(g_c), s | 13.8 | 17.8 | 14.5 | 16.8 | 24.2 | 24.3 | 7.8 | 33.9 | 36.3 | 6.0 | 17.5 | 13.6 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.53 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 459 | 1054 | 594 | 545 | 571 | 542 | 287 | 1134 | 493 | 225 | 1070 | 477 |
| V/C Ratio(X) | 0.89 | 0.66 | 0.49 | 0.90 | 0.71 | 0.72 | 0.79 | 0.90 | 0.95 | 0.78 | 0.57 | 0.46 |
| Avail Cap(c_a), veh/h | 501 | 1054 | 594 | 570 | 571 | 542 | 395 | 1134 | 493 | 225 | 1070 | 477 |
| HCM Platoon Ratio | 1.67 | 1.67 | 1.67 | 1.00 | 1.00 | 1.00 | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.93 | 0.93 | 0.93 | 1.00 | 1.00 | 1.00 | 0.78 | 0.78 | 0.78 | 0.93 | 0.93 | 0.93 |
| Uniform Delay (d), s/veh | 45.8 | 25.8 | 19.8 | 49.6 | 35.9 | 35.9 | 57.3 | 51.7 | 52.8 | 55.3 | 35.4 | 34.1 |
| Incr Delay (d2), s/veh | 15.1 | 3.1 | 2.7 | 16.6 | 7.4 | 7.9 | 3.9 | 7.8 | 25.0 | 14.2 | 0.8 | 0.8 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 6.2 | 6.3 | 4.6 | 8.4 | 11.4 | 10.9 | 3.6 | 17.3 | 18.4 | 3.0 | 7.4 | 5.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 60.9 | 28.9 | 22.5 | 66.3 | 43.3 | 43.8 | 61.2 | 59.5 | 77.8 | 69.4 | 36.2 | 34.9 |
| LnGrp LOS | E | C | C | E | D | D | E | E | E | E | D | C |
| Approach Vol, veh/h | | 1401 | | | 1288 | | | 1713 | | | 1010 | |
| Approach Delay, s/veh | | 36.9 | | | 52.2 | | | 64.8 | | | 41.7 | |
| Approach LOS | | D | | | D | | | E | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 23.1 | 40.9 | 14.2 | 41.8 | 20.1 | 43.9 | 12.0 | 44.0 |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | * 4.2 | 5.7 | * 4.2 | 5.3 | * 4.2 | 5.7 |
| Max Green Setting (Gmax), s | * 20 | 34.7 | * 14 | 32.4 | * 17 | 37.1 | * 7.8 | 38.3 |
| Max Q Clear Time (g_c+I1), s | 18.8 | 19.8 | 9.8 | 19.5 | 15.8 | 26.3 | 8.0 | 38.3 |
| Green Ext Time (p_c), s | 0.1 | 5.8 | 0.1 | 4.7 | 0.2 | 5.3 | 0.0 | 0.0 |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 50.3 | |
| HCM 6th LOS | | D | |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
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Existing + Proj PM (No School) — Fanita Ranch
51: Woodside Avenue & SR-67 SB Off-Ramp — 06/06/2019

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 16.3 |
| Intersection LOS | C |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 30 | 237 | 215 | 1 | 0 | 176 | 0 | 0 | 10 | 503 | 7 |
| Future Vol, veh/h | 0 | 30 | 237 | 215 | 1 | 0 | 176 | 0 | 0 | 10 | 503 | 7 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 33 | 258 | 234 | 1 | 0 | 191 | 0 | 0 | 11 | 547 | 8 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 2 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay | 15.4 | 16 | 16.2 | 17 |
| HCM LOS | C | C | C | C |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 100% | 4% | 0% |
| Vol Thru, % | 0% | 100% | 11% | 0% | 96% | 97% |
| Vol Right, % | 0% | 0% | 89% | 0% | 0% | 3% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 176 | 0 | 267 | 216 | 262 | 259 |
| LT Vol | 176 | 0 | 0 | 215 | 10 | 0 |
| Through Vol | 0 | 0 | 30 | 1 | 252 | 252 |
| RT Vol | 0 | 0 | 237 | 0 | 0 | 7 |
| Lane Flow Rate | 191 | 0 | 290 | 235 | 284 | 281 |
| Geometry Grp | 7 | 7 | 2 | 2 | 7 | 7 |
| Degree of Util (X) | 0.418 | 0 | 0.501 | 0.459 | 0.535 | 0.526 |
| Departure Headway (Hd) | 7.86 | 7.345 | 6.219 | 7.038 | 6.775 | 6.736 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 457 | 0 | 578 | 512 | 532 | 534 |
| Service Time | 5.617 | 5.102 | 4.27 | 5.091 | 4.523 | 4.484 |
| HCM Lane V/C Ratio | 0.418 | 0 | 0.502 | 0.459 | 0.534 | 0.526 |
| HCM Control Delay | 16.2 | 10.1 | 15.4 | 16 | 17.1 | 16.8 |
| HCM Lane LOS | C | N | C | C | C | C |
| HCM 95th-tile Q | 2 | 0 | 2.8 | 2.4 | 3.1 | 3 |

HCM 6th AWSC
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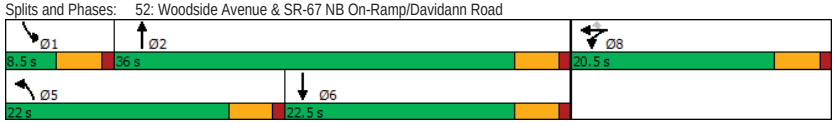
Existing + Proj PM (No School) — Fanita Ranch
52: Woodside Avenue & SR-67 NB On-Ramp/Davidann Road — 06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 0 | 27 | 1 | 8 | 367 | 555 | 58 | 1 | 183 | 2 |
| Future Volume (vph) | 0 | 0 | 0 | 27 | 1 | 8 | 367 | 555 | 58 | 1 | 183 | 2 |
| Confl. Peds. (#/hr) | | | 2 | | | | | | 2 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 2 | | | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | | | | Split | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | | | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | 8 | | | | | | |
| Detector Phase | | | | 8 | 8 | 8 | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | | | | 20.5 | 20.5 | 20.5 | 8.5 | 22.5 | | 8.5 | 22.5 | |
| Total Split (s) | | | | 20.5 | 20.5 | 20.5 | 22.0 | 36.0 | | 8.5 | 22.5 | |
| Total Split (%) | | | | 31.5% | 31.5% | 31.5% | 33.8% | 55.4% | | 13.1% | 34.6% | |
| Yellow Time (s) | | | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | | | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | | | | | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | | | | | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | | | | None | None | None | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 65 |
| Actuated Cycle Length: 39.1 |
| Natural Cycle: 65 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 52: Woodside Avenue & SR-67 NB On-Ramp/Davidann Road




Timings
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Existing + Proj PM (No School) — Fanita Ranch
52: Woodside Avenue & SR-67 NB On-Ramp/Davidann Road — 06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 27 | 1 | 8 | 367 | 555 | 58 | 1 | 183 | 2 |
| Future Volume (veh/h) | 0 | 0 | 0 | 27 | 1 | 8 | 367 | 555 | 58 | 1 | 183 | 2 |
| Initial Q (Qb), veh | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | | | 1.00 | | 1.00 | 1.00 | | 0.98 | 1.00 | | 0.97 |
| Parking Bus, Adj | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | | | | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | | | | 29 | 1 | 9 | 399 | 603 | 63 | 1 | 199 | 2 |
| Peak Hour Factor | | | | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | | | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | | | | 64 | 2 | 59 | 519 | 844 | 88 | 6 | 404 | 4 |
| Arrive On Green | | | | 0.04 | 0.04 | 0.04 | 0.29 | 0.51 | 0.51 | 0.00 | 0.22 | 0.22 |
| Sat Flow, veh/h | | | | 1725 | 59 | 1585 | 1781 | 1661 | 174 | 1781 | 1848 | 19 |
| Grp Volume(v), veh/h | | | | 30 | 0 | 9 | 399 | 0 | 666 | 1 | 0 | 201 |
| Grp Sat Flow(s),veh/h/ln | | | | 1784 | 0 | 1585 | 1781 | 0 | 1834 | 1781 | 0 | 1866 |
| Q Serve(g_s), s | | | | 0.5 | 0.0 | 0.2 | 6.1 | 0.0 | 8.3 | 0.0 | 0.0 | 2.8 |
| Cycle Q Clear(g_c), s | | | | 0.5 | 0.0 | 0.2 | 6.1 | 0.0 | 8.3 | 0.0 | 0.0 | 2.8 |
| Prop In Lane | | | | 0.97 | | 1.00 | 1.00 | | 0.09 | 1.00 | | 0.01 |
| Lane Grp Cap(c), veh/h | | | | 66 | 0 | 59 | 519 | 0 | 933 | 6 | 0 | 408 |
| V/C Ratio(X) | | | | 0.45 | 0.00 | 0.15 | 0.77 | 0.00 | 0.71 | 0.17 | 0.00 | 0.49 |
| Avail Cap(c_a), veh/h | | | | 959 | 0 | 852 | 1047 | 0 | 1940 | 239 | 0 | 1128 |
| HCM Platoon Ratio | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | | | | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | | | | 14.0 | 0.0 | 13.9 | 9.6 | 0.0 | 5.6 | 14.8 | 0.0 | 10.2 |
| Incr Delay (d2), s/veh | | | | 4.8 | 0.0 | 1.2 | 2.4 | 0.0 | 1.0 | 12.6 | 0.0 | 0.9 |
| Initial Q Delay(d3),s/veh | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | | 0.2 | 0.0 | 0.1 | 1.9 | 0.0 | 1.5 | 0.0 | 0.0 | 0.9 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | 18.8 | 0.0 | 15.1 | 12.1 | 0.0 | 6.7 | 27.5 | 0.0 | 11.1 |
| LnGrp LOS | | | | B | A | B | B | A | A | C | A | B |
| Approach Vol, veh/h | | | | | 39 | | | 1065 | | | 202 | |
| Approach Delay, s/veh | | | | | 18.0 | | | 8.7 | | | 11.2 | |
| Approach LOS | | | | | B | | | A | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 5 | 6 | | 8 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 4.5 | 19.6 | | 13.2 | 11.0 | | 5.6 | | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | | | | | |
| Max Green Setting (Gmax), s | 4.0 | 31.5 | | 17.5 | 18.0 | | 16.0 | | | | | |
| Max Q Clear Time (g_c+I1), s | 2.0 | 10.3 | | 8.1 | 4.8 | | 2.5 | | | | | |
| Green Ext Time (p_c), s | 0.0 | 4.8 | | 0.9 | 0.8 | | 0.1 | | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 9.4 | |
| HCM 6th LOS | A | |

HCM 6th Signalized Intersection Summary
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| Intersection | |
|---|---|
| Int Delay, s/veh | 5.1 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 147 | 405 | 338 | 0 | 0 | 746 |
| Future Vol, veh/h | 147 | 405 | 338 | 0 | 0 | 746 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 1 | 1 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | 300 | - | - | - | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 160 | 440 | 367 | 0 | 0 | 811 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 773 | 184 | 0 | - | - | - |
| Stage 1 | 367 | - | - | - | - | - |
| Stage 2 | 406 | - | - | - | - | - |
| Critical Hdwy | 6.84 | 6.94 | - | - | - | - |
| Critical Hdwy Stg 1 | 5.84 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.84 | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 3.32 | - | - | - | - |
| Pot Cap-1 Maneuver | 336 | 827 | - | 0 | 0 | - |
| Stage 1 | 671 | - | - | 0 | 0 | - |
| Stage 2 | 641 | - | - | 0 | 0 | - |
| Platoon blocked, % | | | - | | | - |
| Mov Cap-1 Maneuver | 336 | 827 | - | - | - | - |
| Mov Cap-2 Maneuver | 453 | - | - | - | - | - |
| Stage 1 | 671 | - | - | - | - | - |
| Stage 2 | 641 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 15 | 0 | 0 |
| HCM LOS | C | | |

| Minor Lane/Major Mvmt | NBT | WBLn1 | WBLn2 | SBT |
|---|---|---|---|---|
| Capacity (veh/h) | - | 453 | 827 | - |
| HCM Lane V/C Ratio | - | 0.353 | 0.532 | - |
| HCM Control Delay (s) | - | 17.2 | 14.2 | - |
| HCM Lane LOS | - | C | B | - |
| HCM 95th %tile Q(veh) | - | 1.6 | 3.2 | - |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 338 | 85 | 367 | 526 |
| Future Volume (Veh/h) | 0 | 0 | 338 | 85 | 367 | 526 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 0 | 367 | 92 | 399 | 572 |
| Pedestrians | 1 | | | | | |
| Lane Width (ft) | 0.0 | | | | | |
| Walking Speed (ft/s) | 4.0 | | | | | |
| Percent Blockage | 0 | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | 769 | | | 1029 |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 1498 | 230 | | | 460 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 1498 | 230 | | | 460 | |
| tC, single (s) | 6.8 | 6.9 | | | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 100 | 100 | | | 64 | |
| cM capacity (veh/h) | 72 | 772 | | | 1097 | |

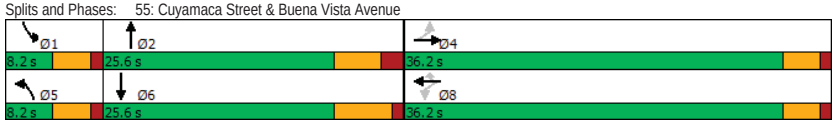
| Direction, Lane # | NB 1 | NB 2 | SB 1 | SB 2 | SB 3 |
|---|---|---|---|---|---|
| Volume Total | 245 | 214 | 399 | 286 | 286 |
| Volume Left | 0 | 0 | 399 | 0 | 0 |
| Volume Right | 0 | 92 | 0 | 0 | 0 |
| cSH | 1700 | 1700 | 1097 | 1700 | 1700 |
| Volume to Capacity | 0.14 | 0.13 | 0.36 | 0.17 | 0.17 |
| Queue Length 95th (ft) | 0 | 0 | 42 | 0 | 0 |
| Control Delay (s) | 0.0 | 0.0 | 10.1 | 0.0 | 0.0 |
| Lane LOS | | | B | | |
| Approach Delay (s) | 0.0 | | 4.2 | | |
| Approach LOS | | | | | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Average Delay | 2.8 | | | |
| Intersection Capacity Utilization | 41.2% | ICU Level of Service | | A |
| Analysis Period (min) | 15 | | | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 28 | 4 | 47 | 179 | 4 | 41 | 20 | 1780 | 208 | 50 | 1613 | 15 |
| Future Volume (vph) | 28 | 4 | 47 | 179 | 4 | 41 | 20 | 1780 | 208 | 50 | 1613 | 15 |
| Confl. Peds. (#/hr) | | | 5 | | | 11 | | | 14 | | | 3 |
| Confl. Bikes (#/hr) | | | 1 | | | 1 | | | 2 | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Perm | NA | | Perm | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | 8 | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | 8 | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 10.0 | | 4.0 | 10.0 | |
| Minimum Split (s) | 36.2 | 36.2 | | 34.2 | 34.2 | 34.2 | 8.2 | 24.0 | | 8.2 | 24.0 | |
| Total Split (s) | 36.2 | 36.2 | | 36.2 | 36.2 | 36.2 | 8.2 | 25.6 | | 8.2 | 25.6 | |
| Total Split (%) | 51.7% | 51.7% | | 51.7% | 51.7% | 51.7% | 11.7% | 36.6% | | 11.7% | 36.6% | |
| Yellow Time (s) | 3.2 | 3.2 | | 3.2 | 3.2 | 3.2 | 3.2 | 4.0 | | 3.2 | 4.9 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 2.0 | | 1.0 | 1.1 | |
| Lost Time Adjust (s) | | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | | 4.2 | | | 4.2 | 4.2 | 4.2 | 6.0 | | 4.2 | 6.0 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | None | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 70 |
| Actuated Cycle Length: 52.7 |
| Natural Cycle: 90 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 55: Cuyamaca Street & Buena Vista Avenue








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 28 | 4 | 47 | 179 | 4 | 41 | 20 | 1780 | 208 | 50 | 1613 | 15 |
| Future Volume (veh/h) | 28 | 4 | 47 | 179 | 4 | 41 | 20 | 1780 | 208 | 50 | 1613 | 15 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 0.99 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.96 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 30 | 4 | 51 | 195 | 4 | 45 | 22 | 1935 | 226 | 54 | 1753 | 16 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 146 | 53 | 152 | 437 | 8 | 426 | 37 | 1817 | 210 | 75 | 2163 | 20 |
| Arrive On Green | 0.28 | 0.28 | 0.28 | 0.28 | 0.28 | 0.28 | 0.02 | 0.39 | 0.39 | 0.04 | 0.41 | 0.41 |
| Sat Flow, veh/h | 174 | 193 | 551 | 1069 | 28 | 1546 | 1781 | 4619 | 534 | 1781 | 5217 | 48 |
| Grp Volume(v), veh/h | 85 | 0 | 0 | 199 | 0 | 45 | 22 | 1420 | 741 | 54 | 1144 | 625 |
| Grp Sat Flow(s),veh/h/ln | 918 | 0 | 0 | 1097 | 0 | 1546 | 1781 | 1702 | 1749 | 1781 | 1702 | 1860 |
| Q Serve(g_s), s | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 1.1 | 0.6 | 19.6 | 19.6 | 1.5 | 14.8 | 14.8 |
| Cycle Q Clear(g_c), s | 9.5 | 0.0 | 0.0 | 9.2 | 0.0 | 1.1 | 0.6 | 19.6 | 19.6 | 1.5 | 14.8 | 14.8 |
| Prop In Lane | 0.35 | | 0.60 | 0.98 | | 1.00 | 1.00 | | 0.31 | 1.00 | | 0.03 |
| Lane Grp Cap(c), veh/h | 350 | 0 | 0 | 445 | 0 | 426 | 37 | 1339 | 688 | 75 | 1411 | 771 |
| V/C Ratio(X) | 0.24 | 0.00 | 0.00 | 0.45 | 0.00 | 0.11 | 0.59 | 1.06 | 1.08 | 0.72 | 0.81 | 0.81 |
| Avail Cap(c_a), veh/h | 896 | 0 | 0 | 941 | 0 | 993 | 143 | 1339 | 688 | 143 | 1411 | 771 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 14.1 | 0.0 | 0.0 | 16.4 | 0.0 | 13.5 | 24.2 | 15.1 | 15.1 | 23.6 | 12.9 | 12.9 |
| Incr Delay (d2), s/veh | 0.1 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 | 5.3 | 42.4 | 56.8 | 4.7 | 3.9 | 6.9 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.7 | 0.0 | 0.0 | 1.8 | 0.0 | 0.3 | 0.3 | 13.7 | 16.9 | 0.7 | 5.1 | 6.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 14.3 | 0.0 | 0.0 | 16.7 | 0.0 | 13.5 | 29.5 | 57.5 | 71.9 | 28.3 | 16.7 | 19.7 |
| LnGrp LOS | B | A | A | B | A | B | C | F | F | C | B | B |
| Approach Vol, veh/h | | 85 | | | 244 | | | 2183 | | | 1823 | |
| Approach Delay, s/veh | | 14.3 | | | 16.1 | | | 62.1 | | | 18.1 | |
| Approach LOS | | B | | | B | | | E | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 6.3 | 25.6 | | 18.0 | 5.2 | 26.7 | | 18.0 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 6.0 | | * 4.2 | * 4.2 | * 6 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | * 4 | 19.6 | | * 32 | * 4 | * 20 | | * 32 | | | | |
| Max Q Clear Time (g_c+I1), s | 3.5 | 21.6 | | 11.5 | 2.6 | 16.8 | | 11.2 | | | | |
| Green Ext Time (p_c), s | 0.0 | 0.0 | | 0.3 | 0.0 | 2.6 | | 0.8 | | | | |

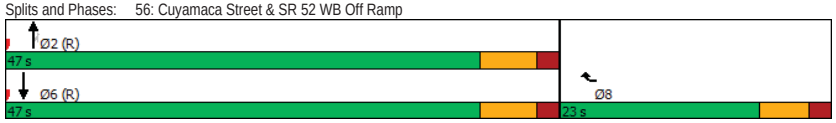
| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 40.1 |
| HCM 6th LOS | D |

| Notes |
|---|
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. |

| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 637 | 1207 | 324 | 0 | 1705 |
| Future Volume (vph) | 0 | 637 | 1207 | 324 | 0 | 1705 |
| Confl. Peds. (#/hr) | | | | 4 | | |
| Confl. Bikes (#/hr) | | | | 3 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | 0% | | | 0% |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | | Prot | NA | Perm | | NA |
| Protected Phases | | 8 | 2 | | | 6 |
| Permitted Phases | | | | 2 | | |
| Detector Phase | | 8 | 2 | 2 | | 6 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | | 5.0 | 14.0 | 14.0 | | 14.0 |
| Minimum Split (s) | | 20.0 | 45.8 | 45.8 | | 20.8 |
| Total Split (s) | | 23.0 | 47.0 | 47.0 | | 47.0 |
| Total Split (%) | | 32.9% | 67.1% | 67.1% | | 67.1% |
| Yellow Time (s) | | 4.1 | 4.8 | 4.8 | | 4.8 |
| All-Red Time (s) | | 2.0 | 2.0 | 2.0 | | 2.0 |
| Lost Time Adjust (s) | | 0.0 | 0.0 | 0.0 | | 0.0 |
| Total Lost Time (s) | | 6.1 | 6.8 | 6.8 | | 6.8 |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | | None | C-Max | C-Max | | C-Max |

| Intersection Summary |
|---|
| Cycle Length: 70 |
| Actuated Cycle Length: 70 |
| Offset: 22 (31%), Referenced to phase 2:NBT and 6:SBT, Start of Green |
| Natural Cycle: 70 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 56: Cuyamaca Street & SR 52 WB Off Ramp








| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 637 | 1207 | 324 | 0 | 1705 |
| Future Volume (veh/h) | 0 | 637 | 1207 | 324 | 0 | 1705 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | | 0.98 | 1.00 | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | No | | | No |
| Adj Sat Flow, veh/h/ln | 0 | 1870 | 1870 | 1870 | 0 | 1870 |
| Adj Flow Rate, veh/h | 0 | 692 | 1312 | 352 | 0 | 1853 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 0 | 2 | 2 | 2 | 0 | 2 |
| Cap, veh/h | 0 | 0 | 4610 | 1398 | 0 | 4610 |
| Arrive On Green | 0.00 | 0.00 | 0.30 | 0.30 | 0.00 | 0.90 |
| Sat Flow, veh/h | 0 | | 5274 | 1548 | 0 | 5443 |
| Grp Volume(v), veh/h | 0.0 | | 1312 | 352 | 0 | 1853 |
| Grp Sat Flow(s),veh/h/ln | | | 1702 | 1548 | 0 | 1702 |
| Q Serve(g_s), s | | | 13.8 | 12.1 | 0.0 | 3.9 |
| Cycle Q Clear(g_c), s | | | 13.8 | 12.1 | 0.0 | 3.9 |
| Prop In Lane | | | | 1.00 | 0.00 | |
| Lane Grp Cap(c), veh/h | | | 4610 | 1398 | 0 | 4610 |
| V/C Ratio(X) | | | 0.28 | 0.25 | 0.00 | 0.40 |
| Avail Cap(c_a), veh/h | | | 4610 | 1398 | 0 | 4610 |
| HCM Platoon Ratio | | | 0.33 | 0.33 | 1.00 | 1.00 |
| Upstream Filter(I) | | | 1.00 | 1.00 | 0.00 | 0.67 |
| Uniform Delay (d), s/veh | | | 7.2 | 6.6 | 0.0 | 0.5 |
| Incr Delay (d2), s/veh | | | 0.2 | 0.4 | 0.0 | 0.2 |
| Initial Q Delay(d3),s/veh | | | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | 1.5 | 0.2 | 0.0 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | | | 7.4 | 7.1 | 0.0 | 0.7 |
| LnGrp LOS | | | A | A | A | A |
| Approach Vol, veh/h | | | 1664 | | | 1853 |
| Approach Delay, s/veh | | | 7.3 | | | 0.7 |
| Approach LOS | | | A | | | A |

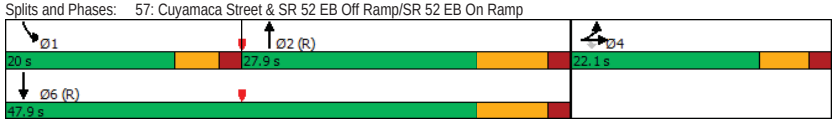
| Timer - Assigned Phs | 2 | 6 |
|---|---|---|
| Phs Duration (G+Y+Rc), s | 70.0 | 70.0 |
| Change Period (Y+Rc), s | 6.8 | 6.8 |
| Max Green Setting (Gmax), s | 40.2 | 40.2 |
| Max Q Clear Time (g_c+I1), s | 15.8 | 5.9 |
| Green Ext Time (p_c), s | 12.0 | 19.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 3.8 |
| HCM 6th LOS | A |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 633 | 5 | 343 | 0 | 0 | 0 | 0 | 898 | 211 | 610 | 574 | 0 |
| Future Volume (vph) | 633 | 5 | 343 | 0 | 0 | 0 | 0 | 898 | 211 | 610 | 574 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | | | | 9 | | | 13 |
| Confl. Bikes (#/hr) | | | | | | | | | 2 | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | 50% | | | | | | | | | | | |
| Turn Type | Split | NA | Perm | | | | | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | | | | | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | | | | |
| Detector Phase | 4 | 4 | 4 | | | | | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | | | | | 11.0 | | 5.0 | 12.0 | |
| Minimum Split (s) | 22.1 | 22.1 | 22.1 | | | | | 27.0 | | 10.7 | 32.0 | |
| Total Split (s) | 22.1 | 22.1 | 22.1 | | | | | 27.9 | | 20.0 | 47.9 | |
| Total Split (%) | 31.6% | 31.6% | 31.6% | | | | | 39.9% | | 28.6% | 68.4% | |
| Yellow Time (s) | 4.1 | 4.1 | 4.1 | | | | | 6.0 | | 3.7 | 6.0 | |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | | | | | 2.0 | | 2.0 | 2.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | | | | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 6.1 | 6.1 | 6.1 | | | | | 8.0 | | 5.7 | 8.0 | |
| Lead/Lag | | | | | | | | Lag | | Lead | | |
| Lead-Lag Optimize? | | | | | | | | Yes | | Yes | | |
| Recall Mode | None | None | None | | | | | C-Min | | None | C-Min | |

| Intersection Summary |
|---|
| Cycle Length: 70 |
| Actuated Cycle Length: 70 |
| Offset: 10 (14%), Referenced to phase 2:NBT and 6:SBT, Start of Green |
| Natural Cycle: 80 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 57: Cuyamaca Street & SR 52 EB Off Ramp/SR 52 EB On Ramp








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 633 | 5 | 343 | 0 | 0 | 0 | 0 | 898 | 211 | 610 | 574 | 0 |
| Future Volume (veh/h) | 633 | 5 | 343 | 0 | 0 | 0 | 0 | 898 | 211 | 610 | 574 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | | | | 1.00 | | 0.98 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | | | | 0 | 1870 | 1870 | 1870 | 1870 | 0 |
| Adj Flow Rate, veh/h | 692 | 0 | 336 | | | | 0 | 976 | 206 | 663 | 624 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | | | | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | | | | 0 | 2 | 2 | 2 | 2 | 0 |
| Cap, veh/h | 814 | 0 | 361 | | | | 0 | 1196 | 252 | 706 | 2026 | 0 |
| Arrive On Green | 0.23 | 0.00 | 0.23 | | | | 0.00 | 0.09 | 0.09 | 0.07 | 0.19 | 0.00 |
| Sat Flow, veh/h | 3563 | 0 | 1581 | | | | 0 | 4374 | 885 | 3456 | 3647 | 0 |
| Grp Volume(v), veh/h | 692 | 0 | 336 | | | | 0 | 789 | 393 | 663 | 624 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1581 | | | | 0 | 1702 | 1687 | 1728 | 1777 | 0 |
| Q Serve(g_s), s | 13.0 | 0.0 | 14.6 | | | | 0.0 | 15.9 | 16.0 | 13.4 | 10.6 | 0.0 |
| Cycle Q Clear(g_c), s | 13.0 | 0.0 | 14.6 | | | | 0.0 | 15.9 | 16.0 | 13.4 | 10.6 | 0.0 |
| Prop In Lane | 1.00 | | 1.00 | | | | 0.00 | | 0.52 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 814 | 0 | 361 | | | | 0 | 968 | 479 | 706 | 2026 | 0 |
| V/C Ratio(X) | 0.85 | 0.00 | 0.93 | | | | 0.00 | 0.82 | 0.82 | 0.94 | 0.31 | 0.00 |
| Avail Cap(c_a), veh/h | 814 | 0 | 361 | | | | 0 | 968 | 479 | 706 | 2026 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | | | | 1.00 | 0.33 | 0.33 | 0.33 | 0.33 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | | | | 0.00 | 0.90 | 0.90 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | 25.8 | 0.0 | 26.5 | | | | 0.0 | 29.9 | 29.9 | 32.2 | 16.5 | 0.0 |
| Incr Delay (d2), s/veh | 8.5 | 0.0 | 30.1 | | | | 0.0 | 6.8 | 13.1 | 20.1 | 0.4 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 6.2 | 0.0 | 8.2 | | | | 0.0 | 8.0 | 8.8 | 8.0 | 4.7 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 34.3 | 0.0 | 56.5 | | | | 0.0 | 36.8 | 43.1 | 52.3 | 16.9 | 0.0 |
| LnGrp LOS | C | A | E | | | | A | D | D | D | B | A |
| Approach Vol, veh/h | | 1028 | | | | | | 1182 | | | 1287 | |
| Approach Delay, s/veh | | 41.6 | | | | | | 38.9 | | | 35.2 | |
| Approach LOS | | D | | | | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | 4 | 6 |
|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 20.0 | 27.9 | 22.1 | 47.9 |
| Change Period (Y+Rc), s | * 5.7 | 8.0 | 6.1 | 8.0 |
| Max Green Setting (Gmax), s | * 14 | 19.9 | 16.0 | 39.9 |
| Max Q Clear Time (g_c+I1), s | 15.4 | 18.0 | 16.6 | 12.6 |
| Green Ext Time (p_c), s | 0.0 | 1.3 | 0.0 | 4.4 |

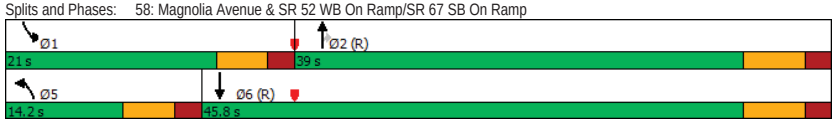
| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 38.3 |
| HCM 6th LOS | D |

| Notes |
|---|
| User approved volume balancing among the lanes for turning movement. |
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 218 | 1546 | 134 | 589 | 585 | 318 |
| Future Volume (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 218 | 1546 | 134 | 589 | 585 | 318 |
| Confl. Peds. (#/hr) | | | | | | | | | 2 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | | | | | | | Prot | NA | Perm | Prot | NA | |
| Protected Phases | | | | | | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | | | 2 | | | |
| Detector Phase | | | | | | | 5 | 2 | 2 | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | | | | | | 5.0 | 6.0 | 6.0 | 5.0 | 7.0 | |
| Minimum Split (s) | | | | | | | 10.7 | 38.4 | 38.4 | 10.7 | 39.4 | |
| Total Split (s) | | | | | | | 14.2 | 39.0 | 39.0 | 21.0 | 45.8 | |
| Total Split (%) | | | | | | | 23.7% | 65.0% | 65.0% | 35.0% | 76.3% | |
| Yellow Time (s) | | | | | | | 3.7 | 4.4 | 4.4 | 3.7 | 4.4 | |
| All-Red Time (s) | | | | | | | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | |
| Lost Time Adjust (s) | | | | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | | | | | | | 5.7 | 6.4 | 6.4 | 5.7 | 6.4 | |
| Lead/Lag | | | | | | | Lead | Lag | Lag | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | Yes | Yes | Yes | |
| Recall Mode | | | | | | | None | C-Max | C-Max | None | C-Max | |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 60 |
| Offset: 17 (28%), Referenced to phase 2:NBT and 6:SBT, Start of Green |
| Natural Cycle: 60 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 58: Magnolia Avenue & SR 52 WB On Ramp/SR 67 SB On Ramp








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 0 | 0 | 0 | 218 | 1546 | 134 | 589 | 585 | 318 |
| Future Volume (veh/h) | 0 | 0 | 0 | 0 | 0 | 0 | 218 | 1546 | 134 | 589 | 585 | 318 |
| Initial Q (Qb), veh | | | | | | | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | | | | | | 1.00 | | 1.00 | 1.00 | | 0.98 |
| Parking Bus, Adj | | | | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | | | | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | | | | | | | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | | | | | | | 237 | 1680 | 146 | 640 | 636 | 346 |
| Peak Hour Factor | | | | | | | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | | | | | | | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | | | | | | | 337 | 2985 | 925 | 739 | 1543 | 839 |
| Arrive On Green | | | | | | | 0.19 | 1.00 | 1.00 | 0.36 | 1.00 | 1.00 |
| Sat Flow, veh/h | | | | | | | 3456 | 5106 | 1582 | 3456 | 2201 | 1197 |
| Grp Volume(v), veh/h | | | | | | | 237 | 1680 | 146 | 640 | 513 | 469 |
| Grp Sat Flow(s),veh/h/ln | | | | | | | 1728 | 1702 | 1582 | 1728 | 1777 | 1622 |
| Q Serve(g_s), s | | | | | | | 3.8 | 0.0 | 0.0 | 10.3 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | | | | | | | 3.8 | 0.0 | 0.0 | 10.3 | 0.0 | 0.0 |
| Prop In Lane | | | | | | | 1.00 | | 1.00 | 1.00 | | 0.74 |
| Lane Grp Cap(c), veh/h | | | | | | | 337 | 2985 | 925 | 739 | 1245 | 1137 |
| V/C Ratio(X) | | | | | | | 0.70 | 0.56 | 0.16 | 0.87 | 0.41 | 0.41 |
| Avail Cap(c_a), veh/h | | | | | | | 490 | 2985 | 925 | 881 | 1245 | 1137 |
| HCM Platoon Ratio | | | | | | | 2.00 | 2.00 | 2.00 | 1.67 | 1.67 | 1.67 |
| Upstream Filter(I) | | | | | | | 0.33 | 0.33 | 0.33 | 0.69 | 0.69 | 0.69 |
| Uniform Delay (d), s/veh | | | | | | | 23.3 | 0.0 | 0.0 | 18.5 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | | | | | | | 0.3 | 0.3 | 0.1 | 5.0 | 0.7 | 0.8 |
| Initial Q Delay(d3),s/veh | | | | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | | | | | 1.4 | 0.1 | 0.0 | 3.4 | 0.2 | 0.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | | | | 23.7 | 0.3 | 0.1 | 23.5 | 0.7 | 0.8 |
| LnGrp LOS | | | | | | | C | A | A | C | A | A |
| Approach Vol, veh/h | | | | | | | | 2063 | | | 1622 | |
| Approach Delay, s/veh | | | | | | | | 2.9 | | | 9.7 | |
| Approach LOS | | | | | | | | A | | | A | |

| Timer - Assigned Phs | 1 | 2 | | 5 | 6 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 18.5 | 41.5 | | 11.5 | 48.5 | | | | | | | |
| Change Period (Y+Rc), s | * 5.7 | 6.4 | | * 5.7 | 6.4 | | | | | | | |
| Max Green Setting (Gmax), s | * 15 | 32.6 | | * 8.5 | 39.4 | | | | | | | |
| Max Q Clear Time (g_c+I1), s | 12.3 | 2.0 | | 5.8 | 2.0 | | | | | | | |
| Green Ext Time (p_c), s | 0.5 | 17.1 | | 0.1 | 7.1 | | | | | | | |

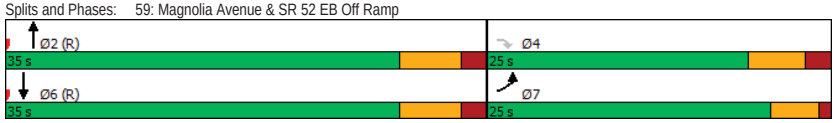
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 5.9 | |
| HCM 6th LOS | A | |

| Notes |
|---|
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. |

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 456 | 458 | 0 | 1453 | 555 | 0 |
| Future Volume (vph) | 456 | 458 | 0 | 1453 | 555 | 0 |
| Confl. Peds. (#/hr) | | | | | | 1 |
| Confl. Bikes (#/hr) | | | | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | | NA | NA | |
| Protected Phases | 7 | | | 2 | 6 | |
| Permitted Phases | | 4 | | | | |
| Detector Phase | 7 | 4 | | 2 | 6 | |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 5.0 | | 5.0 | 5.0 | |
| Minimum Split (s) | 8.5 | 22.1 | | 22.4 | 27.4 | |
| Total Split (s) | 25.0 | 25.0 | | 35.0 | 35.0 | |
| Total Split (%) | 41.7% | 41.7% | | 58.3% | 58.3% | |
| Yellow Time (s) | 3.5 | 4.1 | | 4.4 | 4.4 | |
| All-Red Time (s) | 1.0 | 2.0 | | 2.0 | 2.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 6.1 | | 6.4 | 6.4 | |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | None | None | | C-Max | C-Max | |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 60 |
| Offset: 2 (3%), Referenced to phase 2:NBT and 6:SBT, Start of Green |
| Natural Cycle: 70 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 59: Magnolia Avenue & SR 52 EB Off Ramp






Existing + Proj PM (No School)
59: Magnolia Avenue & SR 52 EB Off Ramp
Fanita Ranch
06/06/2019

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 456 | 458 | 0 | 1453 | 555 | 0 |
| Future Volume (veh/h) | 456 | 458 | 0 | 1453 | 555 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 0 | 1870 | 1870 | 0 |
| Adj Flow Rate, veh/h | 496 | 498 | 0 | 1579 | 603 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 0 | 2 | 2 | 0 |
| Cap, veh/h | 604 | 537 | 0 | 1704 | 1704 | 0 |
| Arrive On Green | 0.34 | 0.34 | 0.00 | 0.48 | 0.96 | 0.00 |
| Sat Flow, veh/h | 1781 | 1585 | 0 | 3741 | 3741 | 0 |
| Grp Volume(v), veh/h | 496 | 498 | 0 | 1579 | 603 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 0 | 1777 | 1777 | 0 |
| Q Serve(g_s), s | 15.3 | 18.2 | 0.0 | 25.0 | 0.6 | 0.0 |
| Cycle Q Clear(g_c), s | 15.3 | 18.2 | 0.0 | 25.0 | 0.6 | 0.0 |
| Prop In Lane | 1.00 | 1.00 | 0.00 | | | 0.00 |
| Lane Grp Cap(c), veh/h | 604 | 537 | 0 | 1704 | 1704 | 0 |
| V/C Ratio(X) | 0.82 | 0.93 | 0.00 | 0.93 | 0.35 | 0.00 |
| Avail Cap(c_a), veh/h | 609 | 542 | 0 | 1704 | 1704 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 2.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.66 | 0.90 | 0.00 |
| Uniform Delay (d), s/veh | 18.2 | 19.1 | 0.0 | 14.6 | 0.7 | 0.0 |
| Incr Delay (d2), s/veh | 8.8 | 22.2 | 0.0 | 7.2 | 0.5 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 7.1 | 9.2 | 0.0 | 9.0 | 0.2 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 27.0 | 41.3 | 0.0 | 21.9 | 1.2 | 0.0 |
| LnGrp LOS | C | D | A | C | A | A |
| Approach Vol, veh/h | 994 | | | 1579 | 603 | |
| Approach Delay, s/veh | 34.2 | | | 21.9 | 1.2 | |
| Approach LOS | C | | | C | A | |

| Timer - Assigned Phs | 2 | 4 | 6 |
|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 35.2 | 24.8 | 35.2 |
| Change Period (Y+Rc), s | 6.4 | 4.5 | 6.4 |
| Max Green Setting (Gmax), s | 28.6 | 20.5 | 28.6 |
| Max Q Clear Time (g_c+I1), s | 27.0 | 20.2 | 2.6 |
| Green Ext Time (p_c), s | 1.3 | 0.2 | 3.8 |

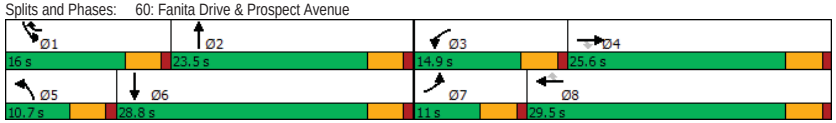
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 21.8 | |
| HCM 6th LOS | C | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 88 | 88 | 37 | 98 | 101 | 142 | 40 | 206 | 85 | 189 | 230 | 104 |
| Future Volume (vph) | 88 | 88 | 37 | 98 | 101 | 142 | 40 | 206 | 85 | 189 | 230 | 104 |
| Confl. Peds. (#/hr) | | | 6 | | | 4 | | | 2 | | | 1 |
| Confl. Bikes (#/hr) | | | 4 | | | 4 | | | 1 | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | pm+ov | Prot | NA | | Prot | NA | |
| Protected Phases | 7 | 4 | | 3 | 8 | 1 | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | | | | |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | 1 | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | 8.5 | 24.5 | 24.5 | 8.5 | 29.5 | 8.5 | 8.5 | 22.5 | | 8.5 | 24.5 | |
| Total Split (s) | 11.0 | 25.6 | 25.6 | 14.9 | 29.5 | 16.0 | 10.7 | 23.5 | | 16.0 | 28.8 | |
| Total Split (%) | 13.8% | 32.0% | 32.0% | 18.6% | 36.9% | 20.0% | 13.4% | 29.4% | | 20.0% | 36.0% | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | None | None | None | None | None | Min | | None | Min | |

**Intersection Summary**

Cycle Length: 80
Actuated Cycle Length: 59.2
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

Splits and Phases: 60: Fanita Drive & Prospect Avenue








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 88 | 88 | 37 | 98 | 101 | 142 | 40 | 206 | 85 | 189 | 230 | 104 |
| Future Volume (veh/h) | 88 | 88 | 37 | 98 | 101 | 142 | 40 | 206 | 85 | 189 | 230 | 104 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 96 | 96 | 40 | 107 | 110 | 154 | 43 | 224 | 92 | 205 | 250 | 113 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 123 | 291 | 240 | 139 | 309 | 488 | 65 | 296 | 122 | 262 | 829 | 362 |
| Arrive On Green | 0.07 | 0.16 | 0.16 | 0.08 | 0.16 | 0.16 | 0.04 | 0.24 | 0.24 | 0.15 | 0.35 | 0.35 |
| Sat Flow, veh/h | 1781 | 1870 | 1539 | 1781 | 1870 | 1546 | 1781 | 1249 | 513 | 1781 | 2386 | 1041 |
| Grp Volume(v), veh/h | 96 | 96 | 40 | 107 | 110 | 154 | 43 | 0 | 316 | 205 | 184 | 179 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1539 | 1781 | 1870 | 1546 | 1781 | 0 | 1762 | 1781 | 1777 | 1651 |
| Q Serve(g_s), s | 2.5 | 2.2 | 1.1 | 2.8 | 2.5 | 3.6 | 1.1 | 0.0 | 7.9 | 5.2 | 3.5 | 3.7 |
| Cycle Q Clear(g_c), s | 2.5 | 2.2 | 1.1 | 2.8 | 2.5 | 3.6 | 1.1 | 0.0 | 7.9 | 5.2 | 3.5 | 3.7 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.29 | 1.00 | | 0.63 |
| Lane Grp Cap(c), veh/h | 123 | 291 | 240 | 139 | 309 | 488 | 65 | 0 | 417 | 262 | 617 | 573 |
| V/C Ratio(X) | 0.78 | 0.33 | 0.17 | 0.77 | 0.36 | 0.32 | 0.66 | 0.00 | 0.76 | 0.78 | 0.30 | 0.31 |
| Avail Cap(c_a), veh/h | 246 | 838 | 690 | 393 | 993 | 1054 | 235 | 0 | 711 | 435 | 917 | 852 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 21.6 | 17.7 | 17.2 | 21.3 | 17.4 | 12.4 | 22.4 | 0.0 | 16.7 | 19.4 | 11.2 | 11.2 |
| Incr Delay (d2), s/veh | 10.3 | 0.7 | 0.3 | 8.7 | 0.7 | 0.4 | 10.9 | 0.0 | 2.8 | 5.1 | 0.3 | 0.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.3 | 0.9 | 0.3 | 1.4 | 1.0 | 1.1 | 0.6 | 0.0 | 2.9 | 2.2 | 1.1 | 1.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 31.9 | 18.3 | 17.6 | 29.9 | 18.1 | 12.7 | 33.2 | 0.0 | 19.5 | 24.4 | 11.5 | 11.6 |
| LnGrp LOS | C | B | B | C | B | B | C | A | B | C | B | B |
| Approach Vol, veh/h | | 232 | | | 371 | | | 359 | | | 568 | |
| Approach Delay, s/veh | | 23.8 | | | 19.3 | | | 21.2 | | | 16.2 | |
| Approach LOS | | C | | | B | | | C | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 11.4 | 15.7 | 8.2 | 11.8 | 6.2 | 20.9 | 7.7 | 12.3 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 11.5 | 19.0 | 10.4 | 21.1 | 6.2 | 24.3 | 6.5 | 25.0 |
| Max Q Clear Time (g_c+I1), s | 7.2 | 9.9 | 4.8 | 4.2 | 3.1 | 5.7 | 4.5 | 5.6 |
| Green Ext Time (p_c), s | 0.2 | 1.2 | 0.1 | 0.5 | 0.0 | 1.9 | 0.0 | 1.0 |

**Intersection Summary**

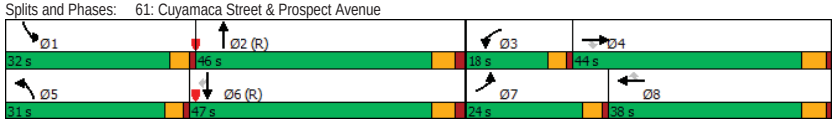
| | |
|---|---|
| HCM 6th Ctrl Delay | 19.3 |
| HCM 6th LOS | B |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 116 | 167 | 169 | 67 | 167 | 206 | 172 | 771 | 74 | 179 | 575 | 158 |
| Future Volume (vph) | 116 | 167 | 169 | 67 | 167 | 206 | 172 | 771 | 74 | 179 | 575 | 158 |
| Confl. Peds. (#/hr) | | | 4 | | | 10 | | | 7 | | | 6 |
| Confl. Bikes (#/hr) | | | 2 | | | 2 | | | 4 | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | | | | 6 |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | 8 | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 7.0 | 7.0 | 4.0 | 7.0 | 7.0 | 4.0 | 10.0 | | 4.0 | 10.0 | 10.0 |
| Minimum Split (s) | 8.2 | 35.2 | 35.2 | 8.2 | 36.2 | 36.2 | 8.2 | 33.0 | | 8.2 | 31.0 | 31.0 |
| Total Split (s) | 24.0 | 44.0 | 44.0 | 18.0 | 38.0 | 38.0 | 31.0 | 46.0 | | 32.0 | 47.0 | 47.0 |
| Total Split (%) | 17.1% | 31.4% | 31.4% | 12.9% | 27.1% | 27.1% | 22.1% | 32.9% | | 22.9% | 33.6% | 33.6% |
| Yellow Time (s) | 3.2 | 4.2 | 4.2 | 3.2 | 4.2 | 4.2 | 3.2 | 4.0 | | 3.2 | 4.1 | 4.1 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 2.0 | | 1.0 | 1.9 | 1.9 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.2 | 5.2 | 4.2 | 5.2 | 5.2 | 4.2 | 6.0 | | 4.2 | 6.0 | 6.0 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | None | None | C-Min | | None | C-Min | C-Min |

**Intersection Summary**

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 26 (19%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 61: Cuyamaca Street & Prospect Avenue








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 116 | 167 | 169 | 67 | 167 | 206 | 172 | 771 | 74 | 179 | 575 | 158 |
| Future Volume (veh/h) | 116 | 167 | 169 | 67 | 167 | 206 | 172 | 771 | 74 | 179 | 575 | 158 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 0.97 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 126 | 182 | 184 | 73 | 182 | 224 | 187 | 838 | 80 | 195 | 625 | 172 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 150 | 391 | 325 | 92 | 628 | 271 | 212 | 2258 | 214 | 217 | 1708 | 749 |
| Arrive On Green | 0.08 | 0.21 | 0.21 | 0.05 | 0.18 | 0.18 | 0.12 | 0.48 | 0.48 | 0.24 | 0.96 | 0.96 |
| Sat Flow, veh/h | 1781 | 1870 | 1554 | 1781 | 3554 | 1536 | 1781 | 4728 | 449 | 1781 | 3554 | 1559 |
| Grp Volume(v), veh/h | 126 | 182 | 184 | 73 | 182 | 224 | 187 | 602 | 316 | 195 | 625 | 172 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1554 | 1781 | 1777 | 1536 | 1781 | 1702 | 1773 | 1781 | 1777 | 1559 |
| Q Serve(g_s), s | 9.8 | 11.9 | 14.9 | 5.7 | 6.2 | 19.7 | 14.5 | 15.7 | 15.9 | 14.8 | 1.5 | 0.8 |
| Cycle Q Clear(g_c), s | 9.8 | 11.9 | 14.9 | 5.7 | 6.2 | 19.7 | 14.5 | 15.7 | 15.9 | 14.8 | 1.5 | 0.8 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.25 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 150 | 391 | 325 | 92 | 628 | 271 | 212 | 1626 | 847 | 217 | 1708 | 749 |
| V/C Ratio(X) | 0.84 | 0.47 | 0.57 | 0.79 | 0.29 | 0.83 | 0.88 | 0.37 | 0.37 | 0.90 | 0.37 | 0.23 |
| Avail Cap(c_a), veh/h | 252 | 518 | 431 | 176 | 833 | 360 | 341 | 1626 | 847 | 354 | 1708 | 749 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 2.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 0.97 | 0.97 | 0.97 | 1.00 | 1.00 | 1.00 | 0.89 | 0.89 | 0.89 |
| Uniform Delay (d), s/veh | 63.2 | 48.5 | 49.7 | 65.6 | 50.0 | 55.6 | 60.7 | 23.2 | 23.2 | 52.1 | 1.4 | 1.4 |
| Incr Delay (d2), s/veh | 4.8 | 0.9 | 1.7 | 5.4 | 0.1 | 9.4 | 9.3 | 0.6 | 1.3 | 9.6 | 0.5 | 0.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 4.6 | 5.7 | 5.9 | 2.7 | 2.8 | 8.3 | 7.1 | 6.4 | 6.9 | 6.4 | 0.5 | 0.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 68.0 | 49.5 | 51.4 | 71.1 | 50.2 | 64.9 | 70.0 | 23.9 | 24.5 | 61.7 | 2.0 | 2.1 |
| LnGrp LOS | E | D | D | E | D | E | E | C | C | E | A | A |
| Approach Vol, veh/h | | 492 | | | 479 | | | 1105 | | | 992 | |
| Approach Delay, s/veh | | 54.9 | | | 60.3 | | | 31.8 | | | 13.7 | |
| Approach LOS | | D | | | E | | | C | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 21.2 | 72.9 | 11.5 | 34.4 | 20.8 | 73.3 | 16.0 | 29.9 |
| Change Period (Y+Rc), s | * 4.2 | 6.0 | * 4.2 | 5.2 | * 4.2 | * 6 | * 4.2 | 5.2 |
| Max Green Setting (Gmax), s | * 28 | 40.0 | * 14 | 38.8 | * 27 | * 41 | * 20 | 32.8 |
| Max Q Clear Time (g_c+I1), s | 16.8 | 17.9 | 7.7 | 16.9 | 16.5 | 3.5 | 11.8 | 21.7 |
| Green Ext Time (p_c), s | 0.2 | 8.7 | 0.0 | 1.7 | 0.2 | 7.9 | 0.1 | 1.0 |

**Intersection Summary**

| | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 34.1 | |
| HCM 6th LOS | | C | |

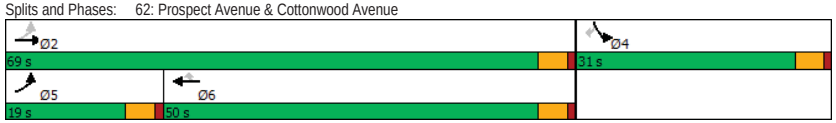
**Notes**

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 91 | 333 | 247 | 95 | 75 | 44 |
| Future Volume (vph) | 91 | 333 | 247 | 95 | 75 | 44 |
| Confl. Peds. (#/hr) | | | | 1 | | 4 |
| Confl. Bikes (#/hr) | | | | 3 | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | pm+pt | NA | NA | Perm | Prot | Perm |
| Protected Phases | 5 | 2 | 6 | | 4 | |
| Permitted Phases | 2 | | | 6 | | 4 |
| Detector Phase | 5 | 2 | 6 | 6 | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 |
| Total Split (s) | 19.0 | 69.0 | 50.0 | 50.0 | 31.0 | 31.0 |
| Total Split (%) | 19.0% | 69.0% | 50.0% | 50.0% | 31.0% | 31.0% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | | Lag | Lag | | |
| Lead-Lag Optimize? | Yes | | Yes | Yes | | |
| Recall Mode | None | Min | Min | Min | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 40.6 |
| Natural Cycle: 55 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 62: Prospect Avenue & Cottonwood Avenue








| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 91 | 333 | 247 | 95 | 75 | 44 |
| Future Volume (veh/h) | 91 | 333 | 247 | 95 | 75 | 44 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 0.97 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 99 | 362 | 268 | 103 | 82 | 48 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 595 | 1015 | 527 | 435 | 170 | 151 |
| Arrive On Green | 0.08 | 0.54 | 0.28 | 0.28 | 0.10 | 0.10 |
| Sat Flow, veh/h | 1781 | 1870 | 1870 | 1544 | 1781 | 1585 |
| Grp Volume(v), veh/h | 99 | 362 | 268 | 103 | 82 | 48 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1870 | 1544 | 1781 | 1585 |
| Q Serve(g_s), s | 0.8 | 2.7 | 3.0 | 1.3 | 1.1 | 0.7 |
| Cycle Q Clear(g_c), s | 0.8 | 2.7 | 3.0 | 1.3 | 1.1 | 0.7 |
| Prop In Lane | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 595 | 1015 | 527 | 435 | 170 | 151 |
| V/C Ratio(X) | 0.17 | 0.36 | 0.51 | 0.24 | 0.48 | 0.32 |
| Avail Cap(c_a), veh/h | 1492 | 4854 | 3424 | 2827 | 1899 | 1690 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 4.7 | 3.2 | 7.5 | 6.9 | 10.7 | 10.5 |
| Incr Delay (d2), s/veh | 0.1 | 0.2 | 0.8 | 0.3 | 2.1 | 1.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.1 | 0.1 | 0.7 | 0.2 | 0.4 | 0.7 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 4.8 | 3.4 | 8.2 | 7.1 | 12.8 | 11.7 |
| LnGrp LOS | A | A | A | A | B | B |
| Approach Vol, veh/h | | 461 | 371 | | 130 | |
| Approach Delay, s/veh | | 3.7 | 7.9 | | 12.4 | |
| Approach LOS | | A | A | | B | |

| Timer - Assigned Phs | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 18.0 | | 6.9 | 6.5 | 11.5 |
| Change Period (Y+Rc), s | 4.5 | | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 64.5 | | 26.5 | 14.5 | 45.5 |
| Max Q Clear Time (g_c+I1), s | 4.7 | | 3.1 | 2.8 | 5.0 |
| Green Ext Time (p_c), s | 2.3 | | 0.3 | 0.2 | 2.0 |

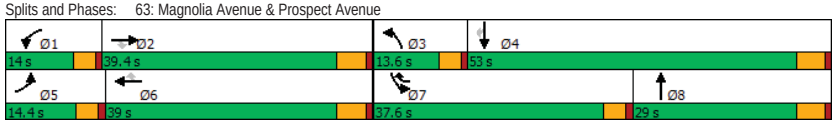
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 6.5 | |
| HCM 6th LOS | A | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 144 | 280 | 85 | 62 | 274 | 914 | 36 | 423 | 88 | 604 | 380 | 72 |
| Future Volume (vph) | 144 | 280 | 85 | 62 | 274 | 914 | 36 | 423 | 88 | 604 | 380 | 72 |
| Confl. Peds. (#/hr) | | | 9 | | | 1 | | | 5 | | | 4 |
| Confl. Bikes (#/hr) | | | 2 | | | 1 | | | 1 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | pm+ov | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | 4.0 | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 39.3 | 39.3 | 8.2 | 37.4 | 8.2 | 8.2 | 23.2 | | 8.2 | 36.2 | 36.2 |
| Total Split (s) | 14.4 | 39.4 | 39.4 | 14.0 | 39.0 | 37.6 | 13.6 | 29.0 | | 37.6 | 53.0 | 53.0 |
| Total Split (%) | 12.0% | 32.8% | 32.8% | 11.7% | 32.5% | 31.3% | 11.3% | 24.2% | | 31.3% | 44.2% | 44.2% |
| Yellow Time (s) | 3.2 | 4.3 | 4.3 | 3.2 | 4.4 | 3.2 | 3.2 | 4.2 | | 3.2 | 4.2 | 4.2 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | 5.3 | 4.2 | 5.4 | 4.2 | 4.2 | 5.2 | | 4.2 | 5.2 | 5.2 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | Min | Min | None | Min | None | None | None | | None | None | None |

**Intersection Summary**

Cycle Length: 120
Actuated Cycle Length: 98
Natural Cycle: 95
Control Type: Actuated-Uncoordinated

Splits and Phases: 63: Magnolia Avenue & Prospect Avenue








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 144 | 280 | 85 | 62 | 274 | 914 | 36 | 423 | 88 | 604 | 380 | 72 |
| Future Volume (veh/h) | 144 | 280 | 85 | 62 | 274 | 914 | 36 | 423 | 88 | 604 | 380 | 72 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 157 | 304 | 92 | 67 | 298 | 993 | 39 | 460 | 96 | 657 | 413 | 78 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 227 | 629 | 522 | 87 | 1135 | 1499 | 49 | 564 | 117 | 778 | 1388 | 610 |
| Arrive On Green | 0.07 | 0.34 | 0.34 | 0.05 | 0.32 | 0.32 | 0.03 | 0.19 | 0.19 | 0.23 | 0.39 | 0.39 |
| Sat Flow, veh/h | 3456 | 1870 | 1551 | 1781 | 3554 | 2726 | 1781 | 2919 | 605 | 3456 | 3554 | 1560 |
| Grp Volume(v), veh/h | 157 | 304 | 92 | 67 | 298 | 993 | 39 | 279 | 277 | 657 | 413 | 78 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1870 | 1551 | 1781 | 1777 | 1363 | 1781 | 1777 | 1746 | 1728 | 1777 | 1560 |
| Q Serve(g_s), s | 4.3 | 12.5 | 4.0 | 3.6 | 6.0 | 25.2 | 2.1 | 14.5 | 14.7 | 17.6 | 7.7 | 3.1 |
| Cycle Q Clear(g_c), s | 4.3 | 12.5 | 4.0 | 3.6 | 6.0 | 25.2 | 2.1 | 14.5 | 14.7 | 17.6 | 7.7 | 3.1 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.35 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 227 | 629 | 522 | 87 | 1135 | 1499 | 49 | 343 | 337 | 778 | 1388 | 610 |
| V/C Ratio(X) | 0.69 | 0.48 | 0.18 | 0.77 | 0.26 | 0.66 | 0.79 | 0.81 | 0.82 | 0.84 | 0.30 | 0.13 |
| Avail Cap(c_a), veh/h | 365 | 660 | 547 | 181 | 1235 | 1576 | 173 | 437 | 430 | 1194 | 1757 | 772 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 44.2 | 25.4 | 22.6 | 45.5 | 24.5 | 15.8 | 46.7 | 37.3 | 37.4 | 35.8 | 20.3 | 18.9 |
| Incr Delay (d2), s/veh | 3.7 | 0.6 | 0.2 | 13.5 | 0.1 | 1.0 | 23.8 | 8.8 | 9.7 | 3.5 | 0.1 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.9 | 5.5 | 1.5 | 1.9 | 2.5 | 7.5 | 1.3 | 7.0 | 7.1 | 7.6 | 3.2 | 1.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 47.9 | 26.0 | 22.8 | 59.0 | 24.6 | 16.8 | 70.5 | 46.2 | 47.1 | 39.3 | 20.4 | 19.0 |
| LnGrp LOS | D | C | C | E | C | B | E | D | D | D | C | B |
| Approach Vol, veh/h | | 553 | | | 1358 | | | 595 | | | 1148 | |
| Approach Delay, s/veh | | 31.7 | | | 20.6 | | | 48.2 | | | 31.2 | |
| Approach LOS | | C | | | C | | | D | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 8.9 | 37.9 | 6.9 | 43.0 | 10.6 | 36.3 | 26.0 | 23.9 |
| Change Period (Y+Rc), s | * 4.2 | * 5.4 | * 4.2 | 5.2 | * 4.2 | 5.4 | * 4.2 | 5.2 |
| Max Green Setting (Gmax), s | * 9.8 | * 34 | * 9.4 | 47.8 | * 10 | 33.6 | * 33 | 23.8 |
| Max Q Clear Time (g_c+I1), s | 5.6 | 14.5 | 4.1 | 9.7 | 6.3 | 27.2 | 19.6 | 16.7 |
| Green Ext Time (p_c), s | 0.0 | 2.0 | 0.0 | 3.3 | 0.2 | 3.5 | 2.2 | 2.0 |

**Intersection Summary**

| | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 30.1 | |
| HCM 6th LOS | | C | |

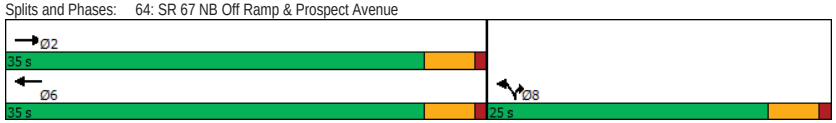
**Notes**

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 1030 | 0 | 0 | 603 | 707 | 142 |
| Future Volume (vph) | 1030 | 0 | 0 | 603 | 707 | 142 |
| Confl. Peds. (#/hr) | | 5 | | | | |
| Confl. Bikes (#/hr) | | 3 | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | NA | | | NA | Prot | Prot |
| Protected Phases | 2 | | | 6 | 8 | 8 |
| Permitted Phases | | | | | | |
| Detector Phase | 2 | | | 6 | 8 | 8 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 5.0 | | | 10.0 | 5.0 | 5.0 |
| Minimum Split (s) | 20.6 | | | 20.6 | 20.6 | 20.6 |
| Total Split (s) | 35.0 | | | 35.0 | 25.0 | 25.0 |
| Total Split (%) | 58.3% | | | 58.3% | 41.7% | 41.7% |
| Yellow Time (s) | 3.6 | | | 3.6 | 3.6 | 3.6 |
| All-Red Time (s) | 1.0 | | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.6 | | | 4.6 | 4.6 | 4.6 |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | Min | | | Min | None | None |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 45 |
| Natural Cycle: 45 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 64: SR 67 NB Off Ramp & Prospect Avenue






Existing + Proj PM (No School)
64: SR 67 NB Off Ramp & Prospect Avenue
Fanita Ranch
06/06/2019

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 1030 | 0 | 0 | 603 | 707 | 142 |
| Future Volume (veh/h) | 1030 | 0 | 0 | 603 | 707 | 142 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | 1.00 | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 0 | 0 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 1120 | 0 | 0 | 655 | 768 | 154 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 0 | 0 | 2 | 2 | 2 |
| Cap, veh/h | 1606 | 0 | 0 | 1606 | 1032 | 474 |
| Arrive On Green | 0.45 | 0.00 | 0.00 | 0.45 | 0.30 | 0.30 |
| Sat Flow, veh/h | 3741 | 0 | 0 | 3741 | 3456 | 1585 |
| Grp Volume(v), veh/h | 1120 | 0 | 0 | 655 | 768 | 154 |
| Grp Sat Flow(s),veh/h/ln | 1777 | 0 | 0 | 1777 | 1728 | 1585 |
| Q Serve(g_s), s | 9.3 | 0.0 | 0.0 | 4.6 | 7.4 | 2.8 |
| Cycle Q Clear(g_c), s | 9.3 | 0.0 | 0.0 | 4.6 | 7.4 | 2.8 |
| Prop In Lane | | 0.00 | 0.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 1606 | 0 | 0 | 1606 | 1032 | 474 |
| V/C Ratio(X) | 0.70 | 0.00 | 0.00 | 0.41 | 0.74 | 0.33 |
| Avail Cap(c_a), veh/h | 2927 | 0 | 0 | 2927 | 1910 | 876 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 8.1 | 0.0 | 0.0 | 6.8 | 11.7 | 10.0 |
| Incr Delay (d2), s/veh | 0.2 | 0.0 | 0.0 | 0.2 | 0.4 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.1 | 0.0 | 0.0 | 1.0 | 2.2 | 0.8 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 8.3 | 0.0 | 0.0 | 7.0 | 12.1 | 10.2 |
| LnGrp LOS | A | A | A | A | B | B |
| Approach Vol, veh/h | 1120 | | | 655 | 922 | |
| Approach Delay, s/veh | 8.3 | | | 7.0 | 11.8 | |
| Approach LOS | A | | | A | B | |

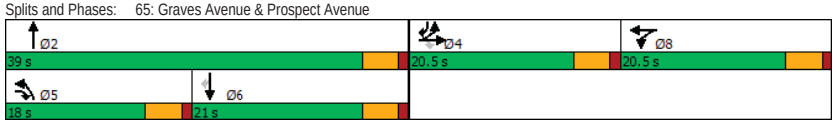
| Timer - Assigned Phs | 2 | | | 6 | 8 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 21.3 | | | 21.3 | 15.6 |
| Change Period (Y+Rc), s | 4.6 | | | 4.6 | 4.6 |
| Max Green Setting (Gmax), s | 30.4 | | | 30.4 | 20.4 |
| Max Q Clear Time (g_c+I1), s | 11.3 | | | 6.6 | 9.4 |
| Green Ext Time (p_c), s | 5.4 | | | 4.5 | 1.6 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 9.2 | |
| HCM 6th LOS | A | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 310 | 10 | 753 | 2 | 7 | 0 | 440 | 30 | 1 | 0 | 42 | 180 |
| Future Volume (vph) | 310 | 10 | 753 | 2 | 7 | 0 | 440 | 30 | 1 | 0 | 42 | 180 |
| Confl. Peds. (#/hr) | | | | | | 1 | | | 6 | | | |
| Confl. Bikes (#/hr) | | | 3 | | | 1 | | | 2 | | | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | 48% | | | | | | | | | | | |
| Turn Type | Split | NA | pm+ov | Split | NA | | Prot | NA | | | NA | pm+ov |
| Protected Phases | 4 | 4 | 5 | 8 | 8 | | 5 | 2 | | | 6 | 4 |
| Permitted Phases | | | 4 | | | | | | | | | 6 |
| Detector Phase | 4 | 4 | 5 | 8 | 8 | | 5 | 2 | | | 6 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | | 4.0 | 4.0 |
| Minimum Split (s) | 20.5 | 20.5 | 8.5 | 20.5 | 20.5 | | 8.5 | 20.5 | | | 20.5 | 20.5 |
| Total Split (s) | 20.5 | 20.5 | 18.0 | 20.5 | 20.5 | | 18.0 | 39.0 | | | 21.0 | 20.5 |
| Total Split (%) | 25.6% | 25.6% | 22.5% | 25.6% | 25.6% | | 22.5% | 48.8% | | | 26.3% | 25.6% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | | | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | | | 4.5 | 4.5 |
| Lead/Lag | | | Lead | | | | Lead | | | | Lag | |
| Lead-Lag Optimize? | | | Yes | | | | Yes | | | | Yes | |
| Recall Mode | None | None | None | None | None | | None | Min | | | Min | None |

| Intersection Summary |
|---|
| Cycle Length: 80 |
| Actuated Cycle Length: 46 |
| Natural Cycle: 80 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 65: Graves Avenue & Prospect Avenue








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 310 | 10 | 753 | 2 | 7 | 0 | 440 | 30 | 1 | 0 | 42 | 180 |
| Future Volume (veh/h) | 310 | 10 | 753 | 2 | 7 | 0 | 440 | 30 | 1 | 0 | 42 | 180 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 1.00 | 1.00 | | 0.97 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 0 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 345 | 0 | 818 | 2 | 8 | 0 | 478 | 33 | 1 | 0 | 46 | 196 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 0 | 2 | 2 |
| Cap, veh/h | 1123 | 0 | 783 | 22 | 23 | 0 | 644 | 733 | 22 | 0 | 246 | 704 |
| Arrive On Green | 0.32 | 0.00 | 0.32 | 0.01 | 0.01 | 0.00 | 0.19 | 0.41 | 0.41 | 0.00 | 0.13 | 0.13 |
| Sat Flow, veh/h | 3563 | 0 | 1548 | 1781 | 1870 | 0 | 3456 | 1804 | 55 | 0 | 1870 | 1558 |
| Grp Volume(v), veh/h | 345 | 0 | 818 | 2 | 8 | 0 | 478 | 0 | 34 | 0 | 46 | 196 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1548 | 1781 | 1870 | 0 | 1728 | 0 | 1859 | 0 | 1870 | 1558 |
| Q Serve(g_s), s | 3.7 | 0.0 | 16.0 | 0.1 | 0.2 | 0.0 | 6.6 | 0.0 | 0.6 | 0.0 | 1.1 | 4.0 |
| Cycle Q Clear(g_c), s | 3.7 | 0.0 | 16.0 | 0.1 | 0.2 | 0.0 | 6.6 | 0.0 | 0.6 | 0.0 | 1.1 | 4.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.00 | 1.00 | | 0.03 | 0.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 1123 | 0 | 783 | 22 | 23 | 0 | 644 | 0 | 755 | 0 | 246 | 704 |
| V/C Ratio(X) | 0.31 | 0.00 | 1.04 | 0.09 | 0.34 | 0.00 | 0.74 | 0.00 | 0.05 | 0.00 | 0.19 | 0.28 |
| Avail Cap(c_a), veh/h | 1123 | 0 | 783 | 561 | 589 | 0 | 919 | 0 | 1263 | 0 | 608 | 1006 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 13.2 | 0.0 | 12.7 | 24.8 | 24.9 | 0.0 | 19.5 | 0.0 | 9.1 | 0.0 | 19.6 | 8.9 |
| Incr Delay (d2), s/veh | 0.2 | 0.0 | 44.4 | 1.7 | 8.3 | 0.0 | 2.0 | 0.0 | 0.0 | 0.0 | 0.4 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.3 | 0.0 | 16.2 | 0.0 | 0.1 | 0.0 | 2.6 | 0.0 | 0.2 | 0.0 | 0.5 | 2.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 13.3 | 0.0 | 57.1 | 26.5 | 33.2 | 0.0 | 21.5 | 0.0 | 9.1 | 0.0 | 20.0 | 9.1 |
| LnGrp LOS | B | A | F | C | C | A | C | A | A | A | B | A |
| Approach Vol, veh/h | | 1163 | | | 10 | | | 512 | | | 242 | |
| Approach Delay, s/veh | | 44.1 | | | 31.9 | | | 20.6 | | | 11.2 | |
| Approach LOS | | D | | | C | | | C | | | B | |

| Timer - Assigned Phs | 2 | | 4 | 5 | 6 | | 8 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 25.1 | | 20.5 | 14.0 | 11.2 | | 5.1 | | | | | |
| Change Period (Y+Rc), s | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | | |
| Max Green Setting (Gmax), s | 34.5 | | 16.0 | 13.5 | 16.5 | | 16.0 | | | | | |
| Max Q Clear Time (g_c+I1), s | 2.6 | | 18.0 | 8.6 | 6.0 | | 2.2 | | | | | |
| Green Ext Time (p_c), s | 0.1 | | 0.0 | 0.8 | 0.6 | | 0.0 | | | | | |

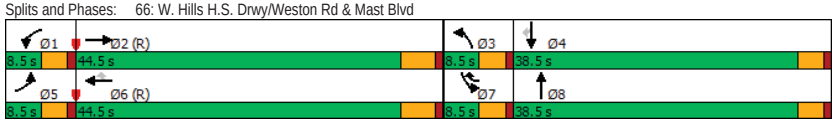
| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 33.7 |
| HCM 6th LOS | C |

| Notes |
|---|
| User approved volume balancing among the lanes for turning movement. |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 2110 | 3 | 13 | 762 | 0 | 0 | 0 | 4 | 0 | 0 | 0 |
| Future Volume (vph) | 0 | 2110 | 3 | 13 | 762 | 0 | 0 | 0 | 4 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Prot | NA | | Prot | | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | 4.0 | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.5 | 22.5 | | 8.5 | 27.3 | 8.5 | 8.5 | 38.5 | | 8.5 | 33.5 | 33.5 |
| Total Split (s) | 8.5 | 44.5 | | 8.5 | 44.5 | 8.5 | 8.5 | 38.5 | | 8.5 | 38.5 | 38.5 |
| Total Split (%) | 8.5% | 44.5% | | 8.5% | 44.5% | 8.5% | 8.5% | 38.5% | | 8.5% | 38.5% | 38.5% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | 3.2 | 3.2 | 3.2 | | 3.2 | 3.2 | 3.2 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | 4.2 | 4.2 | 4.2 | | 4.2 | 4.2 | 4.2 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | C-Min | | None | C-Min | None | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 81 (81%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 145 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 66: W. Hills H.S. Drwy/Weston Rd & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 2110 | 3 | 13 | 762 | 0 | 0 | 0 | 4 | 0 | 0 | 0 |
| Future Volume (veh/h) | 0 | 2110 | 3 | 13 | 762 | 0 | 0 | 0 | 4 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 2293 | 3 | 14 | 828 | 0 | 0 | 0 | 4 | 0 | 0 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 2 | 3069 | 4 | 23 | 3190 | 1356 | 2 | 0 | 12 | 2 | 14 | 12 |
| Arrive On Green | 0.00 | 1.00 | 1.00 | 0.03 | 1.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 |
| Sat Flow, veh/h | 1781 | 3642 | 5 | 1781 | 3554 | 1585 | 1781 | 0 | 1585 | 1781 | 1870 | 1585 |
| Grp Volume(v), veh/h | 0 | 1119 | 1177 | 14 | 828 | 0 | 0 | 0 | 4 | 0 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1870 | 1781 | 1777 | 1585 | 1781 | 0 | 1585 | 1781 | 1870 | 1585 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.0 | 0.8 | 0.0 | 4.2 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 0.0 | 0.0 | 0.0 | 0.8 | 0.0 | 4.2 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | | 0.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 2 | 1497 | 1576 | 23 | 3190 | 1356 | 2 | 0 | 12 | 2 | 14 | 12 |
| V/C Ratio(X) | 0.00 | 0.75 | 0.75 | 0.61 | 0.26 | 0.00 | 0.00 | 0.00 | 0.34 | 0.00 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 77 | 1497 | 1576 | 77 | 3190 | 1356 | 77 | 0 | 544 | 77 | 642 | 544 |
| HCM Platoon Ratio | 1.33 | 1.33 | 1.33 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.00 | 0.60 | 0.60 | 0.97 | 0.97 | 0.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 0.0 | 0.0 | 0.0 | 48.5 | 0.0 | 0.0 | 0.0 | 0.0 | 49.4 | 0.0 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 0.0 | 2.1 | 2.0 | 22.7 | 0.2 | 0.0 | 0.0 | 0.0 | 16.5 | 0.0 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.9 | 0.9 | 0.5 | 0.1 | 0.0 | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 2.1 | 2.0 | 71.2 | 0.2 | 0.0 | 0.0 | 0.0 | 65.9 | 0.0 | 0.0 | 0.0 |
| LnGrp LOS | A | A | A | E | A | A | A | A | E | A | A | A |
| Approach Vol, veh/h | | 2296 | | | 842 | | | 4 | | | 0 | |
| Approach Delay, s/veh | | 2.0 | | | 1.4 | | | 65.9 | | | 0.0 | |
| Approach LOS | | A | | | A | | | E | | | | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.5 | 89.6 | 0.0 | 4.9 | 0.0 | 95.1 | 0.0 | 4.9 |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | * 4.2 | * 4.2 | * 4.2 | 5.3 | * 4.2 | * 4.2 |
| Max Green Setting (Gmax), s | * 4.3 | 39.2 | * 4.3 | * 34 | * 4.3 | 39.2 | * 4.3 | * 34 |
| Max Q Clear Time (g_c+I1), s | 2.8 | 2.0 | 0.0 | 0.0 | 0.0 | 6.2 | 0.0 | 2.3 |
| Green Ext Time (p_c), s | 0.0 | 27.8 | 0.0 | 0.0 | 0.0 | 6.2 | 0.0 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 1.9 |
| HCM 6th LOS | A |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

# APPENDIX M

## PEAK HOUR INTERSECTION ANALYSIS WORKSHEETS – EXISTING + CUMULATIVE PROJECTS + PROJECT (NO SCHOOL ALTERNATIVE)

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.3 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 15 | 0 | 158 | 7 | 0 | 408 |
| Future Vol, veh/h | 15 | 0 | 158 | 7 | 0 | 408 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | 150 | 50 | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 16 | 0 | 172 | 8 | 0 | 443 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 615 | 172 | 0 | 0 | 180 | 0 |
| Stage 1 | 172 | - | - | - | - | - |
| Stage 2 | 443 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | - | - | 4.12 | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | - | - | 2.218 | - |
| Pot Cap-1 Maneuver | 455 | 872 | - | - | 1396 | - |
| Stage 1 | 858 | - | - | - | - | - |
| Stage 2 | 647 | - | - | - | - | - |
| Platoon blocked, % | | | | - | | - |
| Mov Cap-1 Maneuver | 455 | 872 | - | - | 1396 | - |
| Mov Cap-2 Maneuver | 455 | - | - | - | - | - |
| Stage 1 | 858 | - | - | - | - | - |
| Stage 2 | 647 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 13.2 | 0 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | SBL | SBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 455 | 1396 | - |
| HCM Lane V/C Ratio | - | - | 0.036 | - | - |
| HCM Control Delay (s) | - | - | 13.2 | 0 | - |
| HCM Lane LOS | - | - | B | A | - |
| HCM 95th %tile Q(veh) | - | - | 0.1 | 0 | - |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 11.2 |
| Intersection LOS | B |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 40 | 32 | 8 | 0 | 26 | 135 | 8 | 0 | 345 | 0 |
| Future Vol, veh/h | 0 | 0 | 40 | 32 | 8 | 0 | 26 | 135 | 8 | 0 | 345 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 43 | 35 | 9 | 0 | 28 | 147 | 9 | 0 | 375 | 0 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 3 | 3 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 3 | 3 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 3 | 3 | 1 | 1 |
| HCM Control Delay | 8.4 | 9.6 | 9 | 12.8 |
| HCM LOS | A | A | A | B |

| Lane | NBLn1 | NBLn2 | NBLn3 | EBLn1 | WBLn1 | SBLn1 | SBLn2 | SBLn3 |
|---|---|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 0% | 80% | 0% | 0% | 0% |
| Vol Thru, % | 0% | 100% | 0% | 0% | 20% | 100% | 100% | 100% |
| Vol Right, % | 0% | 0% | 100% | 100% | 0% | 0% | 0% | 0% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 26 | 135 | 8 | 40 | 40 | 0 | 345 | 0 |
| LT Vol | 26 | 0 | 0 | 0 | 32 | 0 | 0 | 0 |
| Through Vol | 0 | 135 | 0 | 0 | 8 | 0 | 345 | 0 |
| RT Vol | 0 | 0 | 8 | 40 | 0 | 0 | 0 | 0 |
| Lane Flow Rate | 28 | 147 | 9 | 43 | 43 | 0 | 375 | 0 |
| Geometry Grp | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| Degree of Util (X) | 0.044 | 0.208 | 0.011 | 0.063 | 0.077 | 0 | 0.515 | 0 |
| Departure Headway (Hd) | 5.605 | 5.101 | 4.396 | 5.242 | 6.335 | 4.945 | 4.945 | 4.945 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 639 | 703 | 812 | 680 | 564 | 0 | 728 | 0 |
| Service Time | 3.341 | 2.837 | 2.132 | 2.998 | 4.09 | 2.677 | 2.677 | 2.677 |
| HCM Lane V/C Ratio | 0.044 | 0.209 | 0.011 | 0.063 | 0.076 | 0 | 0.515 | 0 |
| HCM Control Delay | 8.6 | 9.2 | 7.2 | 8.4 | 9.6 | 7.7 | 12.8 | 7.7 |
| HCM Lane LOS | A | A | A | A | A | N | B | N |
| HCM 95th-tile Q | 0.1 | 0.8 | 0 | 0.2 | 0.2 | 0 | 3 | 0 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 7.5 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 0 | 0 | 17 | 128 | 0 | 1 | 10 | 257 | 58 | 1 | 661 | 0 |
| Future Vol, veh/h | 0 | 0 | 17 | 128 | 0 | 1 | 10 | 257 | 58 | 1 | 661 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 18 | 139 | 0 | 1 | 11 | 279 | 63 | 1 | 718 | 0 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1053 | 1084 | 718 | 1062 | 1053 | 311 | 718 | 0 | 0 | 342 | 0 | 0 |
| Stage 1 | 720 | 720 | - | 333 | 333 | - | - | - | - | - | - | - |
| Stage 2 | 333 | 364 | - | 729 | 720 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | 4.12 | - | - | 4.12 | - | - |
| Critical Hdwy Stg 1 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | 2.218 | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 204 | 217 | 429 | 201 | 226 | 729 | 883 | - | - | 1217 | - | - |
| Stage 1 | 419 | 432 | - | 681 | 644 | - | - | - | - | - | - | - |
| Stage 2 | 681 | 624 | - | 414 | 432 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 201 | 213 | 429 | 190 | 222 | 729 | 883 | - | - | 1217 | - | - |
| Mov Cap-2 Maneuver | 201 | 213 | - | 190 | 222 | - | - | - | - | - | - | - |
| Stage 1 | 412 | 432 | - | 670 | 634 | - | - | - | - | - | - | - |
| Stage 2 | 669 | 614 | - | 396 | 432 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 13.8 | 63 | 0.3 | 0 |
| HCM LOS | B | F | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 883 | - | - | 429 | 191 | 1217 | - | - |
| HCM Lane V/C Ratio | 0.012 | - | - | 0.043 | 0.734 | 0.001 | - | - |
| HCM Control Delay (s) | 9.1 | 0 | - | 13.8 | 63 | 8 | 0 | - |
| HCM Lane LOS | A | A | - | B | F | A | A | - |
| HCM 95th %tile Q(veh) | 0 | - | - | 0.1 | 4.7 | 0 | - | - |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 19.8 |
| Intersection LOS | C |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | ↕ | | | ↕ | | | ↑ | ↱ | | ↑ | ↱ |
| Traffic Vol, veh/h | 0 | 1 | 12 | 233 | 0 | 4 | 3 | 171 | 68 | 8 | 451 | 0 |
| Future Vol, veh/h | 0 | 1 | 12 | 233 | 0 | 4 | 3 | 171 | 68 | 8 | 451 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 1 | 13 | 253 | 0 | 4 | 3 | 186 | 74 | 9 | 490 | 0 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |

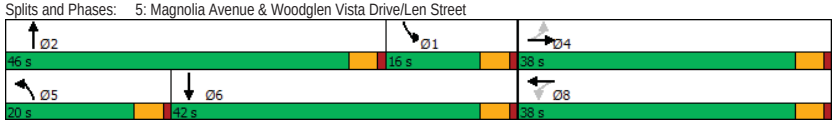
| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay | 9.4 | 14.3 | 13 | 26.6 |
| HCM LOS | A | B | B | D |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 98% | 100% | 0% |
| Vol Thru, % | 0% | 72% | 8% | 0% | 0% | 100% |
| Vol Right, % | 0% | 28% | 92% | 2% | 0% | 0% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 3 | 239 | 13 | 237 | 8 | 451 |
| LT Vol | 3 | 0 | 0 | 233 | 8 | 0 |
| Through Vol | 0 | 171 | 1 | 0 | 0 | 451 |
| RT Vol | 0 | 68 | 12 | 4 | 0 | 0 |
| Lane Flow Rate | 3 | 260 | 14 | 258 | 9 | 490 |
| Geometry Grp | 7 | 7 | 2 | 2 | 7 | 7 |
| Degree of Util (X) | 0.006 | 0.427 | 0.024 | 0.446 | 0.015 | 0.79 |
| Departure Headway (Hd) | 6.624 | 5.913 | 6.174 | 6.237 | 6.306 | 5.8 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 539 | 608 | 575 | 574 | 567 | 623 |
| Service Time | 4.377 | 3.665 | 4.266 | 4.295 | 4.048 | 3.541 |
| HCM Lane V/C Ratio | 0.006 | 0.428 | 0.024 | 0.449 | 0.016 | 0.787 |
| HCM Control Delay | 9.4 | 13 | 9.4 | 14.3 | 9.1 | 26.9 |
| HCM Lane LOS | A | B | A | B | A | D |
| HCM 95th-tile Q | 0 | 2.1 | 0.1 | 2.3 | 0 | 7.7 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 17 | 1 | 111 | 45 | 13 | 10 | 36 | 272 | 14 | 7 | 671 | 11 |
| Future Volume (vph) | 17 | 1 | 111 | 45 | 13 | 10 | 36 | 272 | 14 | 7 | 671 | 11 |
| Confl. Peds. (#/hr) | | | 95 | | | 4 | | | 15 | | | 95 |
| Confl. Bikes (#/hr) | | | 1 | | | 1 | | | | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Perm | NA | | Perm | NA | | Prot | NA | | Prot | NA | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 26.5 | 26.5 | | 26.5 | 26.5 | | 11.5 | 22.5 | | 11.5 | 22.5 | |
| Total Split (s) | 38.0 | 38.0 | | 38.0 | 38.0 | | 20.0 | 46.0 | | 16.0 | 42.0 | |
| Total Split (%) | 38.0% | 38.0% | | 38.0% | 38.0% | | 20.0% | 46.0% | | 16.0% | 42.0% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | | | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lead | | Lag | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 41.9 |
| Natural Cycle: 65 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 5: Magnolia Avenue & Woodglen Vista Drive/Len Street








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 17 | 1 | 111 | 45 | 13 | 10 | 36 | 272 | 14 | 7 | 671 | 11 |
| Future Volume (veh/h) | 17 | 1 | 111 | 45 | 13 | 10 | 36 | 272 | 14 | 7 | 671 | 11 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.89 | 0.93 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 0.84 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 18 | 1 | 121 | 49 | 14 | 11 | 39 | 296 | 15 | 8 | 729 | 12 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 601 | 3 | 423 | 334 | 92 | 52 | 106 | 937 | 47 | 243 | 1246 | 20 |
| Arrive On Green | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | 0.06 | 0.27 | 0.27 | 0.14 | 0.35 | 0.35 |
| Sat Flow, veh/h | 1381 | 12 | 1409 | 682 | 308 | 173 | 1781 | 3437 | 173 | 1781 | 3565 | 59 |
| Grp Volume(v), veh/h | 18 | 0 | 122 | 74 | 0 | 0 | 39 | 152 | 159 | 8 | 363 | 378 |
| Grp Sat Flow(s),veh/h/ln | 1381 | 0 | 1420 | 1163 | 0 | 0 | 1781 | 1777 | 1833 | 1781 | 1777 | 1847 |
| Q Serve(g_s), s | 0.0 | 0.0 | 3.1 | 0.6 | 0.0 | 0.0 | 1.0 | 3.2 | 3.2 | 0.2 | 7.8 | 7.8 |
| Cycle Q Clear(g_c), s | 0.3 | 0.0 | 3.1 | 3.7 | 0.0 | 0.0 | 1.0 | 3.2 | 3.2 | 0.2 | 7.8 | 7.8 |
| Prop In Lane | 1.00 | | 0.99 | 0.66 | | 0.15 | 1.00 | | 0.09 | 1.00 | | 0.03 |
| Lane Grp Cap(c), veh/h | 601 | 0 | 427 | 478 | 0 | 0 | 106 | 485 | 500 | 243 | 621 | 645 |
| V/C Ratio(X) | 0.03 | 0.00 | 0.29 | 0.15 | 0.00 | 0.00 | 0.37 | 0.31 | 0.32 | 0.03 | 0.59 | 0.59 |
| Avail Cap(c_a), veh/h | 1183 | 0 | 1025 | 1033 | 0 | 0 | 594 | 1588 | 1638 | 441 | 1435 | 1491 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 11.5 | 0.0 | 12.4 | 12.3 | 0.0 | 0.0 | 21.0 | 13.4 | 13.4 | 17.4 | 12.4 | 12.4 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 0.4 | 0.1 | 0.0 | 0.0 | 2.1 | 0.4 | 0.4 | 0.1 | 0.9 | 0.8 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.1 | 0.0 | 0.9 | 0.5 | 0.0 | 0.0 | 0.4 | 1.1 | 1.1 | 0.1 | 2.5 | 2.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 11.5 | 0.0 | 12.8 | 12.5 | 0.0 | 0.0 | 23.1 | 13.8 | 13.8 | 17.5 | 13.2 | 13.2 |
| LnGrp LOS | B | A | B | B | A | A | C | B | B | B | B | B |
| Approach Vol, veh/h | | 140 | | | 74 | | | 350 | | | 749 | |
| Approach Delay, s/veh | | 12.6 | | | 12.5 | | | 14.8 | | | 13.3 | |
| Approach LOS | | B | | | B | | | B | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 10.8 | 17.2 | | 18.4 | 7.3 | 20.7 | | 18.4 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 11.5 | 41.5 | | 33.5 | 15.5 | 37.5 | | 33.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.2 | 5.2 | | 5.1 | 3.0 | 9.8 | | 5.7 | | | | |
| Green Ext Time (p_c), s | 0.0 | 1.7 | | 0.9 | 0.0 | 4.6 | | 0.4 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 13.6 | |
| HCM 6th LOS | B | |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 104.4 |
| Intersection LOS | F |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 1 | 7 | 264 | 4 | 3 | 5 | 245 | 48 | 1 | 708 | 1 |
| Future Vol, veh/h | 0 | 1 | 7 | 264 | 4 | 3 | 5 | 245 | 48 | 1 | 708 | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 1 | 8 | 287 | 4 | 3 | 5 | 266 | 52 | 1 | 770 | 1 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay | 11 | 18.9 | 17.8 | 174.4 |
| HCM LOS | B | C | C | F |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 97% | 100% | 0% |
| Vol Thru, % | 0% | 84% | 12% | 1% | 0% | 100% |
| Vol Right, % | 0% | 16% | 88% | 1% | 0% | 0% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 5 | 293 | 8 | 271 | 1 | 709 |
| LT Vol | 5 | 0 | 0 | 264 | 1 | 0 |
| Through Vol | 0 | 245 | 1 | 4 | 0 | 708 |
| RT Vol | 0 | 48 | 7 | 3 | 0 | 1 |
| Lane Flow Rate | 5 | 318 | 9 | 295 | 1 | 771 |
| Geometry Grp | 7 | 7 | 2 | 2 | 7 | 7 |
| Degree of Util (X) | 0.011 | 0.563 | 0.017 | 0.55 | 0.002 | 1.319 |
| Departure Headway (Hd) | 7.428 | 6.797 | 7.863 | 7.317 | 6.671 | 6.161 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 485 | 535 | 458 | 498 | 537 | 593 |
| Service Time | 5.128 | 4.497 | 5.863 | 5.317 | 4.409 | 3.899 |
| HCM Lane V/C Ratio | 0.01 | 0.594 | 0.02 | 0.592 | 0.002 | 1.3 |
| HCM Control Delay | 10.2 | 17.9 | 11 | 18.9 | 9.4 | 174.6 |
| HCM Lane LOS | B | C | B | C | A | F |
| HCM 95th-tile Q | 0 | 3.5 | 0.1 | 3.3 | 0 | 32.1 |

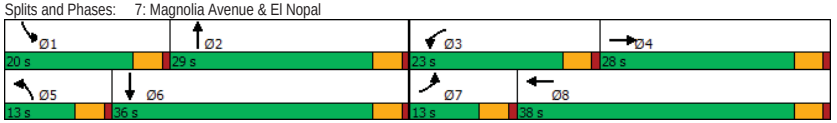




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 46 | 64 | 96 | 140 | 122 | 158 | 51 | 341 | 55 | 259 | 654 | 85 |
| Future Volume (vph) | 46 | 64 | 96 | 140 | 122 | 158 | 51 | 341 | 55 | 259 | 654 | 85 |
| Confl. Peds. (#/hr) | | | | | | 2 | | | | | | |
| Confl. Bikes (#/hr) | | | 2 | | | 2 | | | 1 | | | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | | Prot | NA | |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 11.5 | 26.5 | | 11.5 | 25.5 | | 11.5 | 22.5 | | 11.5 | 22.5 | |
| Total Split (s) | 13.0 | 28.0 | | 23.0 | 38.0 | | 13.0 | 29.0 | | 20.0 | 36.0 | |
| Total Split (%) | 13.0% | 28.0% | | 23.0% | 38.0% | | 13.0% | 29.0% | | 20.0% | 36.0% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | | None | Max | | None | Max | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 83.5 |
| Natural Cycle: 80 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 7: Magnolia Avenue & El Nopal



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 46 | 64 | 96 | 140 | 122 | 158 | 51 | 341 | 55 | 259 | 654 | 85 |
| Future Volume (veh/h) | 46 | 64 | 96 | 140 | 122 | 158 | 51 | 341 | 55 | 259 | 654 | 85 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 50 | 70 | 104 | 152 | 133 | 172 | 55 | 371 | 60 | 282 | 711 | 92 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 105 | 117 | 173 | 192 | 163 | 211 | 111 | 948 | 152 | 322 | 1352 | 175 |
| Arrive On Green | 0.06 | 0.17 | 0.17 | 0.11 | 0.22 | 0.22 | 0.06 | 0.31 | 0.31 | 0.18 | 0.43 | 0.43 |
| Sat Flow, veh/h | 1781 | 673 | 1000 | 1781 | 733 | 948 | 1781 | 3057 | 490 | 1781 | 3155 | 408 |
| Grp Volume(v), veh/h | 50 | 0 | 174 | 152 | 0 | 305 | 55 | 214 | 217 | 282 | 400 | 403 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1673 | 1781 | 0 | 1681 | 1781 | 1777 | 1770 | 1781 | 1777 | 1786 |
| Q Serve(g_s), s | 2.1 | 0.0 | 7.6 | 6.6 | 0.0 | 13.6 | 2.4 | 7.5 | 7.6 | 12.2 | 13.1 | 13.1 |
| Cycle Q Clear(g_c), s | 2.1 | 0.0 | 7.6 | 6.6 | 0.0 | 13.6 | 2.4 | 7.5 | 7.6 | 12.2 | 13.1 | 13.1 |
| Prop In Lane | 1.00 | | 0.60 | 1.00 | | 0.56 | 1.00 | | 0.28 | 1.00 | | 0.23 |
| Lane Grp Cap(c), veh/h | 105 | 0 | 290 | 192 | 0 | 374 | 111 | 551 | 549 | 322 | 762 | 765 |
| V/C Ratio(X) | 0.48 | 0.00 | 0.60 | 0.79 | 0.00 | 0.82 | 0.50 | 0.39 | 0.40 | 0.88 | 0.53 | 0.53 |
| Avail Cap(c_a), veh/h | 192 | 0 | 498 | 417 | 0 | 713 | 192 | 551 | 549 | 350 | 762 | 765 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 36.0 | 0.0 | 30.1 | 34.4 | 0.0 | 29.2 | 35.8 | 21.4 | 21.4 | 31.5 | 16.6 | 16.6 |
| Incr Delay (d2), s/veh | 3.3 | 0.0 | 2.0 | 7.1 | 0.0 | 4.4 | 3.4 | 2.1 | 2.1 | 20.3 | 2.6 | 2.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.0 | 0.0 | 3.2 | 3.2 | 0.0 | 5.8 | 1.1 | 3.2 | 3.2 | 6.7 | 5.3 | 5.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 39.3 | 0.0 | 32.1 | 41.5 | 0.0 | 33.6 | 39.3 | 23.4 | 23.5 | 51.8 | 19.2 | 19.2 |
| LnGrp LOS | D | A | C | D | A | C | D | C | C | D | B | B |
| Approach Vol, veh/h | | 224 | | | 457 | | | 486 | | | 1085 | |
| Approach Delay, s/veh | | 33.7 | | | 36.2 | | | 25.3 | | | 27.7 | |
| Approach LOS | | C | | | D | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 18.8 | 29.0 | 13.0 | 18.2 | 9.4 | 38.4 | 9.2 | 22.1 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 15.5 | 24.5 | 18.5 | 23.5 | 8.5 | 31.5 | 8.5 | 33.5 |
| Max Q Clear Time (g_c+I1), s | 14.2 | 9.6 | 8.6 | 9.6 | 4.4 | 15.1 | 4.1 | 15.6 |
| Green Ext Time (p_c), s | 0.1 | 2.0 | 0.3 | 0.8 | 0.0 | 4.4 | 0.0 | 1.9 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 29.5 |
| HCM 6th LOS | C |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 21.1 |
| Intersection LOS | C |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 386 | 21 | 173 | 285 | 17 | 224 |
| Future Vol, veh/h | 386 | 21 | 173 | 285 | 17 | 224 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 420 | 23 | 188 | 310 | 18 | 243 |
| Number of Lanes | 1 | 1 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB |
|---|---|---|---|
| Opposing Approach | WB | EB | |
| Opposing Lanes | 1 | 2 | 0 |
| Conflicting Approach Left | | NB | EB |
| Conflicting Lanes Left | 0 | 1 | 2 |
| Conflicting Approach Right | NB | | WB |
| Conflicting Lanes Right | 1 | 0 | 1 |
| HCM Control Delay | 20.7 | 25.5 | 13.2 |
| HCM LOS | C | D | B |

| Lane | NBLn1 | EBLn1 | EBLn2 | WBLn1 |
|---|---|---|---|---|
| Vol Left, % | 7% | 0% | 0% | 38% |
| Vol Thru, % | 0% | 100% | 0% | 62% |
| Vol Right, % | 93% | 0% | 100% | 0% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 241 | 386 | 21 | 458 |
| LT Vol | 17 | 0 | 0 | 173 |
| Through Vol | 0 | 386 | 0 | 285 |
| RT Vol | 224 | 0 | 21 | 0 |
| Lane Flow Rate | 262 | 420 | 23 | 498 |
| Geometry Grp | 2 | 7 | 7 | 5 |
| Degree of Util (X) | 0.424 | 0.696 | 0.033 | 0.776 |
| Departure Headway (Hd) | 5.823 | 5.976 | 5.265 | 5.613 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 616 | 604 | 677 | 642 |
| Service Time | 3.891 | 3.733 | 3.021 | 3.667 |
| HCM Lane V/C Ratio | 0.425 | 0.695 | 0.034 | 0.776 |
| HCM Control Delay | 13.2 | 21.4 | 8.2 | 25.5 |
| HCM Lane LOS | B | C | A | D |
| HCM 95th-tile Q | 2.1 | 5.5 | 0.1 | 7.4 |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 70.5 |
| Intersection LOS | F |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 90 | 31 | 296 | 75 | 59 | 729 |
| Future Vol, veh/h | 90 | 31 | 296 | 75 | 59 | 729 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 98 | 34 | 322 | 82 | 64 | 792 |
| Number of Lanes | 1 | 0 | 1 | 0 | 0 | 1 |

| Approach | WB | NB | SB |
|---|---|---|---|
| Opposing Approach | | SB | NB |
| Opposing Lanes | 0 | 1 | 1 |
| Conflicting Approach Left | NB | | WB |
| Conflicting Lanes Left | 1 | 0 | 1 |
| Conflicting Approach Right | SB | WB | |
| Conflicting Lanes Right | 1 | 1 | 0 |
| HCM Control Delay | 12 | 15.3 | 105.5 |
| HCM LOS | B | C | F |

| Lane | NBLn1 | WBLn1 | SBLn1 |
|---|---|---|---|
| Vol Left, % | 0% | 74% | 7% |
| Vol Thru, % | 80% | 0% | 93% |
| Vol Right, % | 20% | 26% | 0% |
| Sign Control | Stop | Stop | Stop |
| Traffic Vol by Lane | 371 | 121 | 788 |
| LT Vol | 0 | 90 | 59 |
| Through Vol | 296 | 0 | 729 |
| RT Vol | 75 | 31 | 0 |
| Lane Flow Rate | 403 | 132 | 857 |
| Geometry Grp | 1 | 1 | 1 |
| Degree of Util (X) | 0.572 | 0.236 | 1.158 |
| Departure Headway (Hd) | 5.357 | 6.856 | 4.866 |
| Convergence, Y/N | Yes | Yes | Yes |
| Cap | 677 | 527 | 737 |
| Service Time | 3.357 | 4.856 | 2.949 |
| HCM Lane V/C Ratio | 0.595 | 0.25 | 1.163 |
| HCM Control Delay | 15.3 | 12 | 105.5 |
| HCM Lane LOS | C | B | F |
| HCM 95th-tile Q | 3.6 | 0.9 | 26.4 |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 11.4 |
| Intersection LOS | B |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 3 | 20 | 253 | 8 | 27 | 10 | 232 | 39 | 4 | 2 | 28 | 1 |
| Future Vol, veh/h | 3 | 20 | 253 | 8 | 27 | 10 | 232 | 39 | 4 | 2 | 28 | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 3 | 22 | 275 | 9 | 29 | 11 | 252 | 42 | 4 | 2 | 30 | 1 |
| Number of Lanes | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 2 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 2 | 2 | 3 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 3 | 2 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 3 | 2 | 1 | 2 |
| HCM Control Delay | 10.6 | 9.5 | 12.7 | 9.4 |
| HCM LOS | B | A | B | A |

| Lane | NBLn1 | NBLn2 | NBLn3 | EBLn1 | EBLn2 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 13% | 0% | 18% | 100% | 0% |
| Vol Thru, % | 0% | 100% | 76% | 87% | 0% | 60% | 0% | 97% |
| Vol Right, % | 0% | 0% | 24% | 0% | 100% | 22% | 0% | 3% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 232 | 26 | 17 | 23 | 253 | 45 | 2 | 29 |
| LT Vol | 232 | 0 | 0 | 3 | 0 | 8 | 2 | 0 |
| Through Vol | 0 | 26 | 13 | 20 | 0 | 27 | 0 | 28 |
| RT Vol | 0 | 0 | 4 | 0 | 253 | 10 | 0 | 1 |
| Lane Flow Rate | 252 | 28 | 18 | 25 | 275 | 49 | 2 | 32 |
| Geometry Grp | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| Degree of Util (X) | 0.432 | 0.045 | 0.028 | 0.04 | 0.38 | 0.084 | 0.004 | 0.055 |
| Departure Headway (Hd) | 6.174 | 5.67 | 5.504 | 5.74 | 4.973 | 6.202 | 6.843 | 6.312 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 588 | 635 | 654 | 618 | 715 | 580 | 525 | 570 |
| Service Time | 3.878 | 3.373 | 3.207 | 3.534 | 2.767 | 3.919 | 4.557 | 4.025 |
| HCM Lane V/C Ratio | 0.429 | 0.044 | 0.028 | 0.04 | 0.385 | 0.084 | 0.004 | 0.056 |
| HCM Control Delay | 13.5 | 8.6 | 8.4 | 8.8 | 10.8 | 9.5 | 9.6 | 9.4 |
| HCM Lane LOS | B | A | A | A | B | A | A | A |
| HCM 95th-tile Q | 2.2 | 0.1 | 0.1 | 0.1 | 1.8 | 0.3 | 0 | 0.2 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 4.8 |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 8 | 42 | 23 | 20 | 0 | 32 |
| Future Vol, veh/h | 8 | 42 | 23 | 20 | 0 | 32 |
| Conflicting Peds, #/hr | 1 | 1 | 1 | 0 | 0 | 1 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | 150 | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 9 | 46 | 25 | 22 | 0 | 35 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 92 | 20 | 36 | 0 | - | 0 |
| Stage 1 | 19 | - | - | - | - | - |
| Stage 2 | 73 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | 4.12 | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | 2.218 | - | - | - |
| Pot Cap-1 Maneuver | 908 | 1058 | 1575 | - | - | - |
| Stage 1 | 1004 | - | - | - | - | - |
| Stage 2 | 950 | - | - | - | - | - |
| Platoon blocked, % | | | | | - | - |
| Mov Cap-1 Maneuver | 892 | 1056 | 1574 | | - | - |
| Mov Cap-2 Maneuver | 892 | - | - | | - | - |
| Stage 1 | 987 | - | - | | - | - |
| Stage 2 | 949 | - | - | | - | - |

| Approach | EB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 8.7 | 3.9 | 0 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1574 | - | 1026 | - | - |
| HCM Lane V/C Ratio | 0.016 | - | 0.053 | - | - |
| HCM Control Delay (s) | 7.3 | - | 8.7 | - | - |
| HCM Lane LOS | A | - | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | 0.2 | - | - |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 225.7 |
| Intersection LOS | F |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 11 | 93 | 1 | 1 | 1 | 307 | 32 | 3 | 951 | 0 |
| Future Vol, veh/h | 0 | 0 | 11 | 93 | 1 | 1 | 1 | 307 | 32 | 3 | 951 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 12 | 101 | 1 | 1 | 1 | 334 | 35 | 3 | 1034 | 0 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 3 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 3 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 3 | 2 | 1 | 1 |
| HCM Control Delay | 10.9 | 13.8 | 14.7 | 324.5 |
| HCM LOS | B | B | B | F |

| Lane | NBLn1 | NBLn2 | NBLn3 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 0% | 98% | 100% | 0% |
| Vol Thru, % | 0% | 100% | 0% | 0% | 1% | 0% | 100% |
| Vol Right, % | 0% | 0% | 100% | 100% | 1% | 0% | 0% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 1 | 307 | 32 | 11 | 95 | 3 | 951 |
| LT Vol | 1 | 0 | 0 | 0 | 93 | 3 | 0 |
| Through Vol | 0 | 307 | 0 | 0 | 1 | 0 | 951 |
| RT Vol | 0 | 0 | 32 | 11 | 1 | 0 | 0 |
| Lane Flow Rate | 1 | 334 | 35 | 12 | 103 | 3 | 1034 |
| Geometry Grp | 7 | 7 | 7 | 7 | 7 | 8 | 8 |
| Degree of Util (X) | 0.002 | 0.521 | 0.048 | 0.022 | 0.216 | 0.006 | 1.673 |
| Departure Headway (Hd) | 6.697 | 6.188 | 5.475 | 7.974 | 8.721 | 6.331 | 5.827 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 538 | 587 | 658 | 452 | 414 | 562 | 620 |
| Service Time | 4.397 | 3.888 | 3.175 | 5.674 | 6.421 | 4.108 | 3.603 |
| HCM Lane V/C Ratio | 0.002 | 0.569 | 0.053 | 0.027 | 0.249 | 0.005 | 1.668 |
| HCM Control Delay | 9.4 | 15.4 | 8.5 | 10.9 | 13.8 | 9.1 | 325.5 |
| HCM Lane LOS | A | C | A | B | B | A | F |
| HCM 95th-tile Q | 0 | 3 | 0.2 | 0.1 | 0.8 | 0 | 57.9 |

| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 163 | 34 | 435 | 111 | 111 | 918 |
| Future Volume (vph) | 163 | 34 | 435 | 111 | 111 | 918 |
| Confl. Peds. (#/hr) | | 4 | | 11 | | |
| Confl. Bikes (#/hr) | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | 0% | | | 0% |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | NA | | Prot | NA |
| Protected Phases | 8 | | 2 | | 1 | 6 |
| Permitted Phases | | 8 | | | | |
| Detector Phase | 8 | 8 | 2 | | 1 | 6 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | | 8.5 | 20.5 |
| Total Split (s) | 22.5 | 22.5 | 22.5 | | 10.0 | 32.5 |
| Total Split (%) | 40.9% | 40.9% | 40.9% | | 18.2% | 59.1% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Lead/Lag | | | Lag | | Lead | |
| Lead-Lag Optimize? | | | Yes | | Yes | |
| Recall Mode | None | None | Min | | None | Min |

| Intersection Summary |
|---|
| Cycle Length: 55 |
| Actuated Cycle Length: 40.9 |
| Natural Cycle: 55 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 13: Magnolia Avenue & 2nd Street

Existing + Cuml + Proj AM (No School)
13: Magnolia Avenue & 2nd Street
Fanita Ranch
06/06/2019

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 163 | 34 | 435 | 111 | 111 | 918 |
| Future Volume (veh/h) | 163 | 34 | 435 | 111 | 111 | 918 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | | 0.98 | 1.00 | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | No | | | No |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 177 | 37 | 473 | 121 | 121 | 998 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 262 | 234 | 874 | 222 | 152 | 1953 |
| Arrive On Green | 0.15 | 0.15 | 0.31 | 0.31 | 0.09 | 0.55 |
| Sat Flow, veh/h | 1781 | 1585 | 2888 | 710 | 1781 | 3647 |
| Grp Volume(v), veh/h | 177 | 37 | 299 | 295 | 121 | 998 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 1777 | 1728 | 1781 | 1777 |
| Q Serve(g_s), s | 2.8 | 0.6 | 4.1 | 4.2 | 2.0 | 5.2 |
| Cycle Q Clear(g_c), s | 2.8 | 0.6 | 4.1 | 4.2 | 2.0 | 5.2 |
| Prop In Lane | 1.00 | 1.00 | | 0.41 | 1.00 | |
| Lane Grp Cap(c), veh/h | 262 | 234 | 555 | 540 | 152 | 1953 |
| V/C Ratio(X) | 0.67 | 0.16 | 0.54 | 0.55 | 0.80 | 0.51 |
| Avail Cap(c_a), veh/h | 1080 | 961 | 1077 | 1047 | 330 | 3351 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 12.0 | 11.1 | 8.4 | 8.5 | 13.3 | 4.2 |
| Incr Delay (d2), s/veh | 3.0 | 0.3 | 0.8 | 0.9 | 9.0 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.0 | 0.2 | 1.0 | 1.0 | 0.9 | 0.3 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 15.0 | 11.4 | 9.3 | 9.3 | 22.4 | 4.4 |
| LnGrp LOS | B | B | A | A | C | A |
| Approach Vol, veh/h | 214 | | 594 | | | 1119 |
| Approach Delay, s/veh | 14.4 | | 9.3 | | | 6.3 |
| Approach LOS | B | | A | | | A |

| Timer - Assigned Phs | 1 | 2 | | | 6 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.0 | 13.8 | | | 20.8 | 8.9 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 5.5 | 18.0 | | | 28.0 | 18.0 |
| Max Q Clear Time (g_c+I1), s | 4.0 | 6.2 | | | 7.2 | 4.8 |
| Green Ext Time (p_c), s | 0.0 | 2.7 | | | 6.8 | 0.5 |

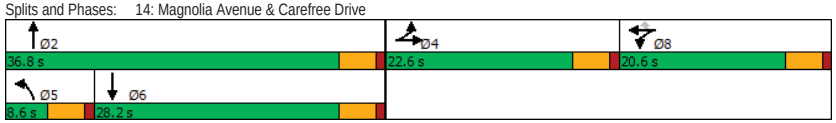
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 8.1 | |
| HCM 6th LOS | A | |

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\No School Alt\7 Existing + Cuml + Proj AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 10 | 0 | 58 | 189 | 0 | 31 | 17 | 516 | 0 | 0 | 1036 | 16 |
| Future Volume (vph) | 10 | 0 | 58 | 189 | 0 | 31 | 17 | 516 | 0 | 0 | 1036 | 16 |
| Confl. Peds. (#/hr) | | | 115 | | | | | | 13 | | | 18 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | 50% | | | | | | | | |
| Turn Type | Split | NA | | Split | NA | Perm | Prot | NA | | | NA | |
| Protected Phases | 4 | 4 | | 8 | 8 | | 5 | 2 | | | 6 | |
| Permitted Phases | | | | | | 8 | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | 8 | 5 | 2 | | | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | | 4.0 | |
| Minimum Split (s) | 22.5 | 22.5 | | 20.5 | 20.5 | 20.5 | 8.5 | 22.5 | | | 22.5 | |
| Total Split (s) | 22.6 | 22.6 | | 20.6 | 20.6 | 20.6 | 8.6 | 36.8 | | | 28.2 | |
| Total Split (%) | 28.3% | 28.3% | | 25.8% | 25.8% | 25.8% | 10.8% | 46.0% | | | 35.3% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | 0.0 | |
| Total Lost Time (s) | | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | | 4.5 | |
| Lead/Lag | | | | | | | Lead | | | | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | | | | Yes | |
| Recall Mode | None | None | | None | None | None | None | Min | | | Min | |

| Intersection Summary |
|---|
| Cycle Length: 80 |
| Actuated Cycle Length: 53.2 |
| Natural Cycle: 80 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 14: Magnolia Avenue & Carefree Drive






Existing + Cuml + Proj AM (No School)
14: Magnolia Avenue & Carefree Drive
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 10 | 0 | 58 | 189 | 0 | 31 | 17 | 516 | 0 | 0 | 1036 | 16 |
| Future Volume (veh/h) | 10 | 0 | 58 | 189 | 0 | 31 | 17 | 516 | 0 | 0 | 1036 | 16 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.84 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.96 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 0 | 0 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 11 | 0 | 63 | 205 | 0 | 34 | 18 | 561 | 0 | 0 | 1126 | 17 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 0 | 0 | 2 | 2 |
| Cap, veh/h | 43 | 0 | 247 | 345 | 0 | 154 | 31 | 1646 | 0 | 0 | 1323 | 20 |
| Arrive On Green | 0.21 | 0.00 | 0.21 | 0.10 | 0.00 | 0.10 | 0.02 | 0.46 | 0.00 | 0.00 | 0.37 | 0.37 |
| Sat Flow, veh/h | 205 | 0 | 1173 | 3563 | 0 | 1585 | 1781 | 3647 | 0 | 0 | 3674 | 54 |
| Grp Volume(v), veh/h | 74 | 0 | 0 | 205 | 0 | 34 | 18 | 561 | 0 | 0 | 559 | 584 |
| Grp Sat Flow(s),veh/h/ln | 1378 | 0 | 0 | 1781 | 0 | 1585 | 1781 | 1777 | 0 | 0 | 1777 | 1858 |
| Q Serve(g_s), s | 2.6 | 0.0 | 0.0 | 3.3 | 0.0 | 1.2 | 0.6 | 5.9 | 0.0 | 0.0 | 17.0 | 17.1 |
| Cycle Q Clear(g_c), s | 2.6 | 0.0 | 0.0 | 3.3 | 0.0 | 1.2 | 0.6 | 5.9 | 0.0 | 0.0 | 17.0 | 17.1 |
| Prop In Lane | 0.15 | | 0.85 | 1.00 | | 1.00 | 1.00 | | 0.00 | 0.00 | | 0.03 |
| Lane Grp Cap(c), veh/h | 291 | 0 | 0 | 345 | 0 | 154 | 31 | 1646 | 0 | 0 | 657 | 687 |
| V/C Ratio(X) | 0.25 | 0.00 | 0.00 | 0.59 | 0.00 | 0.22 | 0.58 | 0.34 | 0.00 | 0.00 | 0.85 | 0.85 |
| Avail Cap(c_a), veh/h | 423 | 0 | 0 | 973 | 0 | 433 | 124 | 1947 | 0 | 0 | 714 | 747 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 19.4 | 0.0 | 0.0 | 25.5 | 0.0 | 24.6 | 28.8 | 10.1 | 0.0 | 0.0 | 17.1 | 17.1 |
| Incr Delay (d2), s/veh | 0.5 | 0.0 | 0.0 | 1.6 | 0.0 | 0.7 | 16.2 | 0.1 | 0.0 | 0.0 | 9.1 | 8.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.8 | 0.0 | 0.0 | 1.4 | 0.0 | 0.4 | 0.4 | 1.8 | 0.0 | 0.0 | 7.3 | 7.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 19.9 | 0.0 | 0.0 | 27.1 | 0.0 | 25.3 | 45.0 | 10.2 | 0.0 | 0.0 | 26.2 | 25.8 |
| LnGrp LOS | B | A | A | C | A | C | D | B | A | A | C | C |
| Approach Vol, veh/h | | 74 | | | 239 | | | 579 | | | 1143 | |
| Approach Delay, s/veh | | 19.9 | | | 26.9 | | | 11.3 | | | 26.0 | |
| Approach LOS | | B | | | C | | | B | | | C | |

| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 31.8 | | 16.9 | 5.5 | 26.3 | | 10.2 | | | | |
| Change Period (Y+Rc), s | | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | | 32.3 | | 18.1 | 4.1 | 23.7 | | 16.1 | | | | |
| Max Q Clear Time (g_c+I1), s | | 7.9 | | 4.6 | 2.6 | 19.1 | | 5.3 | | | | |
| Green Ext Time (p_c), s | | 3.6 | | 0.3 | 0.0 | 2.7 | | 0.6 | | | | |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 21.7 |
| HCM 6th LOS | C |

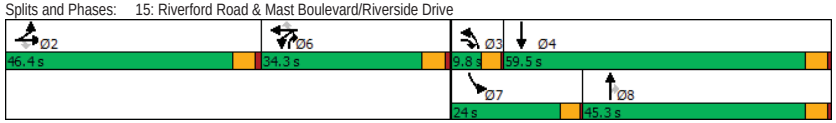
| Notes |
|---|
| User approved volume balancing among the lanes for turning movement. |

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\No School Alt\7 Existing + Cuml + Proj AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 31 | 32 | 56 | 456 | 11 | 252 | 18 | 208 | 330 | 344 | 366 | 13 |
| Future Volume (vph) | 31 | 32 | 56 | 456 | 11 | 252 | 18 | 208 | 330 | 344 | 366 | 13 |
| Confl. Peds. (#/hr) | | | 4 | | | 3 | | | 7 | | | |
| Confl. Bikes (#/hr) | | | 1 | | | 2 | | | 2 | | | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Split | NA | pm+ov | Split | NA | Perm | Prot | NA | pm+ov | Prot | NA | |
| Protected Phases | 2 | 2 | 3 | 6 | 6 | | 3 | 8 | 6 | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | 8 | | | |
| Detector Phase | 2 | 2 | 3 | 6 | 6 | 6 | 3 | 8 | 6 | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 6.0 | 6.0 | 5.0 | 4.0 | 4.0 | 4.0 | 5.0 | 6.0 | 4.0 | 4.0 | 6.0 | |
| Minimum Split (s) | 45.3 | 45.3 | 9.1 | 34.3 | 34.3 | 34.3 | 9.1 | 45.3 | 34.3 | 8.6 | 49.9 | |
| Total Split (s) | 46.4 | 46.4 | 9.8 | 34.3 | 34.3 | 34.3 | 9.8 | 45.3 | 34.3 | 24.0 | 59.5 | |
| Total Split (%) | 30.9% | 30.9% | 6.5% | 22.9% | 22.9% | 22.9% | 6.5% | 30.2% | 22.9% | 16.0% | 39.7% | |
| Yellow Time (s) | 4.3 | 4.3 | 3.6 | 4.3 | 4.3 | 4.3 | 3.6 | 3.9 | 4.3 | 3.6 | 3.9 | |
| All-Red Time (s) | 1.0 | 1.0 | 0.5 | 1.0 | 1.0 | 1.0 | 0.5 | 1.0 | 1.0 | 0.5 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 5.3 | 5.3 | 4.1 | 5.3 | 5.3 | 5.3 | 4.1 | 4.9 | 5.3 | 4.1 | 4.9 | |
| Lead/Lag | | | Lead | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | Yes | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | None | None | None | None | None | Min | None | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 150 |
| Actuated Cycle Length: 92.1 |
| Natural Cycle: 150 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 15: Riverford Road & Mast Boulevard/Riverside Drive






Existing + Cuml + Proj AM (No School) Fanita Ranch
15: Riverford Road & Mast Boulevard/Riverside Drive 06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 31 | 32 | 56 | 456 | 11 | 252 | 18 | 208 | 330 | 344 | 366 | 13 |
| Future Volume (veh/h) | 31 | 32 | 56 | 456 | 11 | 252 | 18 | 208 | 330 | 344 | 366 | 13 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.95 | 1.00 | | 0.97 | 1.00 | | 0.98 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 34 | 35 | 61 | 496 | 12 | 274 | 20 | 226 | 359 | 374 | 398 | 14 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 152 | 303 | 288 | 772 | 794 | 344 | 39 | 442 | 721 | 407 | 795 | 28 |
| Arrive On Green | 0.09 | 0.09 | 0.09 | 0.22 | 0.22 | 0.22 | 0.02 | 0.24 | 0.24 | 0.23 | 0.44 | 0.44 |
| Sat Flow, veh/h | 1781 | 3554 | 2658 | 3456 | 3554 | 1538 | 1781 | 1870 | 1549 | 1781 | 1795 | 63 |
| Grp Volume(v), veh/h | 34 | 35 | 61 | 496 | 12 | 274 | 20 | 226 | 359 | 374 | 0 | 412 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1329 | 1728 | 1777 | 1538 | 1781 | 1870 | 1549 | 1781 | 0 | 1858 |
| Q Serve(g_s), s | 1.5 | 0.8 | 1.8 | 11.3 | 0.2 | 14.6 | 1.0 | 9.1 | 14.1 | 17.7 | 0.0 | 13.7 |
| Cycle Q Clear(g_c), s | 1.5 | 0.8 | 1.8 | 11.3 | 0.2 | 14.6 | 1.0 | 9.1 | 14.1 | 17.7 | 0.0 | 13.7 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.03 |
| Lane Grp Cap(c), veh/h | 152 | 303 | 288 | 772 | 794 | 344 | 39 | 442 | 721 | 407 | 0 | 823 |
| V/C Ratio(X) | 0.22 | 0.12 | 0.21 | 0.64 | 0.02 | 0.80 | 0.51 | 0.51 | 0.50 | 0.92 | 0.00 | 0.50 |
| Avail Cap(c_a), veh/h | 846 | 1687 | 1324 | 1158 | 1191 | 515 | 117 | 873 | 1077 | 410 | 0 | 1172 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 36.9 | 36.6 | 35.3 | 30.5 | 26.2 | 31.8 | 41.9 | 28.7 | 16.4 | 32.6 | 0.0 | 17.3 |
| Incr Delay (d2), s/veh | 0.7 | 0.2 | 0.4 | 0.9 | 0.0 | 5.2 | 9.8 | 0.9 | 0.5 | 25.5 | 0.0 | 0.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.7 | 0.3 | 0.6 | 4.5 | 0.1 | 5.8 | 0.5 | 4.1 | 7.3 | 10.3 | 0.0 | 5.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 37.7 | 36.7 | 35.7 | 31.4 | 26.2 | 36.9 | 51.7 | 29.6 | 17.0 | 58.2 | 0.0 | 17.7 |
| LnGrp LOS | D | D | D | C | C | D | D | C | B | E | A | B |
| Approach Vol, veh/h | | 130 | | | 782 | | | 605 | | | 786 | |
| Approach Delay, s/veh | | 36.5 | | | 33.2 | | | 22.8 | | | 37.0 | |
| Approach LOS | | D | | | C | | | C | | | D | |

| Timer - Assigned Phs | 2 | 3 | 4 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 12.7 | 6.0 | 43.2 | 24.6 | 23.9 | 25.4 |
| Change Period (Y+Rc), s | 5.3 | 4.1 | 4.9 | 5.3 | 4.1 | 4.9 |
| Max Green Setting (Gmax), s | 41.1 | 5.7 | 54.6 | 29.0 | 19.9 | 40.4 |
| Max Q Clear Time (g_c+I1), s | 3.8 | 3.0 | 15.7 | 16.6 | 19.7 | 16.1 |
| Green Ext Time (p_c), s | 0.5 | 0.0 | 2.9 | 2.4 | 0.0 | 2.7 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 32.0 | |
| HCM 6th LOS | C | |

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\No School Alt\7 Existing + Cuml + Proj AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 6 | 0 | 173 | 3 | 0 | 0 | 0 | 0 | 489 | 0 | 2 |
| Future Volume (vph) | 0 | 6 | 0 | 173 | 3 | 0 | 0 | 0 | 0 | 489 | 0 | 2 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | 1 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | 50% | | |
| Turn Type | | NA | | Split | NA | | | | | Split | NA | |
| Protected Phases | | 8 | | 4 | 4 | | | | | 2 | 2 | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | | 8 | | 4 | 4 | | | | | 2 | 2 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | 7.0 | | 8.0 | 8.0 | | | | | 5.0 | 5.0 | |
| Minimum Split (s) | | 25.1 | | 28.4 | 28.4 | | | | | 32.3 | 32.3 | |
| Total Split (s) | | 25.1 | | 30.0 | 30.0 | | | | | 34.9 | 34.9 | |
| Total Split (%) | | 27.9% | | 33.3% | 33.3% | | | | | 38.8% | 38.8% | |
| Yellow Time (s) | | 4.1 | | 4.4 | 4.4 | | | | | 4.1 | 4.1 | |
| All-Red Time (s) | | 1.0 | | 1.0 | 1.0 | | | | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | | 0.0 | 0.0 | | | | | 0.0 | 0.0 | |
| Total Lost Time (s) | | 5.1 | | 5.4 | 5.4 | | | | | 5.1 | 5.1 | |
| Lead/Lag | | | | | | | | | | | | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Recall Mode | | None | | None | None | | | | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 90 |
| Actuated Cycle Length: 38.9 |
| Natural Cycle: 90 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 16: SR 52 EB Ramps & Mast Blvd

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 6 | 0 | 173 | 3 | 0 | 0 | 0 | 0 | 489 | 0 | 2 |
| Future Volume (veh/h) | 0 | 6 | 0 | 173 | 3 | 0 | 0 | 0 | 0 | 489 | 0 | 2 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | | | | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | | | | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | | | | No | |
| Adj Sat Flow, veh/h/ln | 0 | 1870 | 1870 | 1870 | 1870 | 0 | | | | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 7 | 0 | 188 | 3 | 0 | | | | 534 | 0 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 0 | 2 | 2 | 2 | 2 | 0 | | | | 2 | 2 | 2 |
| Cap, veh/h | 0 | 25 | 0 | 376 | 395 | 0 | | | | 931 | 489 | 0 |
| Arrive On Green | 0.00 | 0.01 | 0.00 | 0.21 | 0.21 | 0.00 | | | | 0.26 | 0.00 | 0.00 |
| Sat Flow, veh/h | 0 | 1870 | 0 | 1781 | 1870 | 0 | | | | 3563 | 1870 | 0 |
| Grp Volume(v), veh/h | 0 | 7 | 0 | 188 | 3 | 0 | | | | 534 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 0 | 1870 | 0 | 1781 | 1870 | 0 | | | | 1781 | 1870 | 0 |
| Q Serve(g_s), s | 0.0 | 0.1 | 0.0 | 2.8 | 0.0 | 0.0 | | | | 3.9 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 0.0 | 0.1 | 0.0 | 2.8 | 0.0 | 0.0 | | | | 3.9 | 0.0 | 0.0 |
| Prop In Lane | 0.00 | | 0.00 | 1.00 | | 0.00 | | | | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 0 | 25 | 0 | 376 | 395 | 0 | | | | 931 | 489 | 0 |
| V/C Ratio(X) | 0.00 | 0.28 | 0.00 | 0.50 | 0.01 | 0.00 | | | | 0.57 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 0 | 1234 | 0 | 1445 | 1518 | 0 | | | | 3502 | 1838 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | | | | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 0.0 | 14.8 | 0.0 | 10.5 | 9.5 | 0.0 | | | | 9.7 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 0.0 | 2.3 | 0.0 | 1.0 | 0.0 | 0.0 | | | | 0.6 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.1 | 0.0 | 0.9 | 0.0 | 0.0 | | | | 1.1 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 17.1 | 0.0 | 11.6 | 9.5 | 0.0 | | | | 10.3 | 0.0 | 0.0 |
| LnGrp LOS | A | B | A | B | A | A | | | | B | A | A |
| Approach Vol, veh/h | | 7 | | | 191 | | | | | | 534 | |
| Approach Delay, s/veh | | 17.1 | | | 11.5 | | | | | | 10.3 | |
| Approach LOS | | B | | | B | | | | | | B | |

| Timer - Assigned Phs | | 2 | | 4 | | | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 13.0 | | 11.8 | | | | 5.5 | | | | |
| Change Period (Y+Rc), s | | 5.1 | | 5.4 | | | | 5.1 | | | | |
| Max Green Setting (Gmax), s | | 29.8 | | 24.6 | | | | 20.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 5.9 | | 4.8 | | | | 2.1 | | | | |
| Green Ext Time (p_c), s | | 2.0 | | 0.5 | | | | 0.0 | | | | |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 10.7 |
| HCM 6th LOS | B |

| Notes |
|---|
| User approved volume balancing among the lanes for turning movement. |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 7 | 488 | 0 | 0 | 170 | 2559 | 6 | 0 | 51 | 0 | 0 | 0 |
| Future Volume (vph) | 7 | 488 | 0 | 0 | 170 | 2559 | 6 | 0 | 51 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | 47% | | | 44% | | | |
| Turn Type | Prot | NA | | | NA | Perm | Perm | NA | Perm | | | |
| Protected Phases | 5 | 2 | | | 6 | | | 8 | | | | |
| Permitted Phases | | | | | | 6 | 8 | | 8 | | | |
| Detector Phase | 5 | 2 | | | 6 | 6 | 8 | 8 | 8 | | | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 10.0 | | | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | | | |
| Minimum Split (s) | 11.7 | 38.6 | | | 28.4 | 28.4 | 43.1 | 43.1 | 43.1 | | | |
| Total Split (s) | 11.7 | 86.9 | | | 75.2 | 75.2 | 43.1 | 43.1 | 43.1 | | | |
| Total Split (%) | 9.0% | 66.8% | | | 57.8% | 57.8% | 33.2% | 33.2% | 33.2% | | | |
| Yellow Time (s) | 3.7 | 4.1 | | | 4.4 | 4.4 | 4.1 | 4.1 | 4.1 | | | |
| All-Red Time (s) | 1.0 | 1.0 | | | 1.0 | 1.0 | 2.0 | 2.0 | 2.0 | | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | 0.0 | | | |
| Total Lost Time (s) | 4.7 | 5.1 | | | 5.4 | 5.4 | | 6.1 | 6.1 | | | |
| Lead/Lag | Lead | | | | Lag | Lag | | | | | | |
| Lead-Lag Optimize? | Yes | | | | Yes | Yes | | | | | | |
| Recall Mode | None | Min | | | Min | Min | None | None | None | | | |

| Intersection Summary |
|---|
| Cycle Length: 130 |
| Actuated Cycle Length: 106.1 |
| Natural Cycle: 145 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 17: SR-52 WB Ramps & Mast Blvd

Existing + Cuml + Proj AM (No School)
17: SR-52 WB Ramps & Mast Blvd
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 7 | 488 | 0 | 0 | 170 | 2559 | 6 | 0 | 51 | 0 | 0 | 0 |
| Future Volume (veh/h) | 7 | 488 | 0 | 0 | 170 | 2559 | 6 | 0 | 51 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.98 | 1.00 | | 1.00 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.99 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 0 | 0 | 1870 | 1945 | 1870 | 1870 | 1870 | | | |
| Adj Flow Rate, veh/h | 8 | 530 | 0 | 0 | 0 | 2905 | 0 | 0 | 62 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | |
| Percent Heavy Veh, % | 2 | 2 | 0 | 0 | 2 | 2 | 2 | 2 | 2 | | | |
| Cap, veh/h | 25 | 2825 | 0 | 0 | 1368 | 2363 | 0 | 156 | 268 | | | |
| Arrive On Green | 0.01 | 0.79 | 0.00 | 0.00 | 0.00 | 0.73 | 0.00 | 0.00 | 0.08 | | | |
| Sat Flow, veh/h | 1781 | 3647 | 0 | 0 | 1870 | 3229 | 0 | 1848 | 3170 | | | |
| Grp Volume(v), veh/h | 8 | 530 | 0 | 0 | 0 | 2905 | 0 | 0 | 62 | | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 0 | 0 | 1870 | 1615 | 0 | 1848 | 1585 | | | |
| Q Serve(g_s), s | 0.4 | 3.4 | 0.0 | 0.0 | 0.0 | 69.8 | 0.0 | 0.0 | 1.7 | | | |
| Cycle Q Clear(g_c), s | 0.4 | 3.4 | 0.0 | 0.0 | 0.0 | 69.8 | 0.0 | 0.0 | 1.7 | | | |
| Prop In Lane | 1.00 | | 0.00 | 0.00 | | 1.00 | 0.00 | | 1.00 | | | |
| Lane Grp Cap(c), veh/h | 25 | 2825 | 0 | 0 | 1368 | 2363 | 0 | 156 | 268 | | | |
| V/C Ratio(X) | 0.32 | 0.19 | 0.00 | 0.00 | 0.00 | 1.23 | 0.00 | 0.00 | 0.23 | | | |
| Avail Cap(c_a), veh/h | 131 | 3047 | 0 | 0 | 1368 | 2363 | 0 | 717 | 1229 | | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | | | |
| Uniform Delay (d), s/veh | 46.6 | 2.4 | 0.0 | 0.0 | 0.0 | 12.8 | 0.0 | 0.0 | 40.8 | | | |
| Incr Delay (d2), s/veh | 2.7 | 0.0 | 0.0 | 0.0 | 0.0 | 107.2 | 0.0 | 0.0 | 0.2 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ln | 0.2 | 0.7 | 0.0 | 0.0 | 0.0 | 52.9 | 0.0 | 0.0 | 0.7 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 49.3 | 2.4 | 0.0 | 0.0 | 0.0 | 120.0 | 0.0 | 0.0 | 40.9 | | | |
| LnGrp LOS | D | A | A | A | A | F | A | A | D | | | |
| Approach Vol, veh/h | | 538 | | | 2905 | | | 62 | | | | |
| Approach Delay, s/veh | | 3.1 | | | 120.0 | | | 40.9 | | | | |
| Approach LOS | | A | | | F | | | D | | | | |

| Timer - Assigned Phs | 2 | 5 | 6 | 8 |
|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 81.2 | 6.0 | 75.2 | 14.2 |
| Change Period (Y+Rc), s | * 5.4 | * 4.7 | 5.4 | 6.1 |
| Max Green Setting (Gmax), s | * 82 | * 7 | 69.8 | 37.0 |
| Max Q Clear Time (g_c+I1), s | 5.4 | 2.4 | 71.8 | 3.7 |
| Green Ext Time (p_c), s | 3.9 | 0.0 | 0.0 | 0.1 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 100.7 | |
| HCM 6th LOS | F | |

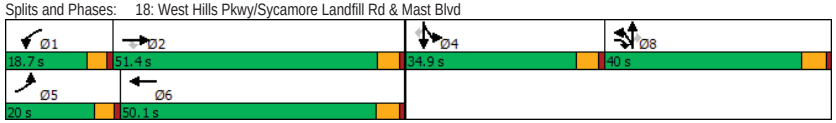
| Notes |
|---|
| User approved volume balancing among the lanes for turning movement. |
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. |

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\No School Alt\7 Existing + Cuml + Proj AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 119 | 328 | 105 | 180 | 1599 | 17 | 1070 | 13 | 233 | 6 | 4 | 97 |
| Future Volume (vph) | 119 | 328 | 105 | 180 | 1599 | 17 | 1070 | 13 | 233 | 6 | 4 | 97 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | 49% | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | | Split | NA | Perm | Split | NA | Perm |
| Protected Phases | 5 | 2 | 8 | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Permitted Phases | | | 2 | | | | | | 8 | | | 4 |
| Detector Phase | 5 | 2 | 8 | 1 | 6 | | 8 | 8 | 8 | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 10.0 | 10.0 | 4.0 | 10.0 | | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| Minimum Split (s) | 20.0 | 34.9 | 33.4 | 8.4 | 35.2 | | 33.4 | 33.4 | 33.4 | 34.9 | 34.9 | 34.9 |
| Total Split (s) | 20.0 | 51.4 | 40.0 | 18.7 | 50.1 | | 40.0 | 40.0 | 40.0 | 34.9 | 34.9 | 34.9 |
| Total Split (%) | 13.8% | 35.4% | 27.6% | 12.9% | 34.6% | | 27.6% | 27.6% | 27.6% | 24.1% | 24.1% | 24.1% |
| Yellow Time (s) | 3.4 | 3.9 | 4.4 | 3.4 | 4.2 | | 4.4 | 4.4 | 4.4 | 3.9 | 3.9 | 3.9 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.4 | 4.9 | 5.4 | 4.4 | 5.2 | | 5.4 | 5.4 | 5.4 | | 4.9 | 4.9 |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | Min | None | None | Min | | None | None | None | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 145 |
| Actuated Cycle Length: 122.5 |
| Natural Cycle: 145 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 18: West Hills Pkwy/Sycamore Landfill Rd & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 119 | 328 | 105 | 180 | 1599 | 17 | 1070 | 13 | 233 | 6 | 4 | 97 |
| Future Volume (veh/h) | 119 | 328 | 105 | 180 | 1599 | 17 | 1070 | 13 | 233 | 6 | 4 | 97 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.98 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 129 | 357 | 114 | 196 | 1738 | 18 | 1173 | 0 | 253 | 7 | 4 | 105 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 157 | 1383 | 1074 | 254 | 1349 | 14 | 1028 | 0 | 457 | 95 | 54 | 131 |
| Arrive On Green | 0.09 | 0.39 | 0.39 | 0.07 | 0.37 | 0.37 | 0.29 | 0.00 | 0.29 | 0.08 | 0.08 | 0.08 |
| Sat Flow, veh/h | 1781 | 3554 | 1585 | 3456 | 3602 | 37 | 3563 | 0 | 1585 | 1154 | 659 | 1585 |
| Grp Volume(v), veh/h | 129 | 357 | 114 | 196 | 856 | 900 | 1173 | 0 | 253 | 11 | 0 | 105 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1585 | 1728 | 1777 | 1863 | 1781 | 0 | 1585 | 1813 | 0 | 1585 |
| Q Serve(g_s), s | 8.5 | 8.2 | 3.0 | 6.7 | 44.9 | 44.9 | 34.6 | 0.0 | 16.2 | 0.7 | 0.0 | 7.8 |
| Cycle Q Clear(g_c), s | 8.5 | 8.2 | 3.0 | 6.7 | 44.9 | 44.9 | 34.6 | 0.0 | 16.2 | 0.7 | 0.0 | 7.8 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.02 | 1.00 | | 1.00 | 0.64 | | 1.00 |
| Lane Grp Cap(c), veh/h | 157 | 1383 | 1074 | 254 | 665 | 698 | 1028 | 0 | 457 | 150 | 0 | 131 |
| V/C Ratio(X) | 0.82 | 0.26 | 0.11 | 0.77 | 1.29 | 1.29 | 1.14 | 0.00 | 0.55 | 0.07 | 0.00 | 0.80 |
| Avail Cap(c_a), veh/h | 232 | 1383 | 1074 | 412 | 665 | 698 | 1028 | 0 | 457 | 454 | 0 | 397 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 53.7 | 24.9 | 6.7 | 54.5 | 37.5 | 37.5 | 42.6 | 0.0 | 36.1 | 50.8 | 0.0 | 54.0 |
| Incr Delay (d2), s/veh | 8.6 | 0.1 | 0.1 | 1.9 | 140.1 | 141.1 | 75.3 | 0.0 | 1.8 | 0.2 | 0.0 | 10.8 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 4.1 | 3.4 | 2.1 | 2.9 | 44.5 | 46.9 | 25.3 | 0.0 | 6.3 | 0.3 | 0.0 | 3.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 62.3 | 25.0 | 6.8 | 56.4 | 177.6 | 178.6 | 118.0 | 0.0 | 37.9 | 51.0 | 0.0 | 64.8 |
| LnGrp LOS | E | C | A | E | F | F | F | A | D | D | A | E |
| Approach Vol, veh/h | | 600 | | | 1952 | | | 1426 | | | 116 | |
| Approach Delay, s/veh | | 29.6 | | | 165.9 | | | 103.8 | | | 63.5 | |
| Approach LOS | | C | | | F | | | F | | | E | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 13.2 | 51.9 | | 14.8 | 15.0 | 50.1 | | 40.0 | | | | |
| Change Period (Y+Rc), s | 4.4 | * 5.2 | | 4.9 | 4.4 | 5.2 | | 5.4 | | | | |
| Max Green Setting (Gmax), s | 14.3 | * 47 | | 30.0 | 15.6 | 44.9 | | 34.6 | | | | |
| Max Q Clear Time (g_c+I1), s | 8.7 | 10.2 | | 9.8 | 10.5 | 46.9 | | 36.6 | | | | |
| Green Ext Time (p_c), s | 0.2 | 3.6 | | 0.3 | 0.1 | 0.0 | | 0.0 | | | | |

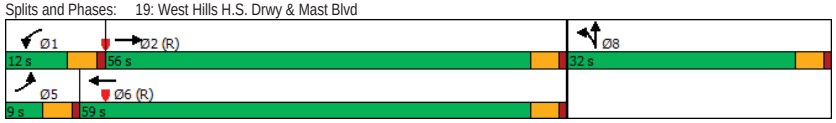
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 121.4 | |
| HCM 6th LOS | F | |

| Notes |
|---|
| User approved volume balancing among the lanes for turning movement. |
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 2 | 502 | 36 | 70 | 1720 | 0 | 28 | 0 | 33 | 0 | 0 | 0 |
| Future Volume (vph) | 2 | 502 | 36 | 70 | 1720 | 0 | 28 | 0 | 33 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | 9 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Split | NA | | | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | | | | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | | | | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | | | | |
| Minimum Split (s) | 8.5 | 22.5 | | 8.5 | 20.5 | | 31.5 | 31.5 | | | | |
| Total Split (s) | 9.0 | 56.0 | | 12.0 | 59.0 | | 32.0 | 32.0 | | | | |
| Total Split (%) | 9.0% | 56.0% | | 12.0% | 59.0% | | 32.0% | 32.0% | | | | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | | | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | | |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | | 4.5 | | | | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | | | | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 90 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 19: West Hills H.S. Drwy & Mast Blvd






Existing + Cuml + Proj AM (No School)
19: West Hills H.S. Drwy & Mast Blvd
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 2 | 502 | 36 | 70 | 1720 | 0 | 28 | 0 | 33 | 0 | 0 | 0 |
| Future Volume (veh/h) | 2 | 502 | 36 | 70 | 1720 | 0 | 28 | 0 | 33 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 0 | 1900 | 1870 | 1900 | | | |
| Adj Flow Rate, veh/h | 2 | 546 | 39 | 76 | 1870 | 0 | 30 | 0 | 36 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 0 | 0 | 2 | 0 | | | |
| Cap, veh/h | 4 | 2553 | 182 | 97 | 2882 | 0 | 39 | 0 | 47 | | | |
| Arrive On Green | 0.00 | 0.76 | 0.76 | 0.11 | 1.00 | 0.00 | 0.05 | 0.00 | 0.05 | | | |
| Sat Flow, veh/h | 1781 | 3364 | 240 | 1781 | 3647 | 0 | 758 | 0 | 910 | | | |
| Grp Volume(v), veh/h | 2 | 288 | 297 | 76 | 1870 | 0 | 66 | 0 | 0 | | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1827 | 1781 | 1777 | 0 | 1669 | 0 | 0 | | | |
| Q Serve(g_s), s | 0.1 | 4.7 | 4.7 | 4.2 | 0.0 | 0.0 | 3.9 | 0.0 | 0.0 | | | |
| Cycle Q Clear(g_c), s | 0.1 | 4.7 | 4.7 | 4.2 | 0.0 | 0.0 | 3.9 | 0.0 | 0.0 | | | |
| Prop In Lane | 1.00 | | 0.13 | 1.00 | | 0.00 | 0.45 | | 0.55 | | | |
| Lane Grp Cap(c), veh/h | 4 | 1348 | 1387 | 97 | 2882 | 0 | 87 | 0 | 0 | | | |
| V/C Ratio(X) | 0.52 | 0.21 | 0.21 | 0.79 | 0.65 | 0.00 | 0.76 | 0.00 | 0.00 | | | |
| Avail Cap(c_a), veh/h | 80 | 1348 | 1387 | 134 | 2882 | 0 | 459 | 0 | 0 | | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 0.95 | 0.95 | 0.95 | 0.24 | 0.24 | 0.00 | 1.00 | 0.00 | 0.00 | | | |
| Uniform Delay (d), s/veh | 49.8 | 3.5 | 3.5 | 44.0 | 0.0 | 0.0 | 46.8 | 0.0 | 0.0 | | | |
| Incr Delay (d2), s/veh | 76.6 | 0.3 | 0.3 | 5.1 | 0.3 | 0.0 | 12.8 | 0.0 | 0.0 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ln | 0.1 | 1.3 | 1.3 | 1.8 | 0.1 | 0.0 | 1.9 | 0.0 | 0.0 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 126.4 | 3.8 | 3.8 | 49.1 | 0.3 | 0.0 | 59.6 | 0.0 | 0.0 | | | |
| LnGrp LOS | F | A | A | D | A | A | E | A | A | | | |
| Approach Vol, veh/h | | 587 | | | 1946 | | | 66 | | | | |
| Approach Delay, s/veh | | 4.2 | | | 2.2 | | | 59.6 | | | | |
| Approach LOS | | A | | | A | | | E | | | | |

| Timer - Assigned Phs | 1 | 2 | | | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 9.9 | 80.4 | | | 4.7 | 85.6 | | 9.7 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 7.5 | 51.5 | | | 4.5 | 54.5 | | 27.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 6.2 | 6.7 | | | 2.1 | 2.0 | | 5.9 | | | | |
| Green Ext Time (p_c), s | 0.0 | 3.6 | | | 0.0 | 24.6 | | 0.3 | | | | |

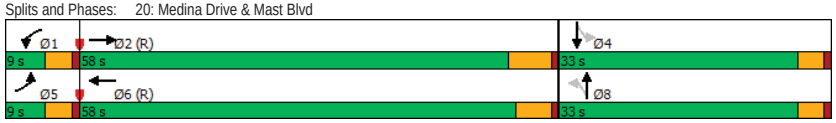
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 4.1 | |
| HCM 6th LOS | A | |

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\No School Alt\7 Existing + Cuml + Proj AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 10 | 781 | 36 | 11 | 1750 | 10 | 31 | 4 | 10 | 21 | 12 | 27 |
| Future Volume (vph) | 10 | 781 | 36 | 11 | 1750 | 10 | 31 | 4 | 10 | 21 | 12 | 27 |
| Confl. Peds. (#/hr) | | | 2 | | | | | | 1 | | | 10 |
| Confl. Bikes (#/hr) | | | 1 | | | 1 | | | 2 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Perm | NA | | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | | 4 | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 22.0 | | 8.2 | 22.0 | | 32.2 | 32.2 | | 32.2 | 32.2 | |
| Total Split (s) | 9.0 | 58.0 | | 9.0 | 58.0 | | 33.0 | 33.0 | | 33.0 | 33.0 | |
| Total Split (%) | 9.0% | 58.0% | | 9.0% | 58.0% | | 33.0% | 33.0% | | 33.0% | 33.0% | |
| Yellow Time (s) | 3.2 | 5.1 | | 3.2 | 4.3 | | 3.2 | 3.2 | | 3.2 | 3.2 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | 0.0 | |
| Total Lost Time (s) | 4.2 | 6.1 | | 4.2 | 5.3 | | | 4.2 | | | 4.2 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 90 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 20: Medina Drive & Mast Blvd






Existing + Cuml + Proj AM (No School)
20: Medina Drive & Mast Blvd
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 10 | 781 | 36 | 11 | 1750 | 10 | 31 | 4 | 10 | 21 | 12 | 27 |
| Future Volume (veh/h) | 10 | 781 | 36 | 11 | 1750 | 10 | 31 | 4 | 10 | 21 | 12 | 27 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 0.98 | | 0.98 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 11 | 849 | 39 | 12 | 1902 | 11 | 34 | 4 | 11 | 23 | 13 | 29 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 19 | 2578 | 118 | 20 | 2705 | 16 | 155 | 23 | 34 | 85 | 50 | 69 |
| Arrive On Green | 0.00 | 0.25 | 0.25 | 0.02 | 1.00 | 1.00 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 |
| Sat Flow, veh/h | 1781 | 3456 | 159 | 1781 | 3622 | 21 | 962 | 238 | 347 | 371 | 510 | 709 |
| Grp Volume(v), veh/h | 11 | 437 | 451 | 12 | 932 | 981 | 49 | 0 | 0 | 65 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1838 | 1781 | 1777 | 1866 | 1548 | 0 | 0 | 1590 | 0 | 0 |
| Q Serve(g_s), s | 0.6 | 20.2 | 20.2 | 0.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.5 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 0.6 | 20.2 | 20.2 | 0.7 | 0.0 | 0.0 | 2.6 | 0.0 | 0.0 | 3.6 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | | 0.09 | 1.00 | | 0.01 | 0.69 | | 0.22 | 0.35 | | 0.45 |
| Lane Grp Cap(c), veh/h | 19 | 1325 | 1371 | 20 | 1327 | 1393 | 212 | 0 | 0 | 204 | 0 | 0 |
| V/C Ratio(X) | 0.59 | 0.33 | 0.33 | 0.59 | 0.70 | 0.70 | 0.23 | 0.00 | 0.00 | 0.32 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 86 | 1325 | 1371 | 86 | 1327 | 1393 | 481 | 0 | 0 | 496 | 0 | 0 |
| HCM Platoon Ratio | 0.33 | 0.33 | 0.33 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.94 | 0.94 | 0.94 | 0.58 | 0.58 | 0.58 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 49.6 | 17.2 | 17.2 | 48.6 | 0.0 | 0.0 | 41.8 | 0.0 | 0.0 | 42.3 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 24.4 | 0.6 | 0.6 | 5.9 | 1.8 | 1.8 | 0.2 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.4 | 9.7 | 10.0 | 0.3 | 0.7 | 0.7 | 1.1 | 0.0 | 0.0 | 1.5 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 74.0 | 17.8 | 17.8 | 54.5 | 1.8 | 1.8 | 42.1 | 0.0 | 0.0 | 42.6 | 0.0 | 0.0 |
| LnGrp LOS | E | B | B | D | A | A | D | A | A | D | A | A |
| Approach Vol, veh/h | | 899 | | | 1925 | | | 49 | | | 65 | |
| Approach Delay, s/veh | | 18.5 | | | 2.1 | | | 42.1 | | | 42.6 | |
| Approach LOS | | B | | | A | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.3 | 80.7 | | 14.0 | 5.3 | 80.8 | | 14.0 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 6.1 | | * 4.2 | * 4.2 | * 6.1 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | * 4.8 | 51.9 | | * 29 | * 4.8 | * 53 | | * 29 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.7 | 22.2 | | 5.6 | 2.6 | 2.0 | | 4.6 | | | | |
| Green Ext Time (p_c), s | 0.0 | 9.8 | | 0.2 | 0.0 | 37.7 | | 0.1 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 8.7 | |
| HCM 6th LOS | A | |

Notes

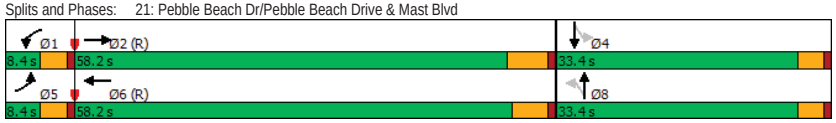
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\No School Alt\7 Existing + Cuml + Proj AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 10 | 774 | 26 | 16 | 1794 | 22 | 18 | 7 | 37 | 67 | 22 | 22 |
| Future Volume (vph) | 10 | 774 | 26 | 16 | 1794 | 22 | 18 | 7 | 37 | 67 | 22 | 22 |
| Confl. Peds. (#/hr) | | | 8 | | | 1 | | | 2 | | | 11 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Perm | NA | | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | | 4 | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 23.9 | | 8.2 | 23.3 | | 33.2 | 33.2 | | 32.2 | 32.2 | |
| Total Split (s) | 8.4 | 58.2 | | 8.4 | 58.2 | | 33.4 | 33.4 | | 33.4 | 33.4 | |
| Total Split (%) | 8.4% | 58.2% | | 8.4% | 58.2% | | 33.4% | 33.4% | | 33.4% | 33.4% | |
| Yellow Time (s) | 3.2 | 4.9 | | 3.2 | 4.3 | | 3.2 | 3.2 | | 3.2 | 3.2 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | 0.0 | |
| Total Lost Time (s) | 4.2 | 5.9 | | 4.2 | 5.3 | | | 4.2 | | | 4.2 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 100 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 21: Pebble Beach Dr/Pebble Beach Drive & Mast Blvd






Existing + Cuml + Proj AM (No School) Fanita Ranch
21: Pebble Beach Dr/Pebble Beach Drive & Mast Blvd 06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 10 | 774 | 26 | 16 | 1794 | 22 | 18 | 7 | 37 | 67 | 22 | 22 |
| Future Volume (veh/h) | 10 | 774 | 26 | 16 | 1794 | 22 | 18 | 7 | 37 | 67 | 22 | 22 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 1.00 | 0.98 | | 1.00 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 11 | 841 | 28 | 17 | 1950 | 24 | 20 | 8 | 40 | 73 | 24 | 24 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 19 | 2517 | 84 | 27 | 2596 | 32 | 86 | 45 | 120 | 162 | 52 | 39 |
| Arrive On Green | 0.02 | 1.00 | 1.00 | 0.03 | 1.00 | 1.00 | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 |
| Sat Flow, veh/h | 1781 | 3509 | 117 | 1781 | 3595 | 44 | 315 | 363 | 968 | 837 | 420 | 311 |
| Grp Volume(v), veh/h | 11 | 426 | 443 | 17 | 962 | 1012 | 68 | 0 | 0 | 121 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1849 | 1781 | 1777 | 1862 | 1646 | 0 | 0 | 1568 | 0 | 0 |
| Q Serve(g_s), s | 0.6 | 0.0 | 0.0 | 0.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 3.3 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 0.6 | 0.0 | 0.0 | 0.9 | 0.0 | 0.0 | 3.7 | 0.0 | 0.0 | 6.9 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | | 0.06 | 1.00 | | 0.02 | 0.29 | | 0.59 | 0.60 | | 0.20 |
| Lane Grp Cap(c), veh/h | 19 | 1275 | 1326 | 27 | 1283 | 1345 | 251 | 0 | 0 | 253 | 0 | 0 |
| V/C Ratio(X) | 0.59 | 0.33 | 0.33 | 0.63 | 0.75 | 0.75 | 0.27 | 0.00 | 0.00 | 0.48 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 75 | 1275 | 1326 | 75 | 1283 | 1345 | 507 | 0 | 0 | 499 | 0 | 0 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.96 | 0.96 | 0.96 | 0.09 | 0.09 | 0.09 | 0.99 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 48.7 | 0.0 | 0.0 | 48.2 | 0.0 | 0.0 | 39.9 | 0.0 | 0.0 | 41.2 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 9.9 | 0.7 | 0.7 | 0.8 | 0.4 | 0.4 | 0.2 | 0.0 | 0.0 | 0.5 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.3 | 0.2 | 0.2 | 0.4 | 0.1 | 0.1 | 1.5 | 0.0 | 0.0 | 2.9 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 58.7 | 0.7 | 0.7 | 49.1 | 0.4 | 0.4 | 40.2 | 0.0 | 0.0 | 41.7 | 0.0 | 0.0 |
| LnGrp LOS | E | A | A | D | A | A | D | A | A | D | A | A |
| Approach Vol, veh/h | | 880 | | | 1991 | | | 68 | | | 121 | |
| Approach Delay, s/veh | | 1.4 | | | 0.8 | | | 40.2 | | | 41.7 | |
| Approach LOS | | A | | | A | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.7 | 77.7 | | 16.6 | 5.3 | 78.1 | | 16.6 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 5.9 | | * 4.2 | * 4.2 | * 5.9 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | * 4.2 | 52.3 | | * 29 | * 4.2 | * 53 | | * 29 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.9 | 2.0 | | 8.9 | 2.6 | 2.0 | | 5.7 | | | | |
| Green Ext Time (p_c), s | 0.0 | 13.0 | | 0.4 | 0.0 | 44.9 | | 0.2 | | | | |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 3.5 |
| HCM 6th LOS | A |

Notes

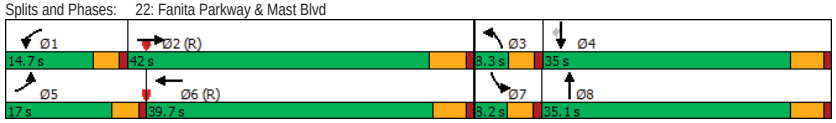
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\No School Alt\7 Existing + Cuml + Proj AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 224 | 545 | 113 | 80 | 1280 | 52 | 42 | 102 | 33 | 61 | 244 | 501 |
| Future Volume (vph) | 224 | 545 | 113 | 80 | 1280 | 52 | 42 | 102 | 33 | 61 | 244 | 501 |
| Confl. Peds. (#/hr) | | | 8 | | | | | | 6 | | | 2 |
| Confl. Bikes (#/hr) | | | 2 | | | 2 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | | | | | | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 27.5 | 27.5 | 8.2 | 28.1 | | 8.2 | 35.1 | | 8.2 | 28.1 | 28.1 |
| Total Split (s) | 17.0 | 42.0 | 42.0 | 14.7 | 39.7 | | 8.3 | 35.1 | | 8.2 | 35.0 | 35.0 |
| Total Split (%) | 17.0% | 42.0% | 42.0% | 14.7% | 39.7% | | 8.3% | 35.1% | | 8.2% | 35.0% | 35.0% |
| Yellow Time (s) | 3.2 | 4.5 | 4.5 | 3.2 | 4.1 | | 3.2 | 4.1 | | 3.2 | 4.1 | 4.1 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.5 | 5.5 | 4.2 | 5.1 | | 4.2 | 5.1 | | 4.2 | 5.1 | 5.1 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | C-Max | C-Max | None | C-Max | | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 14.1 (14%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 120 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 22: Fanita Parkway & Mast Blvd






Existing + Cuml + Proj AM (No School)
22: Fanita Parkway & Mast Blvd
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 224 | 545 | 113 | 80 | 1280 | 52 | 42 | 102 | 33 | 61 | 244 | 501 |
| Future Volume (veh/h) | 224 | 545 | 113 | 80 | 1280 | 52 | 42 | 102 | 33 | 61 | 244 | 501 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.98 | 1.00 | | 0.99 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 243 | 592 | 123 | 87 | 1391 | 57 | 46 | 111 | 36 | 66 | 265 | 487 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 228 | 1479 | 639 | 110 | 1217 | 50 | 59 | 394 | 128 | 71 | 559 | 473 |
| Arrive On Green | 0.26 | 0.83 | 0.83 | 0.12 | 0.70 | 0.70 | 0.03 | 0.29 | 0.29 | 0.04 | 0.30 | 0.30 |
| Sat Flow, veh/h | 1781 | 3554 | 1536 | 1781 | 3476 | 142 | 1781 | 1350 | 438 | 1781 | 1870 | 1582 |
| Grp Volume(v), veh/h | 243 | 592 | 123 | 87 | 710 | 738 | 46 | 0 | 147 | 66 | 265 | 487 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1536 | 1781 | 1777 | 1841 | 1781 | 0 | 1788 | 1781 | 1870 | 1582 |
| Q Serve(g_s), s | 12.8 | 4.2 | 1.6 | 4.7 | 35.0 | 35.0 | 2.6 | 0.0 | 6.3 | 3.7 | 11.6 | 29.9 |
| Cycle Q Clear(g_c), s | 12.8 | 4.2 | 1.6 | 4.7 | 35.0 | 35.0 | 2.6 | 0.0 | 6.3 | 3.7 | 11.6 | 29.9 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.08 | 1.00 | | 0.24 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 228 | 1479 | 639 | 110 | 622 | 644 | 59 | 0 | 522 | 71 | 559 | 473 |
| V/C Ratio(X) | 1.07 | 0.40 | 0.19 | 0.79 | 1.14 | 1.15 | 0.78 | 0.00 | 0.28 | 0.93 | 0.47 | 1.03 |
| Avail Cap(c_a), veh/h | 228 | 1479 | 639 | 187 | 622 | 644 | 73 | 0 | 536 | 71 | 559 | 473 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.95 | 0.95 | 0.95 | 0.64 | 0.64 | 0.64 | 0.99 | 0.00 | 0.99 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 37.2 | 5.2 | 5.0 | 43.2 | 15.0 | 15.0 | 48.0 | 0.0 | 27.3 | 47.9 | 28.6 | 35.0 |
| Incr Delay (d2), s/veh | 76.6 | 0.8 | 0.6 | 6.0 | 76.0 | 77.3 | 31.6 | 0.0 | 1.0 | 80.9 | 2.0 | 49.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 9.4 | 1.3 | 0.6 | 2.1 | 18.2 | 19.1 | 1.6 | 0.0 | 2.8 | 3.2 | 5.3 | 17.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 113.8 | 6.0 | 5.7 | 49.2 | 91.0 | 92.3 | 79.6 | 0.0 | 28.4 | 128.7 | 30.6 | 84.2 |
| LnGrp LOS | F | A | A | D | F | F | E | A | C | F | C | F |
| Approach Vol, veh/h | | 958 | | | 1535 | | | 193 | | | 818 | |
| Approach Delay, s/veh | | 33.3 | | | 89.3 | | | 40.6 | | | 70.5 | |
| Approach LOS | | C | | | F | | | D | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 10.4 | 47.1 | 7.5 | 35.0 | 17.0 | 40.5 | 8.2 | 34.3 |
| Change Period (Y+Rc), s | * 4.2 | 5.5 | * 4.2 | 5.1 | * 4.2 | * 5.5 | * 4.2 | 5.1 |
| Max Green Setting (Gmax), s | * 11 | 36.5 | * 4.1 | 29.9 | * 13 | * 35 | * 4 | 30.0 |
| Max Q Clear Time (g_c+I1), s | 6.7 | 6.2 | 4.6 | 31.9 | 14.8 | 37.0 | 5.7 | 8.3 |
| Green Ext Time (p_c), s | 0.0 | 11.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.7 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 66.9 | |
| HCM 6th LOS | E | |

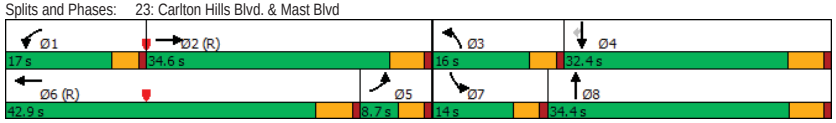
| Notes |
|---|
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. |

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\No School Alt\7 Existing + Cuml + Proj AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 39 | 408 | 141 | 171 | 1061 | 91 | 167 | 169 | 80 | 117 | 254 | 74 |
| Future Volume (vph) | 39 | 408 | 141 | 171 | 1061 | 91 | 167 | 169 | 80 | 117 | 254 | 74 |
| Confl. Peds. (#/hr) | | | 5 | | | 6 | | | 22 | | | 8 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 33.1 | | 8.2 | 32.4 | | 8.2 | 34.2 | | 8.2 | 32.4 | 32.4 |
| Total Split (s) | 8.7 | 34.6 | | 17.0 | 42.9 | | 16.0 | 34.4 | | 14.0 | 32.4 | 32.4 |
| Total Split (%) | 8.7% | 34.6% | | 17.0% | 42.9% | | 16.0% | 34.4% | | 14.0% | 32.4% | 32.4% |
| Yellow Time (s) | 3.2 | 4.1 | | 3.2 | 4.4 | | 3.2 | 4.2 | | 3.2 | 4.4 | 4.4 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.1 | | 4.2 | 5.4 | | 4.2 | 5.2 | | 4.2 | 5.4 | 5.4 |
| Lead/Lag | Lag | Lag | | Lead | Lead | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | C-Min | | None | C-Min | | None | Min | | None | Min | Min |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 89 (89%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 95 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 23: Carlton Hills Blvd. & Mast Blvd






Existing + Cuml + Proj AM (No School)
23: Carlton Hills Blvd. & Mast Blvd

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 39 | 408 | 141 | 171 | 1061 | 91 | 167 | 169 | 80 | 117 | 254 | 74 |
| Future Volume (veh/h) | 39 | 408 | 141 | 171 | 1061 | 91 | 167 | 169 | 80 | 117 | 254 | 74 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.97 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 42 | 443 | 153 | 186 | 1153 | 99 | 182 | 184 | 87 | 127 | 276 | 80 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 227 | 1014 | 347 | 217 | 1235 | 106 | 210 | 497 | 224 | 156 | 641 | 279 |
| Arrive On Green | 0.04 | 0.13 | 0.13 | 0.12 | 0.37 | 0.37 | 0.12 | 0.21 | 0.21 | 0.09 | 0.18 | 0.18 |
| Sat Flow, veh/h | 1781 | 2595 | 888 | 1781 | 3311 | 284 | 1781 | 2356 | 1060 | 1781 | 3554 | 1543 |
| Grp Volume(v), veh/h | 42 | 302 | 294 | 186 | 618 | 634 | 182 | 136 | 135 | 127 | 276 | 80 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1706 | 1781 | 1777 | 1818 | 1781 | 1777 | 1639 | 1781 | 1777 | 1543 |
| Q Serve(g_s), s | 2.3 | 15.7 | 15.9 | 10.2 | 33.4 | 33.6 | 10.0 | 6.6 | 7.1 | 7.0 | 6.9 | 3.2 |
| Cycle Q Clear(g_c), s | 2.3 | 15.7 | 15.9 | 10.2 | 33.4 | 33.6 | 10.0 | 6.6 | 7.1 | 7.0 | 6.9 | 3.2 |
| Prop In Lane | 1.00 | | 0.52 | 1.00 | | 0.16 | 1.00 | | 0.65 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 227 | 694 | 667 | 217 | 663 | 678 | 210 | 375 | 346 | 156 | 641 | 279 |
| V/C Ratio(X) | 0.19 | 0.44 | 0.44 | 0.86 | 0.93 | 0.93 | 0.87 | 0.36 | 0.39 | 0.81 | 0.43 | 0.29 |
| Avail Cap(c_a), veh/h | 227 | 694 | 667 | 228 | 666 | 682 | 210 | 519 | 479 | 175 | 959 | 417 |
| HCM Platoon Ratio | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.90 | 0.90 | 0.90 | 0.85 | 0.85 | 0.85 | 0.96 | 0.96 | 0.96 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 42.9 | 33.4 | 33.5 | 43.1 | 30.1 | 30.2 | 43.3 | 33.7 | 33.9 | 44.8 | 36.4 | 18.2 |
| Incr Delay (d2), s/veh | 0.1 | 1.8 | 1.9 | 21.0 | 19.4 | 19.4 | 27.5 | 1.7 | 2.0 | 20.3 | 2.0 | 2.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.0 | 7.7 | 7.6 | 5.6 | 16.9 | 17.4 | 5.9 | 3.0 | 2.9 | 3.9 | 3.1 | 1.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 43.0 | 35.2 | 35.4 | 64.1 | 49.5 | 49.6 | 70.8 | 35.4 | 35.9 | 65.2 | 38.4 | 20.6 |
| LnGrp LOS | D | D | D | E | D | D | E | D | D | E | D | C |
| Approach Vol, veh/h | | 638 | | | 1438 | | | 453 | | | 483 | |
| Approach Delay, s/veh | | 35.8 | | | 51.4 | | | 49.8 | | | 42.5 | |
| Approach LOS | | D | | | D | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 16.4 | 44.2 | 16.0 | 23.4 | 17.8 | 42.7 | 13.0 | 26.5 |
| Change Period (Y+Rc), s | * 4.2 | 5.1 | * 4.2 | 5.4 | 5.1 | * 5.4 | * 4.2 | * 5.4 |
| Max Green Setting (Gmax), s | * 13 | 29.5 | * 12 | 27.0 | 4.5 | * 38 | * 9.8 | * 29 |
| Max Q Clear Time (g_c+I1), s | 12.2 | 17.9 | 12.0 | 8.9 | 4.3 | 35.6 | 9.0 | 9.1 |
| Green Ext Time (p_c), s | 0.0 | 5.0 | 0.0 | 4.4 | 0.0 | 1.8 | 0.0 | 3.1 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 46.4 |
| HCM 6th LOS | D |

Notes

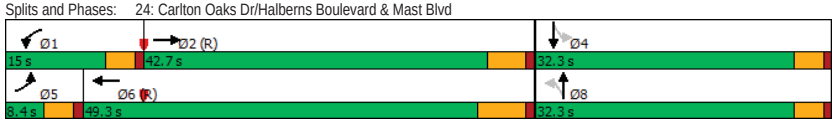
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\No School Alt\7 Existing + Cuml + Proj AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 10 | 592 | 18 | 92 | 1284 | 22 | 42 | 23 | 73 | 44 | 40 | 45 |
| Future Volume (vph) | 10 | 592 | 18 | 92 | 1284 | 22 | 42 | 23 | 73 | 44 | 40 | 45 |
| Confl. Peds. (#/hr) | | | 6 | | | | | | 8 | | | 1 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Perm | NA | | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | | 4 | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 29.2 | | 8.2 | 28.3 | | 32.2 | 32.2 | | 32.2 | 32.2 | |
| Total Split (s) | 8.4 | 42.7 | | 15.0 | 49.3 | | 32.3 | 32.3 | | 32.3 | 32.3 | |
| Total Split (%) | 9.3% | 47.4% | | 16.7% | 54.8% | | 35.9% | 35.9% | | 35.9% | 35.9% | |
| Yellow Time (s) | 3.2 | 4.2 | | 3.2 | 5.3 | | 3.2 | 3.2 | | 3.2 | 3.2 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.2 | 5.2 | | 4.2 | 6.3 | | 4.2 | 4.2 | | 4.2 | 4.2 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 90 |
| Actuated Cycle Length: 90 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 80 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 24: Carlton Oaks Dr/Halberns Boulevard & Mast Blvd






Existing + Cuml + Proj AM (No School) Fanita Ranch
24: Carlton Oaks Dr/Halberns Boulevard & Mast Blvd 06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 10 | 592 | 18 | 92 | 1284 | 22 | 42 | 23 | 73 | 44 | 40 | 45 |
| Future Volume (veh/h) | 10 | 592 | 18 | 92 | 1284 | 22 | 42 | 23 | 73 | 44 | 40 | 45 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.98 | 0.99 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 11 | 643 | 20 | 100 | 1396 | 24 | 46 | 25 | 79 | 48 | 43 | 49 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 19 | 2196 | 68 | 127 | 2448 | 42 | 200 | 55 | 174 | 185 | 112 | 128 |
| Arrive On Green | 0.01 | 0.62 | 0.62 | 0.07 | 0.68 | 0.68 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 |
| Sat Flow, veh/h | 1781 | 3518 | 109 | 1781 | 3575 | 61 | 1302 | 390 | 1233 | 1275 | 797 | 908 |
| Grp Volume(v), veh/h | 11 | 325 | 338 | 100 | 693 | 727 | 46 | 0 | 104 | 48 | 0 | 92 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1850 | 1781 | 1777 | 1859 | 1302 | 0 | 1623 | 1275 | 0 | 1705 |
| Q Serve(g_s), s | 0.6 | 7.6 | 7.6 | 5.0 | 18.2 | 18.2 | 3.0 | 0.0 | 5.3 | 3.2 | 0.0 | 4.4 |
| Cycle Q Clear(g_c), s | 0.6 | 7.6 | 7.6 | 5.0 | 18.2 | 18.2 | 7.4 | 0.0 | 5.3 | 8.5 | 0.0 | 4.4 |
| Prop In Lane | 1.00 | | 0.06 | 1.00 | | 0.03 | 1.00 | | 0.76 | 1.00 | | 0.53 |
| Lane Grp Cap(c), veh/h | 19 | 1109 | 1155 | 127 | 1217 | 1273 | 200 | 0 | 229 | 185 | 0 | 240 |
| V/C Ratio(X) | 0.58 | 0.29 | 0.29 | 0.79 | 0.57 | 0.57 | 0.23 | 0.00 | 0.45 | 0.26 | 0.00 | 0.38 |
| Avail Cap(c_a), veh/h | 83 | 1109 | 1155 | 214 | 1217 | 1273 | 423 | 0 | 507 | 403 | 0 | 532 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.84 | 0.84 | 0.84 | 0.60 | 0.60 | 0.60 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 44.3 | 7.8 | 7.8 | 41.1 | 7.3 | 7.3 | 38.5 | 0.0 | 35.5 | 39.4 | 0.0 | 35.1 |
| Incr Delay (d2), s/veh | 8.4 | 0.6 | 0.5 | 2.4 | 1.2 | 1.1 | 0.2 | 0.0 | 0.5 | 0.3 | 0.0 | 0.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.3 | 2.6 | 2.7 | 2.2 | 5.5 | 5.8 | 0.9 | 0.0 | 2.1 | 1.0 | 0.0 | 1.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 52.7 | 8.3 | 8.3 | 43.5 | 8.5 | 8.5 | 38.7 | 0.0 | 36.0 | 39.7 | 0.0 | 35.5 |
| LnGrp LOS | D | A | A | D | A | A | D | A | D | D | A | D |
| Approach Vol, veh/h | | 674 | | | 1520 | | | 150 | | | 140 | |
| Approach Delay, s/veh | | 9.1 | | | 10.8 | | | 36.8 | | | 36.9 | |
| Approach LOS | | A | | | B | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 10.6 | 62.5 | | 16.9 | 5.2 | 67.9 | | 16.9 | | | | |
| Change Period (Y+Rc), s | * 4.2 | * 6.3 | | * 4.2 | * 4.2 | 6.3 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | * 11 | * 38 | | * 28 | * 4.2 | 43.0 | | * 28 | | | | |
| Max Q Clear Time (g_c+I1), s | 7.0 | 9.6 | | 10.5 | 2.6 | 20.2 | | 9.4 | | | | |
| Green Ext Time (p_c), s | 0.0 | 8.4 | | 0.3 | 0.0 | 17.1 | | 0.4 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 13.4 | |
| HCM 6th LOS | B | |

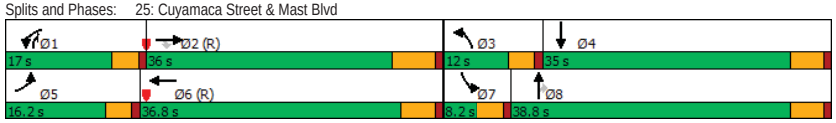
| Notes |
|---|
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. |

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\No School Alt\7 Existing + Cuml + Proj AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 141 | 332 | 219 | 360 | 679 | 6 | 210 | 212 | 195 | 9 | 554 | 505 |
| Future Volume (vph) | 141 | 332 | 219 | 360 | 679 | 6 | 210 | 212 | 195 | 9 | 554 | 505 |
| Confl. Peds. (#/hr) | | | 8 | | | 5 | | | 3 | | | 3 |
| Confl. Bikes (#/hr) | | | 4 | | | 1 | | | 3 | | | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | | Prot | NA | pm+ov | Prot | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | 1 | 7 | 4 | |
| Permitted Phases | | | 2 | | | | | | 8 | | | |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | | 3 | 8 | 1 | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | | 4.0 | 7.0 | 4.0 | 4.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 34.3 | 34.3 | 8.2 | 32.3 | | 8.2 | 33.1 | 8.2 | 8.2 | 34.0 | |
| Total Split (s) | 16.2 | 36.0 | 36.0 | 17.0 | 36.8 | | 12.0 | 38.8 | 17.0 | 8.2 | 35.0 | |
| Total Split (%) | 16.2% | 36.0% | 36.0% | 17.0% | 36.8% | | 12.0% | 38.8% | 17.0% | 8.2% | 35.0% | |
| Yellow Time (s) | 3.2 | 5.3 | 5.3 | 3.2 | 4.3 | | 3.2 | 4.1 | 3.2 | 3.2 | 4.0 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.2 | 6.3 | 6.3 | 4.2 | 5.3 | | 4.2 | 5.1 | 4.2 | 4.2 | 5.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | |
| Recall Mode | None | C-Min | C-Min | None | C-Min | | None | None | None | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 31 (31%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 95 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 25: Cuyamaca Street & Mast Blvd






Existing + Cuml + Proj AM (No School)
25: Cuyamaca Street & Mast Blvd
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 141 | 332 | 219 | 360 | 679 | 6 | 210 | 212 | 195 | 9 | 554 | 505 |
| Future Volume (veh/h) | 141 | 332 | 219 | 360 | 679 | 6 | 210 | 212 | 195 | 9 | 554 | 505 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 153 | 361 | 238 | 391 | 738 | 7 | 228 | 230 | 212 | 10 | 602 | 549 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 184 | 1052 | 458 | 442 | 1157 | 11 | 270 | 1309 | 777 | 17 | 533 | 467 |
| Arrive On Green | 0.10 | 0.30 | 0.30 | 0.13 | 0.32 | 0.32 | 0.08 | 0.37 | 0.37 | 0.01 | 0.30 | 0.30 |
| Sat Flow, veh/h | 1781 | 3554 | 1549 | 3456 | 3606 | 34 | 3456 | 3554 | 1559 | 1781 | 1777 | 1558 |
| Grp Volume(v), veh/h | 153 | 361 | 238 | 391 | 364 | 381 | 228 | 230 | 212 | 10 | 602 | 549 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1549 | 1728 | 1777 | 1863 | 1728 | 1777 | 1559 | 1781 | 1777 | 1558 |
| Q Serve(g_s), s | 8.4 | 8.0 | 12.8 | 11.1 | 17.5 | 17.5 | 6.5 | 4.4 | 7.9 | 0.6 | 30.0 | 30.0 |
| Cycle Q Clear(g_c), s | 8.4 | 8.0 | 12.8 | 11.1 | 17.5 | 17.5 | 6.5 | 4.4 | 7.9 | 0.6 | 30.0 | 30.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.02 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 184 | 1052 | 458 | 442 | 570 | 598 | 270 | 1309 | 777 | 17 | 533 | 467 |
| V/C Ratio(X) | 0.83 | 0.34 | 0.52 | 0.88 | 0.64 | 0.64 | 0.85 | 0.18 | 0.27 | 0.58 | 1.13 | 1.17 |
| Avail Cap(c_a), veh/h | 214 | 1055 | 460 | 442 | 570 | 598 | 270 | 1309 | 777 | 71 | 533 | 467 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.97 | 0.97 | 0.97 | 0.94 | 0.94 | 0.94 | 0.86 | 0.86 | 0.86 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 44.0 | 27.6 | 29.3 | 42.9 | 29.0 | 29.0 | 45.5 | 21.3 | 14.7 | 49.3 | 35.0 | 35.0 |
| Incr Delay (d2), s/veh | 18.2 | 0.9 | 4.0 | 17.2 | 5.1 | 4.8 | 17.9 | 0.1 | 0.2 | 10.9 | 79.7 | 99.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 4.5 | 3.4 | 5.1 | 5.7 | 7.9 | 8.3 | 3.4 | 1.8 | 2.7 | 0.3 | 24.2 | 23.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 62.2 | 28.4 | 33.3 | 60.1 | 34.1 | 33.8 | 63.4 | 21.4 | 14.9 | 60.2 | 114.7 | 134.1 |
| LnGrp LOS | E | C | C | E | C | C | E | C | B | E | F | F |
| Approach Vol, veh/h | | 752 | | | 1136 | | | 670 | | | 1161 | |
| Approach Delay, s/veh | | 36.9 | | | 42.9 | | | 33.7 | | | 123.4 | |
| Approach LOS | | D | | | D | | | C | | | F | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 17.0 | 35.9 | 12.0 | 35.1 | 14.5 | 38.4 | 5.2 | 41.9 |
| Change Period (Y+Rc), s | * 4.2 | 6.3 | * 4.2 | * 5.1 | * 4.2 | * 6.3 | * 4.2 | 5.1 |
| Max Green Setting (Gmax), s | * 13 | 29.7 | * 7.8 | * 30 | * 12 | * 32 | * 4 | 33.7 |
| Max Q Clear Time (g_c+I1), s | 13.1 | 14.8 | 8.5 | 32.0 | 10.4 | 19.5 | 2.6 | 9.9 |
| Green Ext Time (p_c), s | 0.0 | 3.9 | 0.0 | 0.0 | 0.0 | 4.2 | 0.0 | 3.2 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 65.2 |
| HCM 6th LOS | E |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\No School Alt\7 Existing + Cuml + Proj AM.syn

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 502 | 68 | 118 | 916 | 21 | 92 |
| Future Volume (vph) | 502 | 68 | 118 | 916 | 21 | 92 |
| Confl. Peds. (#/hr) | | 17 | | | | 29 |
| Confl. Bikes (#/hr) | | 3 | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | NA | | Prot | NA | Prot | Perm |
| Protected Phases | 2 | | 1 | 6 | 8 | |
| Permitted Phases | | | | | | 8 |
| Detector Phase | 2 | | 1 | 6 | 8 | 8 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 22.5 | | 8.5 | 20.5 | 22.5 | 22.5 |
| Total Split (s) | 23.2 | | 14.3 | 37.5 | 22.5 | 22.5 |
| Total Split (%) | 38.7% | | 23.8% | 62.5% | 37.5% | 37.5% |
| Yellow Time (s) | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lag | | Lead | | | |
| Lead-Lag Optimize? | Yes | | Yes | | | |
| Recall Mode | Min | | None | Min | None | None |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 41.3 |
| Natural Cycle: 55 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 26: Park Center Drive & Mast Blvd

Existing + Cuml + Proj AM (No School)
26: Park Center Drive & Mast Blvd
Fanita Ranch
06/06/2019

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 502 | 68 | 118 | 916 | 21 | 92 |
| Future Volume (veh/h) | 502 | 68 | 118 | 916 | 21 | 92 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | 0.95 | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 546 | 74 | 128 | 996 | 23 | 100 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 1054 | 142 | 165 | 2098 | 157 | 139 |
| Arrive On Green | 0.34 | 0.34 | 0.09 | 0.59 | 0.09 | 0.09 |
| Sat Flow, veh/h | 3218 | 422 | 1781 | 3647 | 1781 | 1585 |
| Grp Volume(v), veh/h | 310 | 310 | 128 | 996 | 23 | 100 |
| Grp Sat Flow(s),veh/h/ln | 1777 | 1769 | 1781 | 1777 | 1781 | 1585 |
| Q Serve(g_s), s | 3.9 | 3.9 | 2.0 | 4.5 | 0.3 | 1.7 |
| Cycle Q Clear(g_c), s | 3.9 | 3.9 | 2.0 | 4.5 | 0.3 | 1.7 |
| Prop In Lane | | 0.24 | 1.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 599 | 597 | 165 | 2098 | 157 | 139 |
| V/C Ratio(X) | 0.52 | 0.52 | 0.78 | 0.47 | 0.15 | 0.72 |
| Avail Cap(c_a), veh/h | 1187 | 1182 | 624 | 4190 | 1146 | 1019 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 7.4 | 7.5 | 12.4 | 3.3 | 11.8 | 12.4 |
| Incr Delay (d2), s/veh | 0.7 | 0.7 | 7.7 | 0.2 | 0.4 | 6.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.8 | 0.8 | 0.9 | 0.0 | 0.1 | 0.7 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 8.1 | 8.2 | 20.1 | 3.4 | 12.2 | 19.1 |
| LnGrp LOS | A | A | C | A | B | B |
| Approach Vol, veh/h | 620 | | | 1124 | 123 | |
| Approach Delay, s/veh | 8.1 | | | 5.3 | 17.8 | |
| Approach LOS | A | | | A | B | |

| Timer - Assigned Phs | 1 | 2 | | | 6 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.1 | 13.9 | | | 21.0 | 7.0 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 9.8 | 18.7 | | | 33.0 | 18.0 |
| Max Q Clear Time (g_c+I1), s | 4.0 | 5.9 | | | 6.5 | 3.7 |
| Green Ext Time (p_c), s | 0.1 | 2.9 | | | 7.5 | 0.3 |

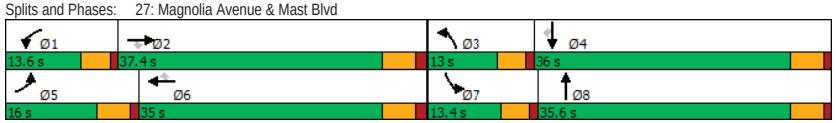
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 7.1 | |
| HCM 6th LOS | A | |

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\No School Alt\7 Existing + Cuml + Proj AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 186 | 131 | 217 | 155 | 278 | 52 | 295 | 597 | 54 | 56 | 789 | 412 |
| Future Volume (vph) | 186 | 131 | 217 | 155 | 278 | 52 | 295 | 597 | 54 | 56 | 789 | 412 |
| Confl. Peds. (#/hr) | | | 14 | | | 31 | | | 11 | | | 8 |
| Confl. Bikes (#/hr) | | | 5 | | | 5 | | | 3 | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 11.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 9.0 | | 7.0 | 9.0 | 9.0 |
| Minimum Split (s) | 16.0 | 34.5 | 34.5 | 11.5 | 34.5 | 34.5 | 11.5 | 35.0 | | 11.5 | 36.0 | 36.0 |
| Total Split (s) | 16.0 | 37.4 | 37.4 | 13.6 | 35.0 | 35.0 | 13.0 | 35.6 | | 13.4 | 36.0 | 36.0 |
| Total Split (%) | 16.0% | 37.4% | 37.4% | 13.6% | 35.0% | 35.0% | 13.0% | 35.6% | | 13.4% | 36.0% | 36.0% |
| Yellow Time (s) | 4.0 | 4.0 | 4.0 | 3.5 | 4.0 | 4.0 | 3.5 | 4.0 | | 3.5 | 4.0 | 4.0 |
| All-Red Time (s) | 1.0 | 1.5 | 1.5 | 1.0 | 1.5 | 1.5 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 5.0 | 5.5 | 5.5 | 4.5 | 5.5 | 5.5 | 4.5 | 5.0 | | 4.5 | 5.0 | 5.0 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | Min | Min | None | Min | Min | None | Min | | None | Min | Min |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 78.9 |
| Natural Cycle: 100 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 27: Magnolia Avenue & Mast Blvd






Existing + Cuml + Proj AM (No School)
27: Magnolia Avenue & Mast Blvd
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 186 | 131 | 217 | 155 | 278 | 52 | 295 | 597 | 54 | 56 | 789 | 412 |
| Future Volume (veh/h) | 186 | 131 | 217 | 155 | 278 | 52 | 295 | 597 | 54 | 56 | 789 | 412 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.94 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 202 | 142 | 236 | 168 | 302 | 57 | 321 | 649 | 59 | 61 | 858 | 448 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 429 | 870 | 375 | 184 | 777 | 326 | 334 | 1211 | 110 | 110 | 1185 | 518 |
| Arrive On Green | 0.12 | 0.24 | 0.24 | 0.10 | 0.22 | 0.22 | 0.10 | 0.37 | 0.37 | 0.06 | 0.33 | 0.33 |
| Sat Flow, veh/h | 3456 | 3554 | 1532 | 1781 | 3554 | 1492 | 3456 | 3287 | 298 | 1781 | 3554 | 1553 |
| Grp Volume(v), veh/h | 202 | 142 | 236 | 168 | 302 | 57 | 321 | 350 | 358 | 61 | 858 | 448 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1532 | 1781 | 1777 | 1492 | 1728 | 1777 | 1809 | 1781 | 1777 | 1553 |
| Q Serve(g_s), s | 4.8 | 2.8 | 12.1 | 8.2 | 6.4 | 2.7 | 8.1 | 13.7 | 13.7 | 2.9 | 18.7 | 23.8 |
| Cycle Q Clear(g_c), s | 4.8 | 2.8 | 12.1 | 8.2 | 6.4 | 2.7 | 8.1 | 13.7 | 13.7 | 2.9 | 18.7 | 23.8 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.17 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 429 | 870 | 375 | 184 | 777 | 326 | 334 | 655 | 666 | 110 | 1185 | 518 |
| V/C Ratio(X) | 0.47 | 0.16 | 0.63 | 0.91 | 0.39 | 0.17 | 0.96 | 0.54 | 0.54 | 0.56 | 0.72 | 0.86 |
| Avail Cap(c_a), veh/h | 432 | 1288 | 555 | 184 | 1191 | 500 | 334 | 655 | 666 | 180 | 1252 | 547 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 35.9 | 26.1 | 29.7 | 39.1 | 29.4 | 27.9 | 39.6 | 21.9 | 21.9 | 40.1 | 25.8 | 27.5 |
| Incr Delay (d2), s/veh | 1.0 | 0.1 | 2.1 | 41.5 | 0.4 | 0.3 | 38.8 | 0.9 | 0.9 | 1.6 | 2.0 | 13.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.0 | 1.1 | 4.4 | 5.6 | 2.7 | 1.0 | 5.1 | 5.4 | 5.5 | 1.3 | 7.6 | 10.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 36.8 | 26.2 | 31.8 | 80.6 | 29.8 | 28.2 | 78.4 | 22.7 | 22.7 | 41.8 | 27.7 | 40.6 |
| LnGrp LOS | D | C | C | F | C | C | E | C | C | D | C | D |
| Approach Vol, veh/h | | 580 | | | 527 | | | 1029 | | | 1367 | |
| Approach Delay, s/veh | | 32.2 | | | 45.8 | | | 40.1 | | | 32.6 | |
| Approach LOS | | C | | | D | | | D | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 13.6 | 27.1 | 13.0 | 34.4 | 15.9 | 24.7 | 9.9 | 37.4 |
| Change Period (Y+Rc), s | 4.5 | 5.5 | 4.5 | 5.0 | 5.0 | 5.5 | 4.5 | 5.0 |
| Max Green Setting (Gmax), s | 9.1 | 31.9 | 8.5 | 31.0 | 11.0 | 29.5 | 8.9 | 30.6 |
| Max Q Clear Time (g_c+I1), s | 10.2 | 14.1 | 10.1 | 25.8 | 6.8 | 8.4 | 4.9 | 15.7 |
| Green Ext Time (p_c), s | 0.0 | 1.9 | 0.0 | 3.1 | 0.3 | 2.4 | 0.0 | 3.6 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 36.7 | |
| HCM 6th LOS | D | |

Fanita Ranch
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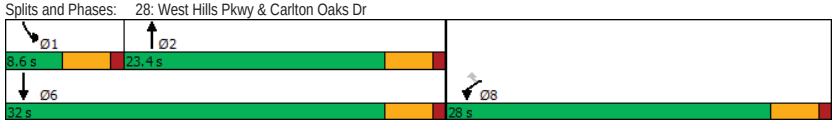
| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 429 | 655 | 805 | 123 | 42 | 261 |
| Future Volume (vph) | 429 | 655 | 805 | 123 | 42 | 261 |
| Confl. Peds. (#/hr) | | 9 | | 6 | | |
| Confl. Bikes (#/hr) | | | | 2 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | 0% | | | 0% |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | NA | | Prot | NA |
| Protected Phases | 8 | | 2 | | 1 | 6 |
| Permitted Phases | | 8 | | | | |
| Detector Phase | 8 | 8 | 2 | | 1 | 6 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | | 8.5 | 20.5 |
| Total Split (s) | 28.0 | 28.0 | 23.4 | | 8.6 | 32.0 |
| Total Split (%) | 46.7% | 46.7% | 39.0% | | 14.3% | 53.3% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Lead/Lag | | | Lag | | Lead | |
| Lead-Lag Optimize? | | | Yes | | Yes | |
| Recall Mode | None | None | Min | | None | Min |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 50.8 |
| Natural Cycle: 60 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 28: West Hills Pkwy & Carlton Oaks Dr






Existing + Cuml + Proj AM (No School)
28: West Hills Pkwy & Carlton Oaks Dr
Fanita Ranch
06/06/2019

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 429 | 655 | 805 | 123 | 42 | 261 |
| Future Volume (veh/h) | 429 | 655 | 805 | 123 | 42 | 261 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | | 0.97 | 1.00 | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | No | | | No |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 466 | 712 | 875 | 134 | 46 | 284 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 614 | 962 | 1060 | 162 | 67 | 1683 |
| Arrive On Green | 0.34 | 0.34 | 0.34 | 0.34 | 0.04 | 0.47 |
| Sat Flow, veh/h | 1781 | 2790 | 3168 | 471 | 1781 | 3647 |
| Grp Volume(v), veh/h | 466 | 712 | 506 | 503 | 46 | 284 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1395 | 1777 | 1768 | 1781 | 1777 |
| Q Serve(g_s), s | 11.5 | 11.1 | 12.9 | 12.9 | 1.3 | 2.3 |
| Cycle Q Clear(g_c), s | 11.5 | 11.1 | 12.9 | 12.9 | 1.3 | 2.3 |
| Prop In Lane | 1.00 | 1.00 | | 0.27 | 1.00 | |
| Lane Grp Cap(c), veh/h | 614 | 962 | 613 | 610 | 67 | 1683 |
| V/C Ratio(X) | 0.76 | 0.74 | 0.83 | 0.83 | 0.68 | 0.17 |
| Avail Cap(c_a), veh/h | 845 | 1323 | 678 | 675 | 147 | 1973 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 14.4 | 14.3 | 14.9 | 14.9 | 23.5 | 7.5 |
| Incr Delay (d2), s/veh | 2.7 | 1.5 | 7.6 | 7.7 | 11.4 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 4.3 | 3.1 | 5.1 | 5.1 | 0.7 | 0.6 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 17.1 | 15.7 | 22.5 | 22.5 | 35.0 | 7.5 |
| LnGrp LOS | B | B | C | C | C | A |
| Approach Vol, veh/h | 1178 | | 1009 | | | 330 |
| Approach Delay, s/veh | 16.3 | | 22.5 | | | 11.3 |
| Approach LOS | B | | C | | | B |

| Timer - Assigned Phs | 1 | 2 | | | 6 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 6.4 | 21.6 | | | 28.0 | 21.6 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 4.1 | 18.9 | | | 27.5 | 23.5 |
| Max Q Clear Time (g_c+I1), s | 3.3 | 14.9 | | | 4.3 | 13.5 |
| Green Ext Time (p_c), s | 0.0 | 2.1 | | | 1.6 | 3.6 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 18.1 | |
| HCM 6th LOS | B | |

Fanita Ranch
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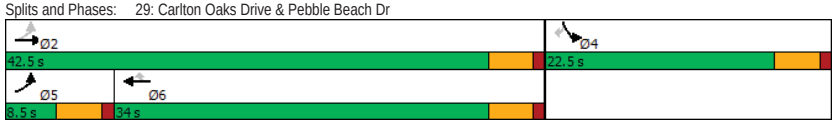
| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 5 | 372 | 718 | 153 | 160 | 51 |
| Future Volume (vph) | 5 | 372 | 718 | 153 | 160 | 51 |
| Confl. Peds. (#/hr) | | | | 13 | | |
| Confl. Bikes (#/hr) | | | | 8 | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | pm+pt | NA | NA | Perm | Prot | Perm |
| Protected Phases | 5 | 2 | 6 | | 4 | |
| Permitted Phases | 2 | | | 6 | | 4 |
| Detector Phase | 5 | 2 | 6 | 6 | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 |
| Total Split (s) | 8.5 | 42.5 | 34.0 | 34.0 | 22.5 | 22.5 |
| Total Split (%) | 13.1% | 65.4% | 52.3% | 52.3% | 34.6% | 34.6% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | | Lag | Lag | | |
| Lead-Lag Optimize? | Yes | | Yes | Yes | | |
| Recall Mode | None | Min | Min | Min | None | None |

**Intersection Summary**

Cycle Length: 65
Actuated Cycle Length: 49.9
Natural Cycle: 70
Control Type: Semi Act-Uncoord

Splits and Phases: 29: Carlton Oaks Drive & Pebble Beach Dr






Existing + Cuml + Proj AM (No School)
29: Carlton Oaks Drive & Pebble Beach Dr
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 5 | 372 | 718 | 153 | 160 | 51 |
| Future Volume (veh/h) | 5 | 372 | 718 | 153 | 160 | 51 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 0.96 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 5 | 404 | 780 | 166 | 174 | 55 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 292 | 1191 | 974 | 795 | 254 | 226 |
| Arrive On Green | 0.01 | 0.64 | 0.52 | 0.52 | 0.14 | 0.14 |
| Sat Flow, veh/h | 1781 | 1870 | 1870 | 1525 | 1781 | 1585 |
| Grp Volume(v), veh/h | 5 | 404 | 780 | 166 | 174 | 55 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1870 | 1525 | 1781 | 1585 |
| Q Serve(g_s), s | 0.0 | 4.1 | 14.0 | 2.4 | 3.8 | 1.3 |
| Cycle Q Clear(g_c), s | 0.0 | 4.1 | 14.0 | 2.4 | 3.8 | 1.3 |
| Prop In Lane | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 292 | 1191 | 974 | 795 | 254 | 226 |
| V/C Ratio(X) | 0.02 | 0.34 | 0.80 | 0.21 | 0.68 | 0.24 |
| Avail Cap(c_a), veh/h | 457 | 1741 | 1352 | 1102 | 786 | 699 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 6.8 | 3.4 | 8.0 | 5.3 | 16.6 | 15.5 |
| Incr Delay (d2), s/veh | 0.0 | 0.2 | 2.4 | 0.1 | 3.2 | 0.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.6 | 4.1 | 0.5 | 1.5 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 6.9 | 3.6 | 10.5 | 5.4 | 19.9 | 16.1 |
| LnGrp LOS | A | A | B | A | B | B |
| Approach Vol, veh/h | | 409 | 946 | | 229 | |
| Approach Delay, s/veh | | 3.6 | 9.6 | | 18.9 | |
| Approach LOS | | A | A | | B | |

| Timer - Assigned Phs | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 30.5 | | 10.3 | 4.7 | 25.8 |
| Change Period (Y+Rc), s | 4.5 | | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 38.0 | | 18.0 | 4.0 | 29.5 |
| Max Q Clear Time (g_c+I1), s | 6.1 | | 5.8 | 2.0 | 16.0 |
| Green Ext Time (p_c), s | 2.6 | | 0.5 | 0.0 | 5.3 |

**Intersection Summary**

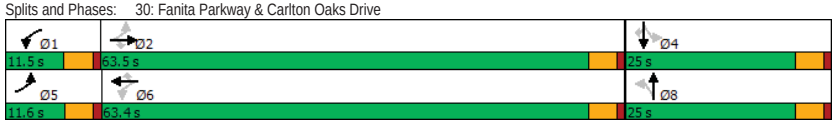
| | |
|---|---|
| HCM 6th Ctrl Delay | 9.4 |
| HCM 6th LOS | A |

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\No School Alt\7 Existing + Cuml + Proj AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 44 | 370 | 0 | 0 | 701 | 168 | 4 | 0 | 5 | 316 | 0 | 142 |
| Future Volume (vph) | 44 | 370 | 0 | 0 | 701 | 168 | 4 | 0 | 5 | 316 | 0 | 142 |
| Confl. Peds. (#/hr) | | | 4 | | | 4 | | | 14 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | 6 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | pm+pt | NA | Perm | pm+pt | NA | Perm | Perm | NA | | Perm | | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | 2 | | 2 | 6 | | 6 | 8 | | | 4 | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 8 | 8 | | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | | 7.0 | 7.0 | 7.0 |
| Minimum Split (s) | 11.5 | 26.5 | 26.5 | 11.5 | 20.5 | 20.5 | 22.5 | 22.5 | | 22.5 | 22.5 | 22.5 |
| Total Split (s) | 11.6 | 63.5 | 63.5 | 11.5 | 63.4 | 63.4 | 25.0 | 25.0 | | 25.0 | 25.0 | 25.0 |
| Total Split (%) | 11.6% | 63.5% | 63.5% | 11.5% | 63.4% | 63.4% | 25.0% | 25.0% | | 25.0% | 25.0% | 25.0% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | | | | | | |
| Recall Mode | None | Min | Min | None | Min | Min | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 74.2 |
| Natural Cycle: 90 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 30: Fanita Parkway & Carlton Oaks Drive






Existing + Cuml + Proj AM (No School)
30: Fanita Parkway & Carlton Oaks Drive
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 44 | 370 | 0 | 0 | 701 | 168 | 4 | 0 | 5 | 316 | 0 | 142 |
| Future Volume (veh/h) | 44 | 370 | 0 | 0 | 701 | 168 | 4 | 0 | 5 | 316 | 0 | 142 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.97 | 1.00 | | 0.97 | 0.97 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 48 | 402 | 0 | 0 | 762 | 183 | 4 | 0 | 5 | 343 | 0 | 154 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 280 | 1128 | 956 | 575 | 898 | 739 | 218 | 26 | 215 | 475 | 508 | 429 |
| Arrive On Green | 0.06 | 0.60 | 0.00 | 0.00 | 0.48 | 0.48 | 0.27 | 0.00 | 0.27 | 0.27 | 0.00 | 0.27 |
| Sat Flow, veh/h | 1781 | 1870 | 1585 | 1781 | 1870 | 1540 | 538 | 95 | 791 | 1375 | 1870 | 1579 |
| Grp Volume(v), veh/h | 48 | 402 | 0 | 0 | 762 | 183 | 9 | 0 | 0 | 343 | 0 | 154 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1585 | 1781 | 1870 | 1540 | 1423 | 0 | 0 | 1375 | 1870 | 1579 |
| Q Serve(g_s), s | 0.9 | 7.8 | 0.0 | 0.0 | 25.7 | 5.0 | 0.0 | 0.0 | 0.0 | 17.0 | 0.0 | 5.7 |
| Cycle Q Clear(g_c), s | 0.9 | 7.8 | 0.0 | 0.0 | 25.7 | 5.0 | 0.3 | 0.0 | 0.0 | 17.3 | 0.0 | 5.7 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 0.44 | | 0.56 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 280 | 1128 | 956 | 575 | 898 | 739 | 459 | 0 | 0 | 475 | 508 | 429 |
| V/C Ratio(X) | 0.17 | 0.36 | 0.00 | 0.00 | 0.85 | 0.25 | 0.02 | 0.00 | 0.00 | 0.72 | 0.00 | 0.36 |
| Avail Cap(c_a), veh/h | 349 | 1536 | 1301 | 746 | 1533 | 1262 | 478 | 0 | 0 | 494 | 534 | 450 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 12.7 | 7.2 | 0.0 | 0.0 | 16.4 | 11.0 | 19.2 | 0.0 | 0.0 | 25.3 | 0.0 | 21.1 |
| Incr Delay (d2), s/veh | 0.3 | 0.2 | 0.0 | 0.0 | 2.3 | 0.2 | 0.0 | 0.0 | 0.0 | 4.9 | 0.0 | 0.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.3 | 2.5 | 0.0 | 0.0 | 9.9 | 1.5 | 0.1 | 0.0 | 0.0 | 5.9 | 0.0 | 2.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 13.0 | 7.4 | 0.0 | 0.0 | 18.7 | 11.2 | 19.2 | 0.0 | 0.0 | 30.2 | 0.0 | 21.6 |
| LnGrp LOS | B | A | A | A | B | B | B | A | A | C | A | C |
| Approach Vol, veh/h | | 450 | | | 945 | | | 9 | | | 497 | |
| Approach Delay, s/veh | | 8.0 | | | 17.3 | | | 19.2 | | | 27.6 | |
| Approach LOS | | A | | | B | | | B | | | C | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 0.0 | 47.8 | | 24.0 | 8.8 | 39.0 | | 24.0 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 7.0 | 59.0 | | 20.5 | 7.1 | 58.9 | | 20.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 0.0 | 9.8 | | 19.3 | 2.9 | 27.7 | | 2.3 | | | | |
| Green Ext Time (p_c), s | 0.0 | 2.6 | | 0.2 | 0.0 | 6.8 | | 0.0 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 17.8 | |
| HCM 6th LOS | B | |

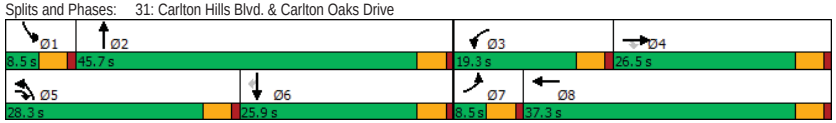
Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\No School Alt\7 Existing + Cuml + Proj AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 10 | 131 | 671 | 225 | 183 | 11 | 619 | 360 | 181 | 14 | 628 | 80 |
| Future Volume (vph) | 10 | 131 | 671 | 225 | 183 | 11 | 619 | 360 | 181 | 14 | 628 | 80 |
| Confl. Peds. (#/hr) | | | 16 | | | 2 | | | 3 | | | 4 |
| Confl. Bikes (#/hr) | | | 1 | | | 1 | | | 1 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 7 | 4 | 5 | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | | | | 6 |
| Detector Phase | 7 | 4 | 5 | 3 | 8 | | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 26.5 | 8.5 | 8.5 | 26.5 | | 8.5 | 22.5 | | 8.5 | 22.5 | 22.5 |
| Total Split (s) | 8.5 | 26.5 | 28.3 | 19.3 | 37.3 | | 28.3 | 45.7 | | 8.5 | 25.9 | 25.9 |
| Total Split (%) | 8.5% | 26.5% | 28.3% | 19.3% | 37.3% | | 28.3% | 45.7% | | 8.5% | 25.9% | 25.9% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | | None | Min | | None | Min | Min |

**Intersection Summary**

Cycle Length: 100
Actuated Cycle Length: 90.2
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 31: Carlton Hills Blvd. & Carlton Oaks Drive






Existing + Cuml + Proj AM (No School)
31: Carlton Hills Blvd. & Carlton Oaks Drive
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 10 | 131 | 671 | 225 | 183 | 11 | 619 | 360 | 181 | 14 | 628 | 80 |
| Future Volume (veh/h) | 10 | 131 | 671 | 225 | 183 | 11 | 619 | 360 | 181 | 14 | 628 | 80 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 11 | 142 | 729 | 245 | 199 | 12 | 673 | 391 | 197 | 15 | 683 | 87 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 19 | 425 | 696 | 272 | 1258 | 75 | 759 | 961 | 477 | 24 | 761 | 333 |
| Arrive On Green | 0.01 | 0.23 | 0.23 | 0.15 | 0.37 | 0.37 | 0.22 | 0.42 | 0.42 | 0.01 | 0.21 | 0.21 |
| Sat Flow, veh/h | 1781 | 1870 | 1532 | 1781 | 3403 | 204 | 3456 | 2287 | 1136 | 1781 | 3554 | 1556 |
| Grp Volume(v), veh/h | 11 | 142 | 729 | 245 | 103 | 108 | 673 | 302 | 286 | 15 | 683 | 87 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1532 | 1781 | 1777 | 1830 | 1728 | 1777 | 1646 | 1781 | 1777 | 1556 |
| Q Serve(g_s), s | 0.6 | 6.1 | 22.0 | 13.1 | 3.8 | 3.8 | 18.3 | 11.5 | 11.8 | 0.8 | 18.1 | 4.5 |
| Cycle Q Clear(g_c), s | 0.6 | 6.1 | 22.0 | 13.1 | 3.8 | 3.8 | 18.3 | 11.5 | 11.8 | 0.8 | 18.1 | 4.5 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.11 | 1.00 | | 0.69 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 19 | 425 | 696 | 272 | 657 | 677 | 759 | 746 | 691 | 24 | 761 | 333 |
| V/C Ratio(X) | 0.58 | 0.33 | 1.05 | 0.90 | 0.16 | 0.16 | 0.89 | 0.41 | 0.41 | 0.61 | 0.90 | 0.26 |
| Avail Cap(c_a), veh/h | 74 | 425 | 696 | 272 | 657 | 677 | 850 | 756 | 701 | 74 | 786 | 344 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 47.7 | 31.3 | 27.0 | 40.3 | 20.4 | 20.4 | 36.6 | 19.6 | 19.7 | 47.5 | 37.0 | 31.6 |
| Incr Delay (d2), s/veh | 25.5 | 0.5 | 47.1 | 29.9 | 0.1 | 0.1 | 10.4 | 0.4 | 0.4 | 22.4 | 12.8 | 0.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.4 | 2.8 | 24.2 | 7.9 | 1.6 | 1.6 | 8.6 | 4.6 | 4.4 | 0.5 | 9.0 | 1.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 73.1 | 31.7 | 74.1 | 70.2 | 20.5 | 20.5 | 47.0 | 20.0 | 20.1 | 69.9 | 49.8 | 32.1 |
| LnGrp LOS | E | C | F | E | C | C | D | B | C | E | D | C |
| Approach Vol, veh/h | | 882 | | | 456 | | | 1261 | | | 785 | |
| Approach Delay, s/veh | | 67.2 | | | 47.2 | | | 34.4 | | | 48.2 | |
| Approach LOS | | E | | | D | | | C | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.8 | 45.2 | 19.3 | 26.5 | 25.7 | 25.2 | 5.5 | 40.3 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 4.0 | 41.2 | 14.8 | 22.0 | 23.8 | 21.4 | 4.0 | 32.8 |
| Max Q Clear Time (g_c+I1), s | 2.8 | 13.8 | 15.1 | 24.0 | 20.3 | 20.1 | 2.6 | 5.8 |
| Green Ext Time (p_c), s | 0.0 | 3.8 | 0.0 | 0.0 | 1.0 | 0.6 | 0.0 | 1.2 |

**Intersection Summary**

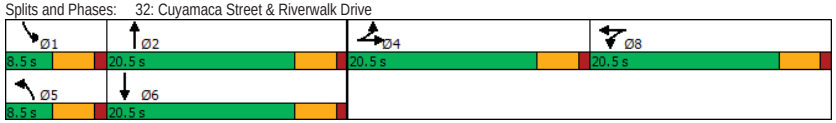
| | |
|---|---|
| HCM 6th Ctrl Delay | 47.9 |
| HCM 6th LOS | D |

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\No School Alt\7 Existing + Cuml + Proj AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 1 | 0 | 0 | 92 | 1 | 56 | 17 | 569 | 82 | 100 | 1243 | 3 |
| Future Volume (vph) | 1 | 0 | 0 | 92 | 1 | 56 | 17 | 569 | 82 | 100 | 1243 | 3 |
| Confl. Peds. (#/hr) | | | 17 | | | 2 | | | 1 | | | 7 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Split | | | Split | NA | | Prot | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | 20.5 | 20.5 | | 20.5 | 20.5 | | 8.5 | 20.5 | | 8.5 | 20.5 | |
| Total Split (s) | 20.5 | 20.5 | | 20.5 | 20.5 | | 8.5 | 20.5 | | 8.5 | 20.5 | |
| Total Split (%) | 29.3% | 29.3% | | 29.3% | 29.3% | | 12.1% | 29.3% | | 12.1% | 29.3% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 70 |
| Actuated Cycle Length: 45.6 |
| Natural Cycle: 90 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 32: Cuyamaca Street & Riverwalk Drive






Existing + Cuml + Proj AM (No School)
32: Cuyamaca Street & Riverwalk Drive
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 1 | 0 | 0 | 92 | 1 | 56 | 17 | 569 | 82 | 100 | 1243 | 3 |
| Future Volume (veh/h) | 1 | 0 | 0 | 92 | 1 | 56 | 17 | 569 | 82 | 100 | 1243 | 3 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.99 | 1.00 | | 1.00 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 1 | 0 | 0 | 100 | 1 | 61 | 18 | 618 | 89 | 109 | 1351 | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 67 | 71 | 0 | 176 | 3 | 154 | 32 | 1055 | 152 | 138 | 1447 | 3 |
| Arrive On Green | 0.04 | 0.00 | 0.00 | 0.10 | 0.10 | 0.10 | 0.02 | 0.34 | 0.34 | 0.08 | 0.40 | 0.40 |
| Sat Flow, veh/h | 1781 | 1870 | 0 | 1781 | 25 | 1554 | 1781 | 3118 | 448 | 1781 | 3638 | 8 |
| Grp Volume(v), veh/h | 1 | 0 | 0 | 100 | 0 | 62 | 18 | 352 | 355 | 109 | 660 | 694 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 0 | 1781 | 0 | 1580 | 1781 | 1777 | 1789 | 1781 | 1777 | 1869 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.0 | 2.2 | 0.0 | 1.5 | 0.4 | 6.6 | 6.6 | 2.4 | 14.3 | 14.3 |
| Cycle Q Clear(g_c), s | 0.0 | 0.0 | 0.0 | 2.2 | 0.0 | 1.5 | 0.4 | 6.6 | 6.6 | 2.4 | 14.3 | 14.3 |
| Prop In Lane | 1.00 | | 0.00 | 1.00 | | 0.98 | 1.00 | | 0.25 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 67 | 71 | 0 | 176 | 0 | 156 | 32 | 602 | 606 | 138 | 707 | 743 |
| V/C Ratio(X) | 0.01 | 0.00 | 0.00 | 0.57 | 0.00 | 0.40 | 0.56 | 0.58 | 0.59 | 0.79 | 0.93 | 0.93 |
| Avail Cap(c_a), veh/h | 709 | 744 | 0 | 709 | 0 | 628 | 177 | 707 | 712 | 177 | 707 | 743 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 18.6 | 0.0 | 0.0 | 17.3 | 0.0 | 17.0 | 19.6 | 11.0 | 11.0 | 18.2 | 11.6 | 11.6 |
| Incr Delay (d2), s/veh | 0.1 | 0.0 | 0.0 | 2.9 | 0.0 | 1.6 | 14.2 | 0.9 | 0.9 | 16.7 | 19.4 | 18.8 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.0 | 0.0 | 0.9 | 0.0 | 0.5 | 0.3 | 2.0 | 2.1 | 1.5 | 7.6 | 7.9 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 18.7 | 0.0 | 0.0 | 20.2 | 0.0 | 18.6 | 33.8 | 11.9 | 11.9 | 34.9 | 31.0 | 30.4 |
| LnGrp LOS | B | A | A | C | A | B | C | B | B | C | C | C |
| Approach Vol, veh/h | | 1 | | | 162 | | | 725 | | | 1463 | |
| Approach Delay, s/veh | | 18.7 | | | 19.6 | | | 12.4 | | | 31.0 | |
| Approach LOS | | B | | | B | | | B | | | C | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.6 | 18.1 | | 6.0 | 5.2 | 20.5 | | 8.5 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 4.0 | 16.0 | | 16.0 | 4.0 | 16.0 | | 16.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 4.4 | 8.6 | | 2.0 | 2.4 | 16.3 | | 4.2 | | | | |
| Green Ext Time (p_c), s | 0.0 | 2.5 | | 0.0 | 0.0 | 0.0 | | 0.4 | | | | |

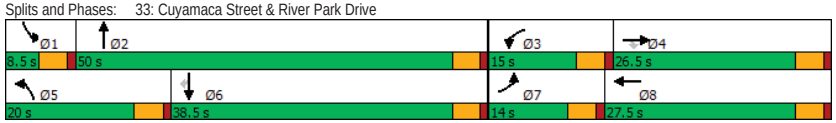
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 24.5 | |
| HCM 6th LOS | C | |

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\No School Alt\7 Existing + Cuml + Proj AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 64 | 27 | 101 | 79 | 31 | 28 | 131 | 685 | 83 | 16 | 1062 | 54 |
| Future Volume (vph) | 64 | 27 | 101 | 79 | 31 | 28 | 131 | 685 | 83 | 16 | 1062 | 54 |
| Confl. Peds. (#/hr) | | | 10 | | | 6 | | | 10 | | | 6 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | | | | 6 |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 26.5 | 26.5 | 8.5 | 26.5 | | 8.5 | 22.5 | | 8.5 | 26.5 | 26.5 |
| Total Split (s) | 14.0 | 26.5 | 26.5 | 15.0 | 27.5 | | 20.0 | 50.0 | | 8.5 | 38.5 | 38.5 |
| Total Split (%) | 14.0% | 26.5% | 26.5% | 15.0% | 27.5% | | 20.0% | 50.0% | | 8.5% | 38.5% | 38.5% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | | None | Min | | None | Min | Min |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 77 |
| Natural Cycle: 90 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 33: Cuyamaca Street & River Park Drive






Existing + Cuml + Proj AM (No School)
33: Cuyamaca Street & River Park Drive
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 64 | 27 | 101 | 79 | 31 | 28 | 131 | 685 | 83 | 16 | 1062 | 54 |
| Future Volume (veh/h) | 64 | 27 | 101 | 79 | 31 | 28 | 131 | 685 | 83 | 16 | 1062 | 54 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 70 | 29 | 110 | 86 | 34 | 30 | 142 | 745 | 90 | 17 | 1154 | 59 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 90 | 252 | 209 | 112 | 134 | 118 | 184 | 1614 | 195 | 29 | 1490 | 660 |
| Arrive On Green | 0.05 | 0.13 | 0.13 | 0.06 | 0.15 | 0.15 | 0.10 | 0.51 | 0.51 | 0.02 | 0.42 | 0.42 |
| Sat Flow, veh/h | 1781 | 1870 | 1550 | 1781 | 911 | 803 | 1781 | 3188 | 385 | 1781 | 3554 | 1574 |
| Grp Volume(v), veh/h | 70 | 29 | 110 | 86 | 0 | 64 | 142 | 415 | 420 | 17 | 1154 | 59 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1550 | 1781 | 0 | 1714 | 1781 | 1777 | 1797 | 1781 | 1777 | 1574 |
| Q Serve(g_s), s | 2.5 | 0.9 | 4.2 | 3.1 | 0.0 | 2.1 | 5.0 | 9.7 | 9.7 | 0.6 | 18.0 | 1.5 |
| Cycle Q Clear(g_c), s | 2.5 | 0.9 | 4.2 | 3.1 | 0.0 | 2.1 | 5.0 | 9.7 | 9.7 | 0.6 | 18.0 | 1.5 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.47 | 1.00 | | 0.21 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 90 | 252 | 209 | 112 | 0 | 252 | 184 | 899 | 909 | 29 | 1490 | 660 |
| V/C Ratio(X) | 0.78 | 0.11 | 0.53 | 0.77 | 0.00 | 0.25 | 0.77 | 0.46 | 0.46 | 0.59 | 0.77 | 0.09 |
| Avail Cap(c_a), veh/h | 263 | 640 | 530 | 291 | 0 | 613 | 429 | 1257 | 1271 | 111 | 1879 | 832 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 30.2 | 24.4 | 25.9 | 29.7 | 0.0 | 24.3 | 28.1 | 10.2 | 10.2 | 31.4 | 16.1 | 11.3 |
| Incr Delay (d2), s/veh | 13.4 | 0.2 | 2.0 | 10.6 | 0.0 | 0.5 | 6.7 | 0.4 | 0.4 | 17.3 | 1.6 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.4 | 0.4 | 1.6 | 1.6 | 0.0 | 0.9 | 2.3 | 3.2 | 3.2 | 0.4 | 6.5 | 0.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 43.6 | 24.6 | 27.9 | 40.3 | 0.0 | 24.8 | 34.8 | 10.6 | 10.6 | 48.7 | 17.7 | 11.3 |
| LnGrp LOS | D | C | C | D | A | C | C | B | B | D | B | B |
| Approach Vol, veh/h | | 209 | | | 150 | | | 977 | | | 1230 | |
| Approach Delay, s/veh | | 32.7 | | | 33.7 | | | 14.1 | | | 17.8 | |
| Approach LOS | | C | | | C | | | B | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.5 | 37.0 | 8.5 | 13.2 | 11.1 | 31.5 | 7.7 | 14.0 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 4.0 | 45.5 | 10.5 | 22.0 | 15.5 | 34.0 | 9.5 | 23.0 |
| Max Q Clear Time (g_c+I1), s | 2.6 | 11.7 | 5.1 | 6.2 | 7.0 | 20.0 | 4.5 | 4.1 |
| Green Ext Time (p_c), s | 0.0 | 5.9 | 0.1 | 0.4 | 0.2 | 7.0 | 0.0 | 0.2 |

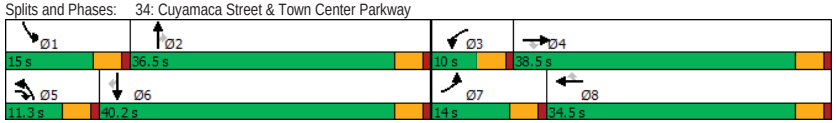
| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 18.5 |
| HCM 6th LOS | B |

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\No School Alt\7 Existing + Cuml + Proj AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 154 | 73 | 89 | 64 | 47 | 65 | 91 | 396 | 53 | 100 | 678 | 253 |
| Future Volume (vph) | 154 | 73 | 89 | 64 | 47 | 65 | 91 | 396 | 53 | 100 | 678 | 253 |
| Confl. Peds. (#/hr) | | | 7 | | | 1 | | | 5 | | | 3 |
| Confl. Bikes (#/hr) | | | 1 | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 7 | 4 | 5 | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | 2 | | | 6 |
| Detector Phase | 7 | 4 | 5 | 3 | 8 | 8 | 5 | 2 | 2 | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 34.5 | 8.5 | 8.5 | 34.5 | 34.5 | 8.5 | 34.5 | 34.5 | 8.5 | 34.5 | 34.5 |
| Total Split (s) | 14.0 | 38.5 | 11.3 | 10.0 | 34.5 | 34.5 | 11.3 | 36.5 | 36.5 | 15.0 | 40.2 | 40.2 |
| Total Split (%) | 14.0% | 38.5% | 11.3% | 10.0% | 34.5% | 34.5% | 11.3% | 36.5% | 36.5% | 15.0% | 40.2% | 40.2% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lead | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | None | None | Min | Min | None | Min | Min |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 58.2 |
| Natural Cycle: 90 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 34: Cuyamaca Street & Town Center Parkway






Existing + Cuml + Proj AM (No School) Fanita Ranch
34: Cuyamaca Street & Town Center Parkway 06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 154 | 73 | 89 | 64 | 47 | 65 | 91 | 396 | 53 | 100 | 678 | 253 |
| Future Volume (veh/h) | 154 | 73 | 89 | 64 | 47 | 65 | 91 | 396 | 53 | 100 | 678 | 253 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 1.00 | 1.00 | | 0.99 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 167 | 79 | 97 | 70 | 51 | 71 | 99 | 430 | 58 | 109 | 737 | 275 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 289 | 290 | 338 | 178 | 436 | 194 | 216 | 1652 | 509 | 142 | 1739 | 538 |
| Arrive On Green | 0.08 | 0.15 | 0.15 | 0.05 | 0.12 | 0.12 | 0.06 | 0.32 | 0.32 | 0.08 | 0.34 | 0.34 |
| Sat Flow, veh/h | 3456 | 1870 | 1543 | 3456 | 3554 | 1581 | 3456 | 5106 | 1573 | 1781 | 5106 | 1581 |
| Grp Volume(v), veh/h | 167 | 79 | 97 | 70 | 51 | 71 | 99 | 430 | 58 | 109 | 737 | 275 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1870 | 1543 | 1728 | 1777 | 1581 | 1728 | 1702 | 1573 | 1781 | 1702 | 1581 |
| Q Serve(g_s), s | 2.1 | 1.7 | 2.4 | 0.9 | 0.6 | 1.9 | 1.3 | 2.9 | 1.2 | 2.8 | 5.1 | 6.4 |
| Cycle Q Clear(g_c), s | 2.1 | 1.7 | 2.4 | 0.9 | 0.6 | 1.9 | 1.3 | 2.9 | 1.2 | 2.8 | 5.1 | 6.4 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 289 | 290 | 338 | 178 | 436 | 194 | 216 | 1652 | 509 | 142 | 1739 | 538 |
| V/C Ratio(X) | 0.58 | 0.27 | 0.29 | 0.39 | 0.12 | 0.37 | 0.46 | 0.26 | 0.11 | 0.77 | 0.42 | 0.51 |
| Avail Cap(c_a), veh/h | 713 | 1381 | 1238 | 413 | 2314 | 1030 | 510 | 3547 | 1093 | 406 | 3957 | 1225 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 20.3 | 17.2 | 15.1 | 21.2 | 18.0 | 18.6 | 20.8 | 11.5 | 10.9 | 20.8 | 11.7 | 12.1 |
| Incr Delay (d2), s/veh | 1.8 | 0.5 | 0.5 | 1.4 | 0.1 | 1.2 | 1.5 | 0.1 | 0.1 | 8.5 | 0.2 | 0.8 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.9 | 0.7 | 0.8 | 0.4 | 0.2 | 0.7 | 0.5 | 0.9 | 0.4 | 1.3 | 1.6 | 2.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 22.1 | 17.7 | 15.5 | 22.6 | 18.1 | 19.7 | 22.4 | 11.6 | 11.0 | 29.3 | 11.9 | 12.9 |
| LnGrp LOS | C | B | B | C | B | B | C | B | B | C | B | B |
| Approach Vol, veh/h | | 343 | | | 192 | | | 587 | | | 1121 | |
| Approach Delay, s/veh | | 19.2 | | | 20.3 | | | 13.4 | | | 13.8 | |
| Approach LOS | | B | | | C | | | B | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 8.2 | 19.4 | 6.9 | 11.6 | 7.4 | 20.2 | 8.4 | 10.1 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 10.5 | 32.0 | 5.5 | 34.0 | 6.8 | 35.7 | 9.5 | 30.0 |
| Max Q Clear Time (g_c+I1), s | 4.8 | 4.9 | 2.9 | 4.4 | 3.3 | 8.4 | 4.1 | 3.9 |
| Green Ext Time (p_c), s | 0.1 | 3.1 | 0.0 | 0.7 | 0.1 | 6.5 | 0.2 | 0.5 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 15.1 | |
| HCM 6th LOS | B | |

Fanita Ranch
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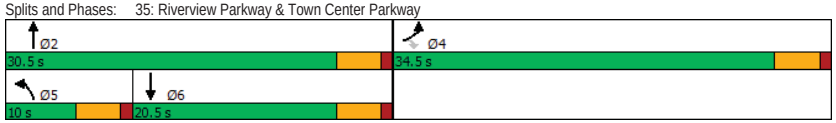
| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 1 | 102 | 115 | 105 | 38 | 8 |
| Future Volume (vph) | 1 | 102 | 115 | 105 | 38 | 8 |
| Confl. Peds. (#/hr) | | 4 | | | | 1 |
| Confl. Bikes (#/hr) | | 2 | | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | Prot | NA | NA | |
| Protected Phases | 4 | | 5 | 2 | 6 | |
| Permitted Phases | | 4 | | | | |
| Detector Phase | 4 | 4 | 5 | 2 | 6 | |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Minimum Split (s) | 34.5 | 34.5 | 8.5 | 25.5 | 20.5 | |
| Total Split (s) | 34.5 | 34.5 | 10.0 | 30.5 | 20.5 | |
| Total Split (%) | 53.1% | 53.1% | 15.4% | 46.9% | 31.5% | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lead/Lag | | | Lead | | Lag | |
| Lead-Lag Optimize? | | | Yes | | Yes | |
| Recall Mode | None | None | None | Min | Min | |

| Intersection Summary |
|---|
| Cycle Length: 65 |
| Actuated Cycle Length: 36.3 |
| Natural Cycle: 65 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 35: Riverview Parkway & Town Center Parkway






Existing + Cuml + Proj AM (No School)
35: Riverview Parkway & Town Center Parkway
Fanita Ranch
06/06/2019

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 1 | 102 | 115 | 105 | 38 | 8 |
| Future Volume (veh/h) | 1 | 102 | 115 | 105 | 38 | 8 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 1 | 111 | 125 | 114 | 41 | 9 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 161 | 144 | 174 | 1751 | 543 | 115 |
| Arrive On Green | 0.09 | 0.09 | 0.10 | 0.49 | 0.19 | 0.19 |
| Sat Flow, veh/h | 1781 | 1585 | 1781 | 3647 | 2998 | 614 |
| Grp Volume(v), veh/h | 1 | 111 | 125 | 114 | 24 | 26 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 1781 | 1777 | 1777 | 1742 |
| Q Serve(g_s), s | 0.0 | 1.5 | 1.5 | 0.4 | 0.2 | 0.3 |
| Cycle Q Clear(g_c), s | 0.0 | 1.5 | 1.5 | 0.4 | 0.2 | 0.3 |
| Prop In Lane | 1.00 | 1.00 | 1.00 | | | 0.35 |
| Lane Grp Cap(c), veh/h | 161 | 144 | 174 | 1751 | 332 | 325 |
| V/C Ratio(X) | 0.01 | 0.77 | 0.72 | 0.07 | 0.07 | 0.08 |
| Avail Cap(c_a), veh/h | 2473 | 2201 | 453 | 4277 | 1316 | 1290 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 8.9 | 9.6 | 9.5 | 2.9 | 7.2 | 7.2 |
| Incr Delay (d2), s/veh | 0.0 | 8.5 | 5.5 | 0.0 | 0.1 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.3 | 0.6 | 0.0 | 0.1 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 9.0 | 18.1 | 14.9 | 2.9 | 7.3 | 7.4 |
| LnGrp LOS | A | B | B | A | A | A |
| Approach Vol, veh/h | 112 | | | 239 | 50 | |
| Approach Delay, s/veh | 18.0 | | | 9.2 | 7.3 | |
| Approach LOS | B | | | A | A | |

| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 15.1 | | 6.5 | 6.6 | 8.5 |
| Change Period (Y+Rc), s | | 4.5 | | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | | 26.0 | | 30.0 | 5.5 | 16.0 |
| Max Q Clear Time (g_c+I1), s | | 2.4 | | 3.5 | 3.5 | 2.3 |
| Green Ext Time (p_c), s | | 0.6 | | 0.3 | 0.1 | 0.1 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 11.4 | |
| HCM 6th LOS | B | |

Fanita Ranch
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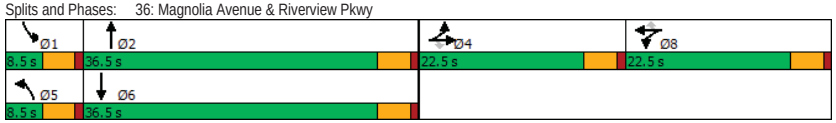
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 1 | 0 | 7 | 38 | 0 | 8 | 47 | 1068 | 20 | 8 | 1451 | 3 |
| Future Volume (vph) | 1 | 0 | 7 | 38 | 0 | 8 | 47 | 1068 | 20 | 8 | 1451 | 3 |
| Confl. Peds. (#/hr) | | | 8 | | | | | | | | | 8 |
| Confl. Bikes (#/hr) | | | 1 | | | | | | 5 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Split | NA | Perm | Split | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | | | | |
| Detector Phase | 4 | 4 | 4 | 8 | 8 | 8 | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 8.5 | 22.5 | | 8.5 | 22.5 | |
| Total Split (s) | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 8.5 | 36.5 | | 8.5 | 36.5 | |
| Total Split (%) | 25.0% | 25.0% | 25.0% | 25.0% | 25.0% | 25.0% | 9.4% | 40.6% | | 9.4% | 40.6% | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | None | None | None | None | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 90 |
| Actuated Cycle Length: 58.2 |
| Natural Cycle: 100 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 36: Magnolia Avenue & Riverview Pkwy






Existing + Cuml + Proj AM (No School)
36: Magnolia Avenue & Riverview Pkwy
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 1 | 0 | 7 | 38 | 0 | 8 | 47 | 1068 | 20 | 8 | 1451 | 3 |
| Future Volume (veh/h) | 1 | 0 | 7 | 38 | 0 | 8 | 47 | 1068 | 20 | 8 | 1451 | 3 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.96 | 1.00 | | 1.00 | 1.00 | | 0.98 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 1 | 0 | 8 | 41 | 0 | 9 | 51 | 1161 | 22 | 9 | 1577 | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 51 | 0 | 43 | 71 | 0 | 63 | 72 | 2034 | 39 | 17 | 1963 | 4 |
| Arrive On Green | 0.03 | 0.00 | 0.03 | 0.04 | 0.00 | 0.04 | 0.04 | 0.57 | 0.57 | 0.01 | 0.54 | 0.54 |
| Sat Flow, veh/h | 1781 | 0 | 1514 | 1781 | 0 | 1585 | 1781 | 3566 | 68 | 1781 | 3639 | 7 |
| Grp Volume(v), veh/h | 1 | 0 | 8 | 41 | 0 | 9 | 51 | 578 | 605 | 9 | 770 | 810 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1514 | 1781 | 0 | 1585 | 1781 | 1777 | 1856 | 1781 | 1777 | 1869 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.3 | 1.2 | 0.0 | 0.3 | 1.4 | 10.6 | 10.6 | 0.3 | 18.0 | 18.0 |
| Cycle Q Clear(g_c), s | 0.0 | 0.0 | 0.3 | 1.2 | 0.0 | 0.3 | 1.4 | 10.6 | 10.6 | 0.3 | 18.0 | 18.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.04 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 51 | 0 | 43 | 71 | 0 | 63 | 72 | 1013 | 1059 | 17 | 958 | 1008 |
| V/C Ratio(X) | 0.02 | 0.00 | 0.18 | 0.58 | 0.00 | 0.14 | 0.71 | 0.57 | 0.57 | 0.54 | 0.80 | 0.80 |
| Avail Cap(c_a), veh/h | 627 | 0 | 533 | 627 | 0 | 558 | 139 | 1111 | 1161 | 139 | 1111 | 1169 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 24.1 | 0.0 | 24.3 | 24.1 | 0.0 | 23.7 | 24.3 | 7.0 | 7.0 | 25.2 | 9.6 | 9.6 |
| Incr Delay (d2), s/veh | 0.2 | 0.0 | 2.0 | 7.3 | 0.0 | 1.0 | 12.1 | 0.6 | 0.6 | 24.3 | 3.8 | 3.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.0 | 0.1 | 0.6 | 0.0 | 0.1 | 0.8 | 2.5 | 2.6 | 0.2 | 5.1 | 5.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 24.3 | 0.0 | 26.3 | 31.4 | 0.0 | 24.7 | 36.4 | 7.6 | 7.6 | 49.5 | 13.4 | 13.2 |
| LnGrp LOS | C | A | C | C | A | C | D | A | A | D | B | B |
| Approach Vol, veh/h | | 9 | | | 50 | | | 1234 | | | 1589 | |
| Approach Delay, s/veh | | 26.1 | | | 30.2 | | | 8.8 | | | 13.5 | |
| Approach LOS | | C | | | C | | | A | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.0 | 33.7 | | 6.0 | 6.6 | 32.1 | | 6.5 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 4.0 | 32.0 | | 18.0 | 4.0 | 32.0 | | 18.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.3 | 12.6 | | 2.3 | 3.4 | 20.0 | | 3.2 | | | | |
| Green Ext Time (p_c), s | 0.0 | 7.4 | | 0.0 | 0.0 | 7.6 | | 0.1 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 11.8 |
| HCM 6th LOS | | B |

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\No School Alt\7 Existing + Cuml + Proj AM.syn

| Intersection | |
|---|---|
| Int Delay, s/veh | 20.4 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 0 | 15 | 0 | 172 | 391 | 580 | 0 | 0 | 349 | 558 |
| Future Vol, veh/h | 0 | 0 | 0 | 15 | 0 | 172 | 391 | 580 | 0 | 0 | 349 | 558 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 9 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | 190 | - | - | - | - | - |
| Veh in Median Storage, # | - | 2 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 0 | 16 | 0 | 187 | 425 | 630 | 0 | 0 | 379 | 607 |

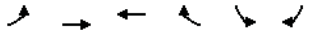
| Major/Minor | Minor1 | | | Major1 | | | Major2 | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 2163 | 2466 | 630 | 986 | 0 | - | - | - | 0 |
| Stage 1 | 1480 | 1480 | - | - | - | - | - | - | - |
| Stage 2 | 683 | 986 | - | - | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.52 | 6.22 | 4.12 | - | - | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 2.218 | - | - | - | - | - |
| Pot Cap-1 Maneuver | 52 | 30 | 482 | 701 | - | 0 | 0 | - | - |
| Stage 1 | 209 | 189 | - | - | - | 0 | 0 | - | - |
| Stage 2 | 502 | 326 | - | - | - | 0 | 0 | - | - |
| Platoon blocked, % | | | | | - | | | - | - |
| Mov Cap-1 Maneuver | 20 | 0 | 482 | 701 | - | - | - | - | - |
| Mov Cap-2 Maneuver | 20 | 0 | - | - | - | - | - | - | - |
| Stage 1 | 82 | 0 | - | - | - | - | - | - | - |
| Stage 2 | 502 | 0 | - | - | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 188.6 | 7.1 | 0 |
| HCM LOS | F | | |

| Minor Lane/Major Mvmt | NBL | NBT | WBLn1 | SBT | SBR |
|---|---|---|---|---|---|
| Capacity (veh/h) | 701 | - | 169 | - | - |
| HCM Lane V/C Ratio | 0.606 | - | 1.203 | - | - |
| HCM Control Delay (s) | 17.7 | - | 188.6 | - | - |
| HCM Lane LOS | C | - | F | - | - |
| HCM 95th %tile Q(veh) | 4.1 | - | 11.1 | - | - |



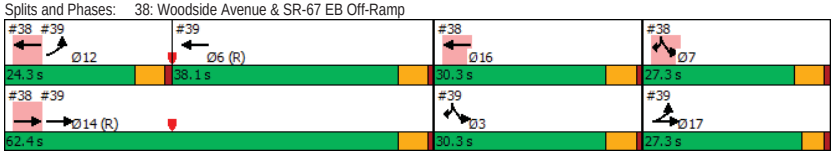




| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR | Ø3 | Ø6 | Ø12 | Ø16 | Ø17 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 292 | 166 | 0 | 515 | 129 | | | | | |
| Future Volume (vph) | 0 | 292 | 166 | 0 | 515 | 129 | | | | | |
| Confl. Peds. (#/hr) | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | | | |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | | | | | |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| Parking (#/hr) | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | | | | | | |
| Shared Lane Traffic (%) | | | | | | | | | | | |
| Turn Type | | NA | NA | | Prot | Prot | | | | | |
| Protected Phases | | 14 | 12 16 | | 7 | 7 | 3 | 6 | 12 | 16 | 17 |
| Permitted Phases | | | | | | | | | | | |
| Detector Phase | | 14 | 12 16 | | 7 | 7 | | | | | |
| Switch Phase | | | | | | | | | | | |
| Minimum Initial (s) | | 4.0 | | | 8.0 | 8.0 | 5.0 | 5.0 | 5.0 | 2.0 | 5.0 |
| Minimum Split (s) | | 20.0 | | | 27.3 | 27.3 | 30.3 | 29.3 | 24.3 | 20.0 | 9.2 |
| Total Split (s) | | 62.4 | | | 27.3 | 27.3 | 30.3 | 38.1 | 24.3 | 30.3 | 27.3 |
| Total Split (%) | | 52.0% | | | 22.8% | 22.8% | 25% | 32% | 20% | 25% | 23% |
| Yellow Time (s) | | 4.3 | | | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 3.2 |
| All-Red Time (s) | | 1.0 | | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | | 0.0 | | | 0.0 | 0.0 | | | | | |
| Total Lost Time (s) | | 5.3 | | | 5.3 | 5.3 | | | | | |
| Lead/Lag | | | | | | | | Lag | Lead | | |
| Lead-Lag Optimize? | | | | | | | | Yes | Yes | | |
| Recall Mode | | C-Max | | | Max | Max | None | C-Max | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 0 (0%), Referenced to phase 6:WBT and 14:EBT, Start of Green |
| Natural Cycle: 125 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 38: Woodside Avenue & SR-67 EB Off-Ramp



Existing + Cuml + Proj AM (No School)
38: Woodside Avenue & SR-67 EB Off-Ramp

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 292 | 166 | 0 | 515 | 129 |
| Future Volume (vph) | 0 | 292 | 166 | 0 | 515 | 129 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 5.3 | 5.3 | | 5.3 | 5.3 |
| Lane Util. Factor | | 0.95 | 1.00 | | 0.97 | 1.00 |
| Frt | | 1.00 | 1.00 | | 1.00 | 0.85 |
| Flt Protected | | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | | 3539 | 1863 | | 3433 | 1583 |
| Flt Permitted | | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (perm) | | 3539 | 1863 | | 3433 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 317 | 180 | 0 | 560 | 140 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 43 |
| Lane Group Flow (vph) | 0 | 317 | 180 | 0 | 560 | 97 |
| Turn Type | | NA | NA | | Prot | Prot |
| Protected Phases | | 14 | 12 16 | | 7 | 7 |
| Permitted Phases | | | | | | |
| Actuated Green, G (s) | | 57.1 | 40.4 | | 22.0 | 22.0 |
| Effective Green, g (s) | | 57.1 | 40.4 | | 22.0 | 22.0 |
| Actuated g/C Ratio | | 0.48 | 0.34 | | 0.18 | 0.18 |
| Clearance Time (s) | | 5.3 | | | 5.3 | 5.3 |
| Vehicle Extension (s) | | 1.0 | | | 3.0 | 3.0 |
| Lane Grp Cap (vph) | | 1683 | 627 | | 629 | 290 |
| v/s Ratio Prot | | c0.09 | c0.10 | | c0.16 | 0.06 |
| v/s Ratio Perm | | | | | | |
| v/c Ratio | | 0.19 | 0.29 | | 0.89 | 0.33 |
| Uniform Delay, d1 | | 18.1 | 29.2 | | 47.8 | 42.6 |
| Progression Factor | | 1.00 | 1.24 | | 1.00 | 1.00 |
| Incremental Delay, d2 | | 0.2 | 0.1 | | 17.2 | 3.1 |
| Delay (s) | | 18.4 | 36.3 | | 65.0 | 45.7 |
| Level of Service | | B | D | | E | D |
| Approach Delay (s) | | 18.4 | 36.3 | | 61.2 | |
| Approach LOS | | B | D | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 46.1 | HCM 2000 Level of Service | D |
| HCM 2000 Volume to Capacity ratio | 0.39 | | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 21.2 |
| Intersection Capacity Utilization | 32.3% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group



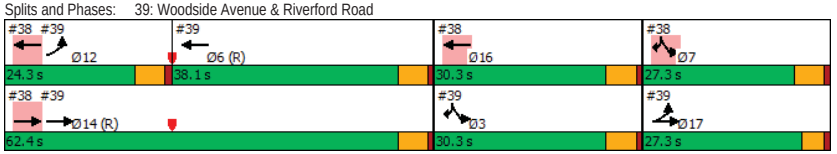
Existing + Cuml + Proj AM (No School)
39: Woodside Avenue & Riverford Road

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR | Ø7 | Ø12 | Ø14 | Ø16 | Ø17 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | |
| Traffic Volume (vph) | 462 | 345 | 126 | 510 | 325 | 42 | | | | | |
| Future Volume (vph) | 462 | 345 | 126 | 510 | 325 | 42 | | | | | |
| Confl. Peds. (#/hr) | | | | | | 1 | | | | | |
| Confl. Bikes (#/hr) | | | | 1 | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | | | |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | | | | | |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| Parking (#/hr) | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | | | | | | |
| Shared Lane Traffic (%) | | | | | | | | | | | |
| Turn Type | Prot | NA | NA | | Prot | Prot | | | | | |
| Protected Phases | 12 17 | 14 17 | 6 | | 3 | 3 | 7 | 12 | 14 | 16 | 17 |
| Permitted Phases | | | | | | | | | | | |
| Detector Phase | 12 17 | 14 17 | 6 | | 3 | 3 | | | | | |
| Switch Phase | | | | | | | | | | | |
| Minimum Initial (s) | | | 5.0 | | 5.0 | 5.0 | 8.0 | 5.0 | 4.0 | 2.0 | 5.0 |
| Minimum Split (s) | | | 29.3 | | 30.3 | 30.3 | 27.3 | 24.3 | 20.0 | 20.0 | 9.2 |
| Total Split (s) | | | 38.1 | | 30.3 | 30.3 | 27.3 | 24.3 | 62.4 | 30.3 | 27.3 |
| Total Split (%) | | | 31.8% | | 25.3% | 25.3% | 23% | 20% | 52% | 25% | 23% |
| Yellow Time (s) | | | 4.3 | | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 3.2 |
| All-Red Time (s) | | | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | | | 0.0 | | 0.0 | 0.0 | | | | | |
| Total Lost Time (s) | | | 5.3 | | 5.3 | 5.3 | | | | | |
| Lead/Lag | | | Lag | | | | | Lead | | | |
| Lead-Lag Optimize? | | | Yes | | | | | Yes | | | |
| Recall Mode | | | C-Max | | None | None | Max | None | C-Max | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 0 (0%), Referenced to phase 6:WBT and 14:EBT, Start of Green |
| Natural Cycle: 125 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 39: Woodside Avenue & Riverford Road



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 462 | 345 | 126 | 510 | 325 | 42 |
| Future Volume (vph) | 462 | 345 | 126 | 510 | 325 | 42 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.3 | 5.3 | 5.3 | | 5.3 | 5.3 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.98 | | 1.00 | 1.00 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.89 | | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | 1770 | 1863 | 1633 | | 1770 | 1583 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (perm) | 1770 | 1863 | 1633 | | 1770 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 502 | 375 | 137 | 554 | 353 | 46 |
| RTOR Reduction (vph) | 0 | 0 | 116 | 0 | 0 | 25 |
| Lane Group Flow (vph) | 502 | 375 | 575 | 0 | 353 | 21 |
| Confl. Peds. (#/hr) | | | | | | 1 |
| Confl. Bikes (#/hr) | | | | 1 | | |
| Turn Type | Prot | NA | NA | | Prot | Prot |
| Protected Phases | 12 17 | 14 17 | 6 | | 3 | 3 |
| Permitted Phases | | | | | | |
| Actuated Green, G (s) | 42.7 | 84.4 | 36.4 | | 25.0 | 25.0 |
| Effective Green, g (s) | 38.5 | 80.2 | 36.4 | | 25.0 | 25.0 |
| Actuated g/C Ratio | 0.32 | 0.67 | 0.30 | | 0.21 | 0.21 |
| Clearance Time (s) | | | 5.3 | | 5.3 | 5.3 |
| Vehicle Extension (s) | | | 3.0 | | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 567 | 1245 | 495 | | 368 | 329 |
| v/s Ratio Prot | c0.28 | 0.20 | c0.35 | | c0.20 | 0.01 |
| v/s Ratio Perm | | | | | | |
| v/c Ratio | 0.89 | 0.30 | 1.16 | | 0.96 | 0.07 |
| Uniform Delay, d1 | 38.7 | 8.3 | 41.8 | | 47.0 | 38.1 |
| Progression Factor | 0.31 | 0.08 | 1.00 | | 1.00 | 1.00 |
| Incremental Delay, d2 | 12.3 | 0.1 | 92.9 | | 35.8 | 0.1 |
| Delay (s) | 24.3 | 0.8 | 134.7 | | 82.8 | 38.2 |
| Level of Service | C | A | F | | F | D |
| Approach Delay (s) | | 14.3 | 134.7 | | 77.7 | |
| Approach LOS | | B | F | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 69.4 | HCM 2000 Level of Service | E |
| HCM 2000 Volume to Capacity ratio | 1.01 | | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 21.2 |
| Intersection Capacity Utilization | 95.0% | ICU Level of Service | F |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

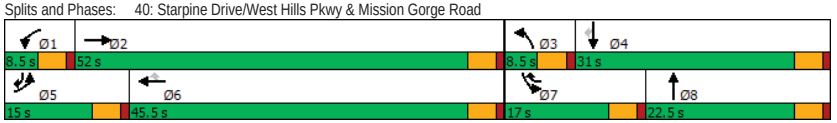




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 311 | 403 | 35 | 78 | 1082 | 565 | 33 | 57 | 73 | 120 | 59 | 461 |
| Future Volume (vph) | 311 | 403 | 35 | 78 | 1082 | 565 | 33 | 57 | 73 | 120 | 59 | 461 |
| Confl. Peds. (#/hr) | | | 3 | | | 1 | | | 1 | | | |
| Confl. Bikes (#/hr) | | | 2 | | | 6 | | | | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Prot | NA | | Prot | NA | pm+ov |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 5 |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 5 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 29.5 | | 8.5 | 29.5 | 8.5 | 8.5 | 22.5 | | 8.5 | 29.5 | 8.5 |
| Total Split (s) | 15.0 | 52.0 | | 8.5 | 45.5 | 17.0 | 8.5 | 22.5 | | 17.0 | 31.0 | 15.0 |
| Total Split (%) | 15.0% | 52.0% | | 8.5% | 45.5% | 17.0% | 8.5% | 22.5% | | 17.0% | 31.0% | 15.0% |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | Lead |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | Min | | None | Min | None | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 81.8 |
| Natural Cycle: 90 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 40: Starpine Drive/West Hills Pkwy & Mission Gorge Road



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 311 | 403 | 35 | 78 | 1082 | 565 | 33 | 57 | 73 | 120 | 59 | 461 |
| Future Volume (veh/h) | 311 | 403 | 35 | 78 | 1082 | 565 | 33 | 57 | 73 | 120 | 59 | 461 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 1.00 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 338 | 438 | 38 | 85 | 1176 | 614 | 36 | 62 | 79 | 130 | 64 | 501 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 415 | 1683 | 145 | 85 | 1555 | 777 | 48 | 125 | 160 | 207 | 376 | 882 |
| Arrive On Green | 0.12 | 0.51 | 0.51 | 0.05 | 0.44 | 0.44 | 0.03 | 0.17 | 0.17 | 0.06 | 0.20 | 0.20 |
| Sat Flow, veh/h | 3456 | 3302 | 285 | 1781 | 3554 | 1560 | 1781 | 746 | 951 | 3456 | 1870 | 2724 |
| Grp Volume(v), veh/h | 338 | 235 | 241 | 85 | 1176 | 614 | 36 | 0 | 141 | 130 | 64 | 501 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1811 | 1781 | 1777 | 1560 | 1781 | 0 | 1697 | 1728 | 1870 | 1362 |
| Q Serve(g_s), s | 8.0 | 6.3 | 6.3 | 4.0 | 23.3 | 27.4 | 1.7 | 0.0 | 6.3 | 3.1 | 2.4 | 12.8 |
| Cycle Q Clear(g_c), s | 8.0 | 6.3 | 6.3 | 4.0 | 23.3 | 27.4 | 1.7 | 0.0 | 6.3 | 3.1 | 2.4 | 12.8 |
| Prop In Lane | 1.00 | | 0.16 | 1.00 | | 1.00 | 1.00 | | 0.56 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 415 | 906 | 923 | 85 | 1555 | 777 | 48 | 0 | 285 | 207 | 376 | 882 |
| V/C Ratio(X) | 0.82 | 0.26 | 0.26 | 1.00 | 0.76 | 0.79 | 0.75 | 0.00 | 0.49 | 0.63 | 0.17 | 0.57 |
| Avail Cap(c_a), veh/h | 433 | 1007 | 1026 | 85 | 1738 | 858 | 85 | 0 | 364 | 515 | 591 | 1196 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 36.0 | 11.6 | 11.6 | 39.9 | 19.8 | 17.5 | 40.5 | 0.0 | 31.6 | 38.5 | 27.7 | 23.7 |
| Incr Delay (d2), s/veh | 11.1 | 0.2 | 0.1 | 97.7 | 1.7 | 4.6 | 20.2 | 0.0 | 1.3 | 3.1 | 0.2 | 0.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 3.7 | 2.0 | 2.1 | 3.9 | 8.6 | 9.9 | 1.0 | 0.0 | 2.6 | 1.3 | 1.0 | 4.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 47.1 | 11.8 | 11.8 | 137.6 | 21.6 | 22.1 | 60.7 | 0.0 | 33.0 | 41.6 | 27.9 | 24.3 |
| LnGrp LOS | D | B | B | F | C | C | E | A | C | D | C | C |
| Approach Vol, veh/h | | 814 | | | 1875 | | | 177 | | | 695 | |
| Approach Delay, s/veh | | 26.4 | | | 27.0 | | | 38.6 | | | 27.9 | |
| Approach LOS | | C | | | C | | | D | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 8.5 | 47.2 | 6.8 | 21.3 | 14.6 | 41.2 | 9.5 | 18.6 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 4.0 | 47.5 | 4.0 | 26.5 | 10.5 | 41.0 | 12.5 | 18.0 |
| Max Q Clear Time (g_c+I1), s | 6.0 | 8.3 | 3.7 | 14.8 | 10.0 | 29.4 | 5.1 | 8.3 |
| Green Ext Time (p_c), s | 0.0 | 2.5 | 0.0 | 1.9 | 0.1 | 7.3 | 0.2 | 0.5 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 27.6 |
| HCM 6th LOS | C |

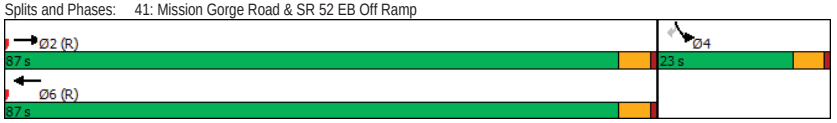




| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 929 | 1350 | 0 | 133 | 13 |
| Future Volume (vph) | 0 | 929 | 1350 | 0 | 133 | 13 |
| Confl. Peds. (#/hr) | | | | | | |
| Confl. Bikes (#/hr) | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | | NA | NA | | Prot | Perm |
| Protected Phases | | 2 | 6 | | 4 | |
| Permitted Phases | | | | | | 4 |
| Detector Phase | | 2 | 6 | | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | | 6.0 | 11.0 | | 10.0 | 10.0 |
| Minimum Split (s) | | 20.0 | 20.0 | | 20.0 | 20.0 |
| Total Split (s) | | 87.0 | 87.0 | | 23.0 | 23.0 |
| Total Split (%) | | 79.1% | 79.1% | | 20.9% | 20.9% |
| Yellow Time (s) | | 4.4 | 4.4 | | 4.1 | 4.1 |
| All-Red Time (s) | | 1.0 | 1.0 | | 1.0 | 1.0 |
| Lost Time Adjust (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | | 5.4 | 5.4 | | 5.1 | 5.1 |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | | C-Min | C-Min | | None | None |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 110 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green, Master Intersection |
| Natural Cycle: 50 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 41: Mission Gorge Road & SR 52 EB Off Ramp



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 929 | 1350 | 0 | 133 | 13 |
| Future Volume (veh/h) | 0 | 929 | 1350 | 0 | 133 | 13 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 0 | 1870 | 1870 | 0 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 1010 | 1467 | 0 | 145 | 14 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 0 | 2 | 2 | 0 | 2 | 2 |
| Cap, veh/h | 0 | 2894 | 2894 | 0 | 312 | 143 |
| Arrive On Green | 0.00 | 0.81 | 1.00 | 0.00 | 0.09 | 0.09 |
| Sat Flow, veh/h | 0 | 3741 | 3741 | 0 | 3456 | 1585 |
| Grp Volume(v), veh/h | 0 | 1010 | 1467 | 0 | 145 | 14 |
| Grp Sat Flow(s),veh/h/ln | 0 | 1777 | 1777 | 0 | 1728 | 1585 |
| Q Serve(g_s), s | 0.0 | 8.1 | 0.0 | 0.0 | 4.4 | 0.9 |
| Cycle Q Clear(g_c), s | 0.0 | 8.1 | 0.0 | 0.0 | 4.4 | 0.9 |
| Prop In Lane | 0.00 | | | 0.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 0 | 2894 | 2894 | 0 | 312 | 143 |
| V/C Ratio(X) | 0.00 | 0.35 | 0.51 | 0.00 | 0.47 | 0.10 |
| Avail Cap(c_a), veh/h | 0 | 2894 | 2894 | 0 | 562 | 258 |
| HCM Platoon Ratio | 1.00 | 1.00 | 2.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.00 | 1.00 | 0.79 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 0.0 | 2.6 | 0.0 | 0.0 | 47.5 | 45.9 |
| Incr Delay (d2), s/veh | 0.0 | 0.3 | 0.5 | 0.0 | 1.1 | 0.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 2.1 | 0.2 | 0.0 | 1.9 | 0.4 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 3.0 | 0.5 | 0.0 | 48.6 | 46.2 |
| LnGrp LOS | A | A | A | A | D | D |
| Approach Vol, veh/h | | 1010 | 1467 | | 159 | |
| Approach Delay, s/veh | | 3.0 | 0.5 | | 48.4 | |
| Approach LOS | | A | A | | D | |

| Timer - Assigned Phs | | 2 | | 4 | | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 95.0 | | 15.0 | | 95.0 |
| Change Period (Y+Rc), s | | 5.4 | | 5.1 | | 5.4 |
| Max Green Setting (Gmax), s | | 81.6 | | 17.9 | | 81.6 |
| Max Q Clear Time (g_c+I1), s | | 10.1 | | 6.4 | | 2.0 |
| Green Ext Time (p_c), s | | 9.8 | | 0.4 | | 16.8 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 4.3 |
| HCM 6th LOS | A |

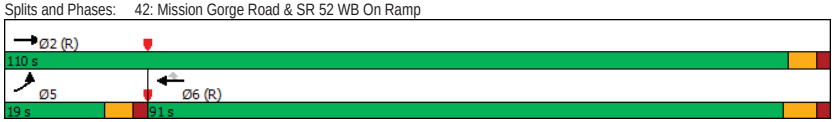




| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 60 | 949 | 1303 | 840 | 0 | 0 |
| Future Volume (vph) | 60 | 949 | 1303 | 840 | 0 | 0 |
| Confl. Peds. (#/hr) | | | | | | |
| Confl. Bikes (#/hr) | | | | 2 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | |
| Shared Lane Traffic (%) | | | | 23% | | |
| Turn Type | Prot | NA | NA | Perm | | |
| Protected Phases | 5 | 2 | 6 | | | |
| Permitted Phases | | | | 6 | | |
| Detector Phase | 5 | 2 | 6 | 6 | | |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 10.0 | 10.0 | | |
| Minimum Split (s) | 10.7 | 21.0 | 22.4 | 22.4 | | |
| Total Split (s) | 19.0 | 110.0 | 91.0 | 91.0 | | |
| Total Split (%) | 17.3% | 100.0% | 82.7% | 82.7% | | |
| Yellow Time (s) | 3.7 | 3.7 | 4.4 | 4.4 | | |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | | |
| Total Lost Time (s) | 5.7 | 5.7 | 6.4 | 6.4 | | |
| Lead/Lag | Lead | | Lag | Lag | | |
| Lead-Lag Optimize? | Yes | | Yes | Yes | | |
| Recall Mode | None | C-Min | C-Min | C-Min | | |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 110 |
| Offset: 32 (29%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 50 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 42: Mission Gorge Road & SR 52 WB On Ramp



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 60 | 949 | 1303 | 840 | 0 | 0 |
| Future Volume (veh/h) | 60 | 949 | 1303 | 840 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 0.98 | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Work Zone On Approach | | No | No | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | | |
| Adj Flow Rate, veh/h | 65 | 1032 | 1621 | 776 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | | |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | | |
| Cap, veh/h | 84 | 3347 | 3154 | 1308 | | |
| Arrive On Green | 0.09 | 1.00 | 1.00 | 1.00 | | |
| Sat Flow, veh/h | 1781 | 3647 | 3741 | 1552 | | |
| Grp Volume(v), veh/h | 65 | 1032 | 1621 | 776 | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1870 | 1552 | | |
| Q Serve(g_s), s | 3.9 | 0.0 | 0.0 | 0.0 | | |
| Cycle Q Clear(g_c), s | 3.9 | 0.0 | 0.0 | 0.0 | | |
| Prop In Lane | 1.00 | | | 1.00 | | |
| Lane Grp Cap(c), veh/h | 84 | 3347 | 3154 | 1308 | | |
| V/C Ratio(X) | 0.78 | 0.31 | 0.51 | 0.59 | | |
| Avail Cap(c_a), veh/h | 215 | 3370 | 3154 | 1308 | | |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 2.00 | | |
| Upstream Filter(I) | 0.94 | 0.94 | 0.76 | 0.76 | | |
| Uniform Delay (d), s/veh | 49.3 | 0.0 | 0.0 | 0.0 | | |
| Incr Delay (d2), s/veh | 13.5 | 0.2 | 0.5 | 1.5 | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | | |
| %ile BackOfQ(50%),veh/ln | 2.0 | 0.1 | 0.2 | 0.5 | | |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 62.8 | 0.2 | 0.5 | 1.5 | | |
| LnGrp LOS | E | A | A | A | | |
| Approach Vol, veh/h | | 1097 | 2397 | | | |
| Approach Delay, s/veh | | 3.9 | 0.8 | | | |
| Approach LOS | | A | A | | | |

| Timer - Assigned Phs | 2 | | | 5 | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 110.0 | | | 10.9 | 99.1 |
| Change Period (Y+Rc), s | * 6.4 | | | * 5.7 | 6.4 |
| Max Green Setting (Gmax), s | * 1E2 | | | * 13 | 84.6 |
| Max Q Clear Time (g_c+I1), s | 2.0 | | | 5.9 | 2.0 |
| Green Ext Time (p_c), s | 2.5 | | | 0.1 | 33.2 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 1.8 |
| HCM 6th LOS | A |

**Notes**

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

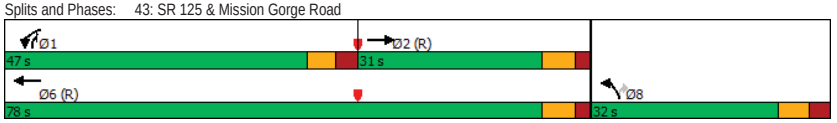




| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 698 | 264 | 1087 | 1267 | 689 | 953 |
| Future Volume (vph) | 698 | 264 | 1087 | 1267 | 689 | 953 |
| Confl. Peds. (#/hr) | | 11 | | | | |
| Confl. Bikes (#/hr) | | 3 | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | NA | | Prot | NA | Prot | pm+ov |
| Protected Phases | 2 | | 1 | 6 | 8 | 1 |
| Permitted Phases | | | | | | 8 |
| Detector Phase | 2 | | 1 | 6 | 8 | 1 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 11.0 | | 5.0 | 10.0 | 5.0 | 5.0 |
| Minimum Split (s) | 17.4 | | 11.7 | 20.0 | 20.0 | 11.7 |
| Total Split (s) | 31.0 | | 47.0 | 78.0 | 32.0 | 47.0 |
| Total Split (%) | 28.2% | | 42.7% | 70.9% | 29.1% | 42.7% |
| Yellow Time (s) | 4.4 | | 3.7 | 4.4 | 4.1 | 3.7 |
| All-Red Time (s) | 2.0 | | 3.0 | 2.0 | 3.0 | 3.0 |
| Lost Time Adjust (s) | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.4 | | 6.7 | 6.4 | 7.1 | 6.7 |
| Lead/Lag | Lag | | Lead | | | Lead |
| Lead-Lag Optimize? | Yes | | Yes | | | Yes |
| Recall Mode | C-Max | | None | C-Max | None | None |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 110 |
| Offset: 29 (26%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 90 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 43: SR 125 & Mission Gorge Road



| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 698 | 264 | 1087 | 1267 | 689 | 953 |
| Future Volume (veh/h) | 698 | 264 | 1087 | 1267 | 689 | 953 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | 0.95 | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 759 | 287 | 1182 | 1377 | 749 | 1036 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 825 | 308 | 1248 | 3324 | 782 | 1639 |
| Arrive On Green | 0.46 | 0.46 | 0.24 | 0.44 | 0.23 | 0.23 |
| Sat Flow, veh/h | 3774 | 1346 | 3456 | 5274 | 3456 | 2790 |
| Grp Volume(v), veh/h | 716 | 330 | 1182 | 1377 | 749 | 1036 |
| Grp Sat Flow(s),veh/h/ln | 1702 | 1548 | 1728 | 1702 | 1728 | 1395 |
| Q Serve(g_s), s | 21.7 | 22.2 | 37.0 | 20.4 | 23.5 | 24.9 |
| Cycle Q Clear(g_c), s | 21.7 | 22.2 | 37.0 | 20.4 | 23.5 | 24.9 |
| Prop In Lane | | 0.87 | 1.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 779 | 354 | 1248 | 3324 | 782 | 1639 |
| V/C Ratio(X) | 0.92 | 0.93 | 0.95 | 0.41 | 0.96 | 0.63 |
| Avail Cap(c_a), veh/h | 779 | 354 | 1266 | 3324 | 782 | 1639 |
| HCM Platoon Ratio | 2.00 | 2.00 | 0.67 | 0.67 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.97 | 0.97 | 0.71 | 0.71 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 28.9 | 29.0 | 40.7 | 16.6 | 42.0 | 14.9 |
| Incr Delay (d2), s/veh | 17.3 | 32.7 | 11.2 | 0.3 | 22.3 | 0.8 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 8.0 | 8.9 | 18.0 | 8.5 | 12.3 | 8.2 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 46.1 | 61.7 | 51.8 | 16.9 | 64.4 | 15.7 |
| LnGrp LOS | D | E | D | B | E | B |
| Approach Vol, veh/h | 1046 | | | 2559 | 1785 | |
| Approach Delay, s/veh | 51.0 | | | 33.0 | 36.1 | |
| Approach LOS | D | | | C | D | |

| Timer - Assigned Phs | 1 | 2 | 6 | 8 |
|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 46.4 | 31.6 | 78.0 | 32.0 |
| Change Period (Y+Rc), s | * 6.7 | 6.4 | 6.4 | 7.1 |
| Max Green Setting (Gmax), s | * 40 | 24.6 | 71.6 | 24.9 |
| Max Q Clear Time (g_c+I1), s | 39.0 | 24.2 | 22.4 | 26.9 |
| Green Ext Time (p_c), s | 0.7 | 0.3 | 13.2 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 37.5 |
| HCM 6th LOS | D |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

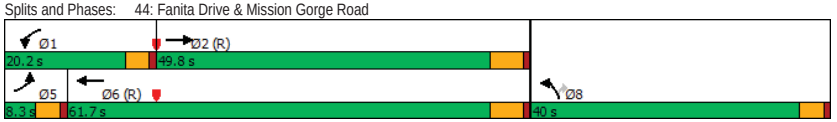




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 7 | 1161 | 412 | 335 | 1657 | 0 | 750 | 0 | 335 | 0 | 0 | 0 |
| Future Volume (vph) | 7 | 1161 | 412 | 335 | 1657 | 0 | 750 | 0 | 335 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | | | 4 | | | | | | | | | |
| Confl. Bikes (#/hr) | | | 2 | | | | | | 2 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | | Perm | | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | | | | | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | | 8 | | | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 7.0 | | 7.0 | | | |
| Minimum Split (s) | 8.2 | 33.3 | | 8.2 | 20.0 | | 34.2 | | 34.2 | | | |
| Total Split (s) | 8.3 | 49.8 | | 20.2 | 61.7 | | 40.0 | | 40.0 | | | |
| Total Split (%) | 7.5% | 45.3% | | 18.4% | 56.1% | | 36.4% | | 36.4% | | | |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | | 3.2 | | 3.2 | | | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | | 1.0 | | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | | 0.0 | | | |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | | 4.2 | | 4.2 | | | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | | None | | | |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 110 |
| Offset: 52 (47%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 90 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 44: Fanita Drive & Mission Gorge Road



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 7 | 1161 | 412 | 335 | 1657 | 0 | 750 | 0 | 335 | 0 | 0 | 0 |
| Future Volume (veh/h) | 7 | 1161 | 412 | 335 | 1657 | 0 | 750 | 0 | 335 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 1.00 | 1.00 | | 1.00 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 0 | 1870 | 0 | 1870 | | | |
| Adj Flow Rate, veh/h | 8 | 1262 | 448 | 364 | 1801 | 0 | 815 | 0 | 364 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 0 | 2 | 0 | 2 | | | |
| Cap, veh/h | 14 | 1749 | 618 | 431 | 3015 | 0 | 958 | 0 | 439 | | | |
| Arrive On Green | 0.00 | 0.16 | 0.16 | 0.04 | 0.19 | 0.00 | 0.28 | 0.00 | 0.28 | | | |
| Sat Flow, veh/h | 1781 | 3693 | 1306 | 3456 | 5274 | 0 | 3456 | 0 | 1585 | | | |
| Grp Volume(v), veh/h | 8 | 1163 | 547 | 364 | 1801 | 0 | 815 | 0 | 364 | | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1702 | 1595 | 1728 | 1702 | 0 | 1728 | 0 | 1585 | | | |
| Q Serve(g_s), s | 0.5 | 35.7 | 35.9 | 11.5 | 35.4 | 0.0 | 24.5 | 0.0 | 23.7 | | | |
| Cycle Q Clear(g_c), s | 0.5 | 35.7 | 35.9 | 11.5 | 35.4 | 0.0 | 24.5 | 0.0 | 23.7 | | | |
| Prop In Lane | 1.00 | | 0.82 | 1.00 | | 0.00 | 1.00 | | 1.00 | | | |
| Lane Grp Cap(c), veh/h | 14 | 1612 | 755 | 431 | 3015 | 0 | 958 | 0 | 439 | | | |
| V/C Ratio(X) | 0.57 | 0.72 | 0.72 | 0.84 | 0.60 | 0.00 | 0.85 | 0.00 | 0.83 | | | |
| Avail Cap(c_a), veh/h | 66 | 1612 | 755 | 503 | 3015 | 0 | 1125 | 0 | 516 | | | |
| HCM Platoon Ratio | 0.33 | 0.33 | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 0.59 | 0.59 | 0.59 | 0.50 | 0.50 | 0.00 | 1.00 | 0.00 | 1.00 | | | |
| Uniform Delay (d), s/veh | 54.7 | 39.5 | 39.6 | 51.7 | 32.4 | 0.0 | 37.6 | 0.0 | 37.3 | | | |
| Incr Delay (d2), s/veh | 19.6 | 1.7 | 3.6 | 5.2 | 0.4 | 0.0 | 5.9 | 0.0 | 9.9 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ln | 0.3 | 16.6 | 16.0 | 5.6 | 16.1 | 0.0 | 10.8 | 0.0 | 10.1 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 74.3 | 41.2 | 43.2 | 56.9 | 32.8 | 0.0 | 43.5 | 0.0 | 47.2 | | | |
| LnGrp LOS | E | D | D | E | C | A | D | A | D | | | |
| Approach Vol, veh/h | | 1718 | | | 2165 | | | 1179 | | | | |
| Approach Delay, s/veh | | 42.0 | | | 36.9 | | | 44.6 | | | | |
| Approach LOS | | D | | | D | | | D | | | | |
| Timer - Assigned Phs | 1 | 2 | | | 5 | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 17.9 | 57.4 | | | 5.1 | 70.2 | | 34.7 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | | | * 4.2 | 5.3 | | 4.2 | | | | |
| Max Green Setting (Gmax), s | * 16 | 44.5 | | | * 4.1 | 56.4 | | 35.8 | | | | |
| Max Q Clear Time (g_c+I1), s | 13.5 | 37.9 | | | 2.5 | 37.4 | | 26.5 | | | | |
| Green Ext Time (p_c), s | 0.2 | 5.3 | | | 0.0 | 13.4 | | 3.9 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | 40.4 | | | | | | | | | |
| HCM 6th LOS | | | D | | | | | | | | | |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



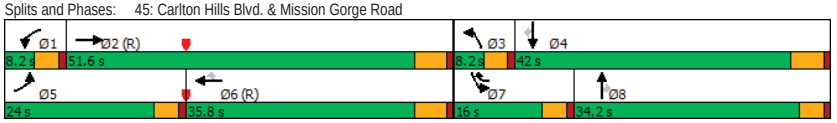


| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 757 | 747 | 22 | 13 | 849 | 424 | 39 | 40 | 8 | 410 | 19 | 1093 |
| Future Volume (vph) | 757 | 747 | 22 | 13 | 849 | 424 | 39 | 40 | 8 | 410 | 19 | 1093 |
| Confl. Peds. (#/hr) | | | 13 | | | 3 | | | 5 | | | 5 |
| Confl. Bikes (#/hr) | | | 2 | | | 2 | | | 3 | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | 49% |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | 6 | | | 8 | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | 8 | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 23.3 | | 8.2 | 34.3 | 8.2 | 8.2 | 34.2 | 34.2 | 8.2 | 32.4 | 32.4 |
| Total Split (s) | 24.0 | 51.6 | | 8.2 | 35.8 | 16.0 | 8.2 | 34.2 | 34.2 | 16.0 | 42.0 | 42.0 |
| Total Split (%) | 21.8% | 46.9% | | 7.5% | 32.5% | 14.5% | 7.5% | 31.1% | 31.1% | 14.5% | 38.2% | 38.2% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | 3.2 | 3.2 | 3.2 | 3.2 | 3.2 | 4.4 | 4.4 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | 4.2 | 4.2 | 4.2 | 4.2 | 4.2 | 5.4 | 5.4 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | C-Min | | None | C-Min | None | None | None | None | None | None | None |

Intersection Summary

Cycle Length: 110
Actuated Cycle Length: 110
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 115
Control Type: Actuated-Coordinated

Splits and Phases: 45: Carlton Hills Blvd. & Mission Gorge Road



Existing + Cuml + Proj AM (No School) — Fanita Ranch
45: Carlton Hills Blvd. & Mission Gorge Road — 06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 757 | 747 | 22 | 13 | 849 | 424 | 39 | 40 | 8 | 410 | 19 | 1093 |
| Future Volume (veh/h) | 757 | 747 | 22 | 13 | 849 | 424 | 39 | 40 | 8 | 410 | 19 | 1093 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.96 | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 823 | 812 | 24 | 14 | 923 | 461 | 42 | 43 | 9 | 446 | 0 | 1086 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 622 | 2295 | 68 | 23 | 1448 | 612 | 54 | 478 | 397 | 382 | 0 | 1035 |
| Arrive On Green | 0.06 | 0.15 | 0.15 | 0.00 | 0.09 | 0.09 | 0.03 | 0.26 | 0.26 | 0.11 | 0.00 | 0.33 |
| Sat Flow, veh/h | 3456 | 5091 | 150 | 1781 | 5106 | 1559 | 1781 | 1870 | 1553 | 3563 | 0 | 3110 |
| Grp Volume(v), veh/h | 823 | 542 | 294 | 14 | 923 | 461 | 42 | 43 | 9 | 446 | 0 | 1086 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1702 | 1837 | 1781 | 1702 | 1559 | 1781 | 1870 | 1553 | 1781 | 0 | 1555 |
| Q Serve(g_s), s | 19.8 | 15.7 | 15.8 | 0.9 | 19.2 | 27.8 | 2.6 | 1.9 | 0.5 | 11.8 | 0.0 | 36.6 |
| Cycle Q Clear(g_c), s | 19.8 | 15.7 | 15.8 | 0.9 | 19.2 | 27.8 | 2.6 | 1.9 | 0.5 | 11.8 | 0.0 | 36.6 |
| Prop In Lane | 1.00 | | 0.08 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 622 | 1535 | 828 | 23 | 1448 | 612 | 54 | 478 | 397 | 382 | 0 | 1035 |
| V/C Ratio(X) | 1.32 | 0.35 | 0.35 | 0.62 | 0.64 | 0.75 | 0.78 | 0.09 | 0.02 | 1.17 | 0.00 | 1.05 |
| Avail Cap(c_a), veh/h | 622 | 1535 | 828 | 65 | 1448 | 612 | 65 | 510 | 423 | 382 | 0 | 1035 |
| HCM Platoon Ratio | 0.33 | 0.33 | 0.33 | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.60 | 0.60 | 0.60 | 0.89 | 0.89 | 0.89 | 1.00 | 1.00 | 1.00 | 0.25 | 0.00 | 0.25 |
| Uniform Delay (d), s/veh | 51.7 | 32.4 | 32.4 | 54.5 | 44.4 | 36.5 | 53.0 | 31.2 | 30.7 | 49.1 | 0.0 | 36.7 |
| Incr Delay (d2), s/veh | 152.2 | 0.4 | 0.7 | 8.9 | 1.9 | 7.5 | 39.0 | 0.0 | 0.0 | 82.6 | 0.0 | 29.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 22.3 | 7.2 | 7.9 | 0.4 | 9.0 | 12.8 | 1.7 | 0.9 | 0.2 | 9.6 | 0.0 | 17.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 203.9 | 32.8 | 33.1 | 63.4 | 46.3 | 44.0 | 92.0 | 31.2 | 30.7 | 131.7 | 0.0 | 66.0 |
| LnGrp LOS | F | C | C | E | D | D | F | C | C | F | A | F |
| Approach Vol, veh/h | | 1659 | | | 1398 | | | 94 | | | 1532 | |
| Approach Delay, s/veh | | 117.7 | | | 45.7 | | | 58.3 | | | 85.2 | |
| Approach LOS | | F | | | D | | | E | | | F | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.6 | 54.9 | 7.5 | 42.0 | 24.0 | 36.5 | 16.0 | 33.5 |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | * 4.2 | 5.4 | * 4.2 | 5.3 | * 4.2 | * 5.4 |
| Max Green Setting (Gmax), s | * 4 | 46.3 | * 4 | 36.6 | * 20 | 30.5 | * 12 | * 30 |
| Max Q Clear Time (g_c+I1), s | 2.9 | 17.8 | 4.6 | 38.6 | 21.8 | 29.8 | 13.8 | 3.9 |
| Green Ext Time (p_c), s | 0.0 | 6.3 | 0.0 | 0.0 | 0.0 | 0.6 | 0.0 | 0.1 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 84.4 |
| HCM 6th LOS | F |

Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

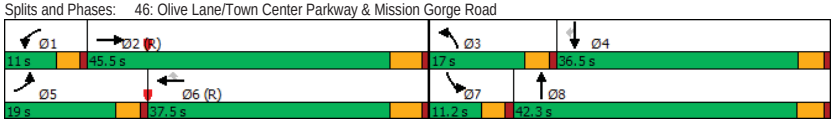


Existing + Cuml + Proj AM (No School) — Fanita Ranch
46: Olive Lane/Town Center Parkway & Mission Gorge Road — 06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 275 | 607 | 128 | 39 | 875 | 108 | 207 | 120 | 34 | 108 | 86 | 308 |
| Future Volume (vph) | 275 | 607 | 128 | 39 | 875 | 108 | 207 | 120 | 34 | 108 | 86 | 308 |
| Confl. Peds. (#/hr) | | | 5 | | | 8 | | | 11 | | | 3 |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | Perm | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | 10.0 | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 26.3 | | 8.2 | 36.3 | 36.3 | 8.2 | 34.6 | | 8.2 | 36.5 | 36.5 |
| Total Split (s) | 19.0 | 45.5 | | 11.0 | 37.5 | 37.5 | 17.0 | 42.3 | | 11.2 | 36.5 | 36.5 |
| Total Split (%) | 17.3% | 41.4% | | 10.0% | 34.1% | 34.1% | 15.5% | 38.5% | | 10.2% | 33.2% | 33.2% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | 4.3 | 3.2 | 3.6 | | 3.2 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | 5.3 | 4.2 | 4.6 | | 4.2 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | C-Min | | None | C-Min | C-Min | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 110 |
| Offset: 40 (36%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 90 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 46: Olive Lane/Town Center Parkway & Mission Gorge Road



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 275 | 607 | 128 | 39 | 875 | 108 | 207 | 120 | 34 | 108 | 86 | 308 |
| Future Volume (veh/h) | 275 | 607 | 128 | 39 | 875 | 108 | 207 | 120 | 34 | 108 | 86 | 308 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.99 | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 299 | 660 | 139 | 42 | 951 | 117 | 225 | 130 | 37 | 117 | 93 | 335 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 356 | 2265 | 470 | 54 | 2360 | 729 | 288 | 303 | 86 | 174 | 346 | 514 |
| Arrive On Green | 0.21 | 1.00 | 1.00 | 0.03 | 0.46 | 0.46 | 0.08 | 0.22 | 0.22 | 0.05 | 0.19 | 0.19 |
| Sat Flow, veh/h | 3456 | 4233 | 879 | 1781 | 5106 | 1577 | 3456 | 1390 | 396 | 3456 | 1870 | 2776 |
| Grp Volume(v), veh/h | 299 | 529 | 270 | 42 | 951 | 117 | 225 | 0 | 167 | 117 | 93 | 335 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1702 | 1707 | 1781 | 1702 | 1577 | 1728 | 0 | 1786 | 1728 | 1870 | 1388 |
| Q Serve(g_s), s | 9.1 | 0.0 | 0.0 | 2.6 | 13.5 | 4.7 | 7.0 | 0.0 | 8.9 | 3.7 | 4.7 | 12.3 |
| Cycle Q Clear(g_c), s | 9.1 | 0.0 | 0.0 | 2.6 | 13.5 | 4.7 | 7.0 | 0.0 | 8.9 | 3.7 | 4.7 | 12.3 |
| Prop In Lane | 1.00 | | 0.51 | 1.00 | | 1.00 | 1.00 | | 0.22 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 356 | 1822 | 914 | 54 | 2360 | 729 | 288 | 0 | 390 | 174 | 346 | 514 |
| V/C Ratio(X) | 0.84 | 0.29 | 0.30 | 0.78 | 0.40 | 0.16 | 0.78 | 0.00 | 0.43 | 0.67 | 0.27 | 0.65 |
| Avail Cap(c_a), veh/h | 465 | 1822 | 914 | 110 | 2360 | 729 | 402 | 0 | 612 | 220 | 544 | 808 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.89 | 0.89 | 0.89 | 0.70 | 0.70 | 0.70 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 42.8 | 0.0 | 0.0 | 53.0 | 19.6 | 17.2 | 49.4 | 0.0 | 37.1 | 51.4 | 38.4 | 41.5 |
| Incr Delay (d2), s/veh | 7.3 | 0.4 | 0.7 | 6.4 | 0.4 | 0.3 | 4.1 | 0.0 | 1.1 | 2.9 | 0.8 | 2.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 3.8 | 0.1 | 0.2 | 1.2 | 5.2 | 1.8 | 3.2 | 0.0 | 4.0 | 1.7 | 2.2 | 4.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 50.1 | 0.4 | 0.7 | 59.4 | 19.9 | 17.5 | 53.5 | 0.0 | 38.2 | 54.3 | 39.2 | 44.1 |
| LnGrp LOS | D | A | A | E | B | B | D | A | D | D | D | D |
| Approach Vol, veh/h | | 1098 | | | 1110 | | | 392 | | | 545 | |
| Approach Delay, s/veh | | 14.0 | | | 21.2 | | | 47.0 | | | 45.5 | |
| Approach LOS | | B | | | C | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.5 | 64.2 | 13.4 | 25.0 | 15.5 | 56.1 | 9.7 | 28.6 |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | * 4.2 | * 4.6 | * 4.2 | 5.3 | * 4.2 | 4.6 |
| Max Green Setting (Gmax), s | * 6.8 | 40.2 | * 13 | * 32 | * 15 | 32.2 | * 7 | 37.7 |
| Max Q Clear Time (g_c+I1), s | 4.6 | 2.0 | 9.0 | 14.3 | 11.1 | 15.5 | 5.7 | 10.9 |
| Green Ext Time (p_c), s | 0.0 | 6.7 | 0.2 | 3.2 | 0.2 | 8.5 | 0.0 | 1.3 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 26.1 |
| HCM 6th LOS | C |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

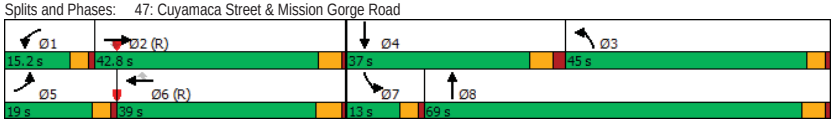




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 174 | 435 | 315 | 189 | 566 | 165 | 699 | 575 | 139 | 142 | 607 | 174 |
| Future Volume (vph) | 174 | 435 | 315 | 189 | 566 | 165 | 699 | 575 | 139 | 142 | 607 | 174 |
| Confl. Peds. (#/hr) | | | 11 | | | 14 | | | 19 | | | 16 |
| Confl. Bikes (#/hr) | | | 4 | | | | | | | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | 10.0 | 4.0 | 7.0 | | 4.0 | 15.0 | |
| Minimum Split (s) | 19.0 | 34.8 | 34.8 | 8.2 | 34.3 | 34.3 | 8.2 | 38.0 | | 8.2 | 37.0 | |
| Total Split (s) | 19.0 | 42.8 | 42.8 | 15.2 | 39.0 | 39.0 | 45.0 | 69.0 | | 13.0 | 37.0 | |
| Total Split (%) | 13.6% | 30.6% | 30.6% | 10.9% | 27.9% | 27.9% | 32.1% | 49.3% | | 9.3% | 26.4% | |
| Yellow Time (s) | 3.2 | 3.8 | 3.8 | 3.2 | 4.3 | 4.3 | 3.2 | 4.0 | | 3.2 | 4.0 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 2.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.2 | 4.8 | 4.8 | 4.2 | 5.3 | 5.3 | 4.2 | 5.0 | | 4.2 | 6.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lag | Lag | | Lead | Lead | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | C-Min | C-Min | None | C-Min | C-Min | None | None | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 140 |
| Actuated Cycle Length: 140 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green, Master Intersection |
| Natural Cycle: 120 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 47: Cuyamaca Street & Mission Gorge Road



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 174 | 435 | 315 | 189 | 566 | 165 | 699 | 575 | 139 | 142 | 607 | 174 |
| Future Volume (veh/h) | 174 | 435 | 315 | 189 | 566 | 165 | 699 | 575 | 139 | 142 | 607 | 174 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 0.96 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1683 | 1683 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 189 | 473 | 342 | 205 | 615 | 179 | 760 | 625 | 151 | 154 | 660 | 189 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 239 | 1677 | 508 | 252 | 1697 | 520 | 822 | 1036 | 250 | 201 | 841 | 236 |
| Arrive On Green | 0.07 | 0.33 | 0.33 | 0.07 | 0.33 | 0.33 | 0.24 | 0.41 | 0.41 | 0.06 | 0.21 | 0.21 |
| Sat Flow, veh/h | 3456 | 5106 | 1546 | 3456 | 5106 | 1565 | 3456 | 2547 | 614 | 3456 | 3924 | 1101 |
| Grp Volume(v), veh/h | 189 | 473 | 342 | 205 | 615 | 179 | 760 | 392 | 384 | 154 | 571 | 278 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1702 | 1546 | 1728 | 1702 | 1565 | 1728 | 1599 | 1562 | 1728 | 1702 | 1621 |
| Q Serve(g_s), s | 7.5 | 9.6 | 14.3 | 8.2 | 12.8 | 12.1 | 30.1 | 27.0 | 27.1 | 6.1 | 22.2 | 22.8 |
| Cycle Q Clear(g_c), s | 7.5 | 9.6 | 14.3 | 8.2 | 12.8 | 12.1 | 30.1 | 27.0 | 27.1 | 6.1 | 22.2 | 22.8 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.39 | 1.00 | | 0.68 |
| Lane Grp Cap(c), veh/h | 239 | 1677 | 508 | 252 | 1697 | 520 | 822 | 651 | 636 | 201 | 730 | 347 |
| V/C Ratio(X) | 0.79 | 0.28 | 0.67 | 0.81 | 0.36 | 0.34 | 0.92 | 0.60 | 0.60 | 0.77 | 0.78 | 0.80 |
| Avail Cap(c_a), veh/h | 365 | 1677 | 508 | 272 | 1697 | 520 | 1007 | 731 | 714 | 217 | 754 | 359 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.96 | 0.96 | 0.96 | 0.94 | 0.94 | 0.94 | 0.56 | 0.56 | 0.56 | 0.97 | 0.97 | 0.97 |
| Uniform Delay (d), s/veh | 64.2 | 34.8 | 11.7 | 64.0 | 35.5 | 35.2 | 52.1 | 32.6 | 32.7 | 65.0 | 51.9 | 52.2 |
| Incr Delay (d2), s/veh | 3.0 | 0.4 | 6.7 | 13.8 | 0.6 | 1.7 | 6.9 | 0.9 | 0.9 | 11.9 | 6.6 | 14.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 3.4 | 4.0 | 5.7 | 4.0 | 5.4 | 4.9 | 13.7 | 10.5 | 10.3 | 3.0 | 10.1 | 10.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 67.1 | 35.2 | 18.4 | 77.7 | 36.0 | 36.9 | 59.0 | 33.5 | 33.6 | 76.8 | 58.5 | 66.7 |
| LnGrp LOS | E | D | B | E | D | D | E | C | C | E | E | E |
| Approach Vol, veh/h | | 1004 | | | 999 | | | 1536 | | | 1003 | |
| Approach Delay, s/veh | | 35.5 | | | 44.8 | | | 46.1 | | | 63.6 | |
| Approach LOS | | D | | | D | | | D | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 14.4 | 51.3 | 38.3 | 36.0 | 13.9 | 51.8 | 12.3 | 61.9 |
| Change Period (Y+Rc), s | * 4.2 | * 5.3 | 5.0 | * 6 | * 4.2 | 5.3 | * 4.2 | 5.0 |
| Max Green Setting (Gmax), s | * 11 | * 38 | 40.8 | * 31 | * 15 | 33.7 | * 8.8 | 64.0 |
| Max Q Clear Time (g_c+I1), s | 10.2 | 16.3 | 32.1 | 24.8 | 9.5 | 14.8 | 8.1 | 29.1 |
| Green Ext Time (p_c), s | 0.0 | 10.0 | 1.2 | 4.2 | 0.1 | 7.0 | 0.0 | 8.6 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 47.3 |
| HCM 6th LOS | D |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

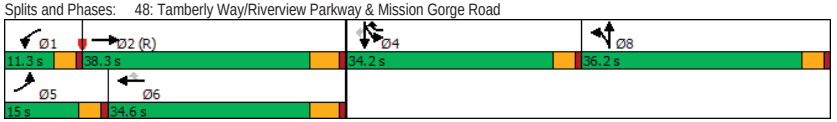




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 206 | 467 | 10 | 40 | 781 | 230 | 36 | 8 | 17 | 92 | 19 | 72 |
| Future Volume (vph) | 206 | 467 | 10 | 40 | 781 | 230 | 36 | 8 | 17 | 92 | 19 | 72 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | 1 | | | 3 | | | | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | 40% | | |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Split | NA | | Split | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 4 | 8 | 8 | | 4 | 4 | |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 4 | 8 | 8 | | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | 7.0 | 4.0 | 4.0 | | 7.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 23.3 | | 8.2 | 34.3 | 34.2 | 36.2 | 36.2 | | 34.2 | 34.2 | 34.2 |
| Total Split (s) | 15.0 | 38.3 | | 11.3 | 34.6 | 34.2 | 36.2 | 36.2 | | 34.2 | 34.2 | 34.2 |
| Total Split (%) | 12.5% | 31.9% | | 9.4% | 28.8% | 28.5% | 30.2% | 30.2% | | 28.5% | 28.5% | 28.5% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | 3.2 | 3.2 | 3.2 | | 3.2 | 3.2 | 3.2 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | 4.2 | 4.2 | 4.2 | | 4.2 | 4.2 | 4.2 |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | Min | None | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 0 (0%), Referenced to phase 2:EBT, Start of Green |
| Natural Cycle: 125 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 48: Tamberly Way/Riverview Parkway & Mission Gorge Road



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 206 | 467 | 10 | 40 | 781 | 230 | 36 | 8 | 17 | 92 | 19 | 72 |
| Future Volume (veh/h) | 206 | 467 | 10 | 40 | 781 | 230 | 36 | 8 | 17 | 92 | 19 | 72 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.99 | 1.00 | | 1.00 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 224 | 508 | 11 | 43 | 849 | 250 | 39 | 9 | 18 | 115 | 0 | 78 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 160 | 3684 | 80 | 55 | 3358 | 1137 | 62 | 19 | 39 | 243 | 0 | 106 |
| Arrive On Green | 0.09 | 0.72 | 0.72 | 0.03 | 0.66 | 0.66 | 0.03 | 0.03 | 0.03 | 0.07 | 0.00 | 0.07 |
| Sat Flow, veh/h | 1781 | 5141 | 111 | 1781 | 5106 | 1564 | 1781 | 557 | 1113 | 3563 | 0 | 1561 |
| Grp Volume(v), veh/h | 224 | 336 | 183 | 43 | 849 | 250 | 39 | 0 | 27 | 115 | 0 | 78 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1702 | 1848 | 1781 | 1702 | 1564 | 1781 | 0 | 1670 | 1781 | 0 | 1561 |
| Q Serve(g_s), s | 10.8 | 3.7 | 3.7 | 2.9 | 8.2 | 6.3 | 2.6 | 0.0 | 1.9 | 3.7 | 0.0 | 5.9 |
| Cycle Q Clear(g_c), s | 10.8 | 3.7 | 3.7 | 2.9 | 8.2 | 6.3 | 2.6 | 0.0 | 1.9 | 3.7 | 0.0 | 5.9 |
| Prop In Lane | 1.00 | | 0.06 | 1.00 | | 1.00 | 1.00 | | 0.67 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 160 | 2440 | 1324 | 55 | 3358 | 1137 | 62 | 0 | 58 | 243 | 0 | 106 |
| V/C Ratio(X) | 1.40 | 0.14 | 0.14 | 0.78 | 0.25 | 0.22 | 0.63 | 0.00 | 0.46 | 0.47 | 0.00 | 0.73 |
| Avail Cap(c_a), veh/h | 160 | 2440 | 1324 | 105 | 3358 | 1137 | 475 | 0 | 445 | 891 | 0 | 390 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.93 | 0.93 | 0.93 | 0.97 | 0.97 | 0.97 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 54.6 | 5.3 | 5.3 | 57.7 | 8.4 | 5.4 | 57.1 | 0.0 | 56.8 | 53.8 | 0.0 | 54.8 |
| Incr Delay (d2), s/veh | 210.0 | 0.1 | 0.2 | 8.3 | 0.1 | 0.2 | 3.8 | 0.0 | 2.1 | 0.5 | 0.0 | 3.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 14.1 | 1.2 | 1.3 | 1.4 | 2.8 | 2.5 | 1.2 | 0.0 | 0.8 | 1.7 | 0.0 | 2.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 264.6 | 5.5 | 5.5 | 66.0 | 8.5 | 5.5 | 61.0 | 0.0 | 58.9 | 54.4 | 0.0 | 58.4 |
| LnGrp LOS | F | A | A | E | A | A | E | A | E | D | A | E |
| Approach Vol, veh/h | | 743 | | | 1142 | | | 66 | | | 193 | |
| Approach Delay, s/veh | | 83.6 | | | 10.0 | | | 60.1 | | | 56.0 | |
| Approach LOS | | F | | | B | | | E | | | E | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.9 | 91.3 | | 12.4 | 15.0 | 84.2 | | 8.4 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | | * 4.2 | * 4.2 | 5.3 | | 4.2 | | | | |
| Max Green Setting (Gmax), s | * 7.1 | 33.0 | | * 30 | * 11 | 29.3 | | 32.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 4.9 | 5.7 | | 7.9 | 12.8 | 10.2 | | 4.6 | | | | |
| Green Ext Time (p_c), s | 0.0 | 5.8 | | 0.3 | 0.0 | 9.7 | | 0.1 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 41.2 |
| HCM 6th LOS | | D |

**Notes**

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

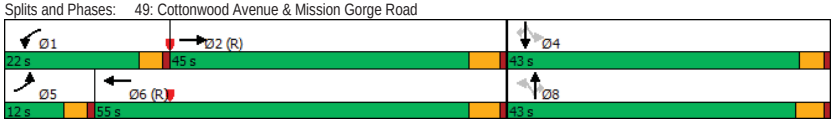




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 7 | 445 | 53 | 57 | 951 | 2 | 85 | 4 | 51 | 7 | 8 | 22 |
| Future Volume (vph) | 7 | 445 | 53 | 57 | 951 | 2 | 85 | 4 | 51 | 7 | 8 | 22 |
| Confl. Peds. (#/hr) | | | 6 | | | 19 | | | 1 | | | 4 |
| Confl. Bikes (#/hr) | | | 2 | | | 1 | | | | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Perm | NA | Perm | Perm | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | 8 | 4 | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | 8 | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 4.0 | 4.0 | 4.0 | 7.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 23.3 | | 8.2 | 24.3 | | 33.8 | 33.8 | 33.8 | 32.2 | 32.2 | 32.2 |
| Total Split (s) | 12.0 | 45.0 | | 22.0 | 55.0 | | 43.0 | 43.0 | 43.0 | 43.0 | 43.0 | 43.0 |
| Total Split (%) | 10.9% | 40.9% | | 20.0% | 50.0% | | 39.1% | 39.1% | 39.1% | 39.1% | 39.1% | 39.1% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | | 3.8 | 3.8 | 3.8 | 3.2 | 3.2 | 3.2 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | | | 4.8 | 4.8 | | 4.2 | 4.2 |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | None | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 110 |
| Offset: 21 (19%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 70 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 49: Cottonwood Avenue & Mission Gorge Road



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 7 | 445 | 53 | 57 | 951 | 2 | 85 | 4 | 51 | 7 | 8 | 22 |
| Future Volume (veh/h) | 7 | 445 | 53 | 57 | 951 | 2 | 85 | 4 | 51 | 7 | 8 | 22 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.96 | 1.00 | | 1.00 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 8 | 484 | 58 | 62 | 1034 | 2 | 92 | 4 | 55 | 8 | 9 | 24 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 14 | 2182 | 257 | 80 | 2681 | 5 | 65 | 2 | 558 | 49 | 39 | 549 |
| Arrive On Green | 0.01 | 0.47 | 0.47 | 0.09 | 1.00 | 1.00 | 0.35 | 0.35 | 0.35 | 0.35 | 0.35 | 0.35 |
| Sat Flow, veh/h | 1781 | 4615 | 543 | 1781 | 5262 | 10 | 3 | 4 | 1584 | 1 | 110 | 1557 |
| Grp Volume(v), veh/h | 8 | 355 | 187 | 62 | 669 | 367 | 96 | 0 | 55 | 17 | 0 | 24 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1702 | 1754 | 1781 | 1702 | 1868 | 7 | 0 | 1584 | 111 | 0 | 1557 |
| Q Serve(g_s), s | 0.5 | 6.7 | 6.9 | 3.7 | 0.0 | 0.0 | 0.1 | 0.0 | 2.6 | 0.1 | 0.0 | 1.1 |
| Cycle Q Clear(g_c), s | 0.5 | 6.7 | 6.9 | 3.7 | 0.0 | 0.0 | 38.8 | 0.0 | 2.6 | 38.8 | 0.0 | 1.1 |
| Prop In Lane | 1.00 | | 0.31 | 1.00 | | 0.01 | 0.96 | | 1.00 | 0.47 | | 1.00 |
| Lane Grp Cap(c), veh/h | 14 | 1609 | 829 | 80 | 1734 | 952 | 67 | 0 | 558 | 87 | 0 | 549 |
| V/C Ratio(X) | 0.57 | 0.22 | 0.23 | 0.78 | 0.39 | 0.39 | 1.44 | 0.00 | 0.10 | 0.19 | 0.00 | 0.04 |
| Avail Cap(c_a), veh/h | 126 | 1609 | 829 | 288 | 1734 | 952 | 67 | 0 | 558 | 87 | 0 | 549 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.99 | 0.99 | 0.99 | 0.61 | 0.61 | 0.61 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 54.4 | 17.1 | 17.1 | 49.6 | 0.0 | 0.0 | 54.1 | 0.0 | 23.9 | 29.3 | 0.0 | 23.4 |
| Incr Delay (d2), s/veh | 12.6 | 0.3 | 0.6 | 3.8 | 0.4 | 0.7 | 264.0 | 0.0 | 0.0 | 0.4 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.3 | 2.6 | 2.8 | 1.7 | 0.1 | 0.2 | 6.7 | 0.0 | 1.0 | 0.3 | 0.0 | 0.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 67.0 | 17.4 | 17.7 | 53.3 | 0.4 | 0.7 | 318.2 | 0.0 | 23.9 | 29.7 | 0.0 | 23.4 |
| LnGrp LOS | E | B | B | D | A | A | F | A | C | C | A | C |
| Approach Vol, veh/h | | 550 | | | 1098 | | | 151 | | | 41 | |
| Approach Delay, s/veh | | 18.2 | | | 3.5 | | | 211.0 | | | 26.0 | |
| Approach LOS | | B | | | A | | | F | | | C | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 9.1 | 57.3 | | 43.6 | 5.1 | 61.3 | | 43.6 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | | * 4.8 | * 4.2 | 5.3 | | * 4.8 | | | | |
| Max Green Setting (Gmax), s | * 18 | 39.7 | | * 39 | * 7.8 | 49.7 | | * 38 | | | | |
| Max Q Clear Time (g_c+I1), s | 5.7 | 8.9 | | 40.8 | 2.5 | 2.0 | | 40.8 | | | | |
| Green Ext Time (p_c), s | 0.0 | 2.9 | | 0.0 | 0.0 | 12.5 | | 0.0 | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | | 25.4 |
| HCM 6th LOS | | | C |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

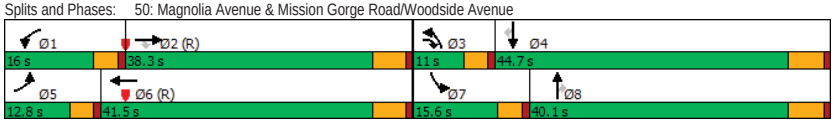




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 156 | 220 | 167 | 383 | 553 | 251 | 196 | 803 | 364 | 269 | 1193 | 301 |
| Future Volume (vph) | 156 | 220 | 167 | 383 | 553 | 251 | 196 | 803 | 364 | 269 | 1193 | 301 |
| Confl. Peds. (#/hr) | | | 6 | | | 11 | | | 19 | | | 6 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | | | | 8 | | | 4 |
| Detector Phase | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | 8 | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 4.0 | 4.0 | 10.0 | | 4.0 | 7.0 | 7.0 | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 38.3 | 8.2 | 8.2 | 35.3 | | 8.2 | 34.7 | 34.7 | 8.2 | 35.7 | 35.7 |
| Total Split (s) | 12.8 | 38.3 | 11.0 | 16.0 | 41.5 | | 11.0 | 40.1 | 40.1 | 15.6 | 44.7 | 44.7 |
| Total Split (%) | 11.6% | 34.8% | 10.0% | 14.5% | 37.7% | | 10.0% | 36.5% | 36.5% | 14.2% | 40.6% | 40.6% |
| Yellow Time (s) | 3.2 | 4.3 | 3.2 | 3.2 | 4.3 | | 3.2 | 4.7 | 4.7 | 3.2 | 4.7 | 4.7 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | 4.2 | 4.2 | 5.3 | | 4.2 | 5.7 | 5.7 | 4.2 | 5.7 | 5.7 |
| Lead/Lag | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | C-Min | None | None | C-Min | | None | None | None | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 110 |
| Offset: 24 (22%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 115 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 50: Magnolia Avenue & Mission Gorge Road/Woodside Avenue



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 156 | 220 | 167 | 383 | 553 | 251 | 196 | 803 | 364 | 269 | 1193 | 301 |
| Future Volume (veh/h) | 156 | 220 | 167 | 383 | 553 | 251 | 196 | 803 | 364 | 269 | 1193 | 301 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 170 | 239 | 182 | 416 | 601 | 246 | 213 | 873 | 357 | 292 | 1297 | 294 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 228 | 1066 | 571 | 371 | 837 | 342 | 214 | 1120 | 490 | 350 | 1260 | 559 |
| Arrive On Green | 0.11 | 0.50 | 0.50 | 0.11 | 0.34 | 0.34 | 0.12 | 0.63 | 0.63 | 0.10 | 0.35 | 0.35 |
| Sat Flow, veh/h | 3456 | 3554 | 1576 | 3456 | 2453 | 1003 | 3456 | 3554 | 1556 | 3456 | 3554 | 1577 |
| Grp Volume(v), veh/h | 170 | 239 | 182 | 416 | 435 | 412 | 213 | 873 | 357 | 292 | 1297 | 294 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1576 | 1728 | 1777 | 1678 | 1728 | 1777 | 1556 | 1728 | 1777 | 1577 |
| Q Serve(g_s), s | 5.2 | 4.2 | 7.2 | 11.8 | 23.5 | 23.6 | 6.8 | 19.6 | 17.2 | 9.1 | 39.0 | 16.3 |
| Cycle Q Clear(g_c), s | 5.2 | 4.2 | 7.2 | 11.8 | 23.5 | 23.6 | 6.8 | 19.6 | 17.2 | 9.1 | 39.0 | 16.3 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.60 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 228 | 1066 | 571 | 371 | 607 | 573 | 214 | 1120 | 490 | 350 | 1260 | 559 |
| V/C Ratio(X) | 0.75 | 0.22 | 0.32 | 1.12 | 0.72 | 0.72 | 1.00 | 0.78 | 0.73 | 0.83 | 1.03 | 0.53 |
| Avail Cap(c_a), veh/h | 270 | 1066 | 571 | 371 | 607 | 573 | 214 | 1120 | 490 | 358 | 1260 | 559 |
| HCM Platoon Ratio | 1.67 | 1.67 | 1.67 | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.99 | 0.99 | 0.99 | 1.00 | 1.00 | 1.00 | 0.89 | 0.89 | 0.89 | 0.76 | 0.76 | 0.76 |
| Uniform Delay (d), s/veh | 48.1 | 20.2 | 17.6 | 49.1 | 31.6 | 31.6 | 48.2 | 17.6 | 17.1 | 48.5 | 35.5 | 28.2 |
| Incr Delay (d2), s/veh | 6.9 | 0.5 | 1.5 | 84.1 | 7.1 | 7.6 | 57.2 | 3.4 | 5.2 | 11.3 | 30.0 | 0.9 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.4 | 1.7 | 2.5 | 9.3 | 10.9 | 10.4 | 4.3 | 5.2 | 4.5 | 4.4 | 21.0 | 6.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 55.0 | 20.7 | 19.1 | 133.2 | 38.7 | 39.2 | 105.4 | 21.0 | 22.3 | 59.8 | 65.5 | 29.0 |
| LnGrp LOS | D | C | B | F | D | D | F | C | C | E | F | C |
| Approach Vol, veh/h | | 591 | | | 1263 | | | 1443 | | | 1883 | |
| Approach Delay, s/veh | | 30.1 | | | 70.0 | | | 33.8 | | | 58.9 | |
| Approach LOS | | C | | | E | | | C | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 16.0 | 38.3 | 11.0 | 44.7 | 11.4 | 42.9 | 15.3 | 40.4 |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | * 4.2 | 5.7 | * 4.2 | 5.3 | * 4.2 | 5.7 |
| Max Green Setting (Gmax), s | * 12 | 33.0 | * 6.8 | 39.0 | * 8.6 | 36.2 | * 11 | 34.4 |
| Max Q Clear Time (g_c+I1), s | 13.8 | 9.2 | 8.8 | 41.0 | 7.2 | 25.6 | 11.1 | 21.6 |
| Green Ext Time (p_c), s | 0.0 | 2.5 | 0.0 | 0.0 | 0.0 | 5.6 | 0.0 | 7.3 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 51.3 |
| HCM 6th LOS | D |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 29.5 |
| Intersection LOS | D |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 6 | 138 | 339 | 9 | 0 | 303 | 0 | 0 | 9 | 552 | 37 |
| Future Vol, veh/h | 0 | 6 | 138 | 339 | 9 | 0 | 303 | 0 | 0 | 9 | 552 | 37 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 7 | 150 | 368 | 10 | 0 | 329 | 0 | 0 | 10 | 600 | 40 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 2 | 0 |

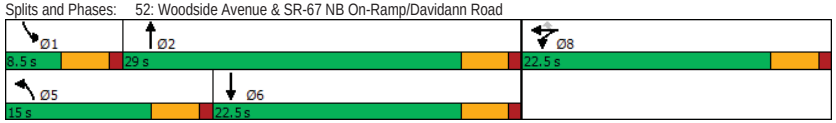
| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay | 15.1 | 36.2 | 35.7 | 26 |
| HCM LOS | C | E | E | D |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 97% | 3% | 0% |
| Vol Thru, % | 0% | 100% | 4% | 3% | 97% | 88% |
| Vol Right, % | 0% | 0% | 96% | 0% | 0% | 12% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 303 | 0 | 144 | 348 | 285 | 313 |
| LT Vol | 303 | 0 | 0 | 339 | 9 | 0 |
| Through Vol | 0 | 0 | 6 | 9 | 276 | 276 |
| RT Vol | 0 | 0 | 138 | 0 | 0 | 37 |
| Lane Flow Rate | 329 | 0 | 157 | 378 | 310 | 340 |
| Geometry Grp | 7 | 7 | 2 | 2 | 7 | 7 |
| Degree of Util (X) | 0.78 | 0 | 0.344 | 0.811 | 0.662 | 0.717 |
| Departure Headway (Hd) | 8.526 | 8.008 | 7.903 | 7.719 | 7.692 | 7.59 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 425 | 0 | 454 | 473 | 468 | 476 |
| Service Time | 6.283 | 5.765 | 5.975 | 5.719 | 5.454 | 5.352 |
| HCM Lane V/C Ratio | 0.774 | 0 | 0.346 | 0.799 | 0.662 | 0.714 |
| HCM Control Delay | 35.7 | 10.8 | 15.1 | 36.2 | 24.4 | 27.4 |
| HCM Lane LOS | E | N | C | E | C | D |
| HCM 95th-tile Q | 6.7 | 0 | 1.5 | 7.6 | 4.7 | 5.7 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 0 | 46 | 4 | 3 | 208 | 200 | 20 | 2 | 286 | 2 |
| Future Volume (vph) | 0 | 0 | 0 | 46 | 4 | 3 | 208 | 200 | 20 | 2 | 286 | 2 |
| Confl. Peds. (#/hr) | | | | | | | | | 1 | | | |
| Confl. Bikes (#/hr) | | | | | | 2 | | | 2 | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | | | | Split | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | | | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | 8 | | | | | | |
| Detector Phase | | | | 8 | 8 | 8 | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | | | | 22.5 | 22.5 | 22.5 | 8.5 | 22.5 | | 8.5 | 22.5 | |
| Total Split (s) | | | | 22.5 | 22.5 | 22.5 | 15.0 | 29.0 | | 8.5 | 22.5 | |
| Total Split (%) | | | | 37.5% | 37.5% | 37.5% | 25.0% | 48.3% | | 14.2% | 37.5% | |
| Yellow Time (s) | | | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | | | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | | | | | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | | | | | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | | | | None | None | None | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 39.3 |
| Natural Cycle: 60 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 52: Woodside Avenue & SR-67 NB On-Ramp/Davidann Road








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 46 | 4 | 3 | 208 | 200 | 20 | 2 | 286 | 2 |
| Future Volume (veh/h) | 0 | 0 | 0 | 46 | 4 | 3 | 208 | 200 | 20 | 2 | 286 | 2 |
| Initial Q (Qb), veh | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | | | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.97 |
| Parking Bus, Adj | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | | | | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | | | | 50 | 4 | 3 | 226 | 217 | 22 | 2 | 311 | 2 |
| Peak Hour Factor | | | | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | | | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | | | | 86 | 7 | 80 | 299 | 733 | 74 | 7 | 509 | 3 |
| Arrive On Green | | | | 0.05 | 0.05 | 0.05 | 0.17 | 0.44 | 0.44 | 0.00 | 0.27 | 0.27 |
| Sat Flow, veh/h | | | | 1655 | 132 | 1546 | 1781 | 1666 | 169 | 1781 | 1856 | 12 |
| Grp Volume(v), veh/h | | | | 54 | 0 | 3 | 226 | 0 | 239 | 2 | 0 | 313 |
| Grp Sat Flow(s),veh/h/ln | | | | 1788 | 0 | 1546 | 1781 | 0 | 1835 | 1781 | 0 | 1868 |
| Q Serve(g_s), s | | | | 0.8 | 0.0 | 0.0 | 3.2 | 0.0 | 2.2 | 0.0 | 0.0 | 3.9 |
| Cycle Q Clear(g_c), s | | | | 0.8 | 0.0 | 0.0 | 3.2 | 0.0 | 2.2 | 0.0 | 0.0 | 3.9 |
| Prop In Lane | | | | 0.93 | | 1.00 | 1.00 | | 0.09 | 1.00 | | 0.01 |
| Lane Grp Cap(c), veh/h | | | | 92 | 0 | 80 | 299 | 0 | 808 | 7 | 0 | 512 |
| V/C Ratio(X) | | | | 0.58 | 0.00 | 0.04 | 0.75 | 0.00 | 0.30 | 0.30 | 0.00 | 0.61 |
| Avail Cap(c_a), veh/h | | | | 1206 | 0 | 1043 | 701 | 0 | 1686 | 267 | 0 | 1260 |
| HCM Platoon Ratio | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | | | | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | | | | 12.4 | 0.0 | 12.0 | 10.6 | 0.0 | 4.8 | 13.3 | 0.0 | 8.4 |
| Incr Delay (d2), s/veh | | | | 5.8 | 0.0 | 0.2 | 3.9 | 0.0 | 0.2 | 23.2 | 0.0 | 1.2 |
| Initial Q Delay(d3),s/veh | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | | 0.4 | 0.0 | 0.0 | 1.2 | 0.0 | 0.4 | 0.1 | 0.0 | 1.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | 18.1 | 0.0 | 12.2 | 14.4 | 0.0 | 5.0 | 36.5 | 0.0 | 9.6 |
| LnGrp LOS | | | | B | A | B | B | A | A | D | A | A |
| Approach Vol, veh/h | | | | | 57 | | | 465 | | | 315 | |
| Approach Delay, s/veh | | | | | 17.8 | | | 9.6 | | | 9.8 | |
| Approach LOS | | | | | B | | | A | | | A | |

| Timer - Assigned Phs | 1 | 2 | | 5 | 6 | | 8 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 4.6 | 16.2 | | 9.0 | 11.8 | | 5.9 | | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | | | | | |
| Max Green Setting (Gmax), s | 4.0 | 24.5 | | 10.5 | 18.0 | | 18.0 | | | | | |
| Max Q Clear Time (g_c+I1), s | 2.0 | 4.2 | | 5.2 | 5.9 | | 2.8 | | | | | |
| Green Ext Time (p_c), s | 0.0 | 1.3 | | 0.3 | 1.4 | | 0.2 | | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 10.2 | |
| HCM 6th LOS | B | |

| Intersection | |
|---|---|
| Int Delay, s/veh | 9.6 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 99 | 531 | 592 | 0 | 0 | 763 |
| Future Vol, veh/h | 99 | 531 | 592 | 0 | 0 | 763 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | 300 | - | - | - | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 108 | 577 | 643 | 0 | 0 | 829 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 1058 | 322 | 0 | - | - | - |
| Stage 1 | 643 | - | - | - | - | - |
| Stage 2 | 415 | - | - | - | - | - |
| Critical Hdwy | 6.84 | 6.8 | - | - | - | - |
| Critical Hdwy Stg 1 | 5.84 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.84 | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 3.32 | - | - | - | - |
| Pot Cap-1 Maneuver | 220 | 682 | - | 0 | 0 | - |
| Stage 1 | 485 | - | - | 0 | 0 | - |
| Stage 2 | 635 | - | - | 0 | 0 | - |
| Platoon blocked, % | | | - | | | - |
| Mov Cap-1 Maneuver | 220 | 682 | - | - | - | - |
| Mov Cap-2 Maneuver | 349 | - | - | - | - | - |
| Stage 1 | 485 | - | - | - | - | - |
| Stage 2 | 635 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 30.3 | 0 | 0 |
| HCM LOS | D | | |

| Minor Lane/Major Mvmt | NBT | WBLn1 | WBLn2 | SBT |
|---|---|---|---|---|
| Capacity (veh/h) | - | 349 | 682 | - |
| HCM Lane V/C Ratio | - | 0.308 | 0.846 | - |
| HCM Control Delay (s) | - | 19.8 | 32.3 | - |
| HCM Lane LOS | - | C | D | - |
| HCM 95th %tile Q(veh) | - | 1.3 | 9.6 | - |





| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 592 | 204 | 458 | 403 |
| Future Volume (Veh/h) | 0 | 0 | 592 | 204 | 458 | 403 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 0 | 643 | 222 | 498 | 438 |
| Pedestrians | 2 | | | | | |
| Lane Width (ft) | 0.0 | | | | | |
| Walking Speed (ft/s) | 4.0 | | | | | |
| Percent Blockage | 0 | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | 769 | | | 1029 |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 1971 | 434 | | | 867 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 1971 | 434 | | | 867 | |
| tC, single (s) | 6.8 | 6.9 | | | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 100 | 100 | | | 36 | |
| cM capacity (veh/h) | 19 | 570 | | | 772 | |

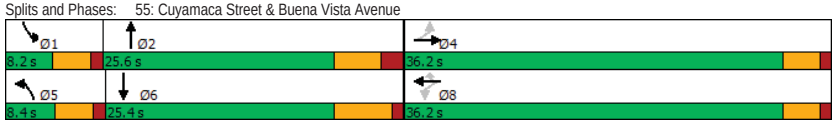
| Direction, Lane # | NB 1 | NB 2 | SB 1 | SB 2 | SB 3 |
|---|---|---|---|---|---|
| Volume Total | 429 | 436 | 498 | 219 | 219 |
| Volume Left | 0 | 0 | 498 | 0 | 0 |
| Volume Right | 0 | 222 | 0 | 0 | 0 |
| cSH | 1700 | 1700 | 772 | 1700 | 1700 |
| Volume to Capacity | 0.25 | 0.26 | 0.64 | 0.13 | 0.13 |
| Queue Length 95th (ft) | 0 | 0 | 119 | 0 | 0 |
| Control Delay (s) | 0.0 | 0.0 | 17.7 | 0.0 | 0.0 |
| Lane LOS | | | C | | |
| Approach Delay (s) | 0.0 | | 9.4 | | |
| Approach LOS | | | | | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Average Delay | 4.9 | | | |
| Intersection Capacity Utilization | 55.9% | ICU Level of Service | | B |
| Analysis Period (min) | 15 | | | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 10 | 5 | 12 | 201 | 1 | 67 | 52 | 1361 | 163 | 65 | 1157 | 28 |
| Future Volume (vph) | 10 | 5 | 12 | 201 | 1 | 67 | 52 | 1361 | 163 | 65 | 1157 | 28 |
| Confl. Peds. (#/hr) | | | 3 | | | 7 | | | 5 | | | 2 |
| Confl. Bikes (#/hr) | | | 1 | | | 4 | | | 3 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Perm | NA | | Perm | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | 8 | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | 8 | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 10.0 | | 4.0 | 10.0 | |
| Minimum Split (s) | 36.2 | 36.2 | | 34.2 | 34.2 | 34.2 | 8.2 | 24.0 | | 8.2 | 24.0 | |
| Total Split (s) | 36.2 | 36.2 | | 36.2 | 36.2 | 36.2 | 8.4 | 25.6 | | 8.2 | 25.4 | |
| Total Split (%) | 51.7% | 51.7% | | 51.7% | 51.7% | 51.7% | 12.0% | 36.6% | | 11.7% | 36.3% | |
| Yellow Time (s) | 3.2 | 3.2 | | 3.2 | 3.2 | 3.2 | 3.2 | 4.0 | | 3.2 | 4.9 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 2.0 | | 1.0 | 1.1 | |
| Lost Time Adjust (s) | | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | | 4.2 | | | 4.2 | 4.2 | 4.2 | 6.0 | | 4.2 | 6.0 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | None | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 70 |
| Actuated Cycle Length: 54.5 |
| Natural Cycle: 80 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 55: Cuyamaca Street & Buena Vista Avenue






Existing + Cuml + Proj AM (No School)
55: Cuyamaca Street & Buena Vista Avenue
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 10 | 5 | 12 | 201 | 1 | 67 | 52 | 1361 | 163 | 65 | 1157 | 28 |
| Future Volume (veh/h) | 10 | 5 | 12 | 201 | 1 | 67 | 52 | 1361 | 163 | 65 | 1157 | 28 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 11 | 5 | 13 | 218 | 1 | 73 | 57 | 1479 | 177 | 71 | 1258 | 30 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 137 | 77 | 96 | 440 | 2 | 463 | 77 | 1721 | 206 | 89 | 1952 | 47 |
| Arrive On Green | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | 0.04 | 0.37 | 0.37 | 0.05 | 0.38 | 0.38 |
| Sat Flow, veh/h | 138 | 258 | 322 | 1009 | 6 | 1550 | 1781 | 4605 | 551 | 1781 | 5130 | 122 |
| Grp Volume(v), veh/h | 29 | 0 | 0 | 219 | 0 | 73 | 57 | 1093 | 563 | 71 | 835 | 453 |
| Grp Sat Flow(s),veh/h/ln | 719 | 0 | 0 | 1015 | 0 | 1550 | 1781 | 1702 | 1751 | 1781 | 1702 | 1848 |
| Q Serve(g_s), s | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 1.8 | 1.6 | 15.3 | 15.4 | 2.0 | 10.4 | 10.4 |
| Cycle Q Clear(g_c), s | 11.9 | 0.0 | 0.0 | 11.7 | 0.0 | 1.8 | 1.6 | 15.3 | 15.4 | 2.0 | 10.4 | 10.4 |
| Prop In Lane | 0.38 | | 0.45 | 1.00 | | 1.00 | 1.00 | | 0.31 | 1.00 | | 0.07 |
| Lane Grp Cap(c), veh/h | 311 | 0 | 0 | 442 | 0 | 463 | 77 | 1272 | 655 | 89 | 1295 | 703 |
| V/C Ratio(X) | 0.09 | 0.00 | 0.00 | 0.50 | 0.00 | 0.16 | 0.74 | 0.86 | 0.86 | 0.80 | 0.64 | 0.64 |
| Avail Cap(c_a), veh/h | 789 | 0 | 0 | 886 | 0 | 957 | 144 | 1287 | 662 | 137 | 1295 | 703 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 13.7 | 0.0 | 0.0 | 16.9 | 0.0 | 13.4 | 24.5 | 15.0 | 15.0 | 24.4 | 13.2 | 13.2 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 0.0 | 0.3 | 0.0 | 0.1 | 5.2 | 6.2 | 11.4 | 8.2 | 1.3 | 2.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.2 | 0.0 | 0.0 | 2.1 | 0.0 | 0.6 | 0.7 | 5.9 | 7.0 | 1.0 | 3.5 | 4.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 13.7 | 0.0 | 0.0 | 17.2 | 0.0 | 13.4 | 29.7 | 21.2 | 26.4 | 32.6 | 14.5 | 15.5 |
| LnGrp LOS | B | A | A | B | A | B | C | C | C | C | B | B |
| Approach Vol, veh/h | | 29 | | | 292 | | | 1713 | | | 1359 | |
| Approach Delay, s/veh | | 13.7 | | | 16.2 | | | 23.2 | | | 15.8 | |
| Approach LOS | | B | | | B | | | C | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 6.8 | 25.4 | | 19.7 | 6.4 | 25.7 | | 19.7 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 6.0 | | * 4.2 | * 4.2 | * 6 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | * 4 | 19.6 | | * 32 | * 4.2 | * 19 | | * 32 | | | | |
| Max Q Clear Time (g_c+I1), s | 4.0 | 17.4 | | 13.9 | 3.6 | 12.4 | | 13.7 | | | | |
| Green Ext Time (p_c), s | 0.0 | 2.0 | | 0.0 | 0.0 | 5.1 | | 0.9 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 19.5 | |
| HCM 6th LOS | B | |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Fanita Ranch
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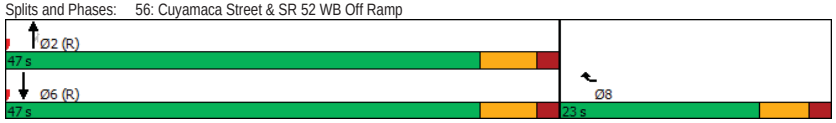
| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 856 | 920 | 197 | 0 | 1497 |
| Future Volume (vph) | 0 | 856 | 920 | 197 | 0 | 1497 |
| Confl. Peds. (#/hr) | | | | 9 | | |
| Confl. Bikes (#/hr) | | | | 3 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | 0% | | | 0% |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | | Prot | NA | Perm | | NA |
| Protected Phases | | 8 | 2 | | | 6 |
| Permitted Phases | | | | 2 | | |
| Detector Phase | | 8 | 2 | 2 | | 6 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | | 5.0 | 14.0 | 14.0 | | 14.0 |
| Minimum Split (s) | | 20.0 | 45.8 | 45.8 | | 45.8 |
| Total Split (s) | | 23.0 | 47.0 | 47.0 | | 47.0 |
| Total Split (%) | | 32.9% | 67.1% | 67.1% | | 67.1% |
| Yellow Time (s) | | 4.1 | 4.8 | 4.8 | | 4.8 |
| All-Red Time (s) | | 2.0 | 2.0 | 2.0 | | 2.0 |
| Lost Time Adjust (s) | | 0.0 | 0.0 | 0.0 | | 0.0 |
| Total Lost Time (s) | | 6.1 | 6.8 | 6.8 | | 6.8 |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | | None | C-Max | C-Max | | C-Max |

| Intersection Summary |
|---|
| Cycle Length: 70 |
| Actuated Cycle Length: 70 |
| Offset: 22 (31%), Referenced to phase 2:NBT and 6:SBT, Start of Green |
| Natural Cycle: 80 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 56: Cuyamaca Street & SR 52 WB Off Ramp






Existing + Cuml + Proj AM (No School)
56: Cuyamaca Street & SR 52 WB Off Ramp
Fanita Ranch
06/06/2019

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 856 | 920 | 197 | 0 | 1497 |
| Future Volume (veh/h) | 0 | 856 | 920 | 197 | 0 | 1497 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | | 0.97 | 1.00 | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | No | | | No |
| Adj Sat Flow, veh/h/ln | 0 | 1870 | 1870 | 1870 | 0 | 1870 |
| Adj Flow Rate, veh/h | 0 | 930 | 1000 | 214 | 0 | 1627 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 0 | 2 | 2 | 2 | 0 | 2 |
| Cap, veh/h | 0 | 0 | 4610 | 1394 | 0 | 4610 |
| Arrive On Green | 0.00 | 0.00 | 0.30 | 0.30 | 0.00 | 0.90 |
| Sat Flow, veh/h | 0 | | 5274 | 1544 | 0 | 5443 |
| Grp Volume(v), veh/h | 0.0 | | 1000 | 214 | 0 | 1627 |
| Grp Sat Flow(s),veh/h/ln | | | 1702 | 1544 | 0 | 1702 |
| Q Serve(g_s), s | | | 10.3 | 7.1 | 0.0 | 3.2 |
| Cycle Q Clear(g_c), s | | | 10.3 | 7.1 | 0.0 | 3.2 |
| Prop In Lane | | | | 1.00 | 0.00 | |
| Lane Grp Cap(c), veh/h | | | 4610 | 1394 | 0 | 4610 |
| V/C Ratio(X) | | | 0.22 | 0.15 | 0.00 | 0.35 |
| Avail Cap(c_a), veh/h | | | 4610 | 1394 | 0 | 4610 |
| HCM Platoon Ratio | | | 0.33 | 0.33 | 1.00 | 1.00 |
| Upstream Filter(I) | | | 1.00 | 1.00 | 0.00 | 0.80 |
| Uniform Delay (d), s/veh | | | 6.0 | 4.9 | 0.0 | 0.5 |
| Incr Delay (d2), s/veh | | | 0.1 | 0.2 | 0.0 | 0.2 |
| Initial Q Delay(d3),s/veh | | | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | 0.0 | 0.1 | 0.0 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | | | 6.1 | 5.1 | 0.0 | 0.7 |
| LnGrp LOS | | | A | A | A | A |
| Approach Vol, veh/h | | | 1214 | | | 1627 |
| Approach Delay, s/veh | | | 5.9 | | | 0.7 |
| Approach LOS | | | A | | | A |

| Timer - Assigned Phs | 2 | | | | | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 70.0 | | | | | 70.0 |
| Change Period (Y+Rc), s | 6.8 | | | | | 6.8 |
| Max Green Setting (Gmax), s | 40.2 | | | | | 40.2 |
| Max Q Clear Time (g_c+I1), s | 12.3 | | | | | 5.2 |
| Green Ext Time (p_c), s | 8.8 | | | | | 16.0 |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 2.9 | |
| HCM 6th LOS | | A | |

Fanita Ranch
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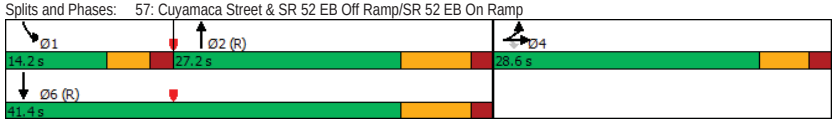
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 335 | 2 | 488 | 0 | 0 | 0 | 0 | 782 | 94 | 328 | 782 | 0 |
| Future Volume (vph) | 335 | 2 | 488 | 0 | 0 | 0 | 0 | 782 | 94 | 328 | 782 | 0 |
| Confl. Peds. (#/hr) | | | | | | | | | 5 | | | 24 |
| Confl. Bikes (#/hr) | | | | | | | | | 2 | | | 9 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | 50% | | | | | | | | | | | |
| Turn Type | Split | NA | Perm | | | | | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | | | | | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | | | | |
| Detector Phase | 4 | 4 | 4 | | | | | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | | | | | 11.0 | | 5.0 | 12.0 | |
| Minimum Split (s) | 22.1 | 22.1 | 22.1 | | | | | 27.0 | | 10.7 | 32.0 | |
| Total Split (s) | 28.6 | 28.6 | 28.6 | | | | | 27.2 | | 14.2 | 41.4 | |
| Total Split (%) | 40.9% | 40.9% | 40.9% | | | | | 38.9% | | 20.3% | 59.1% | |
| Yellow Time (s) | 4.1 | 4.1 | 4.1 | | | | | 6.0 | | 3.7 | 6.0 | |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | | | | | 2.0 | | 2.0 | 2.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | | | | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 6.1 | 6.1 | 6.1 | | | | | 8.0 | | 5.7 | 8.0 | |
| Lead/Lag | | | | | | | | Lag | | Lead | | |
| Lead-Lag Optimize? | | | | | | | | Yes | | Yes | | |
| Recall Mode | None | None | None | | | | | C-Min | | None | C-Min | |

**Intersection Summary**

Cycle Length: 70
Actuated Cycle Length: 70
Offset: 10 (14%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 57: Cuyamaca Street & SR 52 EB Off Ramp/SR 52 EB On Ramp






Existing + Cuml + Proj AM (No School) Fanita Ranch
57: Cuyamaca Street & SR 52 EB Off Ramp/SR 52 EB On Ramp 06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 335 | 2 | 488 | 0 | 0 | 0 | 0 | 782 | 94 | 328 | 782 | 0 |
| Future Volume (veh/h) | 335 | 2 | 488 | 0 | 0 | 0 | 0 | 782 | 94 | 328 | 782 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | | | | 1.00 | | 0.98 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | | | | 0 | 1870 | 1870 | 1870 | 1870 | 0 |
| Adj Flow Rate, veh/h | 365 | 0 | 530 | | | | 0 | 850 | 102 | 357 | 850 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | | | | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | | | | 0 | 2 | 2 | 2 | 2 | 0 |
| Cap, veh/h | 1145 | 0 | 509 | | | | 0 | 1265 | 151 | 420 | 1696 | 0 |
| Arrive On Green | 0.32 | 0.00 | 0.32 | | | | 0.00 | 0.36 | 0.36 | 0.04 | 0.16 | 0.00 |
| Sat Flow, veh/h | 3563 | 0 | 1585 | | | | 0 | 4781 | 551 | 3456 | 3647 | 0 |
| Grp Volume(v), veh/h | 365 | 0 | 530 | | | | 0 | 626 | 326 | 357 | 850 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1585 | | | | 0 | 1702 | 1759 | 1728 | 1777 | 0 |
| Q Serve(g_s), s | 5.4 | 0.0 | 22.5 | | | | 0.0 | 10.8 | 10.9 | 7.2 | 15.3 | 0.0 |
| Cycle Q Clear(g_c), s | 5.4 | 0.0 | 22.5 | | | | 0.0 | 10.8 | 10.9 | 7.2 | 15.3 | 0.0 |
| Prop In Lane | 1.00 | | 1.00 | | | | 0.00 | | 0.31 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 1145 | 0 | 509 | | | | 0 | 934 | 482 | 420 | 1696 | 0 |
| V/C Ratio(X) | 0.32 | 0.00 | 1.04 | | | | 0.00 | 0.67 | 0.68 | 0.85 | 0.50 | 0.00 |
| Avail Cap(c_a), veh/h | 1145 | 0 | 509 | | | | 0 | 934 | 482 | 420 | 1696 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.33 | 1.33 | 0.33 | 0.33 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | | | | 0.00 | 0.93 | 0.93 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | 18.0 | 0.0 | 23.8 | | | | 0.0 | 19.6 | 19.6 | 33.0 | 21.9 | 0.0 |
| Incr Delay (d2), s/veh | 0.2 | 0.0 | 50.7 | | | | 0.0 | 3.6 | 6.9 | 14.6 | 1.1 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.1 | 0.0 | 14.9 | | | | 0.0 | 4.0 | 4.7 | 3.9 | 7.3 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 18.1 | 0.0 | 74.5 | | | | 0.0 | 23.1 | 26.5 | 47.5 | 22.9 | 0.0 |
| LnGrp LOS | B | A | F | | | | A | C | C | D | C | A |
| Approach Vol, veh/h | | 895 | | | | | | 952 | | | 1207 | |
| Approach Delay, s/veh | | 51.5 | | | | | | 24.3 | | | 30.2 | |
| Approach LOS | | D | | | | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | 4 | 6 |
|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 14.2 | 27.2 | 28.6 | 41.4 |
| Change Period (Y+Rc), s | * 5.7 | 8.0 | 6.1 | 8.0 |
| Max Green Setting (Gmax), s | * 8.5 | 19.2 | 22.5 | 33.4 |
| Max Q Clear Time (g_c+I1), s | 9.2 | 12.9 | 24.5 | 17.3 |
| Green Ext Time (p_c), s | 0.0 | 3.1 | 0.0 | 5.3 |

**Intersection Summary**

| | |
|---|---|
| HCM 6th Ctrl Delay | 34.6 |
| HCM 6th LOS | C |

**Notes**

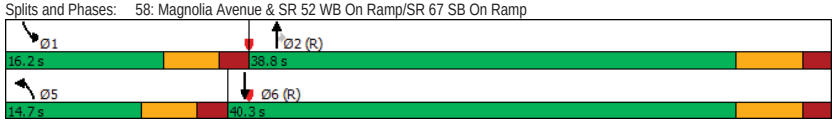
User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\No School Alt\7 Existing + Cuml + Proj AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 294 | 1250 | 142 | 628 | 647 | 296 |
| Future Volume (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 294 | 1250 | 142 | 628 | 647 | 296 |
| Confl. Peds. (#/hr) | | | | | | | | | 5 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | | | | | | | Prot | NA | Perm | Prot | NA | |
| Protected Phases | | | | | | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | | | 2 | | | |
| Detector Phase | | | | | | | 5 | 2 | 2 | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | | | | | | 5.0 | 6.0 | 6.0 | 5.0 | 7.0 | |
| Minimum Split (s) | | | | | | | 10.7 | 38.4 | 38.4 | 10.7 | 39.4 | |
| Total Split (s) | | | | | | | 14.7 | 38.8 | 38.8 | 16.2 | 40.3 | |
| Total Split (%) | | | | | | | 26.7% | 70.5% | 70.5% | 29.5% | 73.3% | |
| Yellow Time (s) | | | | | | | 3.7 | 4.4 | 4.4 | 3.7 | 4.4 | |
| All-Red Time (s) | | | | | | | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | |
| Lost Time Adjust (s) | | | | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | | | | | | | 5.7 | 6.4 | 6.4 | 5.7 | 6.4 | |
| Lead/Lag | | | | | | | Lead | Lag | Lag | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | Yes | Yes | Yes | |
| Recall Mode | | | | | | | None | C-Max | C-Max | None | C-Max | |

| Intersection Summary |
|---|
| Cycle Length: 55 |
| Actuated Cycle Length: 55 |
| Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green |
| Natural Cycle: 60 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 58: Magnolia Avenue & SR 52 WB On Ramp/SR 67 SB On Ramp








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 0 | 0 | 0 | 294 | 1250 | 142 | 628 | 647 | 296 |
| Future Volume (veh/h) | 0 | 0 | 0 | 0 | 0 | 0 | 294 | 1250 | 142 | 628 | 647 | 296 |
| Initial Q (Qb), veh | | | | | | | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | | | | | | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | | | | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | | | | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | | | | | | | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | | | | | | | 320 | 1359 | 154 | 683 | 703 | 322 |
| Peak Hour Factor | | | | | | | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | | | | | | | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | | | | | | | 428 | 3008 | 911 | 660 | 1541 | 706 |
| Arrive On Green | | | | | | | 0.25 | 1.00 | 1.00 | 0.32 | 1.00 | 1.00 |
| Sat Flow, veh/h | | | | | | | 3456 | 5106 | 1546 | 3456 | 2349 | 1076 |
| Grp Volume(v), veh/h | | | | | | | 320 | 1359 | 154 | 683 | 532 | 493 |
| Grp Sat Flow(s),veh/h/ln | | | | | | | 1728 | 1702 | 1546 | 1728 | 1777 | 1647 |
| Q Serve(g_s), s | | | | | | | 4.7 | 0.0 | 0.0 | 10.5 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | | | | | | | 4.7 | 0.0 | 0.0 | 10.5 | 0.0 | 0.0 |
| Prop In Lane | | | | | | | 1.00 | | 1.00 | 1.00 | | 0.65 |
| Lane Grp Cap(c), veh/h | | | | | | | 428 | 3008 | 911 | 660 | 1166 | 1081 |
| V/C Ratio(X) | | | | | | | 0.75 | 0.45 | 0.17 | 1.04 | 0.46 | 0.46 |
| Avail Cap(c_a), veh/h | | | | | | | 565 | 3008 | 911 | 660 | 1166 | 1081 |
| HCM Platoon Ratio | | | | | | | 2.00 | 2.00 | 2.00 | 1.67 | 1.67 | 1.67 |
| Upstream Filter(I) | | | | | | | 0.56 | 0.56 | 0.56 | 0.18 | 0.18 | 0.18 |
| Uniform Delay (d), s/veh | | | | | | | 19.9 | 0.0 | 0.0 | 18.7 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | | | | | | | 1.4 | 0.3 | 0.2 | 25.0 | 0.2 | 0.3 |
| Initial Q Delay(d3),s/veh | | | | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | | | | | 1.6 | 0.1 | 0.1 | 5.2 | 0.1 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | | | | 21.3 | 0.3 | 0.2 | 43.8 | 0.2 | 0.3 |
| LnGrp LOS | | | | | | | C | A | A | F | A | A |
| Approach Vol, veh/h | | | | | | | | 1833 | | | 1708 | |
| Approach Delay, s/veh | | | | | | | | 3.9 | | | 17.6 | |
| Approach LOS | | | | | | | | A | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 5 | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 16.2 | 38.8 | | 12.5 | 42.5 |
| Change Period (Y+Rc), s | * 5.7 | 6.4 | | * 5.7 | 6.4 |
| Max Green Setting (Gmax), s | * 11 | 32.4 | | * 9 | 33.9 |
| Max Q Clear Time (g_c+I1), s | 12.5 | 2.0 | | 6.7 | 2.0 |
| Green Ext Time (p_c), s | 0.0 | 13.2 | | 0.2 | 7.2 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 10.5 | |
| HCM 6th LOS | B | |

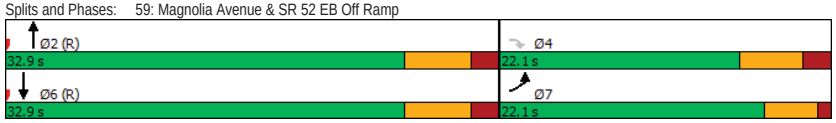
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 225 | 216 | 0 | 1469 | 640 | 0 |
| Future Volume (vph) | 225 | 216 | 0 | 1469 | 640 | 0 |
| Confl. Peds. (#/hr) | | | | | | |
| Confl. Bikes (#/hr) | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | | NA | NA | |
| Protected Phases | 7 | | | 2 | 6 | |
| Permitted Phases | | 4 | | | | |
| Detector Phase | 7 | 4 | | 2 | 6 | |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 5.0 | | 5.0 | 5.0 | |
| Minimum Split (s) | 8.5 | 22.1 | | 22.4 | 27.4 | |
| Total Split (s) | 22.1 | 22.1 | | 32.9 | 32.9 | |
| Total Split (%) | 40.2% | 40.2% | | 59.8% | 59.8% | |
| Yellow Time (s) | 3.5 | 4.1 | | 4.4 | 4.4 | |
| All-Red Time (s) | 1.0 | 2.0 | | 2.0 | 2.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 6.1 | | 6.4 | 6.4 | |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | None | None | | C-Max | C-Max | |

| Intersection Summary |
|---|
| Cycle Length: 55 |
| Actuated Cycle Length: 55 |
| Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green |
| Natural Cycle: 60 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 59: Magnolia Avenue & SR 52 EB Off Ramp






Existing + Cuml + Proj AM (No School)
59: Magnolia Avenue & SR 52 EB Off Ramp
Fanita Ranch
06/06/2019

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 225 | 216 | 0 | 1469 | 640 | 0 |
| Future Volume (veh/h) | 225 | 216 | 0 | 1469 | 640 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 0 | 1870 | 1870 | 0 |
| Adj Flow Rate, veh/h | 245 | 235 | 0 | 1597 | 696 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 0 | 2 | 2 | 0 |
| Cap, veh/h | 348 | 310 | 0 | 2155 | 2155 | 0 |
| Arrive On Green | 0.20 | 0.20 | 0.00 | 0.61 | 1.00 | 0.00 |
| Sat Flow, veh/h | 1781 | 1585 | 0 | 3741 | 3741 | 0 |
| Grp Volume(v), veh/h | 245 | 235 | 0 | 1597 | 696 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 0 | 1777 | 1777 | 0 |
| Q Serve(g_s), s | 7.1 | 7.7 | 0.0 | 17.7 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 7.1 | 7.7 | 0.0 | 17.7 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | 1.00 | 0.00 | | | 0.00 |
| Lane Grp Cap(c), veh/h | 348 | 310 | 0 | 2155 | 2155 | 0 |
| V/C Ratio(X) | 0.70 | 0.76 | 0.00 | 0.74 | 0.32 | 0.00 |
| Avail Cap(c_a), veh/h | 570 | 507 | 0 | 2155 | 2155 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 2.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.64 | 0.87 | 0.00 |
| Uniform Delay (d), s/veh | 20.6 | 20.9 | 0.0 | 7.7 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 2.6 | 3.8 | 0.0 | 1.5 | 0.3 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.9 | 2.9 | 0.0 | 4.0 | 0.1 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 23.3 | 24.7 | 0.0 | 9.2 | 0.3 | 0.0 |
| LnGrp LOS | C | C | A | A | A | A |
| Approach Vol, veh/h | 480 | | | 1597 | 696 | |
| Approach Delay, s/veh | 24.0 | | | 9.2 | 0.3 | |
| Approach LOS | C | | | A | A | |

| Timer - Assigned Phs | 2 | 4 | 6 |
|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 39.8 | 15.2 | 39.8 |
| Change Period (Y+Rc), s | 6.4 | 4.5 | 6.4 |
| Max Green Setting (Gmax), s | 26.5 | 17.6 | 26.5 |
| Max Q Clear Time (g_c+I1), s | 19.7 | 9.7 | 2.0 |
| Green Ext Time (p_c), s | 5.1 | 1.0 | 4.5 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 9.6 | |
| HCM 6th LOS | A | |

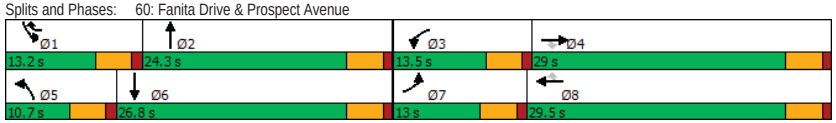
Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\No School Alt\7 Existing + Cuml + Proj AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 149 | 58 | 53 | 74 | 170 | 270 | 71 | 327 | 63 | 158 | 160 | 95 |
| Future Volume (vph) | 149 | 58 | 53 | 74 | 170 | 270 | 71 | 327 | 63 | 158 | 160 | 95 |
| Confl. Peds. (#/hr) | | | 5 | | | 3 | | | 4 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | 1 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | pm+ov | Prot | NA | | Prot | NA | |
| Protected Phases | 7 | 4 | | 3 | 8 | 1 | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | | | | |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | 1 | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | 8.5 | 24.5 | 24.5 | 8.5 | 29.5 | 8.5 | 8.5 | 22.5 | | 8.5 | 24.5 | |
| Total Split (s) | 13.0 | 29.0 | 29.0 | 13.5 | 29.5 | 13.2 | 10.7 | 24.3 | | 13.2 | 26.8 | |
| Total Split (%) | 16.3% | 36.3% | 36.3% | 16.9% | 36.9% | 16.5% | 13.4% | 30.4% | | 16.5% | 33.5% | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | None | None | None | None | None | Min | | None | Min | |

**Intersection Summary**

Cycle Length: 80
Actuated Cycle Length: 67.9
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 60: Fanita Drive & Prospect Avenue






Existing + Cuml + Proj AM (No School)
60: Fanita Drive & Prospect Avenue
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 149 | 58 | 53 | 74 | 170 | 270 | 71 | 327 | 63 | 158 | 160 | 95 |
| Future Volume (veh/h) | 149 | 58 | 53 | 74 | 170 | 270 | 71 | 327 | 63 | 158 | 160 | 95 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 162 | 63 | 58 | 80 | 185 | 293 | 77 | 355 | 68 | 172 | 174 | 103 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 202 | 519 | 438 | 103 | 415 | 536 | 99 | 405 | 78 | 213 | 726 | 408 |
| Arrive On Green | 0.11 | 0.28 | 0.28 | 0.06 | 0.22 | 0.22 | 0.06 | 0.27 | 0.27 | 0.12 | 0.33 | 0.33 |
| Sat Flow, veh/h | 1781 | 1870 | 1576 | 1781 | 1870 | 1558 | 1781 | 1517 | 291 | 1781 | 2190 | 1231 |
| Grp Volume(v), veh/h | 162 | 63 | 58 | 80 | 185 | 293 | 77 | 0 | 423 | 172 | 139 | 138 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1576 | 1781 | 1870 | 1558 | 1781 | 0 | 1808 | 1781 | 1777 | 1644 |
| Q Serve(g_s), s | 5.8 | 1.6 | 1.8 | 2.9 | 5.5 | 9.9 | 2.8 | 0.0 | 14.5 | 6.1 | 3.7 | 4.0 |
| Cycle Q Clear(g_c), s | 5.8 | 1.6 | 1.8 | 2.9 | 5.5 | 9.9 | 2.8 | 0.0 | 14.5 | 6.1 | 3.7 | 4.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.16 | 1.00 | | 0.75 |
| Lane Grp Cap(c), veh/h | 202 | 519 | 438 | 103 | 415 | 536 | 99 | 0 | 483 | 213 | 589 | 545 |
| V/C Ratio(X) | 0.80 | 0.12 | 0.13 | 0.78 | 0.45 | 0.55 | 0.78 | 0.00 | 0.88 | 0.81 | 0.24 | 0.25 |
| Avail Cap(c_a), veh/h | 233 | 707 | 595 | 247 | 721 | 790 | 170 | 0 | 552 | 239 | 611 | 565 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 28.0 | 17.5 | 17.6 | 30.1 | 21.8 | 17.3 | 30.2 | 0.0 | 22.7 | 27.8 | 15.7 | 15.8 |
| Incr Delay (d2), s/veh | 15.8 | 0.1 | 0.1 | 11.6 | 0.7 | 0.9 | 12.5 | 0.0 | 13.4 | 16.6 | 0.2 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 3.2 | 0.7 | 0.6 | 1.5 | 2.3 | 3.3 | 1.4 | 0.0 | 7.2 | 3.4 | 1.3 | 1.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 43.9 | 17.6 | 17.7 | 41.8 | 22.5 | 18.2 | 42.7 | 0.0 | 36.2 | 44.4 | 15.9 | 16.1 |
| LnGrp LOS | D | B | B | D | C | B | D | A | D | D | B | B |
| Approach Vol, veh/h | | 283 | | | 558 | | | 500 | | | 449 | |
| Approach Delay, s/veh | | 32.7 | | | 23.0 | | | 37.2 | | | 26.9 | |
| Approach LOS | | C | | | C | | | D | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 12.3 | 21.8 | 8.3 | 22.5 | 8.1 | 26.0 | 11.9 | 18.9 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 8.7 | 19.8 | 9.0 | 24.5 | 6.2 | 22.3 | 8.5 | 25.0 |
| Max Q Clear Time (g_c+I1), s | 8.1 | 16.5 | 4.9 | 3.8 | 4.8 | 6.0 | 7.8 | 11.9 |
| Green Ext Time (p_c), s | 0.0 | 0.8 | 0.0 | 0.4 | 0.0 | 1.3 | 0.0 | 1.7 |

**Intersection Summary**

| | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 29.5 | |
| HCM 6th LOS | | C | |

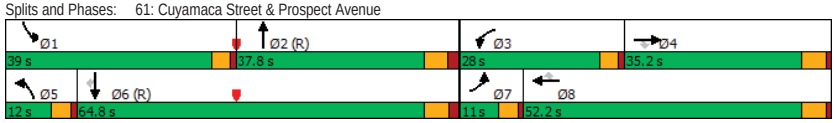
Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\No School Alt\7 Existing + Cuml + Proj AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 28 | 54 | 51 | 171 | 55 | 301 | 32 | 580 | 67 | 240 | 951 | 95 |
| Future Volume (vph) | 28 | 54 | 51 | 171 | 55 | 301 | 32 | 580 | 67 | 240 | 951 | 95 |
| Confl. Peds. (#/hr) | | | 20 | | | 8 | | | 8 | | | 4 |
| Confl. Bikes (#/hr) | | | 1 | | | 4 | | | 4 | | | 7 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | | | | 6 |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | 8 | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 7.0 | 7.0 | 4.0 | 7.0 | 7.0 | 4.0 | 10.0 | | 4.0 | 10.0 | 10.0 |
| Minimum Split (s) | 8.2 | 35.2 | 35.2 | 8.2 | 36.2 | 36.2 | 8.2 | 33.0 | | 8.2 | 31.0 | 31.0 |
| Total Split (s) | 11.0 | 35.2 | 35.2 | 28.0 | 52.2 | 52.2 | 12.0 | 37.8 | | 39.0 | 64.8 | 64.8 |
| Total Split (%) | 7.9% | 25.1% | 25.1% | 20.0% | 37.3% | 37.3% | 8.6% | 27.0% | | 27.9% | 46.3% | 46.3% |
| Yellow Time (s) | 3.2 | 4.2 | 4.2 | 3.2 | 4.2 | 4.2 | 3.2 | 4.0 | | 3.2 | 4.1 | 4.1 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 2.0 | | 1.0 | 1.9 | 1.9 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.2 | 5.2 | 4.2 | 5.2 | 5.2 | 4.2 | 6.0 | | 4.2 | 6.0 | 6.0 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | None | None | C-Min | | None | C-Min | C-Min |

**Intersection Summary**

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 26 (19%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 61: Cuyamaca Street & Prospect Avenue








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 28 | 54 | 51 | 171 | 55 | 301 | 32 | 580 | 67 | 240 | 951 | 95 |
| Future Volume (veh/h) | 28 | 54 | 51 | 171 | 55 | 301 | 32 | 580 | 67 | 240 | 951 | 95 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.94 | 1.00 | | 0.97 | 1.00 | | 0.97 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 30 | 59 | 55 | 186 | 60 | 327 | 35 | 630 | 73 | 261 | 1034 | 103 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 38 | 246 | 196 | 210 | 811 | 352 | 45 | 2093 | 240 | 282 | 2079 | 912 |
| Arrive On Green | 0.02 | 0.13 | 0.13 | 0.12 | 0.23 | 0.23 | 0.03 | 0.45 | 0.45 | 0.32 | 1.00 | 1.00 |
| Sat Flow, veh/h | 1781 | 1870 | 1493 | 1781 | 3554 | 1544 | 1781 | 4629 | 530 | 1781 | 3554 | 1559 |
| Grp Volume(v), veh/h | 30 | 59 | 55 | 186 | 60 | 327 | 35 | 461 | 242 | 261 | 1034 | 103 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1493 | 1781 | 1777 | 1544 | 1781 | 1702 | 1754 | 1781 | 1777 | 1559 |
| Q Serve(g_s), s | 2.3 | 4.0 | 4.7 | 14.4 | 1.9 | 29.0 | 2.7 | 12.0 | 12.3 | 19.8 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 2.3 | 4.0 | 4.7 | 14.4 | 1.9 | 29.0 | 2.7 | 12.0 | 12.3 | 19.8 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.30 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 38 | 246 | 196 | 210 | 811 | 352 | 45 | 1539 | 793 | 282 | 2079 | 912 |
| V/C Ratio(X) | 0.79 | 0.24 | 0.28 | 0.88 | 0.07 | 0.93 | 0.78 | 0.30 | 0.30 | 0.93 | 0.50 | 0.11 |
| Avail Cap(c_a), veh/h | 87 | 401 | 320 | 303 | 1193 | 518 | 99 | 1539 | 793 | 443 | 2079 | 912 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 2.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 0.92 | 0.92 | 0.92 | 1.00 | 1.00 | 1.00 | 0.72 | 0.72 | 0.72 |
| Uniform Delay (d), s/veh | 68.2 | 54.5 | 54.8 | 60.8 | 42.4 | 52.9 | 67.9 | 24.3 | 24.4 | 47.1 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 12.4 | 0.5 | 0.8 | 13.8 | 0.0 | 14.9 | 10.4 | 0.5 | 1.0 | 10.7 | 0.6 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.2 | 1.9 | 1.8 | 7.3 | 0.8 | 12.6 | 1.4 | 5.0 | 5.3 | 8.4 | 0.2 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 80.6 | 55.0 | 55.6 | 74.6 | 42.4 | 67.8 | 78.2 | 24.8 | 25.4 | 57.8 | 0.6 | 0.2 |
| LnGrp LOS | F | E | E | E | D | E | E | C | C | E | A | A |
| Approach Vol, veh/h | | 144 | | | 573 | | | 738 | | | 1398 | |
| Approach Delay, s/veh | | 60.6 | | | 67.4 | | | 27.5 | | | 11.3 | |
| Approach LOS | | E | | | E | | | C | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 26.3 | 69.3 | 20.7 | 23.6 | 7.7 | 87.9 | 7.2 | 37.2 |
| Change Period (Y+Rc), s | * 4.2 | 6.0 | * 4.2 | 5.2 | * 4.2 | * 6 | * 4.2 | 5.2 |
| Max Green Setting (Gmax), s | * 35 | 31.8 | * 24 | 30.0 | * 7.8 | * 59 | * 6.8 | 47.0 |
| Max Q Clear Time (g_c+I1), s | 21.8 | 14.3 | 16.4 | 6.7 | 4.7 | 2.0 | 4.3 | 31.0 |
| Green Ext Time (p_c), s | 0.3 | 5.8 | 0.1 | 0.5 | 0.0 | 15.4 | 0.0 | 0.9 |

**Intersection Summary**

| | |
|---|---|
| HCM 6th Ctrl Delay | 29.2 |
| HCM 6th LOS | C |

**Notes**

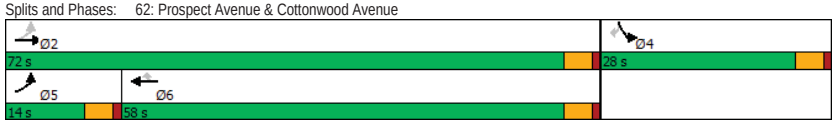
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 60 | 175 | 410 | 104 | 63 | 116 |
| Future Volume (vph) | 60 | 175 | 410 | 104 | 63 | 116 |
| Confl. Peds. (#/hr) | | | | 3 | | 6 |
| Confl. Bikes (#/hr) | | | | 1 | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | pm+pt | NA | NA | Perm | Prot | Perm |
| Protected Phases | 5 | 2 | 6 | | 4 | |
| Permitted Phases | 2 | | | 6 | | 4 |
| Detector Phase | 5 | 2 | 6 | 6 | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 |
| Total Split (s) | 14.0 | 72.0 | 58.0 | 58.0 | 28.0 | 28.0 |
| Total Split (%) | 14.0% | 72.0% | 58.0% | 58.0% | 28.0% | 28.0% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | | Lag | Lag | | |
| Lead-Lag Optimize? | Yes | | Yes | Yes | | |
| Recall Mode | None | Min | Min | Min | None | None |

**Intersection Summary**

Cycle Length: 100
Actuated Cycle Length: 44.9
Natural Cycle: 55
Control Type: Actuated-Uncoordinated

Splits and Phases: 62: Prospect Avenue & Cottonwood Avenue






Existing + Cuml + Proj AM (No School)
62: Prospect Avenue & Cottonwood Avenue
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 60 | 175 | 410 | 104 | 63 | 116 |
| Future Volume (veh/h) | 60 | 175 | 410 | 104 | 63 | 116 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 0.98 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 65 | 190 | 446 | 113 | 68 | 126 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 487 | 1081 | 702 | 580 | 227 | 202 |
| Arrive On Green | 0.06 | 0.58 | 0.38 | 0.38 | 0.13 | 0.13 |
| Sat Flow, veh/h | 1781 | 1870 | 1870 | 1546 | 1781 | 1585 |
| Grp Volume(v), veh/h | 65 | 190 | 446 | 113 | 68 | 126 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1870 | 1546 | 1781 | 1585 |
| Q Serve(g_s), s | 0.6 | 1.5 | 6.0 | 1.5 | 1.1 | 2.3 |
| Cycle Q Clear(g_c), s | 0.6 | 1.5 | 6.0 | 1.5 | 1.1 | 2.3 |
| Prop In Lane | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 487 | 1081 | 702 | 580 | 227 | 202 |
| V/C Ratio(X) | 0.13 | 0.18 | 0.64 | 0.19 | 0.30 | 0.62 |
| Avail Cap(c_a), veh/h | 942 | 4131 | 3274 | 2706 | 1370 | 1219 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 5.2 | 3.0 | 7.8 | 6.4 | 12.1 | 12.6 |
| Incr Delay (d2), s/veh | 0.1 | 0.1 | 1.0 | 0.2 | 0.7 | 3.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.1 | 0.1 | 1.5 | 0.3 | 0.4 | 2.2 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 5.3 | 3.1 | 8.8 | 6.6 | 12.8 | 15.7 |
| LnGrp LOS | A | A | A | A | B | B |
| Approach Vol, veh/h | | 255 | 559 | | 194 | |
| Approach Delay, s/veh | | 3.7 | 8.4 | | 14.7 | |
| Approach LOS | | A | A | | B | |

| Timer - Assigned Phs | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 22.2 | | 8.4 | 6.2 | 16.0 |
| Change Period (Y+Rc), s | 4.5 | | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 67.5 | | 23.5 | 9.5 | 53.5 |
| Max Q Clear Time (g_c+I1), s | 3.5 | | 4.3 | 2.6 | 8.0 |
| Green Ext Time (p_c), s | 1.1 | | 0.5 | 0.1 | 3.4 |

**Intersection Summary**

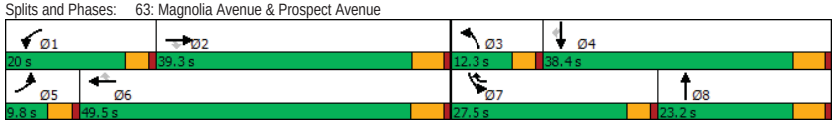
| | |
|---|---|
| HCM 6th Ctrl Delay | 8.4 |
| HCM 6th LOS | A |

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\No School Alt\7 Existing + Cuml + Proj AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 66 | 96 | 70 | 150 | 417 | 1223 | 29 | 180 | 42 | 360 | 382 | 113 |
| Future Volume (vph) | 66 | 96 | 70 | 150 | 417 | 1223 | 29 | 180 | 42 | 360 | 382 | 113 |
| Confl. Peds. (#/hr) | | | 1 | | | 1 | | | 2 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | pm+ov | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | 4.0 | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 39.3 | 39.3 | 8.2 | 37.4 | 8.2 | 8.2 | 23.2 | | 8.2 | 36.2 | 36.2 |
| Total Split (s) | 9.8 | 39.3 | 39.3 | 20.0 | 49.5 | 27.5 | 12.3 | 23.2 | | 27.5 | 38.4 | 38.4 |
| Total Split (%) | 8.9% | 35.7% | 35.7% | 18.2% | 45.0% | 25.0% | 11.2% | 21.1% | | 25.0% | 34.9% | 34.9% |
| Yellow Time (s) | 3.2 | 4.3 | 4.3 | 3.2 | 4.4 | 3.2 | 3.2 | 4.2 | | 3.2 | 4.2 | 4.2 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | 5.3 | 4.2 | 5.4 | 4.2 | 4.2 | 5.2 | | 4.2 | 5.2 | 5.2 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | Min | Min | None | Min | None | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 76 |
| Natural Cycle: 95 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 63: Magnolia Avenue & Prospect Avenue






Existing + Cuml + Proj AM (No School)
63: Magnolia Avenue & Prospect Avenue
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 66 | 96 | 70 | 150 | 417 | 1223 | 29 | 180 | 42 | 360 | 382 | 113 |
| Future Volume (veh/h) | 66 | 96 | 70 | 150 | 417 | 1223 | 29 | 180 | 42 | 360 | 382 | 113 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.98 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 72 | 104 | 76 | 163 | 453 | 1329 | 32 | 196 | 46 | 391 | 415 | 123 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 137 | 745 | 631 | 203 | 1679 | 1729 | 45 | 298 | 68 | 511 | 805 | 354 |
| Arrive On Green | 0.04 | 0.40 | 0.40 | 0.11 | 0.47 | 0.47 | 0.03 | 0.10 | 0.10 | 0.15 | 0.23 | 0.23 |
| Sat Flow, veh/h | 3456 | 1870 | 1584 | 1781 | 3554 | 2787 | 1781 | 2860 | 654 | 3456 | 3554 | 1563 |
| Grp Volume(v), veh/h | 72 | 104 | 76 | 163 | 453 | 1329 | 32 | 120 | 122 | 391 | 415 | 123 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1870 | 1584 | 1781 | 1777 | 1393 | 1781 | 1777 | 1737 | 1728 | 1777 | 1563 |
| Q Serve(g_s), s | 1.6 | 2.9 | 2.4 | 7.2 | 6.2 | 27.9 | 1.4 | 5.2 | 5.5 | 8.8 | 8.2 | 5.3 |
| Cycle Q Clear(g_c), s | 1.6 | 2.9 | 2.4 | 7.2 | 6.2 | 27.9 | 1.4 | 5.2 | 5.5 | 8.8 | 8.2 | 5.3 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.38 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 137 | 745 | 631 | 203 | 1679 | 1729 | 45 | 185 | 181 | 511 | 805 | 354 |
| V/C Ratio(X) | 0.52 | 0.14 | 0.12 | 0.80 | 0.27 | 0.77 | 0.71 | 0.65 | 0.67 | 0.77 | 0.52 | 0.35 |
| Avail Cap(c_a), veh/h | 240 | 790 | 669 | 350 | 1946 | 1938 | 179 | 397 | 388 | 1000 | 1465 | 644 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 37.9 | 15.4 | 15.3 | 34.8 | 12.8 | 11.1 | 38.9 | 34.6 | 34.8 | 33.0 | 27.3 | 26.1 |
| Incr Delay (d2), s/veh | 3.1 | 0.1 | 0.1 | 7.3 | 0.1 | 1.7 | 18.3 | 3.8 | 4.3 | 2.4 | 0.5 | 0.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.7 | 1.2 | 0.9 | 3.4 | 2.3 | 7.5 | 0.8 | 2.4 | 2.5 | 3.7 | 3.4 | 2.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 41.0 | 15.5 | 15.4 | 42.1 | 12.9 | 12.8 | 57.2 | 38.4 | 39.1 | 35.4 | 27.8 | 26.7 |
| LnGrp LOS | D | B | B | D | B | B | E | D | D | D | C | C |
| Approach Vol, veh/h | | 252 | | | 1945 | | | 274 | | | 929 | |
| Approach Delay, s/veh | | 22.8 | | | 15.3 | | | 40.9 | | | 30.8 | |
| Approach LOS | | C | | | B | | | D | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 13.4 | 37.5 | 6.2 | 23.4 | 7.4 | 43.4 | 16.1 | 13.6 |
| Change Period (Y+Rc), s | * 4.2 | * 5.4 | * 4.2 | 5.2 | * 4.2 | 5.4 | * 4.2 | 5.2 |
| Max Green Setting (Gmax), s | * 16 | * 34 | * 8.1 | 33.2 | * 5.6 | 44.1 | * 23 | 18.0 |
| Max Q Clear Time (g_c+I1), s | 9.2 | 4.9 | 3.4 | 10.2 | 3.6 | 29.9 | 10.8 | 7.5 |
| Green Ext Time (p_c), s | 0.2 | 0.8 | 0.0 | 3.2 | 0.0 | 8.1 | 1.1 | 0.9 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 22.2 | |
| HCM 6th LOS | C | |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Fanita Ranch
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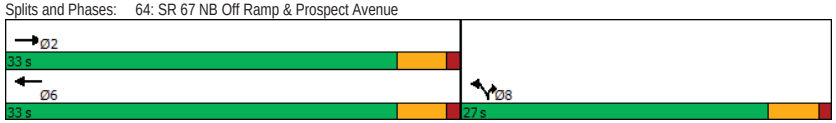
| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 498 | 0 | 0 | 1001 | 788 | 47 |
| Future Volume (vph) | 498 | 0 | 0 | 1001 | 788 | 47 |
| Confl. Peds. (#/hr) | | | | | | |
| Confl. Bikes (#/hr) | | 1 | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | NA | | | NA | Prot | Prot |
| Protected Phases | 2 | | | 6 | 8 | 8 |
| Permitted Phases | | | | | | |
| Detector Phase | 2 | | | 6 | 8 | 8 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 5.0 | | | 10.0 | 5.0 | 5.0 |
| Minimum Split (s) | 20.6 | | | 20.6 | 20.6 | 20.6 |
| Total Split (s) | 33.0 | | | 33.0 | 27.0 | 27.0 |
| Total Split (%) | 55.0% | | | 55.0% | 45.0% | 45.0% |
| Yellow Time (s) | 3.6 | | | 3.6 | 3.6 | 3.6 |
| All-Red Time (s) | 1.0 | | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.6 | | | 4.6 | 4.6 | 4.6 |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | Min | | | Min | None | None |

**Intersection Summary**

Cycle Length: 60
Actuated Cycle Length: 48.6
Natural Cycle: 45
Control Type: Actuated-Uncoordinated

Splits and Phases: 64: SR 67 NB Off Ramp & Prospect Avenue






Existing + Cuml + Proj AM (No School)
64: SR 67 NB Off Ramp & Prospect Avenue
Fanita Ranch
06/06/2019

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 498 | 0 | 0 | 1001 | 788 | 47 |
| Future Volume (veh/h) | 498 | 0 | 0 | 1001 | 788 | 47 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | 1.00 | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 0 | 0 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 541 | 0 | 0 | 1088 | 857 | 51 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 0 | 0 | 2 | 2 | 2 |
| Cap, veh/h | 1635 | 0 | 0 | 1635 | 1089 | 499 |
| Arrive On Green | 0.46 | 0.00 | 0.00 | 0.46 | 0.32 | 0.32 |
| Sat Flow, veh/h | 3741 | 0 | 0 | 3741 | 3456 | 1585 |
| Grp Volume(v), veh/h | 541 | 0 | 0 | 1088 | 857 | 51 |
| Grp Sat Flow(s),veh/h/ln | 1777 | 0 | 0 | 1777 | 1728 | 1585 |
| Q Serve(g_s), s | 4.0 | 0.0 | 0.0 | 9.7 | 9.2 | 0.9 |
| Cycle Q Clear(g_c), s | 4.0 | 0.0 | 0.0 | 9.7 | 9.2 | 0.9 |
| Prop In Lane | | 0.00 | 0.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 1635 | 0 | 0 | 1635 | 1089 | 499 |
| V/C Ratio(X) | 0.33 | 0.00 | 0.00 | 0.67 | 0.79 | 0.10 |
| Avail Cap(c_a), veh/h | 2466 | 0 | 0 | 2466 | 1892 | 868 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 7.0 | 0.0 | 0.0 | 8.6 | 12.8 | 9.9 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 0.0 | 0.5 | 0.5 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.0 | 0.0 | 0.0 | 2.5 | 2.9 | 0.3 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 7.1 | 0.0 | 0.0 | 9.1 | 13.2 | 9.9 |
| LnGrp LOS | A | A | A | A | B | A |
| Approach Vol, veh/h | 541 | | | 1088 | 908 | |
| Approach Delay, s/veh | 7.1 | | | 9.1 | 13.1 | |
| Approach LOS | A | | | A | B | |

| Timer - Assigned Phs | 2 | | | 6 | 8 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 23.4 | | | 23.4 | 17.5 |
| Change Period (Y+Rc), s | 4.6 | | | 4.6 | 4.6 |
| Max Green Setting (Gmax), s | 28.4 | | | 28.4 | 22.4 |
| Max Q Clear Time (g_c+I1), s | 6.0 | | | 11.7 | 11.2 |
| Green Ext Time (p_c), s | 2.3 | | | 7.1 | 1.7 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 10.1 | |
| HCM 6th LOS | B | |

Fanita Ranch
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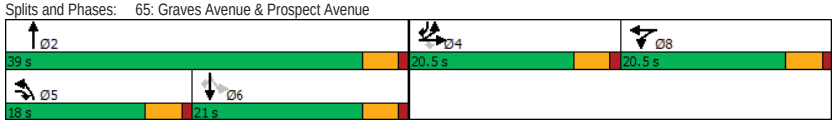
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 149 | 16 | 379 | 3 | 10 | 1 | 633 | 21 | 6 | 1 | 67 | 357 |
| Future Volume (vph) | 149 | 16 | 379 | 3 | 10 | 1 | 633 | 21 | 6 | 1 | 67 | 357 |
| Confl. Peds. (#/hr) | | | 1 | | | 1 | | | 12 | | | |
| Confl. Bikes (#/hr) | | | 3 | | | | | | 1 | | | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | 45% | | | | | | | | | | | |
| Turn Type | Split | NA | pm+ov | Split | NA | | Prot | NA | | Perm | NA | pm+ov |
| Protected Phases | 4 | 4 | 5 | 8 | 8 | | 5 | 2 | | | 6 | 4 |
| Permitted Phases | | | 4 | | | | | | | 6 | | 6 |
| Detector Phase | 4 | 4 | 5 | 8 | 8 | | 5 | 2 | | 6 | 6 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 20.5 | 20.5 | 8.5 | 20.5 | 20.5 | | 8.5 | 20.5 | | 20.5 | 20.5 | 20.5 |
| Total Split (s) | 20.5 | 20.5 | 18.0 | 20.5 | 20.5 | | 18.0 | 39.0 | | 21.0 | 21.0 | 20.5 |
| Total Split (%) | 25.6% | 25.6% | 22.5% | 25.6% | 25.6% | | 22.5% | 48.8% | | 26.3% | 26.3% | 25.6% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | | | 4.5 | 4.5 |
| Lead/Lag | | | Lead | | | | Lead | | | Lag | Lag | |
| Lead-Lag Optimize? | | | Yes | | | | Yes | | | Yes | Yes | |
| Recall Mode | None | None | None | None | None | | None | Min | | Min | Min | None |

**Intersection Summary**

Cycle Length: 80
Actuated Cycle Length: 46.1
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

Splits and Phases: 65: Graves Avenue & Prospect Avenue






Existing + Cuml + Proj AM (No School)
65: Graves Avenue & Prospect Avenue
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 149 | 16 | 379 | 3 | 10 | 1 | 633 | 21 | 6 | 1 | 67 | 357 |
| Future Volume (veh/h) | 149 | 16 | 379 | 3 | 10 | 1 | 633 | 21 | 6 | 1 | 67 | 357 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 1.00 | 1.00 | | 0.97 | 0.97 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 174 | 0 | 412 | 3 | 11 | 1 | 688 | 23 | 7 | 1 | 73 | 388 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 850 | 0 | 720 | 30 | 28 | 3 | 768 | 713 | 217 | 61 | 421 | 731 |
| Arrive On Green | 0.24 | 0.00 | 0.24 | 0.02 | 0.02 | 0.02 | 0.22 | 0.52 | 0.52 | 0.23 | 0.23 | 0.23 |
| Sat Flow, veh/h | 3563 | 0 | 1543 | 1781 | 1688 | 153 | 3456 | 1364 | 415 | 5 | 1864 | 1561 |
| Grp Volume(v), veh/h | 174 | 0 | 412 | 3 | 0 | 12 | 688 | 0 | 30 | 74 | 0 | 388 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1543 | 1781 | 0 | 1842 | 1728 | 0 | 1779 | 1868 | 0 | 1561 |
| Q Serve(g_s), s | 2.4 | 0.0 | 11.9 | 0.1 | 0.0 | 0.4 | 11.7 | 0.0 | 0.5 | 0.0 | 0.0 | 10.8 |
| Cycle Q Clear(g_c), s | 2.4 | 0.0 | 11.9 | 0.1 | 0.0 | 0.4 | 11.7 | 0.0 | 0.5 | 1.9 | 0.0 | 10.8 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.08 | 1.00 | | 0.23 | 0.01 | | 1.00 |
| Lane Grp Cap(c), veh/h | 850 | 0 | 720 | 30 | 0 | 31 | 768 | 0 | 929 | 482 | 0 | 731 |
| V/C Ratio(X) | 0.20 | 0.00 | 0.57 | 0.10 | 0.00 | 0.39 | 0.90 | 0.00 | 0.03 | 0.15 | 0.00 | 0.53 |
| Avail Cap(c_a), veh/h | 939 | 0 | 759 | 469 | 0 | 485 | 768 | 0 | 1011 | 567 | 0 | 802 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 18.5 | 0.0 | 12.0 | 29.4 | 0.0 | 29.5 | 22.9 | 0.0 | 7.0 | 18.9 | 0.0 | 11.6 |
| Incr Delay (d2), s/veh | 0.1 | 0.0 | 0.9 | 1.4 | 0.0 | 7.7 | 13.1 | 0.0 | 0.0 | 0.1 | 0.0 | 0.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.9 | 0.0 | 3.7 | 0.1 | 0.0 | 0.2 | 5.8 | 0.0 | 0.2 | 0.8 | 0.0 | 5.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 18.6 | 0.0 | 13.0 | 30.8 | 0.0 | 37.2 | 36.0 | 0.0 | 7.1 | 19.1 | 0.0 | 12.2 |
| LnGrp LOS | B | A | B | C | A | D | D | A | A | B | A | B |
| Approach Vol, veh/h | | 586 | | | 15 | | | 718 | | | 462 | |
| Approach Delay, s/veh | | 14.7 | | | 35.9 | | | 34.8 | | | 13.3 | |
| Approach LOS | | B | | | D | | | C | | | B | |

| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 36.2 | | 19.0 | 18.0 | 18.2 | | 5.5 | | | | |
| Change Period (Y+Rc), s | | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | | 34.5 | | 16.0 | 13.5 | 16.5 | | 16.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 2.5 | | 13.9 | 13.7 | 12.8 | | 2.4 | | | | |
| Green Ext Time (p_c), s | | 0.1 | | 0.5 | 0.0 | 0.7 | | 0.0 | | | | |

**Intersection Summary**

| | | |
|---|---|---|
| HCM 6th Ctrl Delay | 22.6 | |
| HCM 6th LOS | C | |

**Notes**

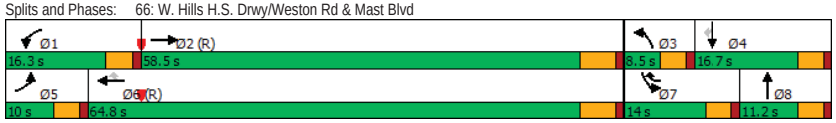
User approved volume balancing among the lanes for turning movement.

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\No School Alt\7 Existing + Cuml + Proj AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 44 | 581 | 45 | 90 | 2110 | 23 | 16 | 2 | 80 | 94 | 8 | 173 |
| Future Volume (vph) | 44 | 581 | 45 | 90 | 2110 | 23 | 16 | 2 | 80 | 94 | 8 | 173 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | 4.0 | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.5 | 22.5 | | 8.5 | 27.3 | 8.5 | 8.5 | 11.2 | | 8.5 | 11.2 | 11.2 |
| Total Split (s) | 10.0 | 58.5 | | 16.3 | 64.8 | 14.0 | 8.5 | 11.2 | | 14.0 | 16.7 | 16.7 |
| Total Split (%) | 10.0% | 58.5% | | 16.3% | 64.8% | 14.0% | 8.5% | 11.2% | | 14.0% | 16.7% | 16.7% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | 3.2 | 3.2 | 3.2 | | 3.2 | 3.2 | 3.2 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | 4.2 | 4.2 | 4.2 | | 4.2 | 4.2 | 4.2 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | C-Min | | None | C-Min | None | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 84 (84%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 100 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 66: W. Hills H.S. Drwy/Weston Rd & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 44 | 581 | 45 | 90 | 2110 | 23 | 16 | 2 | 80 | 94 | 8 | 173 |
| Future Volume (veh/h) | 44 | 581 | 45 | 90 | 2110 | 23 | 16 | 2 | 80 | 94 | 8 | 173 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 48 | 632 | 49 | 98 | 2293 | 25 | 17 | 2 | 87 | 102 | 9 | 188 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 61 | 2034 | 158 | 125 | 2290 | 1136 | 27 | 3 | 109 | 129 | 238 | 202 |
| Arrive On Green | 0.07 | 1.00 | 1.00 | 0.07 | 0.64 | 0.64 | 0.02 | 0.07 | 0.07 | 0.07 | 0.13 | 0.13 |
| Sat Flow, veh/h | 1781 | 3342 | 259 | 1781 | 3554 | 1585 | 1781 | 36 | 1555 | 1781 | 1870 | 1585 |
| Grp Volume(v), veh/h | 48 | 336 | 345 | 98 | 2293 | 25 | 17 | 0 | 89 | 102 | 9 | 188 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1824 | 1781 | 1777 | 1585 | 1781 | 0 | 1591 | 1781 | 1870 | 1585 |
| Q Serve(g_s), s | 2.7 | 0.0 | 0.0 | 5.4 | 64.4 | 0.5 | 0.9 | 0.0 | 5.5 | 5.6 | 0.4 | 11.7 |
| Cycle Q Clear(g_c), s | 2.7 | 0.0 | 0.0 | 5.4 | 64.4 | 0.5 | 0.9 | 0.0 | 5.5 | 5.6 | 0.4 | 11.7 |
| Prop In Lane | 1.00 | | 0.14 | 1.00 | | 1.00 | 1.00 | | 0.98 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 61 | 1082 | 1110 | 125 | 2290 | 1136 | 27 | 0 | 111 | 129 | 238 | 202 |
| V/C Ratio(X) | 0.79 | 0.31 | 0.31 | 0.79 | 1.00 | 0.02 | 0.63 | 0.00 | 0.80 | 0.79 | 0.04 | 0.93 |
| Avail Cap(c_a), veh/h | 103 | 1082 | 1110 | 216 | 2290 | 1136 | 77 | 0 | 111 | 175 | 238 | 202 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.98 | 0.98 | 0.98 | 0.68 | 0.68 | 0.68 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 46.2 | 0.0 | 0.0 | 45.8 | 17.8 | 4.1 | 49.0 | 0.0 | 45.8 | 45.6 | 38.3 | 43.2 |
| Incr Delay (d2), s/veh | 19.1 | 0.7 | 0.7 | 7.3 | 15.8 | 0.0 | 22.1 | 0.0 | 32.5 | 15.9 | 0.1 | 44.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.4 | 0.2 | 0.2 | 2.6 | 26.1 | 0.1 | 0.6 | 0.0 | 3.2 | 3.0 | 0.2 | 7.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 65.3 | 0.7 | 0.7 | 53.0 | 33.6 | 4.1 | 71.1 | 0.0 | 78.3 | 61.5 | 38.3 | 87.9 |
| LnGrp LOS | E | A | A | D | F | A | E | A | E | E | D | F |
| Approach Vol, veh/h | | 729 | | | 2416 | | | 106 | | | 299 | |
| Approach Delay, s/veh | | 5.0 | | | 34.1 | | | 77.1 | | | 77.4 | |
| Approach LOS | | A | | | C | | | E | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 11.2 | 66.2 | 5.7 | 16.9 | 7.6 | 69.7 | 11.4 | 11.2 |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | * 4.2 | * 4.2 | * 4.2 | 5.3 | * 4.2 | * 4.2 |
| Max Green Setting (Gmax), s | * 12 | 53.2 | * 4.3 | * 13 | * 5.8 | 59.5 | * 9.8 | * 7 |
| Max Q Clear Time (g_c+I1), s | 7.4 | 2.0 | 2.9 | 13.7 | 4.7 | 66.4 | 7.6 | 7.5 |
| Green Ext Time (p_c), s | 0.1 | 4.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 33.0 |
| HCM 6th LOS | C |

| Notes |
|---|
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. |

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.2 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 11 | 0 | 500 | 22 | 0 | 239 |
| Future Vol, veh/h | 11 | 0 | 500 | 22 | 0 | 239 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | 150 | 50 | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 12 | 0 | 543 | 24 | 0 | 260 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 803 | 543 | 0 | 0 | 567 | 0 |
| Stage 1 | 543 | - | - | - | - | - |
| Stage 2 | 260 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | - | - | 4.12 | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | - | - | 2.218 | - |
| Pot Cap-1 Maneuver | 353 | 540 | - | - | 1005 | - |
| Stage 1 | 582 | - | - | - | - | - |
| Stage 2 | 783 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 353 | 540 | - | - | 1005 | - |
| Mov Cap-2 Maneuver | 353 | - | - | - | - | - |
| Stage 1 | 582 | - | - | - | - | - |
| Stage 2 | 783 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 15.6 | 0 | 0 |
| HCM LOS | C | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | SBL | SBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 353 | 1005 | - |
| HCM Lane V/C Ratio | - | - | 0.034 | - | - |
| HCM Control Delay (s) | - | - | 15.6 | 0 | - |
| HCM Lane LOS | - | - | C | A | - |
| HCM 95th %tile Q(veh) | - | - | 0.1 | 0 | - |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 12.8 |
| Intersection LOS | B |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 1 | 3 | 24 | 20 | 8 | 3 | 61 | 417 | 35 | 0 | 209 | 2 |
| Future Vol, veh/h | 1 | 3 | 24 | 20 | 8 | 3 | 61 | 417 | 35 | 0 | 209 | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 1 | 3 | 26 | 22 | 9 | 3 | 66 | 453 | 38 | 0 | 227 | 2 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 3 | 3 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 3 | 3 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 3 | 3 | 1 | 1 |
| HCM Control Delay | 8.8 | 9.8 | 14.1 | 10.5 |
| HCM LOS | A | A | B | B |

| Lane | NBLn1 | NBLn2 | NBLn3 | EBLn1 | WBLn1 | SBLn1 | SBLn2 | SBLn3 |
|---|---|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 4% | 65% | 0% | 0% | 0% |
| Vol Thru, % | 0% | 100% | 0% | 11% | 26% | 100% | 100% | 0% |
| Vol Right, % | 0% | 0% | 100% | 86% | 10% | 0% | 0% | 100% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 61 | 417 | 35 | 28 | 31 | 0 | 209 | 2 |
| LT Vol | 61 | 0 | 0 | 1 | 20 | 0 | 0 | 0 |
| Through Vol | 0 | 417 | 0 | 3 | 8 | 0 | 209 | 0 |
| RT Vol | 0 | 0 | 35 | 24 | 3 | 0 | 0 | 2 |
| Lane Flow Rate | 66 | 453 | 38 | 30 | 34 | 0 | 227 | 2 |
| Geometry Grp | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| Degree of Util (X) | 0.1 | 0.619 | 0.045 | 0.049 | 0.062 | 0 | 0.328 | 0.003 |
| Departure Headway (Hd) | 5.421 | 4.919 | 4.216 | 5.761 | 6.588 | 5.198 | 5.198 | 4.496 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 661 | 734 | 848 | 618 | 541 | 0 | 691 | 793 |
| Service Time | 3.156 | 2.654 | 1.951 | 3.529 | 4.355 | 2.942 | 2.942 | 2.239 |
| HCM Lane V/C Ratio | 0.1 | 0.617 | 0.045 | 0.049 | 0.063 | 0 | 0.329 | 0.003 |
| HCM Control Delay | 8.8 | 15.4 | 7.2 | 8.8 | 9.8 | 7.9 | 10.5 | 7.3 |
| HCM Lane LOS | A | C | A | A | A | N | B | A |
| HCM 95th-tile Q | 0.3 | 4.3 | 0.1 | 0.2 | 0.2 | 0 | 1.4 | 0 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 4.1 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 0 | 0 | 15 | 63 | 0 | 1 | 23 | 810 | 103 | 1 | 388 | 0 |
| Future Vol, veh/h | 0 | 0 | 15 | 63 | 0 | 1 | 23 | 810 | 103 | 1 | 388 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 16 | 68 | 0 | 1 | 25 | 880 | 112 | 1 | 422 | 0 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1411 | 1467 | 422 | 1419 | 1411 | 937 | 422 | 0 | 0 | 993 | 0 | 0 |
| Stage 1 | 424 | 424 | - | 987 | 987 | - | - | - | - | - | - | - |
| Stage 2 | 987 | 1043 | - | 432 | 424 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | 4.12 | - | - | 4.12 | - | - |
| Critical Hdwy Stg 1 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | 2.218 | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 116 | 128 | 632 | 114 | 138 | 321 | 1137 | - | - | 696 | - | - |
| Stage 1 | 608 | 587 | - | 298 | 325 | - | - | - | - | - | - | - |
| Stage 2 | 298 | 306 | - | 602 | 587 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 111 | 121 | 632 | 107 | 131 | 321 | 1137 | - | - | 695 | - | - |
| Mov Cap-2 Maneuver | 111 | 121 | - | 107 | 131 | - | - | - | - | - | - | - |
| Stage 1 | 578 | 586 | - | 283 | 308 | - | - | - | - | - | - | - |
| Stage 2 | 282 | 290 | - | 585 | 586 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 10.8 | 85 | 0.2 | 0 |
| HCM LOS | B | F | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1137 | - | - | 632 | 108 | 695 | - | - |
| HCM Lane V/C Ratio | 0.022 | - | - | 0.026 | 0.644 | 0.002 | - | - |
| HCM Control Delay (s) | 8.2 | 0 | - | 10.8 | 85 | 10.2 | 0 | - |
| HCM Lane LOS | A | A | - | B | F | B | A | - |
| HCM 95th %tile Q(veh) | 0.1 | - | - | 0.1 | 3.2 | 0 | - | - |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 90 |
| Intersection LOS | F |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | ↕ | | | ↕ | | | ↰ | ↱ | | ↰ | ↱ |
| Traffic Vol, veh/h | 0 | 1 | 7 | 111 | 2 | 11 | 7 | 556 | 238 | 3 | 264 | 2 |
| Future Vol, veh/h | 0 | 1 | 7 | 111 | 2 | 11 | 7 | 556 | 238 | 3 | 264 | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 1 | 8 | 121 | 2 | 12 | 8 | 604 | 259 | 3 | 287 | 2 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |

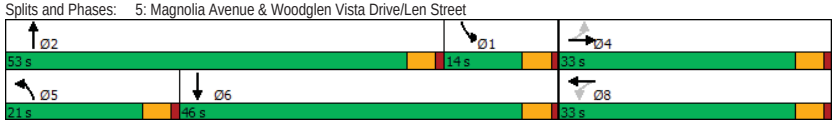
| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay | 9.9 | 12.2 | 128.6 | 13.4 |
| HCM LOS | A | B | F | B |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 90% | 100% | 0% |
| Vol Thru, % | 0% | 70% | 12% | 2% | 0% | 99% |
| Vol Right, % | 0% | 30% | 88% | 9% | 0% | 1% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 7 | 794 | 8 | 124 | 3 | 266 |
| LT Vol | 7 | 0 | 0 | 111 | 3 | 0 |
| Through Vol | 0 | 556 | 1 | 2 | 0 | 264 |
| RT Vol | 0 | 238 | 7 | 11 | 0 | 2 |
| Lane Flow Rate | 8 | 863 | 9 | 135 | 3 | 289 |
| Geometry Grp | 7 | 7 | 2 | 2 | 7 | 7 |
| Degree of Util (X) | 0.012 | 1.219 | 0.015 | 0.242 | 0.006 | 0.453 |
| Departure Headway (Hd) | 5.801 | 5.086 | 6.769 | 6.953 | 6.437 | 5.924 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 613 | 708 | 532 | 520 | 559 | 613 |
| Service Time | 3.577 | 2.861 | 4.769 | 4.953 | 4.137 | 3.624 |
| HCM Lane V/C Ratio | 0.013 | 1.219 | 0.017 | 0.26 | 0.005 | 0.471 |
| HCM Control Delay | 8.6 | 129.7 | 9.9 | 12.2 | 9.2 | 13.4 |
| HCM Lane LOS | A | F | A | B | A | B |
| HCM 95th-tile Q | 0 | 29.8 | 0 | 0.9 | 0 | 2.4 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 13 | 33 | 81 | 32 | 7 | 7 | 81 | 754 | 45 | 3 | 427 | 8 |
| Future Volume (vph) | 13 | 33 | 81 | 32 | 7 | 7 | 81 | 754 | 45 | 3 | 427 | 8 |
| Confl. Peds. (#/hr) | 4 | | 6 | 6 | | 4 | 8 | | | | | 8 |
| Confl. Bikes (#/hr) | | | 5 | | | 4 | | | 4 | | | 5 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Perm | NA | | Perm | NA | | Prot | NA | | Prot | NA | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 26.5 | 26.5 | | 26.5 | 26.5 | | 11.5 | 22.5 | | 11.5 | 22.5 | |
| Total Split (s) | 33.0 | 33.0 | | 33.0 | 33.0 | | 21.0 | 53.0 | | 14.0 | 46.0 | |
| Total Split (%) | 33.0% | 33.0% | | 33.0% | 33.0% | | 21.0% | 53.0% | | 14.0% | 46.0% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | | | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lead | | Lag | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 42.9 |
| Natural Cycle: 65 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 5: Magnolia Avenue & Woodglen Vista Drive/Len Street








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 13 | 33 | 81 | 32 | 7 | 7 | 81 | 754 | 45 | 3 | 427 | 8 |
| Future Volume (veh/h) | 13 | 33 | 81 | 32 | 7 | 7 | 81 | 754 | 45 | 3 | 427 | 8 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 0.99 | | 0.97 | 0.99 | | 0.97 | 1.00 | | 0.97 | 1.00 | | 0.96 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 14 | 36 | 88 | 35 | 8 | 8 | 88 | 820 | 49 | 3 | 464 | 9 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 499 | 91 | 224 | 291 | 66 | 35 | 204 | 1421 | 85 | 10 | 1101 | 21 |
| Arrive On Green | 0.19 | 0.19 | 0.19 | 0.19 | 0.19 | 0.19 | 0.11 | 0.42 | 0.42 | 0.01 | 0.31 | 0.31 |
| Sat Flow, veh/h | 1387 | 472 | 1154 | 617 | 341 | 178 | 1781 | 3399 | 203 | 1781 | 3562 | 69 |
| Grp Volume(v), veh/h | 14 | 0 | 124 | 51 | 0 | 0 | 88 | 429 | 440 | 3 | 231 | 242 |
| Grp Sat Flow(s),veh/h/ln | 1387 | 0 | 1626 | 1136 | 0 | 0 | 1781 | 1777 | 1826 | 1781 | 1777 | 1855 |
| Q Serve(g_s), s | 0.0 | 0.0 | 2.3 | 0.1 | 0.0 | 0.0 | 1.6 | 6.5 | 6.5 | 0.1 | 3.6 | 3.7 |
| Cycle Q Clear(g_c), s | 0.2 | 0.0 | 2.3 | 2.4 | 0.0 | 0.0 | 1.6 | 6.5 | 6.5 | 0.1 | 3.6 | 3.7 |
| Prop In Lane | 1.00 | | 0.71 | 0.69 | | 0.16 | 1.00 | | 0.11 | 1.00 | | 0.04 |
| Lane Grp Cap(c), veh/h | 499 | 0 | 315 | 392 | 0 | 0 | 204 | 743 | 763 | 10 | 549 | 573 |
| V/C Ratio(X) | 0.03 | 0.00 | 0.39 | 0.13 | 0.00 | 0.00 | 0.43 | 0.58 | 0.58 | 0.29 | 0.42 | 0.42 |
| Avail Cap(c_a), veh/h | 1350 | 0 | 1313 | 1232 | 0 | 0 | 833 | 2441 | 2508 | 479 | 2089 | 2181 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 11.6 | 0.0 | 12.4 | 11.8 | 0.0 | 0.0 | 14.6 | 7.9 | 7.9 | 17.5 | 9.7 | 9.7 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 0.8 | 0.1 | 0.0 | 0.0 | 1.4 | 0.7 | 0.7 | 15.0 | 0.5 | 0.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.1 | 0.0 | 0.8 | 0.3 | 0.0 | 0.0 | 0.6 | 1.5 | 1.5 | 0.1 | 1.0 | 1.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 11.6 | 0.0 | 13.2 | 12.0 | 0.0 | 0.0 | 16.0 | 8.6 | 8.6 | 32.5 | 10.2 | 10.2 |
| LnGrp LOS | B | A | B | B | A | A | B | A | A | C | B | B |
| Approach Vol, veh/h | | 138 | | | 51 | | | 957 | | | 476 | |
| Approach Delay, s/veh | | 13.1 | | | 12.0 | | | 9.3 | | | 10.3 | |
| Approach LOS | | B | | | B | | | A | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 4.7 | 19.3 | | 11.3 | 8.5 | 15.4 | | 11.3 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 9.5 | 48.5 | | 28.5 | 16.5 | 41.5 | | 28.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.1 | 8.5 | | 4.3 | 3.6 | 5.7 | | 4.4 | | | | |
| Green Ext Time (p_c), s | 0.0 | 6.0 | | 0.8 | 0.1 | 2.8 | | 0.2 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 10.0 | |
| HCM 6th LOS | A | |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 57.2 |
| Intersection LOS | F |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 1 | 1 | 5 | 102 | 8 | 3 | 13 | 805 | 109 | 3 | 388 | 0 |
| Future Vol, veh/h | 1 | 1 | 5 | 102 | 8 | 3 | 13 | 805 | 109 | 3 | 388 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 1 | 1 | 5 | 111 | 9 | 3 | 14 | 875 | 118 | 3 | 422 | 0 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay | 10.7 | 12.9 | 233.9 | 19.8 |
| HCM LOS | B | B | F | C |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 14% | 90% | 100% | 0% |
| Vol Thru, % | 0% | 88% | 14% | 7% | 0% | 100% |
| Vol Right, % | 0% | 12% | 71% | 3% | 0% | 0% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 13 | 914 | 7 | 113 | 3 | 388 |
| LT Vol | 13 | 0 | 1 | 102 | 3 | 0 |
| Through Vol | 0 | 805 | 1 | 8 | 0 | 388 |
| RT Vol | 0 | 109 | 5 | 3 | 0 | 0 |
| Lane Flow Rate | 14 | 993 | 8 | 123 | 3 | 422 |
| Geometry Grp | 7 | 7 | 2 | 2 | 7 | 7 |
| Degree of Util (X) | 0.023 | 1.474 | 0.014 | 0.231 | 0.006 | 0.661 |
| Departure Headway (Hd) | 5.93 | 5.341 | 7.622 | 7.615 | 6.597 | 6.088 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 600 | 685 | 472 | 474 | 546 | 599 |
| Service Time | 3.698 | 3.108 | 5.622 | 5.615 | 4.297 | 3.788 |
| HCM Lane V/C Ratio | 0.023 | 1.45 | 0.017 | 0.259 | 0.005 | 0.705 |
| HCM Control Delay | 8.8 | 237.1 | 10.7 | 12.9 | 9.3 | 19.9 |
| HCM Lane LOS | A | F | B | B | A | C |
| HCM 95th-tile Q | 0.1 | 47.2 | 0 | 0.9 | 0 | 4.9 |

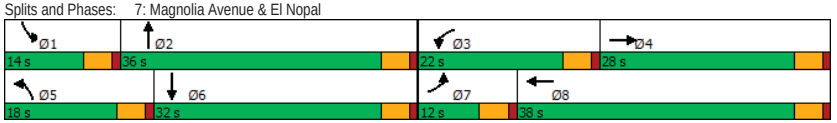


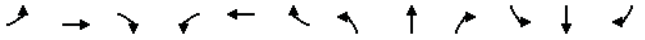


| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 6 | 72 | 63 | 146 | 109 | 242 | 95 | 638 | 204 | 141 | 404 | 9 |
| Future Volume (vph) | 6 | 72 | 63 | 146 | 109 | 242 | 95 | 638 | 204 | 141 | 404 | 9 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | 1 | | | 1 | | | 3 | | | 5 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | | Prot | NA | |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 11.5 | 26.5 | | 11.5 | 25.5 | | 11.5 | 22.5 | | 11.5 | 22.5 | |
| Total Split (s) | 12.0 | 28.0 | | 22.0 | 38.0 | | 18.0 | 36.0 | | 14.0 | 32.0 | |
| Total Split (%) | 12.0% | 28.0% | | 22.0% | 38.0% | | 18.0% | 36.0% | | 14.0% | 32.0% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 78.6 |
| Natural Cycle: 90 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 7: Magnolia Avenue & El Nopal





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 6 | 72 | 63 | 146 | 109 | 242 | 95 | 638 | 204 | 141 | 404 | 9 |
| Future Volume (veh/h) | 6 | 72 | 63 | 146 | 109 | 242 | 95 | 638 | 204 | 141 | 404 | 9 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 7 | 78 | 68 | 159 | 118 | 263 | 103 | 693 | 222 | 153 | 439 | 10 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 23 | 164 | 143 | 204 | 143 | 320 | 157 | 882 | 283 | 192 | 1261 | 29 |
| Arrive On Green | 0.01 | 0.18 | 0.18 | 0.11 | 0.28 | 0.28 | 0.09 | 0.34 | 0.34 | 0.11 | 0.36 | 0.36 |
| Sat Flow, veh/h | 1781 | 916 | 798 | 1781 | 510 | 1138 | 1781 | 2630 | 842 | 1781 | 3549 | 81 |
| Grp Volume(v), veh/h | 7 | 0 | 146 | 159 | 0 | 381 | 103 | 468 | 447 | 153 | 219 | 230 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1714 | 1781 | 0 | 1648 | 1781 | 1777 | 1695 | 1781 | 1777 | 1853 |
| Q Serve(g_s), s | 0.3 | 0.0 | 5.2 | 5.9 | 0.0 | 14.8 | 3.8 | 16.3 | 16.3 | 5.7 | 6.2 | 6.2 |
| Cycle Q Clear(g_c), s | 0.3 | 0.0 | 5.2 | 5.9 | 0.0 | 14.8 | 3.8 | 16.3 | 16.3 | 5.7 | 6.2 | 6.2 |
| Prop In Lane | 1.00 | | 0.47 | 1.00 | | 0.69 | 1.00 | | 0.50 | 1.00 | | 0.04 |
| Lane Grp Cap(c), veh/h | 23 | 0 | 307 | 204 | 0 | 463 | 157 | 596 | 569 | 192 | 631 | 659 |
| V/C Ratio(X) | 0.31 | 0.00 | 0.47 | 0.78 | 0.00 | 0.82 | 0.66 | 0.79 | 0.79 | 0.80 | 0.35 | 0.35 |
| Avail Cap(c_a), veh/h | 195 | 0 | 589 | 456 | 0 | 807 | 352 | 818 | 781 | 247 | 714 | 745 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 33.5 | 0.0 | 25.2 | 29.5 | 0.0 | 23.0 | 30.2 | 20.5 | 20.5 | 29.8 | 16.2 | 16.2 |
| Incr Delay (d2), s/veh | 7.5 | 0.0 | 1.1 | 6.4 | 0.0 | 3.7 | 4.6 | 3.5 | 3.7 | 13.0 | 0.3 | 0.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.2 | 0.0 | 2.2 | 2.8 | 0.0 | 5.9 | 1.7 | 6.5 | 6.2 | 3.0 | 2.3 | 2.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 40.9 | 0.0 | 26.3 | 35.9 | 0.0 | 26.7 | 34.8 | 24.0 | 24.2 | 42.7 | 16.5 | 16.5 |
| LnGrp LOS | D | A | C | D | A | C | C | C | C | D | B | B |
| Approach Vol, veh/h | | 153 | | | 540 | | | 1018 | | | 602 | |
| Approach Delay, s/veh | | 27.0 | | | 29.4 | | | 25.2 | | | 23.2 | |
| Approach LOS | | C | | | C | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 11.9 | 27.4 | 12.3 | 16.8 | 10.5 | 28.8 | 5.4 | 23.7 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 9.5 | 31.5 | 17.5 | 23.5 | 13.5 | 27.5 | 7.5 | 33.5 |
| Max Q Clear Time (g_c+I1), s | 7.7 | 18.3 | 7.9 | 7.2 | 5.8 | 8.2 | 2.3 | 16.8 |
| Green Ext Time (p_c), s | 0.1 | 4.7 | 0.3 | 0.7 | 0.1 | 2.3 | 0.0 | 2.4 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 25.8 |
| HCM 6th LOS | C |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 39.5 |
| Intersection LOS | E |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 331 | 15 | 154 | 466 | 11 | 198 |
| Future Vol, veh/h | 331 | 15 | 154 | 466 | 11 | 198 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 360 | 16 | 167 | 507 | 12 | 215 |
| Number of Lanes | 1 | 1 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB |
|---|---|---|---|
| Opposing Approach | WB | EB | |
| Opposing Lanes | 1 | 2 | 0 |
| Conflicting Approach Left | | NB | EB |
| Conflicting Lanes Left | 0 | 1 | 2 |
| Conflicting Approach Right | NB | | WB |
| Conflicting Lanes Right | 1 | 0 | 1 |
| HCM Control Delay | 17.3 | 60.8 | 12.8 |
| HCM LOS | C | F | B |

| Lane | NBLn1 | EBLn1 | EBLn2 | WBLn1 |
|---|---|---|---|---|
| Vol Left, % | 5% | 0% | 0% | 25% |
| Vol Thru, % | 0% | 100% | 0% | 75% |
| Vol Right, % | 95% | 0% | 100% | 0% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 209 | 331 | 15 | 620 |
| LT Vol | 11 | 0 | 0 | 154 |
| Through Vol | 0 | 331 | 0 | 466 |
| RT Vol | 198 | 0 | 15 | 0 |
| Lane Flow Rate | 227 | 360 | 16 | 674 |
| Geometry Grp | 2 | 7 | 7 | 5 |
| Degree of Util (X) | 0.381 | 0.605 | 0.024 | 1.011 |
| Departure Headway (Hd) | 6.034 | 6.055 | 5.343 | 5.402 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 593 | 594 | 667 | 667 |
| Service Time | 4.106 | 3.815 | 3.102 | 3.451 |
| HCM Lane V/C Ratio | 0.383 | 0.606 | 0.024 | 1.01 |
| HCM Control Delay | 12.8 | 17.7 | 8.2 | 60.8 |
| HCM Lane LOS | B | C | A | F |
| HCM 95th-tile Q | 1.8 | 4 | 0.1 | 16.3 |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 64.8 |
| Intersection LOS | F |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 53 | 89 | 891 | 93 | 40 | 452 |
| Future Vol, veh/h | 53 | 89 | 891 | 93 | 40 | 452 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 58 | 97 | 968 | 101 | 43 | 491 |
| Number of Lanes | 1 | 0 | 1 | 0 | 0 | 1 |

| Approach | WB | NB | SB |
|---|---|---|---|
| Opposing Approach | | SB | NB |
| Opposing Lanes | 0 | 1 | 1 |
| Conflicting Approach Left | NB | | WB |
| Conflicting Lanes Left | 1 | 0 | 1 |
| Conflicting Approach Right | SB | WB | |
| Conflicting Lanes Right | 1 | 1 | 0 |
| HCM Control Delay | 13.1 | 255.1 | 28 |
| HCM LOS | B | F | D |

| Lane | NBLn1 | WBLn1 | SBLn1 |
|---|---|---|---|
| Vol Left, % | 0% | 37% | 8% |
| Vol Thru, % | 91% | 0% | 92% |
| Vol Right, % | 9% | 63% | 0% |
| Sign Control | Stop | Stop | Stop |
| Traffic Vol by Lane | 984 | 142 | 492 |
| LT Vol | 0 | 53 | 40 |
| Through Vol | 891 | 0 | 452 |
| RT Vol | 93 | 89 | 0 |
| Lane Flow Rate | 1070 | 154 | 535 |
| Geometry Grp | 1 | 1 | 1 |
| Degree of Util (X) | 1.517 | 0.276 | 0.795 |
| Departure Headway (Hd) | 5.105 | 7.314 | 5.937 |
| Convergence, Y/N | Yes | Yes | Yes |
| Cap | 717 | 494 | 615 |
| Service Time | 3.177 | 5.314 | 3.937 |
| HCM Lane V/C Ratio | 1.492 | 0.312 | 0.87 |
| HCM Control Delay | 255.1 | 13.1 | 28 |
| HCM Lane LOS | F | B | D |
| HCM 95th-tile Q | 52.5 | 1.1 | 7.8 |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 10.5 |
| Intersection LOS | B |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 3 | 15 | 196 | 11 | 6 | 5 | 223 | 49 | 24 | 3 | 34 | 3 |
| Future Vol, veh/h | 3 | 15 | 196 | 11 | 6 | 5 | 223 | 49 | 24 | 3 | 34 | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 3 | 16 | 213 | 12 | 7 | 5 | 242 | 53 | 26 | 3 | 37 | 3 |
| Number of Lanes | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 2 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 2 | 2 | 3 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 3 | 2 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 3 | 2 | 1 | 2 |
| HCM Control Delay | 9.7 | 9.2 | 11.4 | 9.1 |
| HCM LOS | A | A | B | A |

| Lane | NBLn1 | NBLn2 | NBLn3 | EBLn1 | EBLn2 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 17% | 0% | 50% | 100% | 0% |
| Vol Thru, % | 0% | 100% | 40% | 83% | 0% | 27% | 0% | 92% |
| Vol Right, % | 0% | 0% | 60% | 0% | 100% | 23% | 0% | 8% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 223 | 33 | 40 | 18 | 196 | 22 | 3 | 37 |
| LT Vol | 223 | 0 | 0 | 3 | 0 | 11 | 3 | 0 |
| Through Vol | 0 | 33 | 16 | 15 | 0 | 6 | 0 | 34 |
| RT Vol | 0 | 0 | 24 | 0 | 196 | 5 | 0 | 3 |
| Lane Flow Rate | 242 | 36 | 44 | 20 | 213 | 24 | 3 | 40 |
| Geometry Grp | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| Degree of Util (X) | 0.393 | 0.053 | 0.06 | 0.031 | 0.293 | 0.041 | 0.006 | 0.067 |
| Departure Headway (Hd) | 5.839 | 5.336 | 4.917 | 5.73 | 4.946 | 6.142 | 6.452 | 5.99 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 611 | 665 | 721 | 622 | 722 | 577 | 549 | 602 |
| Service Time | 3.618 | 3.114 | 2.695 | 3.492 | 2.708 | 3.942 | 4.252 | 3.69 |
| HCM Lane V/C Ratio | 0.396 | 0.054 | 0.061 | 0.032 | 0.295 | 0.042 | 0.005 | 0.066 |
| HCM Control Delay | 12.4 | 8.4 | 8 | 8.7 | 9.8 | 9.2 | 9.3 | 9.1 |
| HCM Lane LOS | B | A | A | A | A | A | A | A |
| HCM 95th-tile Q | 1.9 | 0.2 | 0.2 | 0.1 | 1.2 | 0.1 | 0 | 0.2 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 5.1 |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 9 | 34 | 36 | 32 | 0 | 15 |
| Future Vol, veh/h | 9 | 34 | 36 | 32 | 0 | 15 |
| Conflicting Peds, #/hr | 4 | 1 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | 150 | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 10 | 37 | 39 | 35 | 0 | 16 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 125 | 9 | 16 | 0 | - | 0 |
| Stage 1 | 8 | - | - | - | - | - |
| Stage 2 | 117 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | 4.12 | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | 2.218 | - | - | - |
| Pot Cap-1 Maneuver | 870 | 1073 | 1602 | - | - | - |
| Stage 1 | 1015 | - | - | - | - | - |
| Stage 2 | 908 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 849 | 1072 | 1602 | - | - | - |
| Mov Cap-2 Maneuver | 849 | - | - | - | - | - |
| Stage 1 | 991 | - | - | - | - | - |
| Stage 2 | 908 | - | - | - | - | - |

| Approach | EB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 8.7 | 3.9 | 0 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1602 | - | 1016 | - | - |
| HCM Lane V/C Ratio | 0.024 | - | 0.046 | - | - |
| HCM Control Delay (s) | 7.3 | - | 8.7 | - | - |
| HCM Lane LOS | A | - | A | - | - |
| HCM 95th %tile Q(veh) | 0.1 | - | 0.1 | - | - |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 172.7 |
| Intersection LOS | F |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 6 | 57 | 2 | 2 | 9 | 939 | 65 | 2 | 474 | 3 |
| Future Vol, veh/h | 0 | 0 | 6 | 57 | 2 | 2 | 9 | 939 | 65 | 2 | 474 | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 7 | 62 | 2 | 2 | 10 | 1021 | 71 | 2 | 515 | 3 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 3 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 3 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 3 | 2 | 1 | 1 |
| HCM Control Delay | 10.8 | 13 | 241.7 | 49.2 |
| HCM LOS | B | B | F | E |

| Lane | NBLn1 | NBLn2 | NBLn3 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 0% | 93% | 100% | 0% |
| Vol Thru, % | 0% | 100% | 0% | 0% | 3% | 0% | 99% |
| Vol Right, % | 0% | 0% | 100% | 100% | 3% | 0% | 1% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 9 | 939 | 65 | 6 | 61 | 2 | 477 |
| LT Vol | 9 | 0 | 0 | 0 | 57 | 2 | 0 |
| Through Vol | 0 | 939 | 0 | 0 | 2 | 0 | 474 |
| RT Vol | 0 | 0 | 65 | 6 | 2 | 0 | 3 |
| Lane Flow Rate | 10 | 1021 | 71 | 7 | 66 | 2 | 518 |
| Geometry Grp | 7 | 7 | 7 | 7 | 7 | 8 | 8 |
| Degree of Util (X) | 0.016 | 1.527 | 0.092 | 0.013 | 0.146 | 0.004 | 0.92 |
| Departure Headway (Hd) | 5.889 | 5.385 | 4.678 | 7.967 | 8.814 | 7.722 | 7.213 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 605 | 674 | 761 | 452 | 410 | 466 | 508 |
| Service Time | 3.65 | 3.144 | 2.437 | 5.667 | 6.514 | 5.422 | 4.913 |
| HCM Lane V/C Ratio | 0.017 | 1.515 | 0.093 | 0.015 | 0.161 | 0.004 | 1.02 |
| HCM Control Delay | 8.7 | 260.1 | 7.9 | 10.8 | 13 | 10.5 | 49.4 |
| HCM Lane LOS | A | F | A | B | B | B | E |
| HCM 95th-tile Q | 0 | 51 | 0.3 | 0 | 0.5 | 0 | 10.9 |

| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 87 | 20 | 1004 | 161 | 29 | 652 |
| Future Volume (vph) | 87 | 20 | 1004 | 161 | 29 | 652 |
| Confl. Peds. (#/hr) | | 8 | | 6 | | |
| Confl. Bikes (#/hr) | | | | 5 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | 0% | | | 0% |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | NA | | Prot | NA |
| Protected Phases | 8 | | 2 | | 1 | 6 |
| Permitted Phases | | 8 | | | | |
| Detector Phase | 8 | 8 | 2 | | 1 | 6 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | | 8.5 | 20.5 |
| Total Split (s) | 22.6 | 22.6 | 28.4 | | 9.0 | 37.4 |
| Total Split (%) | 37.7% | 37.7% | 47.3% | | 15.0% | 62.3% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Lead/Lag | | | Lag | | Lead | |
| Lead-Lag Optimize? | | | Yes | | Yes | |
| Recall Mode | None | None | Min | | None | Min |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 45.5 |
| Natural Cycle: 60 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 13: Magnolia Avenue & 2nd Street

Existing + Cuml + Proj PM (No School)
13: Magnolia Avenue & 2nd Street
Fanita Ranch
06/06/2019

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 87 | 20 | 1004 | 161 | 29 | 652 |
| Future Volume (veh/h) | 87 | 20 | 1004 | 161 | 29 | 652 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | | 0.97 | 1.00 | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | No | | | No |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 95 | 22 | 1091 | 175 | 32 | 709 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 140 | 124 | 1555 | 249 | 54 | 2371 |
| Arrive On Green | 0.08 | 0.08 | 0.51 | 0.51 | 0.03 | 0.67 |
| Sat Flow, veh/h | 1781 | 1585 | 3147 | 488 | 1781 | 3647 |
| Grp Volume(v), veh/h | 95 | 22 | 633 | 633 | 32 | 709 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 1777 | 1765 | 1781 | 1777 |
| Q Serve(g_s), s | 1.8 | 0.5 | 9.6 | 9.7 | 0.6 | 2.9 |
| Cycle Q Clear(g_c), s | 1.8 | 0.5 | 9.6 | 9.7 | 0.6 | 2.9 |
| Prop In Lane | 1.00 | 1.00 | | 0.28 | 1.00 | |
| Lane Grp Cap(c), veh/h | 140 | 124 | 905 | 899 | 54 | 2371 |
| V/C Ratio(X) | 0.68 | 0.18 | 0.70 | 0.70 | 0.59 | 0.30 |
| Avail Cap(c_a), veh/h | 911 | 811 | 1200 | 1192 | 227 | 3305 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 15.9 | 15.2 | 6.6 | 6.6 | 16.9 | 2.4 |
| Incr Delay (d2), s/veh | 5.7 | 0.7 | 1.2 | 1.2 | 9.7 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.8 | 0.2 | 1.8 | 1.8 | 0.3 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 21.5 | 15.9 | 7.8 | 7.9 | 26.7 | 2.5 |
| LnGrp LOS | C | B | A | A | C | A |
| Approach Vol, veh/h | 117 | | 1266 | | | 741 |
| Approach Delay, s/veh | 20.5 | | 7.8 | | | 3.6 |
| Approach LOS | C | | A | | | A |

| Timer - Assigned Phs | 1 | 2 | | | 6 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.6 | 22.5 | | | 28.1 | 7.3 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 4.5 | 23.9 | | | 32.9 | 18.1 |
| Max Q Clear Time (g_c+I1), s | 2.6 | 11.7 | | | 4.9 | 3.8 |
| Green Ext Time (p_c), s | 0.0 | 6.3 | | | 4.9 | 0.2 |

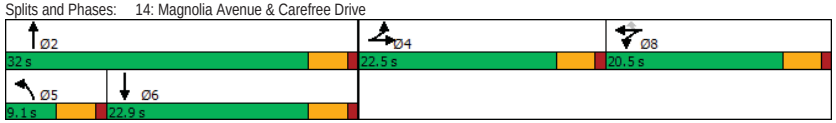
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 7.0 |
| HCM 6th LOS | | A |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 23 | 0 | 52 | 4 | 0 | 0 | 78 | 1137 | 0 | 0 | 702 | 16 |
| Future Volume (vph) | 23 | 0 | 52 | 4 | 0 | 0 | 78 | 1137 | 0 | 0 | 702 | 16 |
| Confl. Peds. (#/hr) | | | 22 | | | | | | 8 | | | 12 |
| Confl. Bikes (#/hr) | | | 4 | | | | | | | | | 6 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | 50% | | | | | | | | |
| Turn Type | Split | NA | | Split | NA | Perm | Prot | NA | | | NA | |
| Protected Phases | 4 | 4 | | 8 | 8 | | 5 | 2 | | | 6 | |
| Permitted Phases | | | | | | 8 | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | 8 | 5 | 2 | | | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | | 4.0 | |
| Minimum Split (s) | 22.5 | 22.5 | | 20.5 | 20.5 | 20.5 | 8.5 | 22.5 | | | 22.5 | |
| Total Split (s) | 22.5 | 22.5 | | 20.5 | 20.5 | 20.5 | 9.1 | 32.0 | | | 22.9 | |
| Total Split (%) | 30.0% | 30.0% | | 27.3% | 27.3% | 27.3% | 12.1% | 42.7% | | | 30.5% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | 0.0 | |
| Total Lost Time (s) | | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | | 4.5 | |
| Lead/Lag | | | | | | | Lead | | | | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | | | | Yes | |
| Recall Mode | None | None | | None | None | None | None | Min | | | Min | |

**Intersection Summary**

Cycle Length: 75
Actuated Cycle Length: 44.5
Natural Cycle: 75
Control Type: Semi Act-Uncoord

Splits and Phases: 14: Magnolia Avenue & Carefree Drive








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 23 | 0 | 52 | 4 | 0 | 0 | 78 | 1137 | 0 | 0 | 702 | 16 |
| Future Volume (veh/h) | 23 | 0 | 52 | 4 | 0 | 0 | 78 | 1137 | 0 | 0 | 702 | 16 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.92 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.96 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 0 | 0 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 25 | 0 | 57 | 4 | 0 | 0 | 85 | 1236 | 0 | 0 | 763 | 17 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 0 | 0 | 2 | 2 |
| Cap, veh/h | 52 | 0 | 118 | 16 | 0 | 7 | 112 | 1847 | 0 | 0 | 1189 | 26 |
| Arrive On Green | 0.11 | 0.00 | 0.11 | 0.00 | 0.00 | 0.00 | 0.06 | 0.52 | 0.00 | 0.00 | 0.33 | 0.33 |
| Sat Flow, veh/h | 471 | 0 | 1075 | 3563 | 0 | 1585 | 1781 | 3647 | 0 | 0 | 3643 | 79 |
| Grp Volume(v), veh/h | 82 | 0 | 0 | 4 | 0 | 0 | 85 | 1236 | 0 | 0 | 382 | 398 |
| Grp Sat Flow(s),veh/h/ln | 1546 | 0 | 0 | 1781 | 0 | 1585 | 1781 | 1777 | 0 | 0 | 1777 | 1852 |
| Q Serve(g_s), s | 1.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.7 | 9.4 | 0.0 | 0.0 | 6.7 | 6.7 |
| Cycle Q Clear(g_c), s | 1.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.7 | 9.4 | 0.0 | 0.0 | 6.7 | 6.7 |
| Prop In Lane | 0.30 | | 0.70 | 1.00 | | 1.00 | 1.00 | | 0.00 | 0.00 | | 0.04 |
| Lane Grp Cap(c), veh/h | 170 | 0 | 0 | 16 | 0 | 7 | 112 | 1847 | 0 | 0 | 595 | 620 |
| V/C Ratio(X) | 0.48 | 0.00 | 0.00 | 0.26 | 0.00 | 0.00 | 0.76 | 0.67 | 0.00 | 0.00 | 0.64 | 0.64 |
| Avail Cap(c_a), veh/h | 754 | 0 | 0 | 1545 | 0 | 687 | 222 | 2649 | 0 | 0 | 886 | 924 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 15.4 | 0.0 | 0.0 | 18.3 | 0.0 | 0.0 | 17.0 | 6.5 | 0.0 | 0.0 | 10.4 | 10.4 |
| Incr Delay (d2), s/veh | 2.1 | 0.0 | 0.0 | 8.5 | 0.0 | 0.0 | 9.9 | 0.4 | 0.0 | 0.0 | 1.2 | 1.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.9 | 1.6 | 0.0 | 0.0 | 1.9 | 2.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 17.6 | 0.0 | 0.0 | 26.8 | 0.0 | 0.0 | 26.9 | 6.9 | 0.0 | 0.0 | 11.6 | 11.5 |
| LnGrp LOS | B | A | A | C | A | A | C | A | A | A | B | B |
| Approach Vol, veh/h | | 82 | | | 4 | | | 1321 | | | 780 | |
| Approach Delay, s/veh | | 17.6 | | | 26.8 | | | 8.2 | | | 11.5 | |
| Approach LOS | | B | | | C | | | A | | | B | |

| Timer - Assigned Phs | 2 | 4 | 5 | 6 | 8 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 23.7 | 8.6 | 6.8 | 16.9 | 4.7 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 27.5 | 18.0 | 4.6 | 18.4 | 16.0 |
| Max Q Clear Time (g_c+I1), s | 11.4 | 3.8 | 3.7 | 8.7 | 2.0 |
| Green Ext Time (p_c), s | 7.7 | 0.3 | 0.0 | 3.2 | 0.0 |

**Intersection Summary**

| | |
|---|---|
| HCM 6th Ctrl Delay | 9.8 |
| HCM 6th LOS | A |

**Notes**

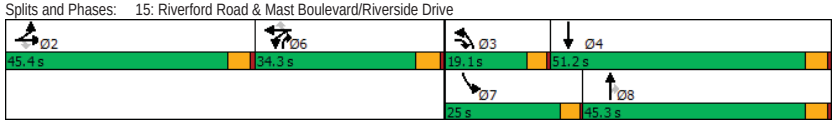
User approved volume balancing among the lanes for turning movement.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 15 | 8 | 35 | 519 | 41 | 377 | 72 | 330 | 462 | 238 | 225 | 22 |
| Future Volume (vph) | 15 | 8 | 35 | 519 | 41 | 377 | 72 | 330 | 462 | 238 | 225 | 22 |
| Confl. Peds. (#/hr) | | | | | | | | | 4 | | | |
| Confl. Bikes (#/hr) | | | 3 | | | 1 | | | 3 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Split | NA | pm+ov | Split | NA | Perm | Prot | NA | pm+ov | Prot | NA | |
| Protected Phases | 2 | 2 | 3 | 6 | 6 | | 3 | 8 | 6 | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | 8 | | | |
| Detector Phase | 2 | 2 | 3 | 6 | 6 | 6 | 3 | 8 | 6 | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 6.0 | 6.0 | 5.0 | 4.0 | 4.0 | 4.0 | 5.0 | 6.0 | 4.0 | 4.0 | 6.0 | |
| Minimum Split (s) | 45.3 | 45.3 | 9.1 | 34.3 | 34.3 | 34.3 | 9.1 | 45.3 | 34.3 | 8.6 | 49.9 | |
| Total Split (s) | 45.4 | 45.4 | 19.1 | 34.3 | 34.3 | 34.3 | 19.1 | 45.3 | 34.3 | 25.0 | 51.2 | |
| Total Split (%) | 30.3% | 30.3% | 12.7% | 22.9% | 22.9% | 22.9% | 12.7% | 30.2% | 22.9% | 16.7% | 34.1% | |
| Yellow Time (s) | 4.3 | 4.3 | 3.6 | 4.3 | 4.3 | 4.3 | 3.6 | 3.9 | 4.3 | 3.6 | 3.9 | |
| All-Red Time (s) | 1.0 | 1.0 | 0.5 | 1.0 | 1.0 | 1.0 | 0.5 | 1.0 | 1.0 | 0.5 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 5.3 | 5.3 | 4.1 | 5.3 | 5.3 | 5.3 | 4.1 | 4.9 | 5.3 | 4.1 | 4.9 | |
| Lead/Lag | | | Lead | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | Yes | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | None | None | None | None | None | Min | None | None | Min | |

**Intersection Summary**

Cycle Length: 150
Actuated Cycle Length: 100
Natural Cycle: 150
Control Type: Actuated-Uncoordinated

Splits and Phases: 15: Riverford Road & Mast Boulevard/Riverside Drive








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 15 | 8 | 35 | 519 | 41 | 377 | 72 | 330 | 462 | 238 | 225 | 22 |
| Future Volume (veh/h) | 15 | 8 | 35 | 519 | 41 | 377 | 72 | 330 | 462 | 238 | 225 | 22 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.96 | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 16 | 9 | 38 | 564 | 45 | 410 | 78 | 359 | 502 | 259 | 245 | 24 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 92 | 184 | 298 | 1007 | 1035 | 452 | 101 | 521 | 895 | 298 | 651 | 64 |
| Arrive On Green | 0.05 | 0.05 | 0.05 | 0.29 | 0.29 | 0.29 | 0.06 | 0.28 | 0.28 | 0.17 | 0.39 | 0.39 |
| Sat Flow, veh/h | 1781 | 3554 | 2686 | 3456 | 3554 | 1551 | 1781 | 1870 | 1556 | 1781 | 1674 | 164 |
| Grp Volume(v), veh/h | 16 | 9 | 38 | 564 | 45 | 410 | 78 | 359 | 502 | 259 | 0 | 269 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1343 | 1728 | 1777 | 1551 | 1781 | 1870 | 1556 | 1781 | 0 | 1838 |
| Q Serve(g_s), s | 0.8 | 0.2 | 1.2 | 12.8 | 0.8 | 23.6 | 4.0 | 15.9 | 19.0 | 13.2 | 0.0 | 9.7 |
| Cycle Q Clear(g_c), s | 0.8 | 0.2 | 1.2 | 12.8 | 0.8 | 23.6 | 4.0 | 15.9 | 19.0 | 13.2 | 0.0 | 9.7 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.09 |
| Lane Grp Cap(c), veh/h | 92 | 184 | 298 | 1007 | 1035 | 452 | 101 | 521 | 895 | 298 | 0 | 715 |
| V/C Ratio(X) | 0.17 | 0.05 | 0.13 | 0.56 | 0.04 | 0.91 | 0.77 | 0.69 | 0.56 | 0.87 | 0.00 | 0.38 |
| Avail Cap(c_a), veh/h | 769 | 1534 | 1318 | 1079 | 1109 | 484 | 288 | 813 | 1138 | 401 | 0 | 916 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 42.1 | 41.9 | 37.4 | 27.9 | 23.6 | 31.7 | 43.2 | 29.9 | 12.7 | 37.7 | 0.0 | 20.3 |
| Incr Delay (d2), s/veh | 0.9 | 0.1 | 0.2 | 0.6 | 0.0 | 20.0 | 11.5 | 1.6 | 0.6 | 14.5 | 0.0 | 0.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.4 | 0.1 | 0.4 | 5.1 | 0.3 | 11.1 | 2.1 | 7.2 | 11.6 | 6.8 | 0.0 | 4.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 43.0 | 42.0 | 37.6 | 28.4 | 23.6 | 51.7 | 54.7 | 31.5 | 13.2 | 52.2 | 0.0 | 20.7 |
| LnGrp LOS | D | D | D | C | C | D | D | C | B | D | A | C |
| Approach Vol, veh/h | | 63 | | | 1019 | | | 939 | | | 528 | |
| Approach Delay, s/veh | | 39.6 | | | 37.6 | | | 23.7 | | | 36.1 | |
| Approach LOS | | D | | | D | | | C | | | D | |

| Timer - Assigned Phs | 2 | 3 | 4 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 10.1 | 9.4 | 41.0 | 32.4 | 19.6 | 30.8 |
| Change Period (Y+Rc), s | 5.3 | 4.1 | 4.9 | 5.3 | 4.1 | 4.9 |
| Max Green Setting (Gmax), s | 40.1 | 15.0 | 46.3 | 29.0 | 20.9 | 40.4 |
| Max Q Clear Time (g_c+I1), s | 3.2 | 6.0 | 11.7 | 25.6 | 15.2 | 21.0 |
| Green Ext Time (p_c), s | 0.2 | 0.1 | 1.7 | 1.4 | 0.4 | 4.1 |

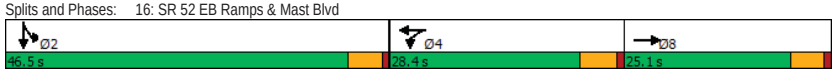
**Intersection Summary**

| | |
|---|---|
| HCM 6th Ctrl Delay | 32.2 |
| HCM 6th LOS | C |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 5 | 8 | 260 | 0 | 0 | 0 | 0 | 0 | 1695 | 1 | 6 |
| Future Volume (vph) | 0 | 5 | 8 | 260 | 0 | 0 | 0 | 0 | 0 | 1695 | 1 | 6 |
| Confl. Peds. (#/hr) | | | 5 | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | 50% | | |
| Turn Type | | NA | | Split | | | | | | Split | NA | |
| Protected Phases | | 8 | | 4 | 4 | | | | | 2 | 2 | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | | 8 | | 4 | 4 | | | | | 2 | 2 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | 7.0 | | 8.0 | 8.0 | | | | | 5.0 | 5.0 | |
| Minimum Split (s) | | 25.1 | | 28.4 | 28.4 | | | | | 32.3 | 32.3 | |
| Total Split (s) | | 25.1 | | 28.4 | 28.4 | | | | | 46.5 | 46.5 | |
| Total Split (%) | | 25.1% | | 28.4% | 28.4% | | | | | 46.5% | 46.5% | |
| Yellow Time (s) | | 4.1 | | 4.4 | 4.4 | | | | | 4.1 | 4.1 | |
| All-Red Time (s) | | 1.0 | | 1.0 | 1.0 | | | | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | | 0.0 | 0.0 | | | | | 0.0 | 0.0 | |
| Total Lost Time (s) | | 5.1 | | 5.4 | 5.4 | | | | | 5.1 | 5.1 | |
| Lead/Lag | | | | | | | | | | | | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Recall Mode | | None | | None | None | | | | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 76.2 |
| Natural Cycle: 130 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 16: SR 52 EB Ramps & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 5 | 8 | 260 | 0 | 0 | 0 | 0 | 0 | 1695 | 1 | 6 |
| Future Volume (veh/h) | 0 | 5 | 8 | 260 | 0 | 0 | 0 | 0 | 0 | 1695 | 1 | 6 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | | | | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 1.00 | | | | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | | | | No | |
| Adj Sat Flow, veh/h/ln | 0 | 1870 | 1870 | 1870 | 1870 | 0 | | | | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 5 | 9 | 283 | 0 | 0 | | | | 1849 | 0 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 0 | 2 | 2 | 2 | 2 | 0 | | | | 2 | 2 | 2 |
| Cap, veh/h | 0 | 22 | 39 | 336 | 353 | 0 | | | | 1984 | 1042 | 0 |
| Arrive On Green | 0.00 | 0.04 | 0.04 | 0.19 | 0.00 | 0.00 | | | | 0.56 | 0.00 | 0.00 |
| Sat Flow, veh/h | 0 | 592 | 1066 | 1781 | 1870 | 0 | | | | 3563 | 1870 | 0 |
| Grp Volume(v), veh/h | 0 | 0 | 14 | 283 | 0 | 0 | | | | 1849 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 0 | 0 | 1659 | 1781 | 1870 | 0 | | | | 1781 | 1870 | 0 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.6 | 11.0 | 0.0 | 0.0 | | | | 34.2 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 0.0 | 0.0 | 0.6 | 11.0 | 0.0 | 0.0 | | | | 34.2 | 0.0 | 0.0 |
| Prop In Lane | 0.00 | | 0.64 | 1.00 | | 0.00 | | | | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 0 | 0 | 60 | 336 | 353 | 0 | | | | 1984 | 1042 | 0 |
| V/C Ratio(X) | 0.00 | 0.00 | 0.23 | 0.84 | 0.00 | 0.00 | | | | 0.93 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 0 | 0 | 463 | 572 | 601 | 0 | | | | 2060 | 1082 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | | | | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 0.0 | 0.0 | 33.5 | 28.0 | 0.0 | 0.0 | | | | 14.6 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 0.7 | 5.7 | 0.0 | 0.0 | | | | 8.2 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.0 | 0.2 | 4.9 | 0.0 | 0.0 | | | | 13.7 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 0.0 | 34.2 | 33.7 | 0.0 | 0.0 | | | | 22.8 | 0.0 | 0.0 |
| LnGrp LOS | A | A | C | C | A | A | | | | C | A | A |
| Approach Vol, veh/h | | 14 | | | 283 | | | | | | 1849 | |
| Approach Delay, s/veh | | 34.2 | | | 33.7 | | | | | | 22.8 | |
| Approach LOS | | C | | | C | | | | | | C | |

| Timer - Assigned Phs | 2 | 4 | 8 |
|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 45.0 | 18.9 | 7.7 |
| Change Period (Y+Rc), s | 5.1 | 5.4 | 5.1 |
| Max Green Setting (Gmax), s | 41.4 | 23.0 | 20.0 |
| Max Q Clear Time (g_c+I1), s | 36.2 | 13.0 | 2.6 |
| Green Ext Time (p_c), s | 3.6 | 0.6 | 0.0 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 24.3 | |
| HCM 6th LOS | C | |

| Notes |
|---|
| User approved volume balancing among the lanes for turning movement. |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 5 | 1695 | 0 | 0 | 260 | 601 | 0 | 3 | 598 | 0 | 0 | 0 |
| Future Volume (vph) | 5 | 1695 | 0 | 0 | 260 | 601 | 0 | 3 | 598 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | | | 6 | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | 4 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | 32% | | | 50% | | | |
| Turn Type | Prot | NA | | | NA | Perm | | NA | Perm | | | |
| Protected Phases | 5 | 2 | | | 6 | | | 8 | | | | |
| Permitted Phases | | | | | | 6 | 8 | | 8 | | | |
| Detector Phase | 5 | 2 | | | 6 | 6 | 8 | 8 | 8 | | | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 10.0 | | | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | | | |
| Minimum Split (s) | 11.7 | 38.6 | | | 28.4 | 28.4 | 43.1 | 43.1 | 43.1 | | | |
| Total Split (s) | 11.7 | 56.9 | | | 45.2 | 45.2 | 43.1 | 43.1 | 43.1 | | | |
| Total Split (%) | 11.7% | 56.9% | | | 45.2% | 45.2% | 43.1% | 43.1% | 43.1% | | | |
| Yellow Time (s) | 3.7 | 4.1 | | | 4.4 | 4.4 | 4.1 | 4.1 | 4.1 | | | |
| All-Red Time (s) | 1.0 | 1.0 | | | 1.0 | 1.0 | 2.0 | 2.0 | 2.0 | | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | 0.0 | | | |
| Total Lost Time (s) | 4.7 | 5.1 | | | 5.4 | 5.4 | | 6.1 | 6.1 | | | |
| Lead/Lag | Lead | | | | Lag | Lag | | | | | | |
| Lead-Lag Optimize? | Yes | | | | Yes | Yes | | | | | | |
| Recall Mode | None | Min | | | Min | Min | None | None | None | | | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 86.9 |
| Natural Cycle: 95 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 17: SR-52 WB Ramps & Mast Blvd

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 5 | 1695 | 0 | 0 | 260 | 601 | 0 | 3 | 598 | 0 | 0 | 0 |
| Future Volume (veh/h) | 5 | 1695 | 0 | 0 | 260 | 601 | 0 | 3 | 598 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.99 | 1.00 | | 1.00 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.99 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 0 | 0 | 1870 | 1945 | 1870 | 1870 | 1870 | | | |
| Adj Flow Rate, veh/h | 5 | 1842 | 0 | 0 | 560 | 468 | 0 | 0 | 652 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | |
| Percent Heavy Veh, % | 2 | 2 | 0 | 0 | 2 | 2 | 2 | 2 | 2 | | | |
| Cap, veh/h | 16 | 2165 | 0 | 0 | 1008 | 877 | 0 | 447 | 767 | | | |
| Arrive On Green | 0.01 | 0.61 | 0.00 | 0.00 | 0.54 | 0.54 | 0.00 | 0.00 | 0.24 | | | |
| Sat Flow, veh/h | 1781 | 3647 | 0 | 0 | 1870 | 1626 | 0 | 1848 | 3170 | | | |
| Grp Volume(v), veh/h | 5 | 1842 | 0 | 0 | 560 | 468 | 0 | 0 | 652 | | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 0 | 0 | 1870 | 1626 | 0 | 1848 | 1585 | | | |
| Q Serve(g_s), s | 0.2 | 32.5 | 0.0 | 0.0 | 15.2 | 14.4 | 0.0 | 0.0 | 15.2 | | | |
| Cycle Q Clear(g_c), s | 0.2 | 32.5 | 0.0 | 0.0 | 15.2 | 14.4 | 0.0 | 0.0 | 15.2 | | | |
| Prop In Lane | 1.00 | | 0.00 | 0.00 | | 1.00 | 0.00 | | 1.00 | | | |
| Lane Grp Cap(c), veh/h | 16 | 2165 | 0 | 0 | 1008 | 877 | 0 | 447 | 767 | | | |
| V/C Ratio(X) | 0.30 | 0.85 | 0.00 | 0.00 | 0.56 | 0.53 | 0.00 | 0.00 | 0.85 | | | |
| Avail Cap(c_a), veh/h | 161 | 2382 | 0 | 0 | 1008 | 877 | 0 | 885 | 1518 | | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | | | |
| Uniform Delay (d), s/veh | 38.0 | 12.3 | 0.0 | 0.0 | 11.7 | 11.5 | 0.0 | 0.0 | 28.0 | | | |
| Incr Delay (d2), s/veh | 3.8 | 2.9 | 0.0 | 0.0 | 0.7 | 0.6 | 0.0 | 0.0 | 1.1 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ln | 0.1 | 11.0 | 0.0 | 0.0 | 5.6 | 4.6 | 0.0 | 0.0 | 5.6 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 41.8 | 15.2 | 0.0 | 0.0 | 12.4 | 12.2 | 0.0 | 0.0 | 29.0 | | | |
| LnGrp LOS | D | B | A | A | B | B | A | A | C | | | |
| Approach Vol, veh/h | | 1847 | | | 1028 | | | 652 | | | | |
| Approach Delay, s/veh | | 15.3 | | | 12.3 | | | 29.0 | | | | |
| Approach LOS | | B | | | B | | | C | | | | |

| Timer - Assigned Phs | 2 | 5 | 6 | 8 |
|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 52.5 | 5.4 | 47.1 | 24.8 |
| Change Period (Y+Rc), s | * 5.4 | * 4.7 | 5.4 | 6.1 |
| Max Green Setting (Gmax), s | * 52 | * 7 | 39.8 | 37.0 |
| Max Q Clear Time (g_c+I1), s | 34.5 | 2.2 | 17.2 | 17.2 |
| Green Ext Time (p_c), s | 12.6 | 0.0 | 5.6 | 1.5 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 16.9 |
| HCM 6th LOS | B |

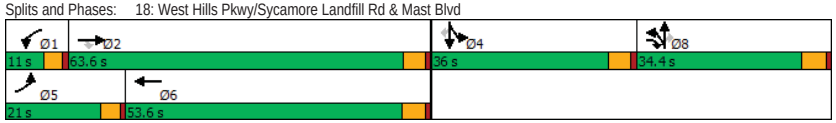
Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 36 | 1726 | 524 | 208 | 584 | 4 | 222 | 2 | 512 | 11 | 3 | 66 |
| Future Volume (vph) | 36 | 1726 | 524 | 208 | 584 | 4 | 222 | 2 | 512 | 11 | 3 | 66 |
| Confl. Peds. (#/hr) | | | 12 | | | | | | | | | 4 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | 50% | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | | Split | NA | Perm | Split | NA | Perm |
| Protected Phases | 5 | 2 | 8 | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Permitted Phases | | | 2 | | | | | | 8 | | | 4 |
| Detector Phase | 5 | 2 | 8 | 1 | 6 | | 8 | 8 | 8 | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 10.0 | 10.0 | 4.0 | 10.0 | | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| Minimum Split (s) | 20.0 | 34.9 | 33.4 | 8.4 | 35.2 | | 33.4 | 33.4 | 33.4 | 34.9 | 34.9 | 34.9 |
| Total Split (s) | 21.0 | 63.6 | 34.4 | 11.0 | 53.6 | | 34.4 | 34.4 | 34.4 | 36.0 | 36.0 | 36.0 |
| Total Split (%) | 14.5% | 43.9% | 23.7% | 7.6% | 37.0% | | 23.7% | 23.7% | 23.7% | 24.8% | 24.8% | 24.8% |
| Yellow Time (s) | 3.4 | 3.9 | 4.4 | 3.4 | 4.2 | | 4.4 | 4.4 | 4.4 | 3.9 | 3.9 | 3.9 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.4 | 4.9 | 5.4 | 4.4 | 5.2 | | 5.4 | 5.4 | 5.4 | | 4.9 | 4.9 |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | Min | None | None | Min | | None | None | None | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 145 |
| Actuated Cycle Length: 116.4 |
| Natural Cycle: 145 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 18: West Hills Pkwy/Sycamore Landfill Rd & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 36 | 1726 | 524 | 208 | 584 | 4 | 222 | 2 | 512 | 11 | 3 | 66 |
| Future Volume (veh/h) | 36 | 1726 | 524 | 208 | 584 | 4 | 222 | 2 | 512 | 11 | 3 | 66 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 39 | 1876 | 570 | 226 | 635 | 4 | 242 | 0 | 504 | 12 | 3 | 72 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 100 | 1668 | 1106 | 182 | 1688 | 11 | 826 | 0 | 368 | 125 | 31 | 136 |
| Arrive On Green | 0.06 | 0.47 | 0.47 | 0.05 | 0.47 | 0.47 | 0.23 | 0.00 | 0.23 | 0.09 | 0.09 | 0.09 |
| Sat Flow, veh/h | 1781 | 3554 | 1573 | 3456 | 3620 | 23 | 3563 | 0 | 1585 | 1439 | 360 | 1563 |
| Grp Volume(v), veh/h | 39 | 1876 | 570 | 226 | 312 | 327 | 242 | 0 | 504 | 15 | 0 | 72 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1573 | 1728 | 1777 | 1866 | 1781 | 0 | 1585 | 1798 | 0 | 1563 |
| Q Serve(g_s), s | 2.6 | 58.7 | 21.2 | 6.6 | 14.2 | 14.2 | 7.0 | 0.0 | 29.0 | 1.0 | 0.0 | 5.5 |
| Cycle Q Clear(g_c), s | 2.6 | 58.7 | 21.2 | 6.6 | 14.2 | 14.2 | 7.0 | 0.0 | 29.0 | 1.0 | 0.0 | 5.5 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.01 | 1.00 | | 1.00 | 0.80 | | 1.00 |
| Lane Grp Cap(c), veh/h | 100 | 1668 | 1106 | 182 | 828 | 870 | 826 | 0 | 368 | 156 | 0 | 136 |
| V/C Ratio(X) | 0.39 | 1.12 | 0.52 | 1.24 | 0.38 | 0.38 | 0.29 | 0.00 | 1.37 | 0.10 | 0.00 | 0.53 |
| Avail Cap(c_a), veh/h | 236 | 1668 | 1106 | 182 | 828 | 870 | 826 | 0 | 368 | 447 | 0 | 389 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 57.0 | 33.2 | 8.7 | 59.2 | 21.6 | 21.6 | 39.6 | 0.0 | 48.0 | 52.6 | 0.0 | 54.7 |
| Incr Delay (d2), s/veh | 0.9 | 64.5 | 0.5 | 145.4 | 0.6 | 0.6 | 0.3 | 0.0 | 183.4 | 0.3 | 0.0 | 3.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.2 | 38.7 | 13.6 | 6.5 | 5.9 | 6.2 | 3.0 | 0.0 | 29.8 | 0.4 | 0.0 | 2.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 57.9 | 97.7 | 9.3 | 204.6 | 22.2 | 22.2 | 39.9 | 0.0 | 231.5 | 52.9 | 0.0 | 57.9 |
| LnGrp LOS | E | F | A | F | C | C | D | A | F | D | A | E |
| Approach Vol, veh/h | | 2485 | | | 865 | | | 746 | | | 87 | |
| Approach Delay, s/veh | | 76.8 | | | 69.9 | | | 169.3 | | | 57.0 | |
| Approach LOS | | E | | | E | | | F | | | E | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 11.0 | 63.9 | | 15.7 | 11.4 | 63.5 | | 34.4 | | | | |
| Change Period (Y+Rc), s | 4.4 | * 5.2 | | 4.9 | 4.4 | 5.2 | | 5.4 | | | | |
| Max Green Setting (Gmax), s | 6.6 | * 59 | | 31.1 | 16.6 | 48.4 | | 29.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 8.6 | 60.7 | | 7.5 | 4.6 | 16.2 | | 31.0 | | | | |
| Green Ext Time (p_c), s | 0.0 | 0.0 | | 0.2 | 0.0 | 8.0 | | 0.0 | | | | |

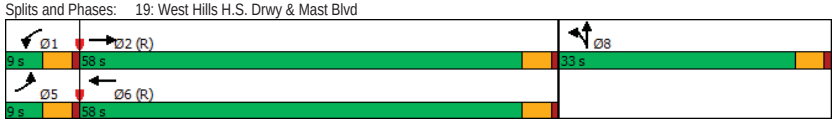
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 91.4 | |
| HCM 6th LOS | F | |

| Notes |
|---|
| User approved volume balancing among the lanes for turning movement. |
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 6 | 1920 | 21 | 42 | 753 | 0 | 49 | 0 | 116 | 0 | 0 | 0 |
| Future Volume (vph) | 6 | 1920 | 21 | 42 | 753 | 0 | 49 | 0 | 116 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | 4 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Split | NA | | | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | | | | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | | | | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | | | | |
| Minimum Split (s) | 8.5 | 22.5 | | 8.5 | 20.5 | | 31.5 | 31.5 | | | | |
| Total Split (s) | 9.0 | 58.0 | | 9.0 | 58.0 | | 33.0 | 33.0 | | | | |
| Total Split (%) | 9.0% | 58.0% | | 9.0% | 58.0% | | 33.0% | 33.0% | | | | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | | | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | | |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | | 4.5 | | | | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | | | | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 110 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 19: West Hills H.S. Drwy & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 6 | 1920 | 21 | 42 | 753 | 0 | 49 | 0 | 116 | 0 | 0 | 0 |
| Future Volume (veh/h) | 6 | 1920 | 21 | 42 | 753 | 0 | 49 | 0 | 116 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 0 | 1900 | 1870 | 1900 | | | |
| Adj Flow Rate, veh/h | 7 | 2087 | 23 | 46 | 818 | 0 | 53 | 0 | 126 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 0 | 0 | 2 | 0 | | | |
| Cap, veh/h | 13 | 2513 | 28 | 59 | 2572 | 0 | 65 | 0 | 155 | | | |
| Arrive On Green | 0.01 | 0.70 | 0.70 | 0.01 | 0.24 | 0.00 | 0.13 | 0.00 | 0.13 | | | |
| Sat Flow, veh/h | 1781 | 3600 | 40 | 1781 | 3647 | 0 | 485 | 0 | 1153 | | | |
| Grp Volume(v), veh/h | 7 | 1028 | 1082 | 46 | 818 | 0 | 179 | 0 | 0 | | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1863 | 1781 | 1777 | 0 | 1638 | 0 | 0 | | | |
| Q Serve(g_s), s | 0.4 | 41.5 | 41.8 | 2.6 | 19.0 | 0.0 | 10.6 | 0.0 | 0.0 | | | |
| Cycle Q Clear(g_c), s | 0.4 | 41.5 | 41.8 | 2.6 | 19.0 | 0.0 | 10.6 | 0.0 | 0.0 | | | |
| Prop In Lane | 1.00 | | 0.02 | 1.00 | | 0.00 | 0.30 | | 0.70 | | | |
| Lane Grp Cap(c), veh/h | 13 | 1240 | 1300 | 59 | 2572 | 0 | 220 | 0 | 0 | | | |
| V/C Ratio(X) | 0.56 | 0.83 | 0.83 | 0.78 | 0.32 | 0.00 | 0.81 | 0.00 | 0.00 | | | |
| Avail Cap(c_a), veh/h | 80 | 1240 | 1300 | 80 | 2572 | 0 | 467 | 0 | 0 | | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 0.10 | 0.10 | 0.10 | 0.91 | 0.91 | 0.00 | 1.00 | 0.00 | 0.00 | | | |
| Uniform Delay (d), s/veh | 49.5 | 10.8 | 10.9 | 49.1 | 17.7 | 0.0 | 42.1 | 0.0 | 0.0 | | | |
| Incr Delay (d2), s/veh | 3.8 | 0.7 | 0.7 | 26.2 | 0.3 | 0.0 | 7.2 | 0.0 | 0.0 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ln | 0.2 | 12.6 | 13.4 | 1.6 | 9.0 | 0.0 | 4.7 | 0.0 | 0.0 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 53.3 | 11.5 | 11.6 | 75.3 | 18.0 | 0.0 | 49.3 | 0.0 | 0.0 | | | |
| LnGrp LOS | D | B | B | E | B | A | D | A | A | | | |
| Approach Vol, veh/h | | 2117 | | | 864 | | | 179 | | | | |
| Approach Delay, s/veh | | 11.7 | | | 21.1 | | | 49.3 | | | | |
| Approach LOS | | B | | | C | | | D | | | | |

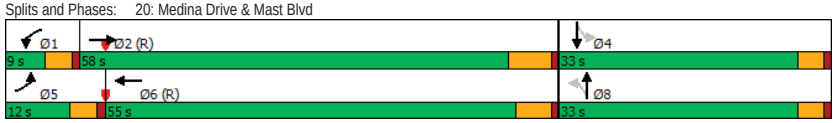
| Timer - Assigned Phs | 1 | 2 | | | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.8 | 74.3 | | | 5.2 | 76.9 | | 17.9 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 4.5 | 53.5 | | | 4.5 | 53.5 | | 28.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 4.6 | 43.8 | | | 2.4 | 21.0 | | 12.6 | | | | |
| Green Ext Time (p_c), s | 0.0 | 8.3 | | | 0.0 | 6.1 | | 0.9 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 16.4 |
| HCM 6th LOS | | B |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 36 | 1758 | 33 | 5 | 765 | 26 | 12 | 3 | 14 | 18 | 4 | 28 |
| Future Volume (vph) | 36 | 1758 | 33 | 5 | 765 | 26 | 12 | 3 | 14 | 18 | 4 | 28 |
| Confl. Peds. (#/hr) | | | 2 | | | | | | 2 | | | |
| Confl. Bikes (#/hr) | | | 2 | | | 5 | | | 2 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Perm | NA | | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | | 4 | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 22.0 | | 8.2 | 22.0 | | 32.2 | 32.2 | | 32.2 | 32.2 | |
| Total Split (s) | 12.0 | 58.0 | | 9.0 | 55.0 | | 33.0 | 33.0 | | 33.0 | 33.0 | |
| Total Split (%) | 12.0% | 58.0% | | 9.0% | 55.0% | | 33.0% | 33.0% | | 33.0% | 33.0% | |
| Yellow Time (s) | 3.2 | 5.1 | | 3.2 | 4.3 | | 3.2 | 3.2 | | 3.2 | 3.2 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | 0.0 | |
| Total Lost Time (s) | 4.2 | 6.1 | | 4.2 | 5.3 | | | 4.2 | | | 4.2 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 100 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 20: Medina Drive & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 36 | 1758 | 33 | 5 | 765 | 26 | 12 | 3 | 14 | 18 | 4 | 28 |
| Future Volume (veh/h) | 36 | 1758 | 33 | 5 | 765 | 26 | 12 | 3 | 14 | 18 | 4 | 28 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.97 | 0.99 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 39 | 1911 | 36 | 5 | 832 | 28 | 13 | 3 | 15 | 20 | 4 | 30 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 49 | 2783 | 52 | 9 | 2656 | 89 | 81 | 27 | 54 | 78 | 20 | 60 |
| Arrive On Green | 0.06 | 1.00 | 1.00 | 0.01 | 1.00 | 1.00 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 |
| Sat Flow, veh/h | 1781 | 3566 | 67 | 1781 | 3505 | 118 | 431 | 396 | 775 | 414 | 282 | 871 |
| Grp Volume(v), veh/h | 39 | 949 | 998 | 5 | 422 | 438 | 31 | 0 | 0 | 54 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1857 | 1781 | 1777 | 1846 | 1603 | 0 | 0 | 1568 | 0 | 0 |
| Q Serve(g_s), s | 2.2 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.4 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 2.2 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 | 1.7 | 0.0 | 0.0 | 3.2 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | | 0.04 | 1.00 | | 0.06 | 0.42 | | 0.48 | 0.37 | | 0.56 |
| Lane Grp Cap(c), veh/h | 49 | 1387 | 1449 | 9 | 1347 | 1399 | 162 | 0 | 0 | 158 | 0 | 0 |
| V/C Ratio(X) | 0.79 | 0.68 | 0.69 | 0.54 | 0.31 | 0.31 | 0.19 | 0.00 | 0.00 | 0.34 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 139 | 1387 | 1449 | 86 | 1347 | 1399 | 488 | 0 | 0 | 491 | 0 | 0 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.32 | 0.32 | 0.32 | 0.96 | 0.96 | 0.96 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 47.0 | 0.0 | 0.0 | 49.4 | 0.0 | 0.0 | 44.1 | 0.0 | 0.0 | 44.7 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 8.8 | 0.9 | 0.9 | 16.4 | 0.6 | 0.6 | 0.2 | 0.0 | 0.0 | 0.5 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.0 | 0.3 | 0.4 | 0.2 | 0.2 | 0.2 | 0.7 | 0.0 | 0.0 | 1.3 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 55.8 | 0.9 | 0.9 | 65.8 | 0.6 | 0.6 | 44.3 | 0.0 | 0.0 | 45.2 | 0.0 | 0.0 |
| LnGrp LOS | E | A | A | E | A | A | D | A | A | D | A | A |
| Approach Vol, veh/h | | 1986 | | | 865 | | | 31 | | | 54 | |
| Approach Delay, s/veh | | 2.0 | | | 0.9 | | | 44.3 | | | 45.2 | |
| Approach LOS | | A | | | A | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 4.7 | 84.1 | | 11.1 | 7.0 | 81.9 | | 11.1 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 6.1 | | * 4.2 | * 4.2 | * 6.1 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | * 4.8 | 51.9 | | * 29 | * 7.8 | * 50 | | * 29 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.3 | 2.0 | | 5.2 | 4.2 | 2.0 | | 3.7 | | | | |
| Green Ext Time (p_c), s | 0.0 | 38.1 | | 0.2 | 0.0 | 10.7 | | 0.1 | | | | |

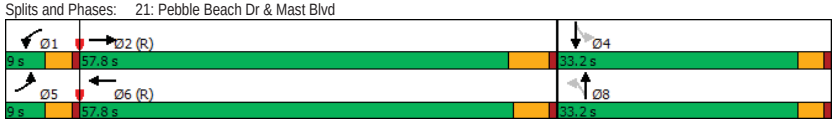
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 2.9 | |
| HCM 6th LOS | A | |

| Notes |
|---|
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 10 | 1726 | 17 | 6 | 746 | 48 | 16 | 3 | 13 | 50 | 0 | 21 |
| Future Volume (vph) | 10 | 1726 | 17 | 6 | 746 | 48 | 16 | 3 | 13 | 50 | 0 | 21 |
| Confl. Peds. (#/hr) | | | 9 | | | | | | 1 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Perm | NA | | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | | 4 | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 23.9 | | 8.2 | 23.3 | | 33.2 | 33.2 | | 32.2 | 32.2 | |
| Total Split (s) | 9.0 | 57.8 | | 9.0 | 57.8 | | 33.2 | 33.2 | | 33.2 | 33.2 | |
| Total Split (%) | 9.0% | 57.8% | | 9.0% | 57.8% | | 33.2% | 33.2% | | 33.2% | 33.2% | |
| Yellow Time (s) | 3.2 | 4.9 | | 3.2 | 4.3 | | 3.2 | 3.2 | | 3.2 | 3.2 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | 0.0 | |
| Total Lost Time (s) | 4.2 | 5.9 | | 4.2 | 5.3 | | | 4.2 | | | 4.2 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Max | | None | C-Max | | None | None | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 100 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 21: Pebble Beach Dr & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 10 | 1726 | 17 | 6 | 746 | 48 | 16 | 3 | 13 | 50 | 0 | 21 |
| Future Volume (veh/h) | 10 | 1726 | 17 | 6 | 746 | 48 | 16 | 3 | 13 | 50 | 0 | 21 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 11 | 1876 | 18 | 7 | 811 | 52 | 17 | 3 | 14 | 54 | 0 | 23 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 19 | 2813 | 27 | 13 | 2633 | 169 | 98 | 26 | 49 | 133 | 4 | 32 |
| Arrive On Green | 0.02 | 1.00 | 1.00 | 0.01 | 1.00 | 1.00 | 0.07 | 0.07 | 0.07 | 0.07 | 0.00 | 0.07 |
| Sat Flow, veh/h | 1781 | 3606 | 35 | 1781 | 3391 | 217 | 622 | 376 | 699 | 1024 | 54 | 459 |
| Grp Volume(v), veh/h | 11 | 923 | 971 | 7 | 425 | 438 | 34 | 0 | 0 | 77 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1864 | 1781 | 1777 | 1831 | 1697 | 0 | 0 | 1538 | 0 | 0 |
| Q Serve(g_s), s | 0.6 | 0.0 | 0.0 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.9 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 0.6 | 0.0 | 0.0 | 0.4 | 0.0 | 0.0 | 1.9 | 0.0 | 0.0 | 4.8 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | | 0.02 | 1.00 | | 0.12 | 0.50 | | 0.41 | 0.70 | | 0.30 |
| Lane Grp Cap(c), veh/h | 19 | 1386 | 1454 | 13 | 1380 | 1422 | 173 | 0 | 0 | 169 | 0 | 0 |
| V/C Ratio(X) | 0.59 | 0.67 | 0.67 | 0.56 | 0.31 | 0.31 | 0.20 | 0.00 | 0.00 | 0.46 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 86 | 1386 | 1454 | 86 | 1380 | 1422 | 502 | 0 | 0 | 486 | 0 | 0 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.66 | 0.66 | 0.66 | 0.66 | 0.66 | 0.66 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 48.7 | 0.0 | 0.0 | 49.1 | 0.0 | 0.0 | 44.1 | 0.0 | 0.0 | 45.3 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 6.9 | 1.7 | 1.6 | 9.1 | 0.4 | 0.4 | 0.2 | 0.0 | 0.0 | 0.7 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.3 | 0.7 | 0.7 | 0.2 | 0.1 | 0.1 | 0.8 | 0.0 | 0.0 | 1.9 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 55.7 | 1.7 | 1.6 | 58.2 | 0.4 | 0.4 | 44.3 | 0.0 | 0.0 | 46.1 | 0.0 | 0.0 |
| LnGrp LOS | E | A | A | E | A | A | D | A | A | D | A | A |
| Approach Vol, veh/h | | 1905 | | | 870 | | | 34 | | | 77 | |
| Approach Delay, s/veh | | 2.0 | | | 0.8 | | | 44.3 | | | 46.1 | |
| Approach LOS | | A | | | A | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 4.9 | 83.9 | | 11.2 | 5.3 | 83.6 | | 11.2 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 5.9 | | * 4.2 | * 4.2 | * 5.9 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | * 4.8 | 51.9 | | * 29 | * 4.8 | * 53 | | * 29 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.4 | 2.0 | | 6.8 | 2.6 | 2.0 | | 3.9 | | | | |
| Green Ext Time (p_c), s | 0.0 | 40.1 | | 0.2 | 0.0 | 15.1 | | 0.1 | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 3.3 | |
| HCM 6th LOS | | A | |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 643 | 1121 | 58 | 29 | 503 | 94 | 57 | 275 | 30 | 71 | 144 | 306 |
| Future Volume (vph) | 643 | 1121 | 58 | 29 | 503 | 94 | 57 | 275 | 30 | 71 | 144 | 306 |
| Confl. Peds. (#/hr) | | | 12 | | | 1 | | | 3 | | | 5 |
| Confl. Bikes (#/hr) | | | | | | 5 | | | 1 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | | | | | | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 27.5 | 27.5 | 8.2 | 28.1 | | 8.2 | 35.1 | | 8.2 | 28.1 | 28.1 |
| Total Split (s) | 28.0 | 48.5 | 48.5 | 8.2 | 28.7 | | 10.5 | 35.1 | | 8.2 | 32.8 | 32.8 |
| Total Split (%) | 28.0% | 48.5% | 48.5% | 8.2% | 28.7% | | 10.5% | 35.1% | | 8.2% | 32.8% | 32.8% |
| Yellow Time (s) | 3.2 | 4.5 | 4.5 | 3.2 | 4.1 | | 3.2 | 4.1 | | 3.2 | 4.1 | 4.1 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.5 | 5.5 | 4.2 | 5.1 | | 4.2 | 5.1 | | 4.2 | 5.1 | 5.1 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | C-Max | C-Max | None | C-Max | | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 14.1 (14%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 130 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 22: Fanita Parkway & Mast Blvd

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 643 | 1121 | 58 | 29 | 503 | 94 | 57 | 275 | 30 | 71 | 144 | 306 |
| Future Volume (veh/h) | 643 | 1121 | 58 | 29 | 503 | 94 | 57 | 275 | 30 | 71 | 144 | 306 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.97 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 699 | 1218 | 63 | 32 | 547 | 102 | 62 | 299 | 33 | 77 | 157 | 333 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 424 | 1762 | 777 | 42 | 838 | 156 | 80 | 414 | 46 | 71 | 460 | 382 |
| Arrive On Green | 0.24 | 0.50 | 0.50 | 0.02 | 0.19 | 0.19 | 0.04 | 0.25 | 0.25 | 0.04 | 0.25 | 0.25 |
| Sat Flow, veh/h | 1781 | 3554 | 1566 | 1781 | 2976 | 553 | 1781 | 1652 | 182 | 1781 | 1870 | 1555 |
| Grp Volume(v), veh/h | 699 | 1218 | 63 | 32 | 326 | 323 | 62 | 0 | 332 | 77 | 157 | 333 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1566 | 1781 | 1777 | 1752 | 1781 | 0 | 1834 | 1781 | 1870 | 1555 |
| Q Serve(g_s), s | 23.8 | 26.3 | 2.1 | 1.8 | 17.0 | 17.1 | 3.4 | 0.0 | 16.6 | 4.0 | 6.9 | 20.6 |
| Cycle Q Clear(g_c), s | 23.8 | 26.3 | 2.1 | 1.8 | 17.0 | 17.1 | 3.4 | 0.0 | 16.6 | 4.0 | 6.9 | 20.6 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.32 | 1.00 | | 0.10 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 424 | 1762 | 777 | 42 | 500 | 493 | 80 | 0 | 459 | 71 | 460 | 382 |
| V/C Ratio(X) | 1.65 | 0.69 | 0.08 | 0.76 | 0.65 | 0.66 | 0.78 | 0.00 | 0.72 | 1.08 | 0.34 | 0.87 |
| Avail Cap(c_a), veh/h | 424 | 1762 | 777 | 71 | 500 | 493 | 112 | 0 | 550 | 71 | 518 | 431 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 0.67 | 0.67 | 0.67 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.69 | 0.69 | 0.69 | 0.87 | 0.87 | 0.87 | 0.96 | 0.00 | 0.96 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 38.1 | 19.3 | 13.2 | 48.9 | 36.0 | 36.1 | 47.3 | 0.0 | 34.3 | 48.0 | 31.0 | 36.2 |
| Incr Delay (d2), s/veh | 299.2 | 1.6 | 0.1 | 16.6 | 5.6 | 5.8 | 16.2 | 0.0 | 7.7 | 130.5 | 1.4 | 20.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 45.1 | 10.3 | 0.7 | 1.0 | 8.4 | 8.4 | 1.8 | 0.0 | 8.1 | 4.3 | 3.2 | 9.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 337.3 | 20.9 | 13.4 | 65.6 | 41.7 | 41.9 | 63.5 | 0.0 | 42.0 | 178.5 | 32.5 | 56.6 |
| LnGrp LOS | F | C | B | E | D | D | E | A | D | F | C | E |
| Approach Vol, veh/h | | 1980 | | | 681 | | | 394 | | | 567 | |
| Approach Delay, s/veh | | 132.4 | | | 42.9 | | | 45.3 | | | 66.5 | |
| Approach LOS | | F | | | D | | | D | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 6.6 | 55.1 | 8.7 | 29.7 | 28.0 | 33.6 | 8.2 | 30.2 |
| Change Period (Y+Rc), s | * 4.2 | 5.5 | * 4.2 | 5.1 | * 4.2 | * 5.5 | * 4.2 | 5.1 |
| Max Green Setting (Gmax), s | * 4 | 43.0 | * 6.3 | 27.7 | * 24 | * 24 | * 4 | 30.0 |
| Max Q Clear Time (g_c+I1), s | 3.8 | 28.3 | 5.4 | 22.6 | 25.8 | 19.1 | 6.0 | 18.6 |
| Green Ext Time (p_c), s | 0.0 | 11.9 | 0.0 | 2.0 | 0.0 | 2.8 | 0.0 | 3.0 |

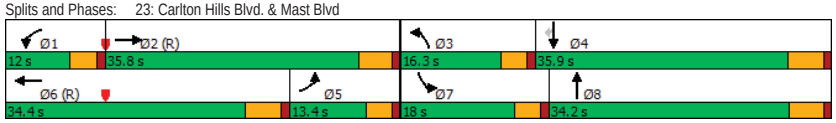
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 95.8 | |
| HCM 6th LOS | F | |

| Notes |
|---|
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 65 | 998 | 91 | 100 | 411 | 100 | 131 | 300 | 181 | 191 | 214 | 44 |
| Future Volume (vph) | 65 | 998 | 91 | 100 | 411 | 100 | 131 | 300 | 181 | 191 | 214 | 44 |
| Confl. Peds. (#/hr) | | | 3 | | | 7 | | | 11 | | | 8 |
| Confl. Bikes (#/hr) | | | 4 | | | 2 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 33.1 | | 8.2 | 32.4 | | 8.2 | 34.2 | | 8.2 | 32.4 | 32.4 |
| Total Split (s) | 13.4 | 35.8 | | 12.0 | 34.4 | | 16.3 | 34.2 | | 18.0 | 35.9 | 35.9 |
| Total Split (%) | 13.4% | 35.8% | | 12.0% | 34.4% | | 16.3% | 34.2% | | 18.0% | 35.9% | 35.9% |
| Yellow Time (s) | 3.2 | 4.1 | | 3.2 | 4.4 | | 3.2 | 4.2 | | 3.2 | 4.4 | 4.4 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.1 | | 4.2 | 5.4 | | 4.2 | 5.2 | | 4.2 | 5.4 | 5.4 |
| Lead/Lag | Lag | Lag | | Lead | Lead | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | C-Min | | None | C-Min | | None | Min | | None | Min | Min |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 95 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 23: Carlton Hills Blvd. & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 65 | 998 | 91 | 100 | 411 | 100 | 131 | 300 | 181 | 191 | 214 | 44 |
| Future Volume (veh/h) | 65 | 998 | 91 | 100 | 411 | 100 | 131 | 300 | 181 | 191 | 214 | 44 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.99 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 71 | 1085 | 99 | 109 | 447 | 109 | 142 | 326 | 197 | 208 | 233 | 48 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 363 | 1217 | 111 | 137 | 653 | 158 | 172 | 491 | 290 | 239 | 950 | 420 |
| Arrive On Green | 0.07 | 0.12 | 0.12 | 0.03 | 0.08 | 0.08 | 0.10 | 0.23 | 0.23 | 0.13 | 0.27 | 0.27 |
| Sat Flow, veh/h | 1781 | 3287 | 300 | 1781 | 2823 | 682 | 1781 | 2137 | 1261 | 1781 | 3554 | 1571 |
| Grp Volume(v), veh/h | 71 | 586 | 598 | 109 | 280 | 276 | 142 | 270 | 253 | 208 | 233 | 48 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1810 | 1781 | 1777 | 1729 | 1781 | 1777 | 1622 | 1781 | 1777 | 1571 |
| Q Serve(g_s), s | 3.8 | 32.5 | 32.5 | 6.1 | 15.3 | 15.6 | 7.8 | 13.8 | 14.3 | 11.4 | 5.1 | 1.3 |
| Cycle Q Clear(g_c), s | 3.8 | 32.5 | 32.5 | 6.1 | 15.3 | 15.6 | 7.8 | 13.8 | 14.3 | 11.4 | 5.1 | 1.3 |
| Prop In Lane | 1.00 | | 0.17 | 1.00 | | 0.39 | 1.00 | | 0.78 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 363 | 658 | 670 | 137 | 411 | 400 | 172 | 408 | 373 | 239 | 950 | 420 |
| V/C Ratio(X) | 0.20 | 0.89 | 0.89 | 0.80 | 0.68 | 0.69 | 0.82 | 0.66 | 0.68 | 0.87 | 0.25 | 0.11 |
| Avail Cap(c_a), veh/h | 363 | 658 | 670 | 139 | 515 | 501 | 216 | 515 | 470 | 246 | 1084 | 479 |
| HCM Platoon Ratio | 0.33 | 0.33 | 0.33 | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.64 | 0.64 | 0.64 | 0.97 | 0.97 | 0.97 | 0.69 | 0.69 | 0.69 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 38.9 | 41.9 | 41.9 | 47.9 | 42.6 | 42.7 | 44.3 | 35.0 | 35.2 | 42.4 | 28.7 | 9.3 |
| Incr Delay (d2), s/veh | 0.1 | 11.6 | 11.5 | 23.7 | 8.5 | 9.1 | 11.0 | 3.7 | 4.5 | 25.3 | 0.6 | 0.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.6 | 17.4 | 17.8 | 3.6 | 8.2 | 8.2 | 3.9 | 6.2 | 6.0 | 6.6 | 2.2 | 0.9 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 39.0 | 53.5 | 53.5 | 71.7 | 51.1 | 51.8 | 55.4 | 38.7 | 39.7 | 67.7 | 29.3 | 9.8 |
| LnGrp LOS | D | D | D | E | D | D | E | D | D | E | C | A |
| Approach Vol, veh/h | | 1255 | | | 665 | | | 665 | | | 489 | |
| Approach Delay, s/veh | | 52.7 | | | 54.8 | | | 42.6 | | | 43.7 | |
| Approach LOS | | D | | | D | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 11.9 | 42.1 | 13.9 | 32.1 | 25.5 | 28.5 | 17.6 | 28.4 |
| Change Period (Y+Rc), s | * 4.2 | 5.1 | * 4.2 | 5.4 | 5.1 | * 5.4 | * 4.2 | * 5.4 |
| Max Green Setting (Gmax), s | * 7.8 | 30.7 | * 12 | 30.5 | 9.2 | * 29 | * 14 | * 29 |
| Max Q Clear Time (g_c+I1), s | 8.1 | 34.5 | 9.8 | 7.1 | 5.8 | 17.6 | 13.4 | 16.3 |
| Green Ext Time (p_c), s | 0.0 | 0.0 | 0.0 | 3.9 | 0.0 | 5.0 | 0.0 | 4.9 |

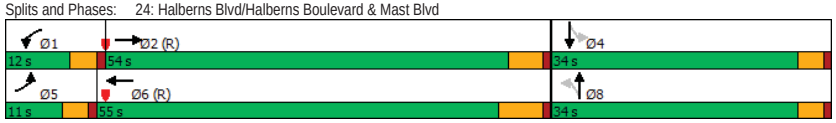
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 49.5 | |
| HCM 6th LOS | D | |

| Notes |
|---|
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 24 | 1174 | 46 | 41 | 595 | 45 | 30 | 57 | 128 | 46 | 38 | 18 |
| Future Volume (vph) | 24 | 1174 | 46 | 41 | 595 | 45 | 30 | 57 | 128 | 46 | 38 | 18 |
| Confl. Peds. (#/hr) | | | 1 | | | 5 | | | 1 | | | 2 |
| Confl. Bikes (#/hr) | | | 1 | | | 1 | | | 1 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Perm | NA | | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | | 4 | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 29.2 | | 8.2 | 28.3 | | 32.2 | 32.2 | | 32.2 | 32.2 | |
| Total Split (s) | 11.0 | 54.0 | | 12.0 | 55.0 | | 34.0 | 34.0 | | 34.0 | 34.0 | |
| Total Split (%) | 11.0% | 54.0% | | 12.0% | 55.0% | | 34.0% | 34.0% | | 34.0% | 34.0% | |
| Yellow Time (s) | 3.2 | 4.2 | | 3.2 | 5.3 | | 3.2 | 3.2 | | 3.2 | 3.2 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.2 | 5.2 | | 4.2 | 6.3 | | 4.2 | 4.2 | | 4.2 | 4.2 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Max | | None | C-Max | | None | None | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 80 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 24: Halberns Blvd/Halberns Boulevard & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 24 | 1174 | 46 | 41 | 595 | 45 | 30 | 57 | 128 | 46 | 38 | 18 |
| Future Volume (veh/h) | 24 | 1174 | 46 | 41 | 595 | 45 | 30 | 57 | 128 | 46 | 38 | 18 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.99 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 26 | 1276 | 50 | 45 | 647 | 49 | 33 | 62 | 139 | 50 | 41 | 20 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 37 | 2228 | 87 | 58 | 2176 | 165 | 275 | 92 | 206 | 152 | 215 | 105 |
| Arrive On Green | 0.04 | 1.00 | 1.00 | 0.01 | 0.21 | 0.21 | 0.18 | 0.18 | 0.18 | 0.18 | 0.18 | 0.18 |
| Sat Flow, veh/h | 1781 | 3484 | 136 | 1781 | 3342 | 253 | 1338 | 508 | 1138 | 1180 | 1186 | 578 |
| Grp Volume(v), veh/h | 26 | 650 | 676 | 45 | 344 | 352 | 33 | 0 | 201 | 50 | 0 | 61 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1844 | 1781 | 1777 | 1817 | 1338 | 0 | 1645 | 1180 | 0 | 1764 |
| Q Serve(g_s), s | 1.4 | 0.0 | 0.0 | 2.5 | 16.2 | 16.3 | 2.1 | 0.0 | 11.4 | 4.1 | 0.0 | 2.9 |
| Cycle Q Clear(g_c), s | 1.4 | 0.0 | 0.0 | 2.5 | 16.2 | 16.3 | 5.1 | 0.0 | 11.4 | 15.5 | 0.0 | 2.9 |
| Prop In Lane | 1.00 | | 0.07 | 1.00 | | 0.14 | 1.00 | | 0.69 | 1.00 | | 0.33 |
| Lane Grp Cap(c), veh/h | 37 | 1136 | 1179 | 58 | 1157 | 1183 | 275 | 0 | 298 | 152 | 0 | 320 |
| V/C Ratio(X) | 0.71 | 0.57 | 0.57 | 0.78 | 0.30 | 0.30 | 0.12 | 0.00 | 0.67 | 0.33 | 0.00 | 0.19 |
| Avail Cap(c_a), veh/h | 121 | 1136 | 1179 | 139 | 1157 | 1183 | 431 | 0 | 490 | 289 | 0 | 526 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.26 | 0.26 | 0.26 | 0.83 | 0.83 | 0.83 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 47.6 | 0.0 | 0.0 | 49.1 | 20.1 | 20.1 | 36.9 | 0.0 | 38.2 | 45.4 | 0.0 | 34.7 |
| Incr Delay (d2), s/veh | 2.5 | 0.5 | 0.5 | 7.0 | 0.5 | 0.5 | 0.1 | 0.0 | 1.0 | 0.5 | 0.0 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.6 | 0.2 | 0.2 | 1.2 | 7.8 | 8.0 | 0.7 | 0.0 | 4.6 | 1.2 | 0.0 | 1.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 50.1 | 0.5 | 0.5 | 56.1 | 20.6 | 20.6 | 36.9 | 0.0 | 39.2 | 45.9 | 0.0 | 34.8 |
| LnGrp LOS | D | A | A | E | C | C | D | A | D | D | A | C |
| Approach Vol, veh/h | | 1352 | | | 741 | | | 234 | | | 111 | |
| Approach Delay, s/veh | | 1.5 | | | 22.8 | | | 38.9 | | | 39.8 | |
| Approach LOS | | A | | | C | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.4 | 70.2 | | 22.3 | 6.3 | 71.4 | | 22.3 | | | | |
| Change Period (Y+Rc), s | * 4.2 | * 6.3 | | * 4.2 | * 4.2 | 6.3 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | * 7.8 | * 49 | | * 30 | * 6.8 | 48.7 | | * 30 | | | | |
| Max Q Clear Time (g_c+I1), s | 4.5 | 2.0 | | 17.5 | 3.4 | 18.3 | | 13.4 | | | | |
| Green Ext Time (p_c), s | 0.0 | 26.0 | | 0.2 | 0.0 | 9.2 | | 0.7 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 13.3 | |
| HCM 6th LOS | B | |

Notes

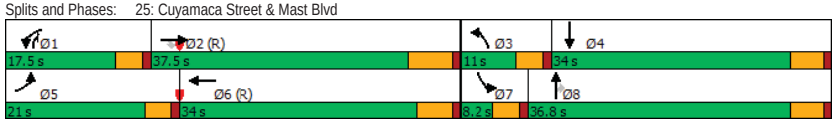
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 360 | 663 | 273 | 326 | 306 | 18 | 258 | 651 | 455 | 14 | 370 | 200 |
| Future Volume (vph) | 360 | 663 | 273 | 326 | 306 | 18 | 258 | 651 | 455 | 14 | 370 | 200 |
| Confl. Peds. (#/hr) | | | 11 | | | 3 | | | | | | 3 |
| Confl. Bikes (#/hr) | | | 2 | | | 2 | | | | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | | Prot | NA | pm+ov | Prot | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | 1 | 7 | 4 | |
| Permitted Phases | | | 2 | | | | | | 8 | | | |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | | 3 | 8 | 1 | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | | 4.0 | 7.0 | 4.0 | 4.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 34.3 | 34.3 | 8.2 | 32.3 | | 8.2 | 33.1 | 8.2 | 8.2 | 34.0 | |
| Total Split (s) | 21.0 | 37.5 | 37.5 | 17.5 | 34.0 | | 11.0 | 36.8 | 17.5 | 8.2 | 34.0 | |
| Total Split (%) | 21.0% | 37.5% | 37.5% | 17.5% | 34.0% | | 11.0% | 36.8% | 17.5% | 8.2% | 34.0% | |
| Yellow Time (s) | 3.2 | 5.3 | 5.3 | 3.2 | 4.3 | | 3.2 | 4.1 | 3.2 | 3.2 | 4.0 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.2 | 6.3 | 6.3 | 4.2 | 5.3 | | 4.2 | 5.1 | 4.2 | 4.2 | 5.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | |
| Recall Mode | None | C-Min | C-Min | None | C-Min | | None | None | None | None | None | |

**Intersection Summary**

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 21 (21%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 105
Control Type: Actuated-Coordinated

Splits and Phases: 25: Cuyamaca Street & Mast Blvd




Timings
N:\2462\Analysis\Intersections\Synchro\No School Alt\8 Existing + Cuml + Proj PM.syn



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 360 | 663 | 273 | 326 | 306 | 18 | 258 | 651 | 455 | 14 | 370 | 200 |
| Future Volume (veh/h) | 360 | 663 | 273 | 326 | 306 | 18 | 258 | 651 | 455 | 14 | 370 | 200 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 1.00 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 391 | 721 | 297 | 354 | 333 | 20 | 280 | 708 | 495 | 15 | 402 | 217 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 299 | 1283 | 559 | 419 | 1070 | 64 | 235 | 1088 | 677 | 24 | 560 | 298 |
| Arrive On Green | 0.06 | 0.12 | 0.12 | 0.12 | 0.31 | 0.31 | 0.07 | 0.31 | 0.31 | 0.01 | 0.25 | 0.25 |
| Sat Flow, veh/h | 1781 | 3554 | 1550 | 3456 | 3403 | 203 | 3456 | 3554 | 1585 | 1781 | 2225 | 1185 |
| Grp Volume(v), veh/h | 391 | 721 | 297 | 354 | 173 | 180 | 280 | 708 | 495 | 15 | 320 | 299 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1550 | 1728 | 1777 | 1830 | 1728 | 1777 | 1585 | 1781 | 1777 | 1634 |
| Q Serve(g_s), s | 16.8 | 19.2 | 18.0 | 10.0 | 7.4 | 7.5 | 6.8 | 17.3 | 26.0 | 0.8 | 16.4 | 16.8 |
| Cycle Q Clear(g_c), s | 16.8 | 19.2 | 18.0 | 10.0 | 7.4 | 7.5 | 6.8 | 17.3 | 26.0 | 0.8 | 16.4 | 16.8 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.11 | 1.00 | | 1.00 | 1.00 | | 0.73 |
| Lane Grp Cap(c), veh/h | 299 | 1283 | 559 | 419 | 559 | 575 | 235 | 1088 | 677 | 24 | 447 | 411 |
| V/C Ratio(X) | 1.31 | 0.56 | 0.53 | 0.84 | 0.31 | 0.31 | 1.19 | 0.65 | 0.73 | 0.62 | 0.72 | 0.73 |
| Avail Cap(c_a), veh/h | 299 | 1283 | 559 | 460 | 559 | 575 | 235 | 1127 | 695 | 71 | 515 | 474 |
| HCM Platoon Ratio | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.82 | 0.82 | 0.82 | 0.97 | 0.97 | 0.97 | 0.20 | 0.20 | 0.20 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 47.2 | 36.6 | 36.1 | 43.0 | 26.0 | 26.1 | 46.6 | 30.1 | 23.8 | 49.1 | 34.1 | 34.3 |
| Incr Delay (d2), s/veh | 156.5 | 1.5 | 2.9 | 11.2 | 1.4 | 1.4 | 94.9 | 0.3 | 0.9 | 9.1 | 4.9 | 5.8 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 21.0 | 9.3 | 7.9 | 4.8 | 3.2 | 3.4 | 6.0 | 7.2 | 9.4 | 0.4 | 7.5 | 7.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 203.7 | 38.0 | 39.0 | 54.2 | 27.4 | 27.4 | 141.5 | 30.4 | 24.7 | 58.2 | 39.0 | 40.0 |
| LnGrp LOS | F | D | D | D | C | C | F | C | C | E | D | D |
| Approach Vol, veh/h | | 1409 | | | 707 | | | 1483 | | | 634 | |
| Approach Delay, s/veh | | 84.2 | | | 40.9 | | | 49.5 | | | 40.0 | |
| Approach LOS | | F | | | D | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 16.3 | 42.4 | 11.0 | 30.3 | 21.0 | 37.7 | 5.6 | 35.7 |
| Change Period (Y+Rc), s | * 4.2 | 6.3 | * 4.2 | * 5.1 | * 4.2 | * 6.3 | * 4.2 | 5.1 |
| Max Green Setting (Gmax), s | * 13 | 31.2 | * 6.8 | * 29 | * 17 | * 29 | * 4 | 31.7 |
| Max Q Clear Time (g_c+I1), s | 12.0 | 21.2 | 8.8 | 18.8 | 18.8 | 9.5 | 2.8 | 28.0 |
| Green Ext Time (p_c), s | 0.1 | 5.4 | 0.0 | 3.9 | 0.0 | 2.3 | 0.0 | 2.6 |

**Intersection Summary**

| | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 58.2 | |
| HCM 6th LOS | | E | |

**Notes**

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
N:\2462\Analysis\Intersections\Synchro\No School Alt\8 Existing + Cuml + Proj PM.syn

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 1013 | 29 | 105 | 642 | 16 | 119 |
| Future Volume (vph) | 1013 | 29 | 105 | 642 | 16 | 119 |
| Confl. Peds. (#/hr) | | 12 | | | | 20 |
| Confl. Bikes (#/hr) | | 4 | | | | 8 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | NA | | Prot | NA | Prot | Perm |
| Protected Phases | 2 | | 1 | 6 | 8 | |
| Permitted Phases | | | | | | 8 |
| Detector Phase | 2 | | 1 | 6 | 8 | 8 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 22.5 | | 8.5 | 20.5 | 22.5 | 22.5 |
| Total Split (s) | 55.0 | | 20.0 | 75.0 | 25.0 | 25.0 |
| Total Split (%) | 55.0% | | 20.0% | 75.0% | 25.0% | 25.0% |
| Yellow Time (s) | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lag | | Lead | | | |
| Lead-Lag Optimize? | Yes | | Yes | | | |
| Recall Mode | Min | | None | Min | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 60.8 |
| Natural Cycle: 60 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 26: Park Center Drive & Mast Blvd

Existing + Cuml + Proj PM (No School)
26: Park Center Drive & Mast Blvd
Fanita Ranch
06/06/2019

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 1013 | 29 | 105 | 642 | 16 | 119 |
| Future Volume (veh/h) | 1013 | 29 | 105 | 642 | 16 | 119 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | 0.96 | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 1101 | 32 | 114 | 698 | 17 | 129 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 1712 | 50 | 150 | 2405 | 196 | 175 |
| Arrive On Green | 0.49 | 0.49 | 0.08 | 0.68 | 0.11 | 0.11 |
| Sat Flow, veh/h | 3616 | 102 | 1781 | 3647 | 1781 | 1585 |
| Grp Volume(v), veh/h | 555 | 578 | 114 | 698 | 17 | 129 |
| Grp Sat Flow(s),veh/h/ln | 1777 | 1848 | 1781 | 1777 | 1781 | 1585 |
| Q Serve(g_s), s | 9.9 | 9.9 | 2.6 | 3.3 | 0.4 | 3.3 |
| Cycle Q Clear(g_c), s | 9.9 | 9.9 | 2.6 | 3.3 | 0.4 | 3.3 |
| Prop In Lane | | 0.06 | 1.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 864 | 898 | 150 | 2405 | 196 | 175 |
| V/C Ratio(X) | 0.64 | 0.64 | 0.76 | 0.29 | 0.09 | 0.74 |
| Avail Cap(c_a), veh/h | 2123 | 2208 | 653 | 5929 | 864 | 769 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 8.1 | 8.1 | 18.9 | 2.7 | 16.9 | 18.2 |
| Incr Delay (d2), s/veh | 0.8 | 0.8 | 7.7 | 0.1 | 0.2 | 6.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.4 | 2.5 | 1.2 | 0.2 | 0.1 | 1.4 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 8.9 | 8.9 | 26.6 | 2.8 | 17.1 | 24.2 |
| LnGrp LOS | A | A | C | A | B | C |
| Approach Vol, veh/h | 1133 | | | 812 | 146 | |
| Approach Delay, s/veh | 8.9 | | | 6.2 | 23.4 | |
| Approach LOS | A | | | A | C | |

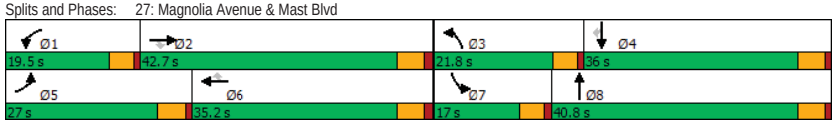
| Timer - Assigned Phs | 1 | 2 | | | 6 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 8.1 | 25.0 | | | 33.1 | 9.2 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 15.5 | 50.5 | | | 70.5 | 20.5 |
| Max Q Clear Time (g_c+I1), s | 4.6 | 11.9 | | | 5.3 | 5.3 |
| Green Ext Time (p_c), s | 0.2 | 8.7 | | | 5.2 | 0.4 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 8.8 | |
| HCM 6th LOS | A | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 409 | 292 | 258 | 116 | 158 | 31 | 296 | 733 | 126 | 88 | 515 | 222 |
| Future Volume (vph) | 409 | 292 | 258 | 116 | 158 | 31 | 296 | 733 | 126 | 88 | 515 | 222 |
| Confl. Peds. (#/hr) | | | 14 | | | 20 | | | 3 | | | 24 |
| Confl. Bikes (#/hr) | | | 1 | | | 4 | | | 2 | | | 6 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 11.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 9.0 | | 7.0 | 9.0 | 9.0 |
| Minimum Split (s) | 16.0 | 34.5 | 34.5 | 11.5 | 34.5 | 34.5 | 11.5 | 35.0 | | 11.5 | 36.0 | 36.0 |
| Total Split (s) | 27.0 | 42.7 | 42.7 | 19.5 | 35.2 | 35.2 | 21.8 | 40.8 | | 17.0 | 36.0 | 36.0 |
| Total Split (%) | 22.5% | 35.6% | 35.6% | 16.3% | 29.3% | 29.3% | 18.2% | 34.0% | | 14.2% | 30.0% | 30.0% |
| Yellow Time (s) | 4.0 | 4.0 | 4.0 | 3.5 | 4.0 | 4.0 | 3.5 | 4.0 | | 3.5 | 4.0 | 4.0 |
| All-Red Time (s) | 1.0 | 1.5 | 1.5 | 1.0 | 1.5 | 1.5 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 5.0 | 5.5 | 5.5 | 4.5 | 5.5 | 5.5 | 4.5 | 5.0 | | 4.5 | 5.0 | 5.0 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | Min | Min | None | Min | Min | None | Min | | None | Min | Min |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 89.5 |
| Natural Cycle: 100 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 27: Magnolia Avenue & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 409 | 292 | 258 | 116 | 158 | 31 | 296 | 733 | 126 | 88 | 515 | 222 |
| Future Volume (veh/h) | 409 | 292 | 258 | 116 | 158 | 31 | 296 | 733 | 126 | 88 | 515 | 222 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.95 | 1.00 | | 0.98 | 1.00 | | 0.96 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 445 | 317 | 280 | 126 | 172 | 34 | 322 | 797 | 137 | 96 | 560 | 241 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 569 | 955 | 414 | 159 | 665 | 282 | 412 | 1005 | 173 | 134 | 1024 | 438 |
| Arrive On Green | 0.16 | 0.27 | 0.27 | 0.09 | 0.19 | 0.19 | 0.12 | 0.33 | 0.33 | 0.08 | 0.29 | 0.29 |
| Sat Flow, veh/h | 3456 | 3554 | 1540 | 1781 | 3554 | 1509 | 3456 | 3024 | 520 | 1781 | 3554 | 1520 |
| Grp Volume(v), veh/h | 445 | 317 | 280 | 126 | 172 | 34 | 322 | 468 | 466 | 96 | 560 | 241 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1540 | 1781 | 1777 | 1509 | 1728 | 1777 | 1767 | 1781 | 1777 | 1520 |
| Q Serve(g_s), s | 10.3 | 5.9 | 13.5 | 5.8 | 3.4 | 1.6 | 7.5 | 19.8 | 19.9 | 4.4 | 11.1 | 11.1 |
| Cycle Q Clear(g_c), s | 10.3 | 5.9 | 13.5 | 5.8 | 3.4 | 1.6 | 7.5 | 19.8 | 19.9 | 4.4 | 11.1 | 11.1 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.29 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 569 | 955 | 414 | 159 | 665 | 282 | 412 | 590 | 587 | 134 | 1024 | 438 |
| V/C Ratio(X) | 0.78 | 0.33 | 0.68 | 0.79 | 0.26 | 0.12 | 0.78 | 0.79 | 0.79 | 0.72 | 0.55 | 0.55 |
| Avail Cap(c_a), veh/h | 915 | 1591 | 690 | 322 | 1271 | 540 | 720 | 766 | 761 | 268 | 1326 | 567 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 33.3 | 24.4 | 27.1 | 37.1 | 28.8 | 28.1 | 35.5 | 25.1 | 25.1 | 37.6 | 25.0 | 25.0 |
| Incr Delay (d2), s/veh | 2.9 | 0.2 | 2.3 | 3.4 | 0.2 | 0.2 | 1.2 | 4.4 | 4.4 | 2.7 | 0.5 | 1.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 4.3 | 2.4 | 4.9 | 2.6 | 1.4 | 0.6 | 3.1 | 8.4 | 8.3 | 1.9 | 4.4 | 3.9 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 36.1 | 24.6 | 29.5 | 40.4 | 29.1 | 28.3 | 36.8 | 29.5 | 29.5 | 40.2 | 25.4 | 26.1 |
| LnGrp LOS | D | C | C | D | C | C | D | C | C | D | C | C |
| Approach Vol, veh/h | | 1042 | | | 332 | | | 1256 | | | 897 | |
| Approach Delay, s/veh | | 30.8 | | | 33.3 | | | 31.4 | | | 27.2 | |
| Approach LOS | | C | | | C | | | C | | | C | |

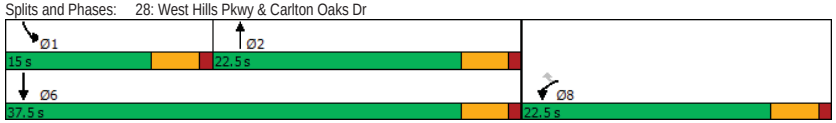
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 11.9 | 27.8 | 14.4 | 28.9 | 18.7 | 21.0 | 10.7 | 32.6 |
| Change Period (Y+Rc), s | 4.5 | 5.5 | 4.5 | 5.0 | 5.0 | 5.5 | 4.5 | 5.0 |
| Max Green Setting (Gmax), s | 15.0 | 37.2 | 17.3 | 31.0 | 22.0 | 29.7 | 12.5 | 35.8 |
| Max Q Clear Time (g_c+I1), s | 7.8 | 15.5 | 9.5 | 13.1 | 12.3 | 5.4 | 6.4 | 21.9 |
| Green Ext Time (p_c), s | 0.1 | 3.5 | 0.4 | 4.2 | 1.4 | 1.3 | 0.0 | 4.8 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 30.3 | |
| HCM 6th LOS | C | |

| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 99 | 129 | 602 | 215 | 286 | 595 |
| Future Volume (vph) | 99 | 129 | 602 | 215 | 286 | 595 |
| Confl. Peds. (#/hr) | | | | 1 | | |
| Confl. Bikes (#/hr) | | 1 | | 5 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | 0% | | | 0% |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | NA | | Prot | NA |
| Protected Phases | 8 | | 2 | | 1 | 6 |
| Permitted Phases | | 8 | | | | |
| Detector Phase | 8 | 8 | 2 | | 1 | 6 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | | 8.5 | 20.5 |
| Total Split (s) | 22.5 | 22.5 | 22.5 | | 15.0 | 37.5 |
| Total Split (%) | 37.5% | 37.5% | 37.5% | | 25.0% | 62.5% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Lead/Lag | | | Lag | | Lead | |
| Lead-Lag Optimize? | | | Yes | | Yes | |
| Recall Mode | None | None | Min | | None | Min |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 49 |
| Natural Cycle: 65 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 28: West Hills Pkwy & Carlton Oaks Dr






Existing + Cuml + Proj PM (No School)
28: West Hills Pkwy & Carlton Oaks Dr
Fanita Ranch
06/06/2019

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 99 | 129 | 602 | 215 | 286 | 595 |
| Future Volume (veh/h) | 99 | 129 | 602 | 215 | 286 | 595 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | | 0.97 | 1.00 | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | No | | | No |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 108 | 140 | 654 | 234 | 311 | 647 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 205 | 321 | 877 | 314 | 379 | 2370 |
| Arrive On Green | 0.11 | 0.11 | 0.34 | 0.34 | 0.21 | 0.67 |
| Sat Flow, veh/h | 1781 | 2790 | 2638 | 910 | 1781 | 3647 |
| Grp Volume(v), veh/h | 108 | 140 | 457 | 431 | 311 | 647 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1395 | 1777 | 1677 | 1781 | 1777 |
| Q Serve(g_s), s | 2.4 | 1.9 | 9.3 | 9.4 | 6.9 | 3.1 |
| Cycle Q Clear(g_c), s | 2.4 | 1.9 | 9.3 | 9.4 | 6.9 | 3.1 |
| Prop In Lane | 1.00 | 1.00 | | 0.54 | 1.00 | |
| Lane Grp Cap(c), veh/h | 205 | 321 | 613 | 578 | 379 | 2370 |
| V/C Ratio(X) | 0.53 | 0.44 | 0.75 | 0.75 | 0.82 | 0.27 |
| Avail Cap(c_a), veh/h | 778 | 1218 | 776 | 732 | 454 | 2845 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 17.2 | 17.0 | 11.9 | 11.9 | 15.5 | 2.8 |
| Incr Delay (d2), s/veh | 2.1 | 0.9 | 3.0 | 3.2 | 9.8 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.0 | 0.6 | 2.9 | 2.8 | 3.1 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 19.3 | 17.9 | 14.9 | 15.1 | 25.3 | 2.9 |
| LnGrp LOS | B | B | B | B | C | A |
| Approach Vol, veh/h | 248 | | 888 | | | 958 |
| Approach Delay, s/veh | 18.5 | | 15.0 | | | 10.1 |
| Approach LOS | B | | B | | | B |

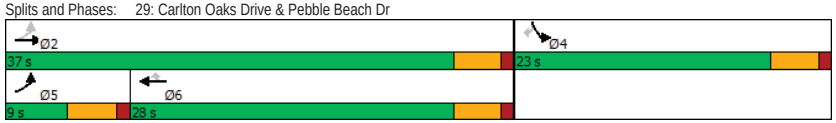
| Timer - Assigned Phs | 1 | 2 | | | 6 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 13.3 | 18.7 | | | 32.0 | 9.2 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 10.5 | 18.0 | | | 33.0 | 18.0 |
| Max Q Clear Time (g_c+I1), s | 8.9 | 11.4 | | | 5.1 | 4.4 |
| Green Ext Time (p_c), s | 0.2 | 2.8 | | | 4.2 | 0.7 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 13.2 | |
| HCM 6th LOS | B | |

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 10 | 403 | 352 | 36 | 24 | 7 |
| Future Volume (vph) | 10 | 403 | 352 | 36 | 24 | 7 |
| Confl. Peds. (#/hr) | | | | 8 | | |
| Confl. Bikes (#/hr) | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | pm+pt | NA | NA | Perm | Prot | Perm |
| Protected Phases | 5 | 2 | 6 | | 4 | |
| Permitted Phases | 2 | | | 6 | | 4 |
| Detector Phase | 5 | 2 | 6 | 6 | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 |
| Total Split (s) | 9.0 | 37.0 | 28.0 | 28.0 | 23.0 | 23.0 |
| Total Split (%) | 15.0% | 61.7% | 46.7% | 46.7% | 38.3% | 38.3% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | | Lag | Lag | | |
| Lead-Lag Optimize? | Yes | | Yes | Yes | | |
| Recall Mode | None | Min | Min | Min | None | None |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 36.9 |
| Natural Cycle: 55 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 29: Carlton Oaks Drive & Pebble Beach Dr








| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 10 | 403 | 352 | 36 | 24 | 7 |
| Future Volume (veh/h) | 10 | 403 | 352 | 36 | 24 | 7 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 0.99 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 11 | 438 | 383 | 39 | 26 | 8 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 528 | 1070 | 680 | 570 | 61 | 54 |
| Arrive On Green | 0.01 | 0.57 | 0.36 | 0.36 | 0.03 | 0.03 |
| Sat Flow, veh/h | 1781 | 1870 | 1870 | 1568 | 1781 | 1585 |
| Grp Volume(v), veh/h | 11 | 438 | 383 | 39 | 26 | 8 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1870 | 1568 | 1781 | 1585 |
| Q Serve(g_s), s | 0.1 | 3.0 | 3.7 | 0.4 | 0.3 | 0.1 |
| Cycle Q Clear(g_c), s | 0.1 | 3.0 | 3.7 | 0.4 | 0.3 | 0.1 |
| Prop In Lane | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 528 | 1070 | 680 | 570 | 61 | 54 |
| V/C Ratio(X) | 0.02 | 0.41 | 0.56 | 0.07 | 0.43 | 0.15 |
| Avail Cap(c_a), veh/h | 858 | 2660 | 1924 | 1612 | 1442 | 1283 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 4.0 | 2.7 | 5.8 | 4.7 | 10.8 | 10.7 |
| Incr Delay (d2), s/veh | 0.0 | 0.3 | 0.7 | 0.1 | 4.8 | 1.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.1 | 0.7 | 0.1 | 0.2 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 4.1 | 3.0 | 6.6 | 4.8 | 15.6 | 12.0 |
| LnGrp LOS | A | A | A | A | B | B |
| Approach Vol, veh/h | | 449 | 422 | | 34 | |
| Approach Delay, s/veh | | 3.0 | 6.4 | | 14.7 | |
| Approach LOS | | A | A | | B | |

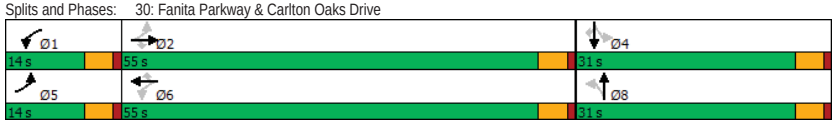
| Timer - Assigned Phs | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 17.6 | | 5.3 | 4.8 | 12.8 |
| Change Period (Y+Rc), s | 4.5 | | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 32.5 | | 18.5 | 4.5 | 23.5 |
| Max Q Clear Time (g_c+I1), s | 5.0 | | 2.3 | 2.1 | 5.7 |
| Green Ext Time (p_c), s | 2.8 | | 0.0 | 0.0 | 2.3 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 5.0 |
| HCM 6th LOS | A |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 74 | 343 | 2 | 9 | 321 | 274 | 2 | 0 | 8 | 190 | 1 | 46 |
| Future Volume (vph) | 74 | 343 | 2 | 9 | 321 | 274 | 2 | 0 | 8 | 190 | 1 | 46 |
| Confl. Peds. (#/hr) | | | 7 | | | 9 | | | 9 | | | 7 |
| Confl. Bikes (#/hr) | | | 3 | | | 1 | | | 1 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | pm+pt | NA | Perm | pm+pt | NA | Perm | Perm | NA | | Perm | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | 2 | | 2 | 6 | | 6 | 8 | | | 4 | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 8 | 8 | | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | | 7.0 | 7.0 | 7.0 |
| Minimum Split (s) | 11.5 | 26.5 | 26.5 | 11.5 | 20.5 | 20.5 | 22.5 | 22.5 | | 22.5 | 22.5 | 22.5 |
| Total Split (s) | 14.0 | 55.0 | 55.0 | 14.0 | 55.0 | 55.0 | 31.0 | 31.0 | | 31.0 | 31.0 | 31.0 |
| Total Split (%) | 14.0% | 55.0% | 55.0% | 14.0% | 55.0% | 55.0% | 31.0% | 31.0% | | 31.0% | 31.0% | 31.0% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | | | | | | |
| Recall Mode | None | Min | Min | None | Min | Min | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 49.7 |
| Natural Cycle: 65 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 30: Fanita Parkway & Carlton Oaks Drive








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 74 | 343 | 2 | 9 | 321 | 274 | 2 | 0 | 8 | 190 | 1 | 46 |
| Future Volume (veh/h) | 74 | 343 | 2 | 9 | 321 | 274 | 2 | 0 | 8 | 190 | 1 | 46 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 0.99 | | 0.96 | 0.99 | | 0.96 | 0.98 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 80 | 373 | 2 | 10 | 349 | 298 | 2 | 0 | 9 | 207 | 1 | 50 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 502 | 746 | 613 | 476 | 583 | 477 | 137 | 39 | 276 | 498 | 410 | 342 |
| Arrive On Green | 0.11 | 0.40 | 0.40 | 0.02 | 0.31 | 0.31 | 0.22 | 0.00 | 0.22 | 0.22 | 0.22 | 0.22 |
| Sat Flow, veh/h | 1781 | 1870 | 1535 | 1781 | 1870 | 1529 | 103 | 176 | 1258 | 1378 | 1870 | 1560 |
| Grp Volume(v), veh/h | 80 | 373 | 2 | 10 | 349 | 298 | 11 | 0 | 0 | 207 | 1 | 50 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1535 | 1781 | 1870 | 1529 | 1538 | 0 | 0 | 1378 | 1870 | 1560 |
| Q Serve(g_s), s | 1.0 | 5.6 | 0.0 | 0.1 | 5.9 | 6.2 | 0.0 | 0.0 | 0.0 | 4.9 | 0.0 | 1.0 |
| Cycle Q Clear(g_c), s | 1.0 | 5.6 | 0.0 | 0.1 | 5.9 | 6.2 | 0.2 | 0.0 | 0.0 | 5.1 | 0.0 | 1.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 0.18 | | 0.82 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 502 | 746 | 613 | 476 | 583 | 477 | 452 | 0 | 0 | 498 | 410 | 342 |
| V/C Ratio(X) | 0.16 | 0.50 | 0.00 | 0.02 | 0.60 | 0.63 | 0.02 | 0.00 | 0.00 | 0.42 | 0.00 | 0.15 |
| Avail Cap(c_a), veh/h | 769 | 2541 | 2086 | 899 | 2541 | 2077 | 1183 | 0 | 0 | 1178 | 1333 | 1112 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 6.8 | 8.4 | 6.7 | 8.5 | 10.8 | 10.9 | 11.4 | 0.0 | 0.0 | 13.3 | 11.3 | 11.7 |
| Incr Delay (d2), s/veh | 0.1 | 0.5 | 0.0 | 0.0 | 1.0 | 1.4 | 0.0 | 0.0 | 0.0 | 0.6 | 0.0 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.2 | 1.5 | 0.0 | 0.0 | 1.9 | 1.7 | 0.1 | 0.0 | 0.0 | 1.3 | 0.0 | 0.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 7.0 | 8.9 | 6.7 | 8.5 | 11.8 | 12.3 | 11.4 | 0.0 | 0.0 | 13.8 | 11.3 | 11.9 |
| LnGrp LOS | A | A | A | A | B | B | B | A | A | B | B | B |
| Approach Vol, veh/h | | 455 | | | 657 | | | 11 | | | 258 | |
| Approach Delay, s/veh | | 8.6 | | | 12.0 | | | 11.4 | | | 13.5 | |
| Approach LOS | | A | | | B | | | B | | | B | |

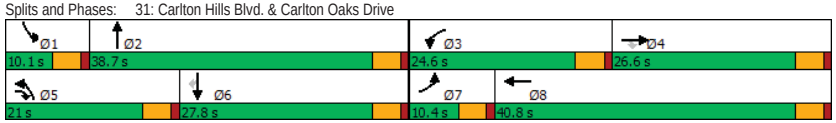
| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.2 | 19.3 | | 12.7 | 8.4 | 16.1 | | 12.7 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 9.5 | 50.5 | | 26.5 | 9.5 | 50.5 | | 26.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.1 | 7.6 | | 7.1 | 3.0 | 8.2 | | 2.2 | | | | |
| Green Ext Time (p_c), s | 0.0 | 2.4 | | 0.7 | 0.1 | 3.4 | | 0.0 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 11.1 | |
| HCM 6th LOS | B | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 29 | 192 | 385 | 188 | 96 | 14 | 583 | 691 | 243 | 23 | 396 | 15 |
| Future Volume (vph) | 29 | 192 | 385 | 188 | 96 | 14 | 583 | 691 | 243 | 23 | 396 | 15 |
| Confl. Peds. (#/hr) | | | 9 | | | 1 | | | 6 | | | 4 |
| Confl. Bikes (#/hr) | | | 5 | | | 3 | | | 1 | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 7 | 4 | 5 | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | | | | 6 |
| Detector Phase | 7 | 4 | 5 | 3 | 8 | | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 26.5 | 8.5 | 8.5 | 26.5 | | 8.5 | 22.5 | | 8.5 | 22.5 | 22.5 |
| Total Split (s) | 10.4 | 26.6 | 21.0 | 24.6 | 40.8 | | 21.0 | 38.7 | | 10.1 | 27.8 | 27.8 |
| Total Split (%) | 10.4% | 26.6% | 21.0% | 24.6% | 40.8% | | 21.0% | 38.7% | | 10.1% | 27.8% | 27.8% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | | None | Min | | None | Min | Min |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 81 |
| Natural Cycle: 90 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 31: Carlton Hills Blvd. & Carlton Oaks Drive








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 29 | 192 | 385 | 188 | 96 | 14 | 583 | 691 | 243 | 23 | 396 | 15 |
| Future Volume (veh/h) | 29 | 192 | 385 | 188 | 96 | 14 | 583 | 691 | 243 | 23 | 396 | 15 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 32 | 209 | 418 | 204 | 104 | 15 | 634 | 751 | 264 | 25 | 430 | 16 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 46 | 464 | 710 | 249 | 1131 | 160 | 713 | 921 | 324 | 38 | 619 | 270 |
| Arrive On Green | 0.03 | 0.25 | 0.25 | 0.14 | 0.36 | 0.36 | 0.21 | 0.36 | 0.36 | 0.02 | 0.17 | 0.17 |
| Sat Flow, veh/h | 1781 | 1870 | 1542 | 1781 | 3119 | 441 | 3456 | 2565 | 901 | 1781 | 3554 | 1551 |
| Grp Volume(v), veh/h | 32 | 209 | 418 | 204 | 58 | 61 | 634 | 520 | 495 | 25 | 430 | 16 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1542 | 1781 | 1777 | 1783 | 1728 | 1777 | 1689 | 1781 | 1777 | 1551 |
| Q Serve(g_s), s | 1.4 | 7.4 | 15.8 | 8.7 | 1.7 | 1.7 | 13.9 | 20.7 | 20.7 | 1.1 | 8.9 | 0.7 |
| Cycle Q Clear(g_c), s | 1.4 | 7.4 | 15.8 | 8.7 | 1.7 | 1.7 | 13.9 | 20.7 | 20.7 | 1.1 | 8.9 | 0.7 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.25 | 1.00 | | 0.53 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 46 | 464 | 710 | 249 | 644 | 646 | 713 | 638 | 607 | 38 | 619 | 270 |
| V/C Ratio(X) | 0.70 | 0.45 | 0.59 | 0.82 | 0.09 | 0.09 | 0.89 | 0.82 | 0.82 | 0.65 | 0.69 | 0.06 |
| Avail Cap(c_a), veh/h | 135 | 531 | 765 | 460 | 828 | 831 | 732 | 781 | 742 | 128 | 1064 | 464 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 37.6 | 24.8 | 15.9 | 32.5 | 16.4 | 16.4 | 30.0 | 22.6 | 22.6 | 37.8 | 30.2 | 26.8 |
| Incr Delay (d2), s/veh | 17.6 | 0.7 | 1.0 | 6.5 | 0.1 | 0.1 | 12.7 | 5.6 | 5.8 | 17.3 | 1.4 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.8 | 3.2 | 5.3 | 4.1 | 0.7 | 0.7 | 6.7 | 8.9 | 8.5 | 0.6 | 3.7 | 0.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 55.2 | 25.5 | 16.9 | 39.0 | 16.4 | 16.4 | 42.7 | 28.2 | 28.4 | 55.1 | 31.6 | 26.9 |
| LnGrp LOS | E | C | B | D | B | B | D | C | C | E | C | C |
| Approach Vol, veh/h | | 659 | | | 323 | | | 1649 | | | 471 | |
| Approach Delay, s/veh | | 21.5 | | | 30.7 | | | 33.8 | | | 32.7 | |
| Approach LOS | | C | | | C | | | C | | | C | |

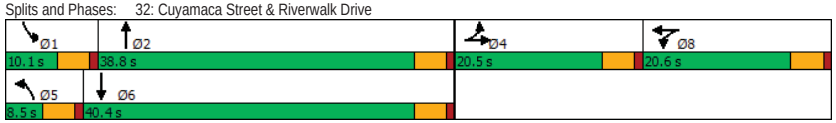
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 6.2 | 32.5 | 15.4 | 23.8 | 20.6 | 18.1 | 6.5 | 32.7 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 5.6 | 34.2 | 20.1 | 22.1 | 16.5 | 23.3 | 5.9 | 36.3 |
| Max Q Clear Time (g_c+I1), s | 3.1 | 22.7 | 10.7 | 17.8 | 15.9 | 10.9 | 3.4 | 3.7 |
| Green Ext Time (p_c), s | 0.0 | 5.0 | 0.4 | 1.2 | 0.2 | 2.2 | 0.0 | 0.6 |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 30.7 | |
| HCM 6th LOS | | C | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 17 | 6 | 15 | 120 | 0 | 33 | 13 | 1355 | 177 | 80 | 1087 | 1 |
| Future Volume (vph) | 17 | 6 | 15 | 120 | 0 | 33 | 13 | 1355 | 177 | 80 | 1087 | 1 |
| Confl. Peds. (#/hr) | | | 7 | | | 5 | | | 15 | | | 5 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | 3 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Split | NA | | Split | NA | | Prot | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | 20.5 | 20.5 | | 20.5 | 20.5 | | 8.5 | 20.5 | | 8.5 | 20.5 | |
| Total Split (s) | 20.5 | 20.5 | | 20.6 | 20.6 | | 8.5 | 38.8 | | 10.1 | 40.4 | |
| Total Split (%) | 22.8% | 22.8% | | 22.9% | 22.9% | | 9.4% | 43.1% | | 11.2% | 44.9% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 90 |
| Actuated Cycle Length: 75.9 |
| Natural Cycle: 110 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 32: Cuyamaca Street & Riverwalk Drive








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 17 | 6 | 15 | 120 | 0 | 33 | 13 | 1355 | 177 | 80 | 1087 | 1 |
| Future Volume (veh/h) | 17 | 6 | 15 | 120 | 0 | 33 | 13 | 1355 | 177 | 80 | 1087 | 1 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.97 | 1.00 | | 0.96 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 18 | 7 | 16 | 130 | 0 | 36 | 14 | 1473 | 192 | 87 | 1182 | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 81 | 22 | 51 | 191 | 0 | 165 | 24 | 1613 | 207 | 112 | 2043 | 2 |
| Arrive On Green | 0.05 | 0.05 | 0.05 | 0.11 | 0.00 | 0.11 | 0.01 | 0.51 | 0.51 | 0.06 | 0.56 | 0.56 |
| Sat Flow, veh/h | 1781 | 493 | 1127 | 1781 | 0 | 1541 | 1781 | 3151 | 405 | 1781 | 3644 | 3 |
| Grp Volume(v), veh/h | 18 | 0 | 23 | 130 | 0 | 36 | 14 | 822 | 843 | 87 | 576 | 607 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1620 | 1781 | 0 | 1541 | 1781 | 1777 | 1779 | 1781 | 1777 | 1870 |
| Q Serve(g_s), s | 0.6 | 0.0 | 0.9 | 4.6 | 0.0 | 1.4 | 0.5 | 27.7 | 29.0 | 3.2 | 13.9 | 13.9 |
| Cycle Q Clear(g_c), s | 0.6 | 0.0 | 0.9 | 4.6 | 0.0 | 1.4 | 0.5 | 27.7 | 29.0 | 3.2 | 13.9 | 13.9 |
| Prop In Lane | 1.00 | | 0.70 | 1.00 | | 1.00 | 1.00 | | 0.23 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 81 | 0 | 73 | 191 | 0 | 165 | 24 | 909 | 911 | 112 | 996 | 1048 |
| V/C Ratio(X) | 0.22 | 0.00 | 0.31 | 0.68 | 0.00 | 0.22 | 0.57 | 0.90 | 0.93 | 0.78 | 0.58 | 0.58 |
| Avail Cap(c_a), veh/h | 432 | 0 | 393 | 435 | 0 | 376 | 108 | 925 | 926 | 151 | 996 | 1048 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 30.3 | 0.0 | 30.5 | 28.3 | 0.0 | 26.9 | 32.3 | 14.6 | 14.9 | 30.5 | 9.4 | 9.4 |
| Incr Delay (d2), s/veh | 1.4 | 0.0 | 2.4 | 4.2 | 0.0 | 0.7 | 19.4 | 12.0 | 14.8 | 16.4 | 0.8 | 0.8 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.3 | 0.0 | 0.4 | 2.1 | 0.0 | 0.5 | 0.3 | 11.9 | 13.1 | 1.8 | 4.4 | 4.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 31.7 | 0.0 | 32.9 | 32.6 | 0.0 | 27.6 | 51.7 | 26.6 | 29.7 | 46.8 | 10.3 | 10.2 |
| LnGrp LOS | C | A | C | C | A | C | D | C | C | D | B | B |
| Approach Vol, veh/h | | 41 | | | 166 | | | 1679 | | | 1270 | |
| Approach Delay, s/veh | | 32.4 | | | 31.5 | | | 28.4 | | | 12.7 | |
| Approach LOS | | C | | | C | | | C | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 8.6 | 38.2 | | 7.5 | 5.4 | 41.5 | | 11.6 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 5.6 | 34.3 | | 16.0 | 4.0 | 35.9 | | 16.1 | | | | |
| Max Q Clear Time (g_c+I1), s | 5.2 | 31.0 | | 2.9 | 2.5 | 15.9 | | 6.6 | | | | |
| Green Ext Time (p_c), s | 0.0 | 2.7 | | 0.1 | 0.0 | 7.8 | | 0.3 | | | | |

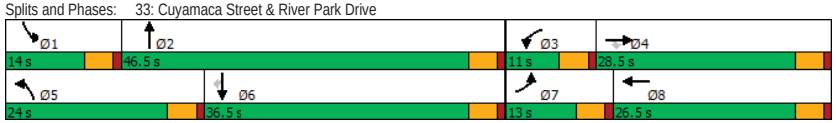
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 22.3 | |
| HCM 6th LOS | C | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 103 | 21 | 108 | 60 | 11 | 34 | 248 | 1350 | 84 | 98 | 1065 | 57 |
| Future Volume (vph) | 103 | 21 | 108 | 60 | 11 | 34 | 248 | 1350 | 84 | 98 | 1065 | 57 |
| Confl. Peds. (#/hr) | | | 3 | | | 5 | | | 6 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | | | | 6 |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 26.5 | 26.5 | 8.5 | 26.5 | | 8.5 | 22.5 | | 8.5 | 26.5 | 26.5 |
| Total Split (s) | 13.0 | 28.5 | 28.5 | 11.0 | 26.5 | | 24.0 | 46.5 | | 14.0 | 36.5 | 36.5 |
| Total Split (%) | 13.0% | 28.5% | 28.5% | 11.0% | 26.5% | | 24.0% | 46.5% | | 14.0% | 36.5% | 36.5% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | | None | Min | | None | Min | Min |

**Intersection Summary**

Cycle Length: 100
Actuated Cycle Length: 83
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 33: Cuyamaca Street & River Park Drive






Existing + Cuml + Proj PM (No School)
33: Cuyamaca Street & River Park Drive
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 103 | 21 | 108 | 60 | 11 | 34 | 248 | 1350 | 84 | 98 | 1065 | 57 |
| Future Volume (veh/h) | 103 | 21 | 108 | 60 | 11 | 34 | 248 | 1350 | 84 | 98 | 1065 | 57 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 112 | 23 | 117 | 65 | 12 | 37 | 270 | 1467 | 91 | 107 | 1158 | 62 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 143 | 222 | 187 | 83 | 34 | 104 | 319 | 1739 | 107 | 138 | 1459 | 649 |
| Arrive On Green | 0.08 | 0.12 | 0.12 | 0.05 | 0.09 | 0.09 | 0.18 | 0.51 | 0.51 | 0.08 | 0.41 | 0.41 |
| Sat Flow, veh/h | 1781 | 1870 | 1573 | 1781 | 398 | 1226 | 1781 | 3393 | 210 | 1781 | 3554 | 1581 |
| Grp Volume(v), veh/h | 112 | 23 | 117 | 65 | 0 | 49 | 270 | 765 | 793 | 107 | 1158 | 62 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1573 | 1781 | 0 | 1624 | 1781 | 1777 | 1826 | 1781 | 1777 | 1581 |
| Q Serve(g_s), s | 4.5 | 0.8 | 5.2 | 2.7 | 0.0 | 2.1 | 10.8 | 27.1 | 27.5 | 4.3 | 20.9 | 1.8 |
| Cycle Q Clear(g_c), s | 4.5 | 0.8 | 5.2 | 2.7 | 0.0 | 2.1 | 10.8 | 27.1 | 27.5 | 4.3 | 20.9 | 1.8 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.76 | 1.00 | | 0.11 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 143 | 222 | 187 | 83 | 0 | 138 | 319 | 910 | 936 | 138 | 1459 | 649 |
| V/C Ratio(X) | 0.78 | 0.10 | 0.63 | 0.78 | 0.00 | 0.35 | 0.85 | 0.84 | 0.85 | 0.78 | 0.79 | 0.10 |
| Avail Cap(c_a), veh/h | 206 | 611 | 514 | 158 | 0 | 486 | 473 | 1015 | 1043 | 230 | 1547 | 688 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 33.2 | 28.9 | 30.8 | 34.7 | 0.0 | 31.7 | 29.2 | 15.3 | 15.4 | 33.3 | 18.9 | 13.3 |
| Incr Delay (d2), s/veh | 11.5 | 0.2 | 3.4 | 14.6 | 0.0 | 1.5 | 9.0 | 5.9 | 6.1 | 9.1 | 2.8 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.4 | 0.4 | 2.1 | 1.5 | 0.0 | 0.9 | 5.1 | 10.7 | 11.2 | 2.1 | 8.2 | 0.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 44.6 | 29.1 | 34.2 | 49.2 | 0.0 | 33.3 | 38.2 | 21.2 | 21.6 | 42.4 | 21.7 | 13.4 |
| LnGrp LOS | D | C | C | D | A | C | D | C | C | D | C | B |
| Approach Vol, veh/h | | 252 | | | 114 | | | 1828 | | | 1327 | |
| Approach Delay, s/veh | | 38.4 | | | 42.4 | | | 23.9 | | | 23.0 | |
| Approach LOS | | D | | | D | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 10.2 | 42.2 | 7.9 | 13.2 | 17.7 | 34.7 | 10.4 | 10.8 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 9.5 | 42.0 | 6.5 | 24.0 | 19.5 | 32.0 | 8.5 | 22.0 |
| Max Q Clear Time (g_c+I1), s | 6.3 | 29.5 | 4.7 | 7.2 | 12.8 | 22.9 | 6.5 | 4.1 |
| Green Ext Time (p_c), s | 0.1 | 8.1 | 0.0 | 0.4 | 0.4 | 5.2 | 0.0 | 0.2 |

**Intersection Summary**

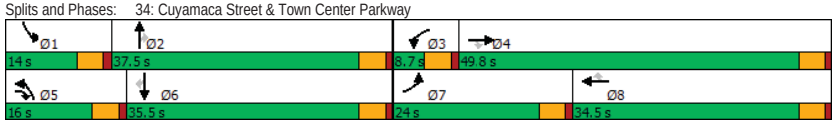
| | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 25.2 | |
| HCM 6th LOS | | C | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 671 | 86 | 138 | 63 | 82 | 107 | 379 | 1287 | 49 | 178 | 1020 | 299 |
| Future Volume (vph) | 671 | 86 | 138 | 63 | 82 | 107 | 379 | 1287 | 49 | 178 | 1020 | 299 |
| Confl. Peds. (#/hr) | | | 12 | | | 9 | | | 17 | | | 4 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | 2 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 7 | 4 | 5 | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | 2 | | | 6 |
| Detector Phase | 7 | 4 | 5 | 3 | 8 | 8 | 5 | 2 | 2 | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 34.5 | 8.5 | 8.5 | 34.5 | 34.5 | 8.5 | 34.5 | 34.5 | 8.5 | 34.5 | 34.5 |
| Total Split (s) | 24.0 | 49.8 | 16.0 | 8.7 | 34.5 | 34.5 | 16.0 | 37.5 | 37.5 | 14.0 | 35.5 | 35.5 |
| Total Split (%) | 21.8% | 45.3% | 14.5% | 7.9% | 31.4% | 31.4% | 14.5% | 34.1% | 34.1% | 12.7% | 32.3% | 32.3% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lead | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | None | None | Min | Min | None | Min | Min |

**Intersection Summary**

Cycle Length: 110
Actuated Cycle Length: 90.6
Natural Cycle: 120
Control Type: Actuated-Uncoordinated

Splits and Phases: 34: Cuyamaca Street & Town Center Parkway








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 671 | 86 | 138 | 63 | 82 | 107 | 379 | 1287 | 49 | 178 | 1020 | 299 |
| Future Volume (veh/h) | 671 | 86 | 138 | 63 | 82 | 107 | 379 | 1287 | 49 | 178 | 1020 | 299 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.97 | 1.00 | | 0.95 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 729 | 93 | 150 | 68 | 89 | 116 | 412 | 1399 | 53 | 193 | 1109 | 325 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 736 | 620 | 719 | 124 | 549 | 237 | 434 | 1697 | 502 | 185 | 1585 | 484 |
| Arrive On Green | 0.21 | 0.33 | 0.33 | 0.04 | 0.15 | 0.15 | 0.13 | 0.33 | 0.33 | 0.10 | 0.31 | 0.31 |
| Sat Flow, veh/h | 3456 | 1870 | 1568 | 3456 | 3554 | 1537 | 3456 | 5106 | 1510 | 1781 | 5106 | 1559 |
| Grp Volume(v), veh/h | 729 | 93 | 150 | 68 | 89 | 116 | 412 | 1399 | 53 | 193 | 1109 | 325 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1870 | 1568 | 1728 | 1777 | 1537 | 1728 | 1702 | 1510 | 1781 | 1702 | 1559 |
| Q Serve(g_s), s | 19.3 | 3.2 | 5.3 | 1.8 | 2.0 | 6.3 | 10.8 | 23.1 | 2.2 | 9.5 | 17.5 | 16.6 |
| Cycle Q Clear(g_c), s | 19.3 | 3.2 | 5.3 | 1.8 | 2.0 | 6.3 | 10.8 | 23.1 | 2.2 | 9.5 | 17.5 | 16.6 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 736 | 620 | 719 | 124 | 549 | 237 | 434 | 1697 | 502 | 185 | 1585 | 484 |
| V/C Ratio(X) | 0.99 | 0.15 | 0.21 | 0.55 | 0.16 | 0.49 | 0.95 | 0.82 | 0.11 | 1.04 | 0.70 | 0.67 |
| Avail Cap(c_a), veh/h | 736 | 925 | 975 | 158 | 1164 | 503 | 434 | 1840 | 544 | 185 | 1729 | 528 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 35.9 | 21.5 | 14.9 | 43.4 | 33.6 | 35.4 | 39.7 | 28.1 | 21.2 | 41.0 | 27.8 | 27.5 |
| Incr Delay (d2), s/veh | 30.7 | 0.1 | 0.1 | 3.7 | 0.1 | 1.6 | 30.6 | 3.0 | 0.1 | 78.4 | 1.1 | 3.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 11.1 | 1.4 | 1.8 | 0.8 | 0.9 | 2.4 | 6.3 | 9.4 | 0.8 | 8.1 | 7.0 | 6.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 66.7 | 21.6 | 15.1 | 47.1 | 33.7 | 37.0 | 70.3 | 31.1 | 21.2 | 119.4 | 29.0 | 30.5 |
| LnGrp LOS | E | C | B | D | C | D | E | C | C | F | C | C |
| Approach Vol, veh/h | | 972 | | | 273 | | | 1864 | | | 1627 | |
| Approach Delay, s/veh | | 54.4 | | | 38.4 | | | 39.5 | | | 40.0 | |
| Approach LOS | | D | | | D | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 14.0 | 34.9 | 7.8 | 34.9 | 16.0 | 32.9 | 24.0 | 18.6 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 9.5 | 33.0 | 4.2 | 45.3 | 11.5 | 31.0 | 19.5 | 30.0 |
| Max Q Clear Time (g_c+I1), s | 11.5 | 25.1 | 3.8 | 7.3 | 12.8 | 19.5 | 21.3 | 8.3 |
| Green Ext Time (p_c), s | 0.0 | 5.4 | 0.0 | 1.1 | 0.0 | 6.5 | 0.0 | 0.9 |

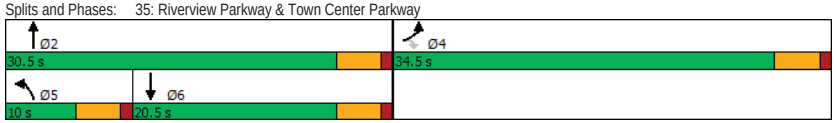
**Intersection Summary**

| | |
|---|---|
| HCM 6th Ctrl Delay | 42.7 |
| HCM 6th LOS | D |

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 5 | 189 | 153 | 54 | 32 | 2 |
| Future Volume (vph) | 5 | 189 | 153 | 54 | 32 | 2 |
| Confl. Peds. (#/hr) | | | | | | |
| Confl. Bikes (#/hr) | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | Prot | NA | NA | |
| Protected Phases | 4 | | 5 | 2 | 6 | |
| Permitted Phases | | 4 | | | | |
| Detector Phase | 4 | 4 | 5 | 2 | 6 | |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Minimum Split (s) | 34.5 | 34.5 | 8.5 | 25.5 | 20.5 | |
| Total Split (s) | 34.5 | 34.5 | 10.0 | 30.5 | 20.5 | |
| Total Split (%) | 53.1% | 53.1% | 15.4% | 46.9% | 31.5% | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lead/Lag | | | Lead | | Lag | |
| Lead-Lag Optimize? | | | Yes | | Yes | |
| Recall Mode | None | None | None | Min | Min | |

| Intersection Summary |
|---|
| Cycle Length: 65 |
| Actuated Cycle Length: 36.3 |
| Natural Cycle: 65 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 35: Riverview Parkway & Town Center Parkway






Existing + Cuml + Proj PM (No School)
35: Riverview Parkway & Town Center Parkway
Fanita Ranch
06/06/2019

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 5 | 189 | 153 | 54 | 32 | 2 |
| Future Volume (veh/h) | 5 | 189 | 153 | 54 | 32 | 2 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 5 | 205 | 166 | 59 | 35 | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 313 | 279 | 210 | 1638 | 552 | 31 |
| Arrive On Green | 0.18 | 0.18 | 0.12 | 0.46 | 0.16 | 0.16 |
| Sat Flow, veh/h | 1781 | 1585 | 1781 | 3647 | 3512 | 194 |
| Grp Volume(v), veh/h | 5 | 205 | 166 | 59 | 18 | 19 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 1781 | 1777 | 1777 | 1836 |
| Q Serve(g_s), s | 0.1 | 3.0 | 2.2 | 0.2 | 0.2 | 0.2 |
| Cycle Q Clear(g_c), s | 0.1 | 3.0 | 2.2 | 0.2 | 0.2 | 0.2 |
| Prop In Lane | 1.00 | 1.00 | 1.00 | | | 0.11 |
| Lane Grp Cap(c), veh/h | 313 | 279 | 210 | 1638 | 287 | 296 |
| V/C Ratio(X) | 0.02 | 0.73 | 0.79 | 0.04 | 0.06 | 0.06 |
| Avail Cap(c_a), veh/h | 2155 | 1918 | 395 | 3727 | 1147 | 1185 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 8.4 | 9.7 | 10.6 | 3.7 | 8.8 | 8.8 |
| Incr Delay (d2), s/veh | 0.0 | 3.7 | 6.5 | 0.0 | 0.1 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 2.9 | 1.0 | 0.0 | 0.1 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 8.5 | 13.4 | 17.1 | 3.7 | 8.9 | 8.9 |
| LnGrp LOS | A | B | B | A | A | A |
| Approach Vol, veh/h | 210 | | | 225 | 37 | |
| Approach Delay, s/veh | 13.3 | | | 13.6 | 8.9 | |
| Approach LOS | B | | | B | A | |

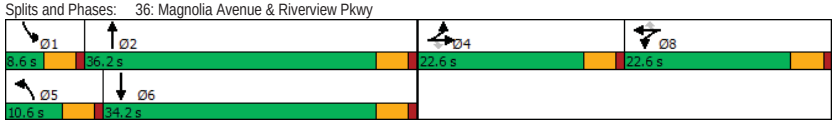
| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 15.9 | | 8.9 | 7.4 | 8.5 |
| Change Period (Y+Rc), s | | 4.5 | | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | | 26.0 | | 30.0 | 5.5 | 16.0 |
| Max Q Clear Time (g_c+I1), s | | 2.2 | | 5.0 | 4.2 | 2.2 |
| Green Ext Time (p_c), s | | 0.3 | | 0.7 | 0.1 | 0.1 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 13.1 | |
| HCM 6th LOS | B | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 1 | 0 | 29 | 50 | 0 | 13 | 58 | 1432 | 46 | 13 | 882 | 7 |
| Future Volume (vph) | 1 | 0 | 29 | 50 | 0 | 13 | 58 | 1432 | 46 | 13 | 882 | 7 |
| Confl. Peds. (#/hr) | | | 8 | | | | | | | | | 1 |
| Confl. Bikes (#/hr) | | | | | | 6 | | | 4 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Split | NA | Perm | Split | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | | | | |
| Detector Phase | 4 | 4 | 4 | 8 | 8 | 8 | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 8.5 | 22.5 | | 8.5 | 22.5 | |
| Total Split (s) | 22.6 | 22.6 | 22.6 | 22.6 | 22.6 | 22.6 | 10.6 | 36.2 | | 8.6 | 34.2 | |
| Total Split (%) | 25.1% | 25.1% | 25.1% | 25.1% | 25.1% | 25.1% | 11.8% | 40.2% | | 9.6% | 38.0% | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | None | None | None | None | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 90 |
| Actuated Cycle Length: 57 |
| Natural Cycle: 100 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 36: Magnolia Avenue & Riverview Pkwy








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 1 | 0 | 29 | 50 | 0 | 13 | 58 | 1432 | 46 | 13 | 882 | 7 |
| Future Volume (veh/h) | 1 | 0 | 29 | 50 | 0 | 13 | 58 | 1432 | 46 | 13 | 882 | 7 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.97 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 1 | 0 | 32 | 54 | 0 | 14 | 63 | 1557 | 50 | 14 | 959 | 8 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 84 | 0 | 73 | 86 | 0 | 74 | 82 | 1910 | 61 | 25 | 1849 | 15 |
| Arrive On Green | 0.05 | 0.00 | 0.05 | 0.05 | 0.00 | 0.05 | 0.05 | 0.54 | 0.54 | 0.01 | 0.51 | 0.51 |
| Sat Flow, veh/h | 1781 | 0 | 1536 | 1781 | 0 | 1539 | 1781 | 3511 | 112 | 1781 | 3611 | 30 |
| Grp Volume(v), veh/h | 1 | 0 | 32 | 54 | 0 | 14 | 63 | 786 | 821 | 14 | 472 | 495 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1536 | 1781 | 0 | 1539 | 1781 | 1777 | 1847 | 1781 | 1777 | 1864 |
| Q Serve(g_s), s | 0.0 | 0.0 | 1.1 | 1.5 | 0.0 | 0.5 | 1.8 | 18.8 | 19.0 | 0.4 | 9.2 | 9.2 |
| Cycle Q Clear(g_c), s | 0.0 | 0.0 | 1.1 | 1.5 | 0.0 | 0.5 | 1.8 | 18.8 | 19.0 | 0.4 | 9.2 | 9.2 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.06 | 1.00 | | 0.02 |
| Lane Grp Cap(c), veh/h | 84 | 0 | 73 | 86 | 0 | 74 | 82 | 966 | 1005 | 25 | 910 | 954 |
| V/C Ratio(X) | 0.01 | 0.00 | 0.44 | 0.63 | 0.00 | 0.19 | 0.77 | 0.81 | 0.82 | 0.56 | 0.52 | 0.52 |
| Avail Cap(c_a), veh/h | 621 | 0 | 535 | 621 | 0 | 536 | 209 | 1085 | 1127 | 141 | 1016 | 1066 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 23.6 | 0.0 | 24.1 | 24.3 | 0.0 | 23.7 | 24.5 | 9.7 | 9.7 | 25.4 | 8.4 | 8.4 |
| Incr Delay (d2), s/veh | 0.1 | 0.0 | 4.1 | 7.4 | 0.0 | 1.2 | 13.9 | 4.4 | 4.4 | 17.9 | 0.5 | 0.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.0 | 0.4 | 0.8 | 0.0 | 0.2 | 1.0 | 5.7 | 6.0 | 0.3 | 2.3 | 2.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 23.6 | 0.0 | 28.2 | 31.6 | 0.0 | 25.0 | 38.4 | 14.1 | 14.1 | 43.4 | 8.9 | 8.9 |
| LnGrp LOS | C | A | C | C | A | C | D | B | B | D | A | A |
| Approach Vol, veh/h | | 33 | | | 68 | | | 1670 | | | 981 | |
| Approach Delay, s/veh | | 28.1 | | | 30.3 | | | 15.0 | | | 9.4 | |
| Approach LOS | | C | | | C | | | B | | | A | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.2 | 32.7 | | 7.0 | 6.9 | 31.1 | | 7.0 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 4.1 | 31.7 | | 18.1 | 6.1 | 29.7 | | 18.1 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.4 | 21.0 | | 3.1 | 3.8 | 11.2 | | 3.5 | | | | |
| Green Ext Time (p_c), s | 0.0 | 7.3 | | 0.0 | 0.0 | 5.4 | | 0.2 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 13.5 | |
| HCM 6th LOS | B | |

| Intersection | |
|---|---|
| Int Delay, s/veh | 8.1 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 0 | 14 | 0 | 144 | 287 | 686 | 0 | 0 | 297 | 670 |
| Future Vol, veh/h | 0 | 0 | 0 | 14 | 0 | 144 | 287 | 686 | 0 | 0 | 297 | 670 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| Sign Control | Free | Free | Free | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | 190 | - | - | - | - | - |
| Veh in Median Storage, # | - | 2 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 0 | 15 | 0 | 157 | 312 | 746 | 0 | 0 | 323 | 728 |

| Major/Minor | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 2057 | 2421 | 746 | 1051 | 0 | - | - | - | 0 |
| Stage 1 | 1370 | 1370 | - | - | - | - | - | - | - |
| Stage 2 | 687 | 1051 | - | - | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.52 | 6.22 | 4.12 | - | - | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 2.218 | - | - | - | - | - |
| Pot Cap-1 Maneuver | 61 | 32 | 413 | 662 | - | 0 | 0 | - | - |
| Stage 1 | 236 | 214 | - | - | - | 0 | 0 | - | - |
| Stage 2 | 499 | 304 | - | - | - | 0 | 0 | - | - |
| Platoon blocked, % | | | | | - | | | - | - |
| Mov Cap-1 Maneuver | 32 | 0 | 413 | 662 | - | - | - | - | - |
| Mov Cap-2 Maneuver | 32 | 0 | - | - | - | - | - | - | - |
| Stage 1 | 125 | 0 | - | - | - | - | - | - | - |
| Stage 2 | 499 | 0 | - | - | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 79.4 | 4.5 | 0 |
| HCM LOS | F | | |

| Minor Lane/Major Mvmt | NBL | NBT | WBLn1 | SBT | SBR |
|---|---|---|---|---|---|
| Capacity (veh/h) | 662 | - | 201 | - | - |
| HCM Lane V/C Ratio | 0.471 | - | 0.854 | - | - |
| HCM Control Delay (s) | 15.2 | - | 79.4 | - | - |
| HCM Lane LOS | C | - | F | - | - |
| HCM 95th %tile Q(veh) | 2.5 | - | 6.4 | - | - |

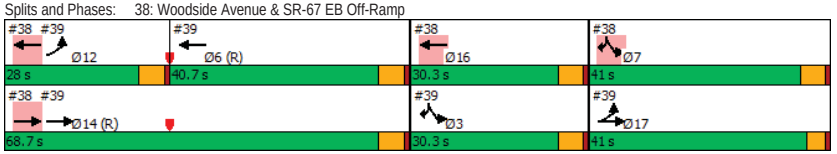




| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR | Ø3 | Ø6 | Ø12 | Ø16 | Ø17 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 602 | 137 | 0 | 775 | 116 | | | | | |
| Future Volume (vph) | 0 | 602 | 137 | 0 | 775 | 116 | | | | | |
| Confl. Peds. (#/hr) | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | | | |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | | | | | |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| Parking (#/hr) | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | | | | | | |
| Shared Lane Traffic (%) | | | | | | | | | | | |
| Turn Type | | NA | NA | | Prot | Prot | | | | | |
| Protected Phases | | 14 | 12 16 | | 7 | 7 | 3 | 6 | 12 | 16 | 17 |
| Permitted Phases | | | | | | | | | | | |
| Detector Phase | | 14 | 12 16 | | 7 | 7 | | | | | |
| Switch Phase | | | | | | | | | | | |
| Minimum Initial (s) | | 4.0 | | | 8.0 | 8.0 | 5.0 | 5.0 | 5.0 | 2.0 | 5.0 |
| Minimum Split (s) | | 20.0 | | | 27.3 | 27.3 | 30.3 | 29.3 | 24.3 | 20.0 | 9.2 |
| Total Split (s) | | 68.7 | | | 41.0 | 41.0 | 30.3 | 40.7 | 28.0 | 30.3 | 41.0 |
| Total Split (%) | | 49.1% | | | 29.3% | 29.3% | 22% | 29% | 20% | 22% | 29% |
| Yellow Time (s) | | 4.3 | | | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 3.2 |
| All-Red Time (s) | | 1.0 | | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | | 0.0 | | | 0.0 | 0.0 | | | | | |
| Total Lost Time (s) | | 5.3 | | | 5.3 | 5.3 | | | | | |
| Lead/Lag | | | | | | | | Lag | Lead | | |
| Lead-Lag Optimize? | | | | | | | | Yes | Yes | | |
| Recall Mode | | C-Max | | | Max | Max | None | C-Max | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 140 |
| Actuated Cycle Length: 140 |
| Offset: 0 (0%), Referenced to phase 6:WBT and 14:EBT, Start of Green |
| Natural Cycle: 125 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 38: Woodside Avenue & SR-67 EB Off-Ramp



Existing + Cuml + Proj PM (No School) — Fanita Ranch
38: Woodside Avenue & SR-67 EB Off-Ramp — 06/06/2019

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 602 | 137 | 0 | 775 | 116 |
| Future Volume (vph) | 0 | 602 | 137 | 0 | 775 | 116 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 5.3 | 5.3 | | 5.3 | 5.3 |
| Lane Util. Factor | | 0.95 | 1.00 | | 0.97 | 1.00 |
| Frt | | 1.00 | 1.00 | | 1.00 | 0.85 |
| Flt Protected | | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | | 3539 | 1863 | | 3433 | 1583 |
| Flt Permitted | | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (perm) | | 3539 | 1863 | | 3433 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 654 | 149 | 0 | 842 | 126 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 22 |
| Lane Group Flow (vph) | 0 | 654 | 149 | 0 | 842 | 104 |
| Turn Type | | NA | NA | | Prot | Prot |
| Protected Phases | | 14 | 12 16 | | 7 | 7 |
| Permitted Phases | | | | | | |
| Actuated Green, G (s) | | 63.4 | 43.0 | | 37.4 | 37.4 |
| Effective Green, g (s) | | 63.4 | 43.0 | | 37.4 | 37.4 |
| Actuated g/C Ratio | | 0.45 | 0.31 | | 0.27 | 0.27 |
| Clearance Time (s) | | 5.3 | | | 5.3 | 5.3 |
| Vehicle Extension (s) | | 1.0 | | | 3.0 | 3.0 |
| Lane Grp Cap (vph) | | 1602 | 572 | | 917 | 422 |
| v/s Ratio Prot | | c0.18 | c0.08 | | c0.25 | 0.07 |
| v/s Ratio Perm | | | | | | |
| v/c Ratio | | 0.41 | 0.26 | | 0.92 | 0.25 |
| Uniform Delay, d1 | | 25.7 | 36.5 | | 49.8 | 40.2 |
| Progression Factor | | 1.00 | 1.18 | | 1.00 | 1.00 |
| Incremental Delay, d2 | | 0.8 | 0.2 | | 15.5 | 1.4 |
| Delay (s) | | 26.5 | 43.2 | | 65.3 | 41.6 |
| Level of Service | | C | D | | E | D |
| Approach Delay (s) | | 26.5 | 43.2 | | 62.2 | |
| Approach LOS | | C | D | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 47.4 | HCM 2000 Level of Service | D |
| HCM 2000 Volume to Capacity ratio | 0.56 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 21.2 |
| Intersection Capacity Utilization | 47.6% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

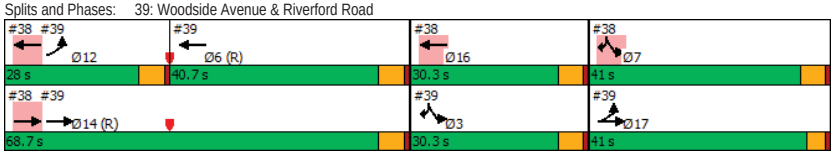


Existing + Cuml + Proj PM (No School) — Fanita Ranch
39: Woodside Avenue & Riverford Road — 06/06/2019

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR | Ø7 | Ø12 | Ø14 | Ø16 | Ø17 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | |
| Traffic Volume (vph) | 652 | 727 | 106 | 330 | 238 | 36 | | | | | |
| Future Volume (vph) | 652 | 727 | 106 | 330 | 238 | 36 | | | | | |
| Confl. Peds. (#/hr) | | | | | | 2 | | | | | |
| Confl. Bikes (#/hr) | | | | 2 | | 1 | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | | | |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | | | | | |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| Parking (#/hr) | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | | | | | | |
| Shared Lane Traffic (%) | | | | | | | | | | | |
| Turn Type | Prot | NA | NA | | Prot | Prot | | | | | |
| Protected Phases | 12 17 | 14 17 | 6 | | 3 | 3 | 7 | 12 | 14 | 16 | 17 |
| Permitted Phases | | | | | | | | | | | |
| Detector Phase | 12 17 | 14 17 | 6 | | 3 | 3 | | | | | |
| Switch Phase | | | | | | | | | | | |
| Minimum Initial (s) | | | 5.0 | | 5.0 | 5.0 | 8.0 | 5.0 | 4.0 | 2.0 | 5.0 |
| Minimum Split (s) | | | 29.3 | | 30.3 | 30.3 | 27.3 | 24.3 | 20.0 | 20.0 | 9.2 |
| Total Split (s) | | | 40.7 | | 30.3 | 30.3 | 41.0 | 28.0 | 68.7 | 30.3 | 41.0 |
| Total Split (%) | | | 29.1% | | 21.6% | 21.6% | 29% | 20% | 49% | 22% | 29% |
| Yellow Time (s) | | | 4.3 | | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 3.2 |
| All-Red Time (s) | | | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | | | 0.0 | | 0.0 | 0.0 | | | | | |
| Total Lost Time (s) | | | 5.3 | | 5.3 | 5.3 | | | | | |
| Lead/Lag | | | Lag | | | | | Lead | | | |
| Lead-Lag Optimize? | | | Yes | | | | | Yes | | | |
| Recall Mode | | | C-Max | | None | None | Max | None | C-Max | None | None |

| Intersection Summary |
|---|
| Cycle Length: 140 |
| Actuated Cycle Length: 140 |
| Offset: 0 (0%), Referenced to phase 6:WBT and 14:EBT, Start of Green |
| Natural Cycle: 125 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 39: Woodside Avenue & Riverford Road



Existing + Cuml + Proj PM (No School) — Fanita Ranch
39: Woodside Avenue & Riverford Road — 06/06/2019

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 652 | 727 | 106 | 330 | 238 | 36 |
| Future Volume (vph) | 652 | 727 | 106 | 330 | 238 | 36 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.3 | 5.3 | 5.3 | | 5.3 | 5.3 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.98 | | 1.00 | 1.00 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.90 | | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | 1770 | 1863 | 1644 | | 1770 | 1583 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (perm) | 1770 | 1863 | 1644 | | 1770 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 709 | 790 | 115 | 359 | 259 | 39 |
| RTOR Reduction (vph) | 0 | 0 | 78 | 0 | 0 | 24 |
| Lane Group Flow (vph) | 709 | 790 | 396 | 0 | 259 | 15 |
| Confl. Peds. (#/hr) | | | | | | 2 |
| Confl. Bikes (#/hr) | | | | 2 | | 1 |
| Turn Type | Prot | NA | NA | | Prot | Prot |
| Protected Phases | 12 17 | 14 17 | 6 | | 3 | 3 |
| Permitted Phases | | | | | | |
| Actuated Green, G (s) | 62.4 | 106.1 | 38.4 | | 23.3 | 23.3 |
| Effective Green, g (s) | 58.2 | 101.9 | 38.4 | | 23.3 | 23.3 |
| Actuated g/C Ratio | 0.42 | 0.73 | 0.27 | | 0.17 | 0.17 |
| Clearance Time (s) | | | 5.3 | | 5.3 | 5.3 |
| Vehicle Extension (s) | | | 3.0 | | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 735 | 1355 | 450 | | 294 | 263 |
| v/s Ratio Prot | c0.40 | 0.42 | c0.24 | | c0.15 | 0.01 |
| v/s Ratio Perm | | | | | | |
| v/c Ratio | 0.96 | 0.58 | 0.88 | | 0.88 | 0.06 |
| Uniform Delay, d1 | 39.9 | 9.0 | 48.6 | | 57.0 | 49.1 |
| Progression Factor | 0.42 | 0.13 | 1.00 | | 1.00 | 1.00 |
| Incremental Delay, d2 | 19.8 | 0.5 | 21.2 | | 25.0 | 0.1 |
| Delay (s) | 36.6 | 1.6 | 69.8 | | 82.0 | 49.2 |
| Level of Service | D | A | E | | F | D |
| Approach Delay (s) | | 18.2 | 69.8 | | 77.7 | |
| Approach LOS | | B | E | | E | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| HCM 2000 Control Delay | 36.8 | HCM 2000 Level of Service | D |
| HCM 2000 Volume to Capacity ratio | 0.93 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 21.2 |
| Intersection Capacity Utilization | 88.9% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

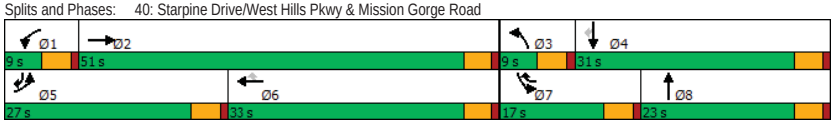


Existing + Cuml + Proj PM (No School) — Fanita Ranch
40: Starpine Drive/West Hills Pkwy & Mission Gorge Road — 06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 636 | 807 | 24 | 44 | 336 | 148 | 23 | 38 | 59 | 211 | 43 | 396 |
| Future Volume (vph) | 636 | 807 | 24 | 44 | 336 | 148 | 23 | 38 | 59 | 211 | 43 | 396 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | 1 |
| Confl. Bikes (#/hr) | | | 5 | | | 6 | | | | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Prot | NA | | Prot | NA | pm+ov |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 5 |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 5 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 29.5 | | 8.5 | 29.5 | 8.5 | 8.5 | 22.5 | | 8.5 | 29.5 | 8.5 |
| Total Split (s) | 27.0 | 51.0 | | 9.0 | 33.0 | 17.0 | 9.0 | 23.0 | | 17.0 | 31.0 | 27.0 |
| Total Split (%) | 27.0% | 51.0% | | 9.0% | 33.0% | 17.0% | 9.0% | 23.0% | | 17.0% | 31.0% | 27.0% |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | Lead |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | Min | | None | Min | None | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 69.3 |
| Natural Cycle: 90 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 40: Starpine Drive/West Hills Pkwy & Mission Gorge Road



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 636 | 807 | 24 | 44 | 336 | 148 | 23 | 38 | 59 | 211 | 43 | 396 |
| Future Volume (veh/h) | 636 | 807 | 24 | 44 | 336 | 148 | 23 | 38 | 59 | 211 | 43 | 396 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 1.00 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 691 | 877 | 26 | 48 | 365 | 161 | 25 | 41 | 64 | 229 | 47 | 430 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 901 | 1419 | 42 | 68 | 643 | 449 | 42 | 70 | 110 | 365 | 354 | 1239 |
| Arrive On Green | 0.26 | 0.40 | 0.40 | 0.04 | 0.18 | 0.18 | 0.02 | 0.11 | 0.11 | 0.11 | 0.19 | 0.19 |
| Sat Flow, veh/h | 3456 | 3521 | 104 | 1781 | 3554 | 1554 | 1781 | 658 | 1027 | 3456 | 1870 | 2705 |
| Grp Volume(v), veh/h | 691 | 443 | 460 | 48 | 365 | 161 | 25 | 0 | 105 | 229 | 47 | 430 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1848 | 1781 | 1777 | 1554 | 1781 | 0 | 1685 | 1728 | 1870 | 1352 |
| Q Serve(g_s), s | 9.6 | 10.3 | 10.3 | 1.4 | 4.9 | 4.3 | 0.7 | 0.0 | 3.1 | 3.3 | 1.1 | 5.4 |
| Cycle Q Clear(g_c), s | 9.6 | 10.3 | 10.3 | 1.4 | 4.9 | 4.3 | 0.7 | 0.0 | 3.1 | 3.3 | 1.1 | 5.4 |
| Prop In Lane | 1.00 | | 0.06 | 1.00 | | 1.00 | 1.00 | | 0.61 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 901 | 716 | 745 | 68 | 643 | 449 | 42 | 0 | 180 | 365 | 354 | 1239 |
| V/C Ratio(X) | 0.77 | 0.62 | 0.62 | 0.70 | 0.57 | 0.36 | 0.60 | 0.00 | 0.58 | 0.63 | 0.13 | 0.35 |
| Avail Cap(c_a), veh/h | 1494 | 1587 | 1651 | 154 | 1945 | 1019 | 154 | 0 | 599 | 830 | 952 | 2104 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 17.8 | 12.3 | 12.3 | 24.7 | 19.5 | 14.8 | 25.2 | 0.0 | 22.1 | 22.3 | 17.5 | 9.4 |
| Incr Delay (d2), s/veh | 1.4 | 0.9 | 0.8 | 12.2 | 0.8 | 0.5 | 13.2 | 0.0 | 3.0 | 1.8 | 0.2 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 3.1 | 2.9 | 3.0 | 0.7 | 1.7 | 1.4 | 0.4 | 0.0 | 1.3 | 1.2 | 0.4 | 1.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 19.2 | 13.2 | 13.2 | 36.9 | 20.3 | 15.3 | 38.4 | 0.0 | 25.1 | 24.1 | 17.7 | 9.5 |
| LnGrp LOS | B | B | B | D | C | B | D | A | C | C | B | A |
| Approach Vol, veh/h | | 1594 | | | 574 | | | 130 | | | 706 | |
| Approach Delay, s/veh | | 15.8 | | | 20.2 | | | 27.7 | | | 14.8 | |
| Approach LOS | | B | | | C | | | C | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 6.5 | 25.5 | 5.7 | 14.4 | 18.1 | 13.9 | 10.0 | 10.1 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 4.5 | 46.5 | 4.5 | 26.5 | 22.5 | 28.5 | 12.5 | 18.5 |
| Max Q Clear Time (g_c+I1), s | 3.4 | 12.3 | 2.7 | 7.4 | 11.6 | 6.9 | 5.3 | 5.1 |
| Green Ext Time (p_c), s | 0.0 | 5.4 | 0.0 | 1.9 | 2.0 | 2.5 | 0.4 | 0.4 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 16.9 |
| HCM 6th LOS | B |

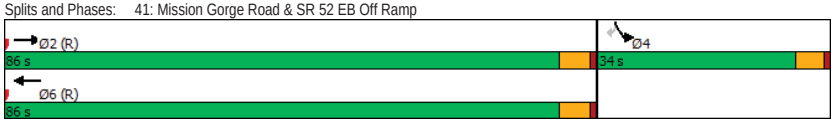




| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 1108 | 657 | 0 | 333 | 42 |
| Future Volume (vph) | 0 | 1108 | 657 | 0 | 333 | 42 |
| Confl. Peds. (#/hr) | | | | | | |
| Confl. Bikes (#/hr) | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | | NA | NA | | Prot | Perm |
| Protected Phases | | 2 | 6 | | 4 | |
| Permitted Phases | | | | | | 4 |
| Detector Phase | | 2 | 6 | | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | | 6.0 | 11.0 | | 10.0 | 10.0 |
| Minimum Split (s) | | 20.0 | 20.0 | | 20.0 | 20.0 |
| Total Split (s) | | 86.0 | 86.0 | | 34.0 | 34.0 |
| Total Split (%) | | 71.7% | 71.7% | | 28.3% | 28.3% |
| Yellow Time (s) | | 4.4 | 4.4 | | 4.1 | 4.1 |
| All-Red Time (s) | | 1.0 | 1.0 | | 1.0 | 1.0 |
| Lost Time Adjust (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | | 5.4 | 5.4 | | 5.1 | 5.1 |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | | C-Min | C-Min | | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green, Master Intersection |
| Natural Cycle: 45 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 41: Mission Gorge Road & SR 52 EB Off Ramp



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 1108 | 657 | 0 | 333 | 42 |
| Future Volume (veh/h) | 0 | 1108 | 657 | 0 | 333 | 42 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 0 | 1870 | 1870 | 0 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 1204 | 714 | 0 | 362 | 46 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 0 | 2 | 2 | 0 | 2 | 2 |
| Cap, veh/h | 0 | 2784 | 2784 | 0 | 446 | 205 |
| Arrive On Green | 0.00 | 0.78 | 1.00 | 0.00 | 0.13 | 0.13 |
| Sat Flow, veh/h | 0 | 3741 | 3741 | 0 | 3456 | 1585 |
| Grp Volume(v), veh/h | 0 | 1204 | 714 | 0 | 362 | 46 |
| Grp Sat Flow(s),veh/h/ln | 0 | 1777 | 1777 | 0 | 1728 | 1585 |
| Q Serve(g_s), s | 0.0 | 13.3 | 0.0 | 0.0 | 12.2 | 3.1 |
| Cycle Q Clear(g_c), s | 0.0 | 13.3 | 0.0 | 0.0 | 12.2 | 3.1 |
| Prop In Lane | 0.00 | | | 0.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 0 | 2784 | 2784 | 0 | 446 | 205 |
| V/C Ratio(X) | 0.00 | 0.43 | 0.26 | 0.00 | 0.81 | 0.22 |
| Avail Cap(c_a), veh/h | 0 | 2784 | 2784 | 0 | 832 | 382 |
| HCM Platoon Ratio | 1.00 | 1.00 | 2.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.00 | 1.00 | 0.98 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 0.0 | 4.3 | 0.0 | 0.0 | 50.8 | 46.9 |
| Incr Delay (d2), s/veh | 0.0 | 0.5 | 0.2 | 0.0 | 3.6 | 0.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 4.1 | 0.1 | 0.0 | 5.5 | 1.3 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 4.7 | 0.2 | 0.0 | 54.4 | 47.4 |
| LnGrp LOS | A | A | A | A | D | D |
| Approach Vol, veh/h | | 1204 | 714 | | 408 | |
| Approach Delay, s/veh | | 4.7 | 0.2 | | 53.6 | |
| Approach LOS | | A | A | | D | |

| Timer - Assigned Phs | | 2 | | 4 | | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 99.4 | | 20.6 | | 99.4 |
| Change Period (Y+Rc), s | | 5.4 | | 5.1 | | 5.4 |
| Max Green Setting (Gmax), s | | 80.6 | | 28.9 | | 80.6 |
| Max Q Clear Time (g_c+I1), s | | 15.3 | | 14.2 | | 2.0 |
| Green Ext Time (p_c), s | | 12.9 | | 1.3 | | 5.4 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 11.9 |
| HCM 6th LOS | B |

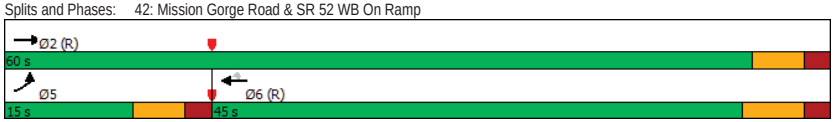




| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 16 | 1361 | 649 | 182 | 0 | 0 |
| Future Volume (vph) | 16 | 1361 | 649 | 182 | 0 | 0 |
| Confl. Peds. (#/hr) | | | | | | |
| Confl. Bikes (#/hr) | | | | 1 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | |
| Shared Lane Traffic (%) | | | | 10% | | |
| Turn Type | Prot | NA | NA | Perm | | |
| Protected Phases | 5 | 2 | 6 | | | |
| Permitted Phases | | | | 6 | | |
| Detector Phase | 5 | 2 | 6 | 6 | | |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 10.0 | 10.0 | | |
| Minimum Split (s) | 10.7 | 21.0 | 22.4 | 22.4 | | |
| Total Split (s) | 15.0 | 60.0 | 45.0 | 45.0 | | |
| Total Split (%) | 25.0% | 100.0% | 75.0% | 75.0% | | |
| Yellow Time (s) | 3.7 | 3.7 | 4.4 | 4.4 | | |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | | |
| Total Lost Time (s) | 5.7 | 5.7 | 6.4 | 6.4 | | |
| Lead/Lag | Lead | | Lag | Lag | | |
| Lead-Lag Optimize? | Yes | | Yes | Yes | | |
| Recall Mode | None | C-Min | C-Min | C-Min | | |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 60 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 40 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 42: Mission Gorge Road & SR 52 WB On Ramp



Existing + Cuml + Proj PM (No School) — Fanita Ranch
42: Mission Gorge Road & SR 52 WB On Ramp — 06/06/2019

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 16 | 1361 | 649 | 182 | 0 | 0 |
| Future Volume (veh/h) | 16 | 1361 | 649 | 182 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 0.98 | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Work Zone On Approach | | No | No | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | | |
| Adj Flow Rate, veh/h | 17 | 1479 | 705 | 198 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | | |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | | |
| Cap, veh/h | 37 | 3175 | 2909 | 1208 | | |
| Arrive On Green | 0.04 | 1.00 | 1.00 | 1.00 | | |
| Sat Flow, veh/h | 1781 | 3647 | 3741 | 1553 | | |
| Grp Volume(v), veh/h | 17 | 1479 | 705 | 198 | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1870 | 1553 | | |
| Q Serve(g_s), s | 0.6 | 0.0 | 0.0 | 0.0 | | |
| Cycle Q Clear(g_c), s | 0.6 | 0.0 | 0.0 | 0.0 | | |
| Prop In Lane | 1.00 | | | 1.00 | | |
| Lane Grp Cap(c), veh/h | 37 | 3175 | 2909 | 1208 | | |
| V/C Ratio(X) | 0.46 | 0.47 | 0.24 | 0.16 | | |
| Avail Cap(c_a), veh/h | 276 | 3216 | 2909 | 1208 | | |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 2.00 | | |
| Upstream Filter(I) | 0.85 | 0.85 | 0.97 | 0.97 | | |
| Uniform Delay (d), s/veh | 28.4 | 0.0 | 0.0 | 0.0 | | |
| Incr Delay (d2), s/veh | 7.6 | 0.4 | 0.2 | 0.3 | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | | |
| %ile BackOfQ(50%),veh/ln | 0.3 | 0.2 | 0.1 | 0.1 | | |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 36.0 | 0.4 | 0.2 | 0.3 | | |
| LnGrp LOS | D | A | A | A | | |
| Approach Vol, veh/h | | 1496 | 903 | | | |
| Approach Delay, s/veh | | 0.8 | 0.2 | | | |
| Approach LOS | | A | A | | | |

| Timer - Assigned Phs | 2 | | | 5 | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 60.0 | | | 6.9 | 53.1 |
| Change Period (Y+Rc), s | * 6.4 | | | * 5.7 | 6.4 |
| Max Green Setting (Gmax), s | * 54 | | | * 9.3 | 38.6 |
| Max Q Clear Time (g_c+I1), s | 2.0 | | | 2.6 | 2.0 |
| Green Ext Time (p_c), s | 4.1 | | | 0.0 | 5.9 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 0.6 |
| HCM 6th LOS | A |

Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

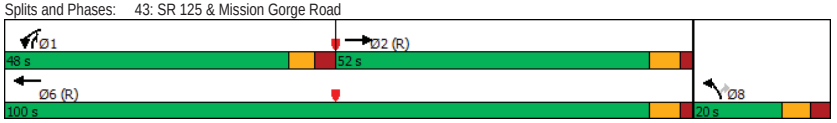


Existing + Cuml + Proj PM (No School) — Fanita Ranch
43: SR 125 & Mission Gorge Road — 06/06/2019

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 1135 | 193 | 933 | 739 | 173 | 1248 |
| Future Volume (vph) | 1135 | 193 | 933 | 739 | 173 | 1248 |
| Confl. Peds. (#/hr) | | 5 | | | | |
| Confl. Bikes (#/hr) | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | NA | | Prot | NA | Prot | pm+ov |
| Protected Phases | 2 | | 1 | 6 | 8 | 1 |
| Permitted Phases | | | | | | 8 |
| Detector Phase | 2 | | 1 | 6 | 8 | 1 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 11.0 | | 5.0 | 10.0 | 5.0 | 5.0 |
| Minimum Split (s) | 17.4 | | 11.7 | 20.0 | 20.0 | 11.7 |
| Total Split (s) | 52.0 | | 48.0 | 100.0 | 20.0 | 48.0 |
| Total Split (%) | 43.3% | | 40.0% | 83.3% | 16.7% | 40.0% |
| Yellow Time (s) | 4.4 | | 3.7 | 4.4 | 4.1 | 3.7 |
| All-Red Time (s) | 2.0 | | 3.0 | 2.0 | 3.0 | 3.0 |
| Lost Time Adjust (s) | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.4 | | 6.7 | 6.4 | 7.1 | 6.7 |
| Lead/Lag | Lag | | Lead | | | Lead |
| Lead-Lag Optimize? | Yes | | Yes | | | Yes |
| Recall Mode | C-Max | | None | C-Max | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 107 (89%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 90 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 43: SR 125 & Mission Gorge Road



| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 1135 | 193 | 933 | 739 | 173 | 1248 |
| Future Volume (veh/h) | 1135 | 193 | 933 | 739 | 173 | 1248 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | 0.99 | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 1234 | 210 | 1014 | 803 | 188 | 1357 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 1764 | 300 | 1113 | 3983 | 371 | 1198 |
| Arrive On Green | 0.80 | 0.80 | 0.11 | 0.26 | 0.11 | 0.11 |
| Sat Flow, veh/h | 4556 | 747 | 3456 | 5274 | 3456 | 2790 |
| Grp Volume(v), veh/h | 957 | 487 | 1014 | 803 | 188 | 1357 |
| Grp Sat Flow(s),veh/h/ln | 1702 | 1730 | 1728 | 1702 | 1728 | 1395 |
| Q Serve(g_s), s | 15.1 | 15.1 | 34.8 | 14.8 | 6.2 | 12.9 |
| Cycle Q Clear(g_c), s | 15.1 | 15.1 | 34.8 | 14.8 | 6.2 | 12.9 |
| Prop In Lane | | 0.43 | 1.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 1369 | 696 | 1113 | 3983 | 371 | 1198 |
| V/C Ratio(X) | 0.70 | 0.70 | 0.91 | 0.20 | 0.51 | 1.13 |
| Avail Cap(c_a), veh/h | 1369 | 696 | 1189 | 3983 | 371 | 1198 |
| HCM Platoon Ratio | 2.00 | 2.00 | 0.33 | 0.33 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.91 | 0.91 | 0.91 | 0.91 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 8.5 | 8.5 | 51.9 | 15.3 | 50.5 | 34.2 |
| Incr Delay (d2), s/veh | 2.7 | 5.3 | 9.4 | 0.1 | 1.1 | 70.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 3.4 | 3.9 | 17.6 | 6.7 | 2.7 | 28.7 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 11.2 | 13.8 | 61.3 | 15.4 | 51.7 | 104.6 |
| LnGrp LOS | B | B | E | B | D | F |
| Approach Vol, veh/h | 1444 | | | 1817 | 1545 | |
| Approach Delay, s/veh | 12.1 | | | 41.0 | 98.2 | |
| Approach LOS | B | | | D | F | |

| Timer - Assigned Phs | 1 | 2 | | | | 6 | 8 |
|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 45.3 | 54.7 | | | | 100.0 | 20.0 |
| Change Period (Y+Rc), s | * 6.7 | 6.4 | | | | 6.4 | 7.1 |
| Max Green Setting (Gmax), s | * 41 | 45.6 | | | | 93.6 | 12.9 |
| Max Q Clear Time (g_c+I1), s | 36.8 | 17.1 | | | | 16.8 | 14.9 |
| Green Ext Time (p_c), s | 1.8 | 11.5 | | | | 6.3 | 0.0 |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | | 50.7 |
| HCM 6th LOS | | | D |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

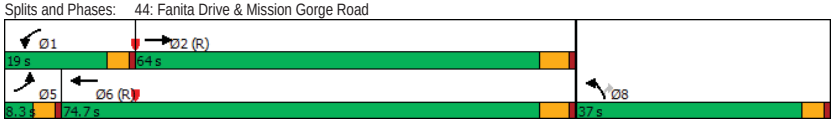




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 5 | 1953 | 430 | 315 | 1299 | 0 | 348 | 0 | 421 | 0 | 0 | 0 |
| Future Volume (vph) | 5 | 1953 | 430 | 315 | 1299 | 0 | 348 | 0 | 421 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | | | 6 | | | | | | | | | |
| Confl. Bikes (#/hr) | | | 4 | | | 3 | | | 3 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | | Perm | | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | | | | | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | | 8 | | | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 7.0 | | 7.0 | | | |
| Minimum Split (s) | 8.2 | 33.3 | | 8.2 | 20.0 | | 34.2 | | 34.2 | | | |
| Total Split (s) | 8.3 | 64.0 | | 19.0 | 74.7 | | 37.0 | | 37.0 | | | |
| Total Split (%) | 6.9% | 53.3% | | 15.8% | 62.3% | | 30.8% | | 30.8% | | | |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | | 3.2 | | 3.2 | | | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | | 1.0 | | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | | 0.0 | | | |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | | 4.2 | | 4.2 | | | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | | None | | | |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 9 (8%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 120 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 44: Fanita Drive & Mission Gorge Road



Existing + Cuml + Proj PM (No School)
44: Fanita Drive & Mission Gorge Road

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 5 | 1953 | 430 | 315 | 1299 | 0 | 348 | 0 | 421 | 0 | 0 | 0 |
| Future Volume (veh/h) | 5 | 1953 | 430 | 315 | 1299 | 0 | 348 | 0 | 421 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 1.00 | 1.00 | | 1.00 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 0 | 1870 | 0 | 1870 | | | |
| Adj Flow Rate, veh/h | 5 | 2123 | 467 | 342 | 1412 | 0 | 378 | 0 | 458 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 0 | 2 | 0 | 2 | | | |
| Cap, veh/h | 9 | 2094 | 438 | 396 | 3101 | 0 | 945 | 0 | 433 | | | |
| Arrive On Green | 0.00 | 0.33 | 0.33 | 0.11 | 0.61 | 0.00 | 0.27 | 0.00 | 0.27 | | | |
| Sat Flow, veh/h | 1781 | 4206 | 880 | 3456 | 5274 | 0 | 3456 | 0 | 1585 | | | |
| Grp Volume(v), veh/h | 5 | 1697 | 893 | 342 | 1412 | 0 | 378 | 0 | 458 | | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1702 | 1681 | 1728 | 1702 | 0 | 1728 | 0 | 1585 | | | |
| Q Serve(g_s), s | 0.3 | 59.7 | 59.7 | 11.7 | 18.0 | 0.0 | 10.7 | 0.0 | 32.8 | | | |
| Cycle Q Clear(g_c), s | 0.3 | 59.7 | 59.7 | 11.7 | 18.0 | 0.0 | 10.7 | 0.0 | 32.8 | | | |
| Prop In Lane | 1.00 | | 0.52 | 1.00 | | 0.00 | 1.00 | | 1.00 | | | |
| Lane Grp Cap(c), veh/h | 9 | 1695 | 837 | 396 | 3101 | 0 | 945 | 0 | 433 | | | |
| V/C Ratio(X) | 0.55 | 1.00 | 1.07 | 0.86 | 0.46 | 0.00 | 0.40 | 0.00 | 1.06 | | | |
| Avail Cap(c_a), veh/h | 61 | 1695 | 837 | 426 | 3101 | 0 | 945 | 0 | 433 | | | |
| HCM Platoon Ratio | 0.67 | 0.67 | 0.67 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 0.41 | 0.41 | 0.41 | 0.71 | 0.71 | 0.00 | 1.00 | 0.00 | 1.00 | | | |
| Uniform Delay (d), s/veh | 59.7 | 40.0 | 40.0 | 52.2 | 12.8 | 0.0 | 35.6 | 0.0 | 43.6 | | | |
| Incr Delay (d2), s/veh | 19.4 | 14.4 | 40.4 | 11.0 | 0.3 | 0.0 | 0.3 | 0.0 | 59.1 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ln | 0.2 | 28.8 | 34.5 | 5.6 | 6.4 | 0.0 | 4.5 | 0.0 | 19.6 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 79.1 | 54.4 | 80.4 | 63.2 | 13.1 | 0.0 | 35.9 | 0.0 | 102.7 | | | |
| LnGrp LOS | E | F | F | E | B | A | D | A | F | | | |
| Approach Vol, veh/h | | 2595 | | | 1754 | | | 836 | | | | |
| Approach Delay, s/veh | | 63.4 | | | 22.9 | | | 72.5 | | | | |
| Approach LOS | | E | | | C | | | E | | | | |
| Timer - Assigned Phs | 1 | 2 | | | 5 | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 18.0 | 65.0 | | | 4.8 | 78.2 | | 37.0 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | | | * 4.2 | 5.3 | | 4.2 | | | | |
| Max Green Setting (Gmax), s | * 15 | 58.7 | | | * 4.1 | 69.4 | | 32.8 | | | | |
| Max Q Clear Time (g_c+I1), s | 13.7 | 61.7 | | | 2.3 | 20.0 | | 34.8 | | | | |
| Green Ext Time (p_c), s | 0.1 | 0.0 | | | 0.0 | 16.4 | | 0.0 | | | | |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 51.2 |
| HCM 6th LOS | D |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
N:\2462\Analysis\Intersections\Synchro\No School Alt\8 Existing + Cuml + Proj PM.syn

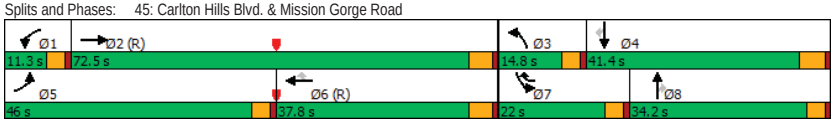
Existing + Cuml + Proj PM (No School)
45: Carlton Hills Blvd. & Mission Gorge Road

Fanita Ranch
06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 934 | 1357 | 68 | 34 | 961 | 533 | 59 | 84 | 22 | 375 | 33 | 645 |
| Future Volume (vph) | 934 | 1357 | 68 | 34 | 961 | 533 | 59 | 84 | 22 | 375 | 33 | 645 |
| Confl. Peds. (#/hr) | | | 8 | | | | | | 8 | | | 2 |
| Confl. Bikes (#/hr) | | | 1 | | | 2 | | | 1 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | 48% |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | 6 | | | 8 | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | 8 | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 23.3 | | 8.2 | 34.3 | 8.2 | 8.2 | 34.2 | 34.2 | 8.2 | 32.4 | 32.4 |
| Total Split (s) | 46.0 | 72.5 | | 11.3 | 37.8 | 22.0 | 14.8 | 34.2 | 34.2 | 22.0 | 41.4 | 41.4 |
| Total Split (%) | 32.9% | 51.8% | | 8.1% | 27.0% | 15.7% | 10.6% | 24.4% | 24.4% | 15.7% | 29.6% | 29.6% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | 3.2 | 3.2 | 3.2 | 3.2 | 3.2 | 4.4 | 4.4 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | 4.2 | 4.2 | 4.2 | 4.2 | 4.2 | 5.4 | 5.4 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | C-Min | | None | C-Min | None | None | None | None | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 140 |
| Actuated Cycle Length: 140 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 125 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 45: Carlton Hills Blvd. & Mission Gorge Road




Timings
N:\2462\Analysis\Intersections\Synchro\No School Alt\8 Existing + Cuml + Proj PM.syn

Existing + Cuml + Proj PM (No School) — Fanita Ranch
45: Carlton Hills Blvd. & Mission Gorge Road — 06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 934 | 1357 | 68 | 34 | 961 | 533 | 59 | 84 | 22 | 375 | 33 | 645 |
| Future Volume (veh/h) | 934 | 1357 | 68 | 34 | 961 | 533 | 59 | 84 | 22 | 375 | 33 | 645 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.99 | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 1015 | 1475 | 74 | 37 | 1045 | 579 | 64 | 91 | 24 | 408 | 0 | 657 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 1032 | 2802 | 141 | 48 | 1489 | 658 | 82 | 273 | 225 | 453 | 0 | 719 |
| Arrive On Green | 0.30 | 0.56 | 0.56 | 0.03 | 0.29 | 0.29 | 0.05 | 0.15 | 0.15 | 0.13 | 0.00 | 0.23 |
| Sat Flow, veh/h | 3456 | 4972 | 249 | 1781 | 5106 | 1564 | 1781 | 1870 | 1538 | 3563 | 0 | 3162 |
| Grp Volume(v), veh/h | 1015 | 1010 | 539 | 37 | 1045 | 579 | 64 | 91 | 24 | 408 | 0 | 657 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1702 | 1817 | 1781 | 1702 | 1564 | 1781 | 1870 | 1538 | 1781 | 0 | 1581 |
| Q Serve(g_s), s | 40.8 | 25.8 | 25.8 | 2.9 | 25.5 | 40.8 | 5.0 | 6.1 | 1.9 | 15.8 | 0.0 | 28.4 |
| Cycle Q Clear(g_c), s | 40.8 | 25.8 | 25.8 | 2.9 | 25.5 | 40.8 | 5.0 | 6.1 | 1.9 | 15.8 | 0.0 | 28.4 |
| Prop In Lane | 1.00 | | 0.14 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 1032 | 1918 | 1024 | 48 | 1489 | 658 | 82 | 273 | 225 | 453 | 0 | 719 |
| V/C Ratio(X) | 0.98 | 0.53 | 0.53 | 0.78 | 0.70 | 0.88 | 0.78 | 0.33 | 0.11 | 0.90 | 0.00 | 0.91 |
| Avail Cap(c_a), veh/h | 1032 | 1918 | 1024 | 90 | 1489 | 658 | 135 | 401 | 330 | 453 | 0 | 813 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.14 | 0.14 | 0.14 | 0.78 | 0.78 | 0.78 | 1.00 | 1.00 | 1.00 | 0.77 | 0.00 | 0.77 |
| Uniform Delay (d), s/veh | 48.8 | 19.0 | 19.0 | 67.7 | 44.2 | 37.5 | 66.1 | 53.6 | 51.8 | 60.2 | 0.0 | 52.7 |
| Incr Delay (d2), s/veh | 7.2 | 0.1 | 0.3 | 7.8 | 2.2 | 12.7 | 14.9 | 0.3 | 0.1 | 16.6 | 0.0 | 11.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 18.2 | 9.8 | 10.5 | 1.4 | 10.9 | 20.4 | 2.6 | 2.9 | 0.7 | 8.1 | 0.0 | 12.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 56.0 | 19.1 | 19.2 | 75.5 | 46.3 | 50.3 | 81.0 | 53.9 | 51.9 | 76.8 | 0.0 | 63.8 |
| LnGrp LOS | E | B | B | E | D | D | F | D | D | E | A | E |
| Approach Vol, veh/h | | 2564 | | | 1661 | | | 179 | | | 1065 | |
| Approach Delay, s/veh | | 33.7 | | | 48.4 | | | 63.3 | | | 68.8 | |
| Approach LOS | | C | | | D | | | E | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.9 | 84.2 | 10.6 | 37.2 | 46.0 | 46.1 | 22.0 | 25.9 |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | * 4.2 | 5.4 | * 4.2 | 5.3 | * 4.2 | * 5.4 |
| Max Green Setting (Gmax), s | * 7.1 | 67.2 | * 11 | 36.0 | * 42 | 32.5 | * 18 | * 30 |
| Max Q Clear Time (g_c+I1), s | 4.9 | 27.8 | 7.0 | 30.4 | 42.8 | 42.8 | 17.8 | 8.1 |
| Green Ext Time (p_c), s | 0.0 | 15.9 | 0.0 | 1.5 | 0.0 | 0.0 | 0.0 | 0.3 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 46.0 |
| HCM 6th LOS | D |

Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

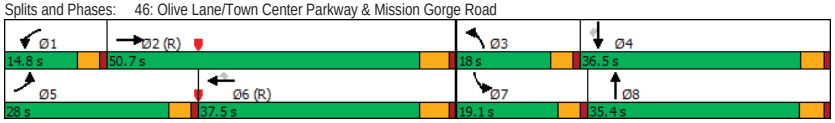
HCM 6th Signalized Intersection Summary
N:\2462\Analysis\Intersections\Synchro\No School Alt\8 Existing + Cuml + Proj PM.syn

Existing + Cuml + Proj PM (No School) — Fanita Ranch
46: Olive Lane/Town Center Parkway & Mission Gorge Road — 06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 616 | 1161 | 105 | 69 | 672 | 341 | 326 | 219 | 49 | 336 | 183 | 534 |
| Future Volume (vph) | 616 | 1161 | 105 | 69 | 672 | 341 | 326 | 219 | 49 | 336 | 183 | 534 |
| Confl. Peds. (#/hr) | | | 9 | | | 16 | | | 3 | | | 6 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | Perm | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | 10.0 | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 26.3 | | 8.2 | 36.3 | 36.3 | 8.2 | 34.6 | | 8.2 | 36.5 | 36.5 |
| Total Split (s) | 28.0 | 50.7 | | 14.8 | 37.5 | 37.5 | 18.0 | 35.4 | | 19.1 | 36.5 | 36.5 |
| Total Split (%) | 23.3% | 42.3% | | 12.3% | 31.3% | 31.3% | 15.0% | 29.5% | | 15.9% | 30.4% | 30.4% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | 4.3 | 3.2 | 3.6 | | 3.2 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | 5.3 | 4.2 | 4.6 | | 4.2 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | C-Min | | None | C-Min | C-Min | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 61 (51%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 110 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 46: Olive Lane/Town Center Parkway & Mission Gorge Road




Timings
N:\2462\Analysis\Intersections\Synchro\No School Alt\8 Existing + Cuml + Proj PM.syn

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 616 | 1161 | 105 | 69 | 672 | 341 | 326 | 219 | 49 | 336 | 183 | 534 |
| Future Volume (veh/h) | 616 | 1161 | 105 | 69 | 672 | 341 | 326 | 219 | 49 | 336 | 183 | 534 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 1.00 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 670 | 1262 | 114 | 75 | 730 | 371 | 354 | 238 | 53 | 365 | 199 | 580 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 685 | 2065 | 186 | 96 | 1475 | 450 | 397 | 354 | 79 | 418 | 459 | 679 |
| Arrive On Green | 0.20 | 0.43 | 0.43 | 0.05 | 0.29 | 0.29 | 0.12 | 0.24 | 0.24 | 0.12 | 0.25 | 0.25 |
| Sat Flow, veh/h | 3456 | 4762 | 430 | 1781 | 5106 | 1559 | 3456 | 1480 | 330 | 3456 | 1870 | 2769 |
| Grp Volume(v), veh/h | 670 | 902 | 474 | 75 | 730 | 371 | 354 | 0 | 291 | 365 | 199 | 580 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1702 | 1788 | 1781 | 1702 | 1559 | 1728 | 0 | 1810 | 1728 | 1870 | 1385 |
| Q Serve(g_s), s | 23.1 | 24.5 | 24.5 | 5.0 | 14.2 | 26.7 | 12.1 | 0.0 | 17.5 | 12.5 | 10.8 | 24.0 |
| Cycle Q Clear(g_c), s | 23.1 | 24.5 | 24.5 | 5.0 | 14.2 | 26.7 | 12.1 | 0.0 | 17.5 | 12.5 | 10.8 | 24.0 |
| Prop In Lane | 1.00 | | 0.24 | 1.00 | | 1.00 | 1.00 | | 0.18 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 685 | 1476 | 775 | 96 | 1475 | 450 | 397 | 0 | 433 | 418 | 459 | 679 |
| V/C Ratio(X) | 0.98 | 0.61 | 0.61 | 0.79 | 0.49 | 0.82 | 0.89 | 0.00 | 0.67 | 0.87 | 0.43 | 0.85 |
| Avail Cap(c_a), veh/h | 685 | 1476 | 775 | 157 | 1475 | 450 | 397 | 0 | 464 | 429 | 499 | 738 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.78 | 0.78 | 0.78 | 0.69 | 0.69 | 0.69 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 47.8 | 26.2 | 26.2 | 56.1 | 35.4 | 39.8 | 52.4 | 0.0 | 41.4 | 51.9 | 38.2 | 43.2 |
| Incr Delay (d2), s/veh | 24.8 | 1.5 | 2.8 | 3.7 | 0.8 | 11.3 | 20.8 | 0.0 | 4.0 | 16.7 | 1.2 | 10.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 12.1 | 9.8 | 10.6 | 2.3 | 5.9 | 11.5 | 6.4 | 0.0 | 8.3 | 6.4 | 5.1 | 9.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 72.6 | 27.7 | 29.0 | 59.8 | 36.2 | 51.1 | 73.1 | 0.0 | 45.4 | 68.6 | 39.5 | 53.2 |
| LnGrp LOS | E | C | C | E | D | D | E | A | D | E | D | D |
| Approach Vol, veh/h | | 2046 | | | 1176 | | | 645 | | | 1144 | |
| Approach Delay, s/veh | | 42.7 | | | 42.4 | | | 60.6 | | | 55.7 | |
| Approach LOS | | D | | | D | | | E | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 10.6 | 57.3 | 18.0 | 34.0 | 28.0 | 40.0 | 18.7 | 33.3 |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | * 4.2 | * 4.6 | * 4.2 | 5.3 | * 4.2 | 4.6 |
| Max Green Setting (Gmax), s | * 11 | 45.4 | * 14 | * 32 | * 24 | 32.2 | * 15 | 30.8 |
| Max Q Clear Time (g_c+I1), s | 7.0 | 26.5 | 14.1 | 26.0 | 25.1 | 28.7 | 14.5 | 19.5 |
| Green Ext Time (p_c), s | 0.0 | 9.9 | 0.0 | 3.0 | 0.0 | 2.4 | 0.0 | 1.7 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 47.9 |
| HCM 6th LOS | D |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

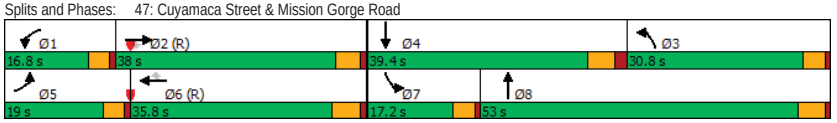




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 399 | 696 | 322 | 291 | 532 | 199 | 584 | 979 | 212 | 313 | 912 | 205 |
| Future Volume (vph) | 399 | 696 | 322 | 291 | 532 | 199 | 584 | 979 | 212 | 313 | 912 | 205 |
| Confl. Peds. (#/hr) | | | 31 | | | 31 | | | 34 | | | 23 |
| Confl. Bikes (#/hr) | | | 4 | | | 2 | | | 3 | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | 10.0 | 4.0 | 7.0 | | 4.0 | 15.0 | |
| Minimum Split (s) | 19.0 | 34.8 | 34.8 | 8.2 | 34.3 | 34.3 | 8.2 | 38.0 | | 8.2 | 37.0 | |
| Total Split (s) | 19.0 | 38.0 | 38.0 | 16.8 | 35.8 | 35.8 | 30.8 | 53.0 | | 17.2 | 39.4 | |
| Total Split (%) | 15.2% | 30.4% | 30.4% | 13.4% | 28.6% | 28.6% | 24.6% | 42.4% | | 13.8% | 31.5% | |
| Yellow Time (s) | 3.2 | 3.8 | 3.8 | 3.2 | 4.3 | 4.3 | 3.2 | 4.0 | | 3.2 | 4.0 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 2.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.2 | 4.8 | 4.8 | 4.2 | 5.3 | 5.3 | 4.2 | 5.0 | | 4.2 | 6.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lag | Lag | | Lead | Lead | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | C-Min | C-Min | None | C-Min | C-Min | None | None | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 125 |
| Actuated Cycle Length: 125 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green, Master Intersection |
| Natural Cycle: 130 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 47: Cuyamaca Street & Mission Gorge Road



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 399 | 696 | 322 | 291 | 532 | 199 | 584 | 979 | 212 | 313 | 912 | 205 |
| Future Volume (veh/h) | 399 | 696 | 322 | 291 | 532 | 199 | 584 | 979 | 212 | 313 | 912 | 205 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.96 | 1.00 | | 0.96 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1683 | 1683 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 434 | 757 | 350 | 316 | 578 | 216 | 635 | 1064 | 230 | 340 | 991 | 223 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 409 | 1336 | 394 | 348 | 1246 | 367 | 721 | 997 | 214 | 359 | 1095 | 246 |
| Arrive On Green | 0.12 | 0.26 | 0.26 | 0.10 | 0.24 | 0.24 | 0.21 | 0.38 | 0.38 | 0.10 | 0.26 | 0.26 |
| Sat Flow, veh/h | 3456 | 5106 | 1506 | 3456 | 5106 | 1504 | 3456 | 2596 | 558 | 3456 | 4133 | 928 |
| Grp Volume(v), veh/h | 434 | 757 | 350 | 316 | 578 | 216 | 635 | 653 | 641 | 340 | 816 | 398 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1702 | 1506 | 1728 | 1702 | 1504 | 1728 | 1599 | 1556 | 1728 | 1702 | 1657 |
| Q Serve(g_s), s | 14.8 | 16.1 | 16.9 | 11.3 | 12.1 | 15.8 | 22.3 | 48.0 | 48.0 | 12.2 | 29.0 | 29.1 |
| Cycle Q Clear(g_c), s | 14.8 | 16.1 | 16.9 | 11.3 | 12.1 | 15.8 | 22.3 | 48.0 | 48.0 | 12.2 | 29.0 | 29.1 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.36 | 1.00 | | 0.56 |
| Lane Grp Cap(c), veh/h | 409 | 1336 | 394 | 348 | 1246 | 367 | 721 | 614 | 597 | 359 | 902 | 439 |
| V/C Ratio(X) | 1.06 | 0.57 | 0.89 | 0.91 | 0.46 | 0.59 | 0.88 | 1.06 | 1.07 | 0.95 | 0.90 | 0.91 |
| Avail Cap(c_a), veh/h | 409 | 1356 | 400 | 348 | 1246 | 367 | 735 | 614 | 597 | 359 | 910 | 443 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.72 | 0.72 | 0.72 | 0.93 | 0.93 | 0.93 | 0.09 | 0.09 | 0.09 | 0.77 | 0.77 | 0.77 |
| Uniform Delay (d), s/veh | 55.1 | 40.0 | 16.3 | 55.6 | 40.3 | 41.7 | 47.9 | 38.5 | 38.5 | 55.7 | 44.4 | 44.5 |
| Incr Delay (d2), s/veh | 54.9 | 1.3 | 19.0 | 24.5 | 1.2 | 6.3 | 1.2 | 32.6 | 36.3 | 28.2 | 10.8 | 19.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 9.4 | 6.8 | 7.7 | 6.0 | 5.1 | 6.5 | 9.6 | 23.8 | 23.7 | 6.7 | 13.4 | 14.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 110.0 | 41.3 | 35.3 | 80.2 | 41.4 | 48.0 | 49.1 | 71.1 | 74.8 | 83.8 | 55.2 | 64.0 |
| LnGrp LOS | F | D | D | F | D | D | D | F | F | F | E | E |
| Approach Vol, veh/h | | 1541 | | | 1110 | | | 1929 | | | 1554 | |
| Approach Delay, s/veh | | 59.3 | | | 53.7 | | | 65.1 | | | 63.7 | |
| Approach LOS | | E | | | D | | | E | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 16.8 | 38.0 | 31.1 | 39.1 | 19.0 | 35.8 | 17.2 | 53.0 |
| Change Period (Y+Rc), s | * 4.2 | * 5.3 | 5.0 | * 6 | * 4.2 | 5.3 | * 4.2 | 5.0 |
| Max Green Setting (Gmax), s | * 13 | * 33 | 26.6 | * 33 | * 15 | 30.5 | * 13 | 48.0 |
| Max Q Clear Time (g_c+I1), s | 13.3 | 18.9 | 24.3 | 31.1 | 16.8 | 17.8 | 14.2 | 50.0 |
| Green Ext Time (p_c), s | 0.0 | 9.9 | 0.4 | 2.0 | 0.0 | 5.5 | 0.0 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 61.2 |
| HCM 6th LOS | E |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

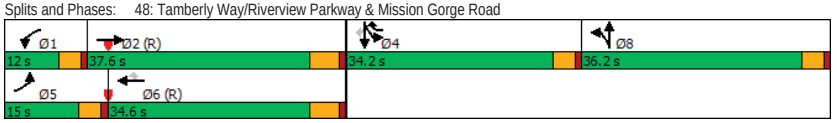




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 153 | 1058 | 23 | 43 | 855 | 174 | 44 | 11 | 44 | 254 | 16 | 130 |
| Future Volume (vph) | 153 | 1058 | 23 | 43 | 855 | 174 | 44 | 11 | 44 | 254 | 16 | 130 |
| Confl. Peds. (#/hr) | | | 13 | | | 13 | | | 10 | | | 8 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | 2 | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | 47% | | |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Split | NA | | Split | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 4 | 8 | 8 | | 4 | 4 | |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 4 | 8 | 8 | | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | 7.0 | 4.0 | 4.0 | | 7.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 23.3 | | 8.2 | 34.3 | 34.2 | 36.2 | 36.2 | | 34.2 | 34.2 | 34.2 |
| Total Split (s) | 15.0 | 37.6 | | 12.0 | 34.6 | 34.2 | 36.2 | 36.2 | | 34.2 | 34.2 | 34.2 |
| Total Split (%) | 12.5% | 31.3% | | 10.0% | 28.8% | 28.5% | 30.2% | 30.2% | | 28.5% | 28.5% | 28.5% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | 3.2 | 3.2 | 3.2 | | 3.2 | 3.2 | 3.2 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | 4.2 | 4.2 | 4.2 | | 4.2 | 4.2 | 4.2 |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | None | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 34 (28%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 115 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 48: Tamberly Way/Riverview Parkway & Mission Gorge Road



Existing + Cuml + Proj PM (No School) — Fanita Ranch
48: Tamberly Way/Riverview Parkway & Mission Gorge Road — 06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 153 | 1058 | 23 | 43 | 855 | 174 | 44 | 11 | 44 | 254 | 16 | 130 |
| Future Volume (veh/h) | 153 | 1058 | 23 | 43 | 855 | 174 | 44 | 11 | 44 | 254 | 16 | 130 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.95 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 166 | 1150 | 25 | 47 | 929 | 189 | 48 | 12 | 48 | 288 | 0 | 141 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 160 | 3090 | 67 | 60 | 2782 | 1051 | 155 | 27 | 109 | 459 | 0 | 197 |
| Arrive On Green | 0.09 | 0.60 | 0.60 | 0.07 | 1.00 | 1.00 | 0.09 | 0.09 | 0.09 | 0.13 | 0.00 | 0.13 |
| Sat Flow, veh/h | 1781 | 5141 | 112 | 1781 | 5106 | 1554 | 1781 | 313 | 1253 | 3563 | 0 | 1532 |
| Grp Volume(v), veh/h | 166 | 761 | 414 | 47 | 929 | 189 | 48 | 0 | 60 | 288 | 0 | 141 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1702 | 1849 | 1781 | 1702 | 1554 | 1781 | 0 | 1566 | 1781 | 0 | 1532 |
| Q Serve(g_s), s | 10.8 | 13.8 | 13.8 | 3.1 | 0.0 | 0.0 | 3.0 | 0.0 | 4.4 | 9.2 | 0.0 | 10.6 |
| Cycle Q Clear(g_c), s | 10.8 | 13.8 | 13.8 | 3.1 | 0.0 | 0.0 | 3.0 | 0.0 | 4.4 | 9.2 | 0.0 | 10.6 |
| Prop In Lane | 1.00 | | 0.06 | 1.00 | | 1.00 | 1.00 | | 0.80 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 160 | 2046 | 1111 | 60 | 2782 | 1051 | 155 | 0 | 136 | 459 | 0 | 197 |
| V/C Ratio(X) | 1.04 | 0.37 | 0.37 | 0.78 | 0.33 | 0.18 | 0.31 | 0.00 | 0.44 | 0.63 | 0.00 | 0.71 |
| Avail Cap(c_a), veh/h | 160 | 2046 | 1111 | 116 | 2782 | 1051 | 475 | 0 | 418 | 891 | 0 | 383 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.63 | 0.63 | 0.63 | 0.98 | 0.98 | 0.98 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 54.6 | 12.3 | 12.3 | 55.5 | 0.0 | 0.0 | 51.4 | 0.0 | 52.0 | 49.5 | 0.0 | 50.1 |
| Incr Delay (d2), s/veh | 65.9 | 0.3 | 0.6 | 7.8 | 0.3 | 0.4 | 0.4 | 0.0 | 0.8 | 0.5 | 0.0 | 1.8 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 7.7 | 5.0 | 5.5 | 1.5 | 0.1 | 0.1 | 1.4 | 0.0 | 1.7 | 4.1 | 0.0 | 4.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 120.5 | 12.6 | 12.9 | 63.3 | 0.3 | 0.4 | 51.8 | 0.0 | 52.8 | 50.1 | 0.0 | 51.9 |
| LnGrp LOS | F | B | B | E | A | A | D | A | D | D | A | D |
| Approach Vol, veh/h | | 1341 | | | 1165 | | | 108 | | | 429 | |
| Approach Delay, s/veh | | 26.1 | | | 2.9 | | | 52.4 | | | 50.7 | |
| Approach LOS | | C | | | A | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 8.3 | 77.4 | | 19.7 | 15.0 | 70.7 | | 14.6 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | | * 4.2 | * 4.2 | 5.3 | | 4.2 | | | | |
| Max Green Setting (Gmax), s | * 7.8 | 32.3 | | * 30 | * 11 | 29.3 | | 32.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 5.1 | 15.8 | | 12.6 | 12.8 | 2.0 | | 6.4 | | | | |
| Green Ext Time (p_c), s | 0.0 | 10.4 | | 0.8 | 0.0 | 12.3 | | 0.3 | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | | 21.6 |
| HCM 6th LOS | | | C |

Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

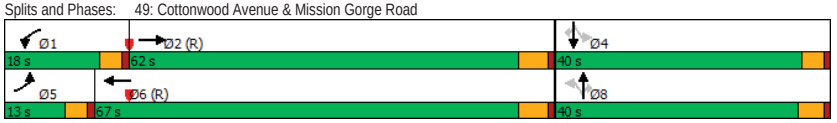
HCM 6th Signalized Intersection Summary
N:\2462\Analysis\Intersections\Synchro\No School Alt\8 Existing + Cuml + Proj PM.syn

Existing + Cuml + Proj PM (No School) — Fanita Ranch
49: Cottonwood Avenue & Mission Gorge Road — 06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 17 | 1262 | 100 | 55 | 893 | 4 | 92 | 1 | 83 | 3 | 2 | 9 |
| Future Volume (vph) | 17 | 1262 | 100 | 55 | 893 | 4 | 92 | 1 | 83 | 3 | 2 | 9 |
| Confl. Peds. (#/hr) | | | 3 | | | 14 | | | 1 | | | 4 |
| Confl. Bikes (#/hr) | | | 3 | | | 1 | | | 2 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Perm | NA | Perm | Perm | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | 8 | 4 | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | 8 | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 4.0 | 4.0 | 4.0 | 7.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 23.3 | | 8.2 | 24.3 | | 33.8 | 33.8 | 33.8 | 32.2 | 32.2 | 32.2 |
| Total Split (s) | 13.0 | 62.0 | | 18.0 | 67.0 | | 40.0 | 40.0 | 40.0 | 40.0 | 40.0 | 40.0 |
| Total Split (%) | 10.8% | 51.7% | | 15.0% | 55.8% | | 33.3% | 33.3% | 33.3% | 33.3% | 33.3% | 33.3% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | | 3.8 | 3.8 | 3.8 | 3.2 | 3.2 | 3.2 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | | | 4.8 | 4.8 | | 4.2 | 4.2 |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | None | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 44 (37%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 70 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 49: Cottonwood Avenue & Mission Gorge Road




Timings
N:\2462\Analysis\Intersections\Synchro\No School Alt\8 Existing + Cuml + Proj PM.syn

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 17 | 1262 | 100 | 55 | 893 | 4 | 92 | 1 | 83 | 3 | 2 | 9 |
| Future Volume (veh/h) | 17 | 1262 | 100 | 55 | 893 | 4 | 92 | 1 | 83 | 3 | 2 | 9 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 0.99 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 18 | 1372 | 109 | 60 | 971 | 4 | 100 | 1 | 90 | 3 | 2 | 10 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 27 | 2595 | 206 | 77 | 2978 | 12 | 60 | 0 | 466 | 48 | 21 | 465 |
| Arrive On Green | 0.03 | 1.00 | 1.00 | 0.09 | 1.00 | 1.00 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 |
| Sat Flow, veh/h | 1781 | 4812 | 382 | 1781 | 5248 | 22 | 0 | 1 | 1562 | 0 | 70 | 1559 |
| Grp Volume(v), veh/h | 18 | 971 | 510 | 60 | 630 | 345 | 101 | 0 | 90 | 5 | 0 | 10 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1702 | 1790 | 1781 | 1702 | 1866 | 1 | 0 | 1562 | 70 | 0 | 1559 |
| Q Serve(g_s), s | 1.2 | 0.0 | 0.0 | 4.0 | 0.0 | 0.0 | 0.0 | 0.0 | 5.1 | 0.0 | 0.0 | 0.5 |
| Cycle Q Clear(g_c), s | 1.2 | 0.0 | 0.0 | 4.0 | 0.0 | 0.0 | 35.8 | 0.0 | 5.1 | 35.8 | 0.0 | 0.5 |
| Prop In Lane | 1.00 | | 0.21 | 1.00 | | 0.01 | 0.99 | | 1.00 | 0.60 | | 1.00 |
| Lane Grp Cap(c), veh/h | 27 | 1836 | 966 | 77 | 1932 | 1059 | 60 | 0 | 466 | 69 | 0 | 465 |
| V/C Ratio(X) | 0.67 | 0.53 | 0.53 | 0.78 | 0.33 | 0.33 | 1.68 | 0.00 | 0.19 | 0.07 | 0.00 | 0.02 |
| Avail Cap(c_a), veh/h | 131 | 1836 | 966 | 205 | 1932 | 1059 | 60 | 0 | 466 | 69 | 0 | 465 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.91 | 0.91 | 0.91 | 0.60 | 0.60 | 0.60 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 57.9 | 0.0 | 0.0 | 54.3 | 0.0 | 0.0 | 59.8 | 0.0 | 31.3 | 34.6 | 0.0 | 29.7 |
| Incr Delay (d2), s/veh | 9.4 | 1.0 | 1.9 | 3.9 | 0.3 | 0.5 | 367.9 | 0.0 | 0.1 | 0.2 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.6 | 0.3 | 0.5 | 1.8 | 0.1 | 0.1 | 8.0 | 0.0 | 2.0 | 0.1 | 0.0 | 0.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 67.3 | 1.0 | 1.9 | 58.1 | 0.3 | 0.5 | 427.7 | 0.0 | 31.4 | 34.7 | 0.0 | 29.7 |
| LnGrp LOS | E | A | A | E | A | A | F | A | C | C | A | C |
| Approach Vol, veh/h | | 1499 | | | 1035 | | | 191 | | | 15 | |
| Approach Delay, s/veh | | 2.1 | | | 3.7 | | | 241.0 | | | 31.4 | |
| Approach LOS | | A | | | A | | | F | | | C | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 9.4 | 70.0 | | 40.6 | 6.0 | 73.4 | | 40.6 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | | * 4.8 | * 4.2 | 5.3 | | * 4.8 | | | | |
| Max Green Setting (Gmax), s | * 14 | 56.7 | | * 36 | * 8.8 | 61.7 | | * 35 | | | | |
| Max Q Clear Time (g_c+I1), s | 6.0 | 2.0 | | 37.8 | 3.2 | 2.0 | | 37.8 | | | | |
| Green Ext Time (p_c), s | 0.0 | 11.4 | | 0.0 | 0.0 | 11.9 | | 0.0 | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 19.5 | |
| HCM 6th LOS | | B | |

**Notes**

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

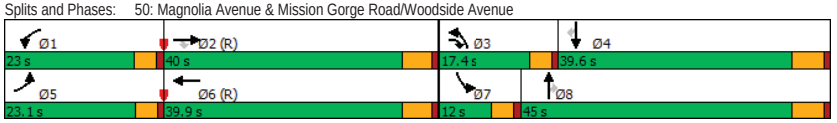




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 409 | 660 | 305 | 467 | 561 | 202 | 262 | 1006 | 446 | 170 | 599 | 222 |
| Future Volume (vph) | 409 | 660 | 305 | 467 | 561 | 202 | 262 | 1006 | 446 | 170 | 599 | 222 |
| Confl. Peds. (#/hr) | | | 2 | | | 9 | | | 13 | | | 1 |
| Confl. Bikes (#/hr) | | | 2 | | | 1 | | | 3 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | | | | 8 | | | 4 |
| Detector Phase | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | 8 | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 4.0 | 4.0 | 10.0 | | 4.0 | 7.0 | 7.0 | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 38.3 | 8.2 | 8.2 | 35.3 | | 8.2 | 34.7 | 34.7 | 8.2 | 35.7 | 35.7 |
| Total Split (s) | 23.1 | 40.0 | 17.4 | 23.0 | 39.9 | | 17.4 | 45.0 | 45.0 | 12.0 | 39.6 | 39.6 |
| Total Split (%) | 19.3% | 33.3% | 14.5% | 19.2% | 33.3% | | 14.5% | 37.5% | 37.5% | 10.0% | 33.0% | 33.0% |
| Yellow Time (s) | 3.2 | 4.3 | 3.2 | 3.2 | 4.3 | | 3.2 | 4.7 | 4.7 | 3.2 | 4.7 | 4.7 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | 4.2 | 4.2 | 5.3 | | 4.2 | 5.7 | 5.7 | 4.2 | 5.7 | 5.7 |
| Lead/Lag | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | C-Min | None | None | C-Min | | None | None | None | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 71 (59%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 105 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 50: Magnolia Avenue & Mission Gorge Road/Woodside Avenue



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 409 | 660 | 305 | 467 | 561 | 202 | 262 | 1006 | 446 | 170 | 599 | 222 |
| Future Volume (veh/h) | 409 | 660 | 305 | 467 | 561 | 202 | 262 | 1006 | 446 | 170 | 599 | 222 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 445 | 717 | 332 | 508 | 610 | 220 | 285 | 1093 | 485 | 185 | 651 | 241 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 495 | 1028 | 608 | 541 | 769 | 277 | 342 | 1164 | 506 | 225 | 1043 | 465 |
| Arrive On Green | 0.24 | 0.48 | 0.48 | 0.16 | 0.30 | 0.30 | 0.07 | 0.22 | 0.22 | 0.07 | 0.29 | 0.29 |
| Sat Flow, veh/h | 3456 | 3554 | 1560 | 3456 | 2543 | 916 | 3456 | 3554 | 1544 | 3456 | 3554 | 1583 |
| Grp Volume(v), veh/h | 445 | 717 | 332 | 508 | 426 | 404 | 285 | 1093 | 485 | 185 | 651 | 241 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1560 | 1728 | 1777 | 1682 | 1728 | 1777 | 1544 | 1728 | 1777 | 1583 |
| Q Serve(g_s), s | 15.0 | 18.9 | 17.6 | 17.4 | 26.4 | 26.5 | 9.8 | 36.3 | 37.3 | 6.3 | 19.0 | 15.2 |
| Cycle Q Clear(g_c), s | 15.0 | 18.9 | 17.6 | 17.4 | 26.4 | 26.5 | 9.8 | 36.3 | 37.3 | 6.3 | 19.0 | 15.2 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.54 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 495 | 1028 | 608 | 541 | 538 | 509 | 342 | 1164 | 506 | 225 | 1043 | 465 |
| V/C Ratio(X) | 0.90 | 0.70 | 0.55 | 0.94 | 0.79 | 0.79 | 0.83 | 0.94 | 0.96 | 0.82 | 0.62 | 0.52 |
| Avail Cap(c_a), veh/h | 544 | 1028 | 608 | 541 | 538 | 509 | 380 | 1164 | 506 | 225 | 1043 | 465 |
| HCM Platoon Ratio | 1.67 | 1.67 | 1.67 | 1.00 | 1.00 | 1.00 | 0.67 | 0.67 | 0.67 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.91 | 0.91 | 0.91 | 1.00 | 1.00 | 1.00 | 0.74 | 0.74 | 0.74 | 0.92 | 0.92 | 0.92 |
| Uniform Delay (d), s/veh | 44.8 | 26.9 | 20.3 | 50.0 | 38.4 | 38.4 | 55.1 | 45.7 | 46.0 | 55.4 | 36.7 | 35.3 |
| Incr Delay (d2), s/veh | 14.7 | 3.6 | 3.2 | 24.0 | 11.4 | 12.1 | 9.4 | 11.4 | 24.8 | 18.8 | 1.2 | 1.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 6.6 | 6.8 | 5.4 | 9.2 | 12.9 | 12.3 | 4.7 | 18.1 | 18.0 | 3.3 | 8.1 | 5.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 59.5 | 30.5 | 23.5 | 74.1 | 49.8 | 50.5 | 64.4 | 57.1 | 70.8 | 74.2 | 37.9 | 36.5 |
| LnGrp LOS | E | C | C | E | D | D | E | E | E | E | D | D |
| Approach Vol, veh/h | | 1494 | | | 1338 | | | 1863 | | | 1077 | |
| Approach Delay, s/veh | | 37.6 | | | 59.2 | | | 61.8 | | | 43.8 | |
| Approach LOS | | D | | | E | | | E | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 23.0 | 40.0 | 16.1 | 40.9 | 21.4 | 41.6 | 12.0 | 45.0 |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | * 4.2 | 5.7 | * 4.2 | 5.3 | * 4.2 | 5.7 |
| Max Green Setting (Gmax), s | * 19 | 34.7 | * 13 | 33.9 | * 19 | 34.6 | * 7.8 | 39.3 |
| Max Q Clear Time (g_c+I1), s | 19.4 | 20.9 | 11.8 | 21.0 | 17.0 | 28.5 | 8.3 | 39.3 |
| Green Ext Time (p_c), s | 0.0 | 5.8 | 0.1 | 5.0 | 0.2 | 3.6 | 0.0 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 51.6 |
| HCM 6th LOS | D |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 17.4 |
| Intersection LOS | C |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 31 | 245 | 220 | 1 | 0 | 183 | 0 | 0 | 10 | 529 | 7 |
| Future Vol, veh/h | 0 | 31 | 245 | 220 | 1 | 0 | 183 | 0 | 0 | 10 | 529 | 7 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 34 | 266 | 239 | 1 | 0 | 199 | 0 | 0 | 11 | 575 | 8 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 2 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay | 16.5 | 16.8 | 17.1 | 18.3 |
| HCM LOS | C | C | C | C |

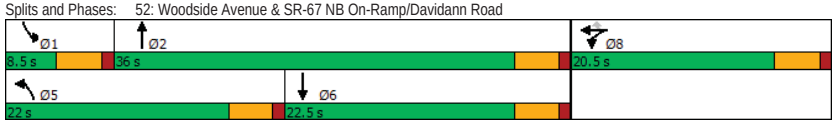
| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 100% | 4% | 0% |
| Vol Thru, % | 0% | 100% | 11% | 0% | 96% | 97% |
| Vol Right, % | 0% | 0% | 89% | 0% | 0% | 3% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 183 | 0 | 276 | 221 | 275 | 272 |
| LT Vol | 183 | 0 | 0 | 220 | 10 | 0 |
| Through Vol | 0 | 0 | 31 | 1 | 265 | 265 |
| RT Vol | 0 | 0 | 245 | 0 | 0 | 7 |
| Lane Flow Rate | 199 | 0 | 300 | 240 | 298 | 295 |
| Geometry Grp | 7 | 7 | 2 | 2 | 7 | 7 |
| Degree of Util (X) | 0.443 | 0 | 0.531 | 0.481 | 0.572 | 0.562 |
| Departure Headway (Hd) | 8.018 | 7.503 | 6.366 | 7.201 | 6.898 | 6.861 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 448 | 0 | 564 | 500 | 522 | 525 |
| Service Time | 5.788 | 5.272 | 4.424 | 5.263 | 4.658 | 4.621 |
| HCM Lane V/C Ratio | 0.444 | 0 | 0.532 | 0.48 | 0.571 | 0.562 |
| HCM Control Delay | 17.1 | 10.3 | 16.5 | 16.8 | 18.5 | 18.1 |
| HCM Lane LOS | C | N | C | C | C | C |
| HCM 95th-tile Q | 2.2 | 0 | 3.1 | 2.6 | 3.6 | 3.4 |

Existing + Cuml + Proj PM (No School) — Fanita Ranch
52: Woodside Avenue & SR-67 NB On-Ramp/Davidann Road — 06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 0 | 28 | 1 | 8 | 384 | 567 | 59 | 1 | 193 | 2 |
| Future Volume (vph) | 0 | 0 | 0 | 28 | 1 | 8 | 384 | 567 | 59 | 1 | 193 | 2 |
| Confl. Peds. (#/hr) | | | 2 | | | | | | 2 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 2 | | | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | | | | Split | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | | | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | 8 | | | | | | |
| Detector Phase | | | | 8 | 8 | 8 | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | | | | 20.5 | 20.5 | 20.5 | 8.5 | 22.5 | | 8.5 | 22.5 | |
| Total Split (s) | | | | 20.5 | 20.5 | 20.5 | 22.0 | 36.0 | | 8.5 | 22.5 | |
| Total Split (%) | | | | 31.5% | 31.5% | 31.5% | 33.8% | 55.4% | | 13.1% | 34.6% | |
| Yellow Time (s) | | | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | | | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | | | | | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | | | | | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | | | | None | None | None | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 65 |
| Actuated Cycle Length: 39.8 |
| Natural Cycle: 65 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 52: Woodside Avenue & SR-67 NB On-Ramp/Davidann Road




Timings
N:\2462\Analysis\Intersections\Synchro\No School Alt\8 Existing + Cuml + Proj PM.syn

Existing + Cuml + Proj PM (No School) — Fanita Ranch
52: Woodside Avenue & SR-67 NB On-Ramp/Davidann Road — 06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 28 | 1 | 8 | 384 | 567 | 59 | 1 | 193 | 2 |
| Future Volume (veh/h) | 0 | 0 | 0 | 28 | 1 | 8 | 384 | 567 | 59 | 1 | 193 | 2 |
| Initial Q (Qb), veh | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | | | 1.00 | | 1.00 | 1.00 | | 0.98 | 1.00 | | 0.97 |
| Parking Bus, Adj | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | | | | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | | | | 30 | 1 | 9 | 417 | 616 | 64 | 1 | 210 | 2 |
| Peak Hour Factor | | | | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | | | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | | | | 65 | 2 | 60 | 537 | 855 | 89 | 6 | 396 | 4 |
| Arrive On Green | | | | 0.04 | 0.04 | 0.04 | 0.30 | 0.51 | 0.51 | 0.00 | 0.21 | 0.21 |
| Sat Flow, veh/h | | | | 1726 | 58 | 1585 | 1781 | 1662 | 173 | 1781 | 1849 | 18 |
| Grp Volume(v), veh/h | | | | 31 | 0 | 9 | 417 | 0 | 680 | 1 | 0 | 212 |
| Grp Sat Flow(s),veh/h/ln | | | | 1784 | 0 | 1585 | 1781 | 0 | 1834 | 1781 | 0 | 1867 |
| Q Serve(g_s), s | | | | 0.5 | 0.0 | 0.2 | 6.5 | 0.0 | 8.6 | 0.0 | 0.0 | 3.0 |
| Cycle Q Clear(g_c), s | | | | 0.5 | 0.0 | 0.2 | 6.5 | 0.0 | 8.6 | 0.0 | 0.0 | 3.0 |
| Prop In Lane | | | | 0.97 | | 1.00 | 1.00 | | 0.09 | 1.00 | | 0.01 |
| Lane Grp Cap(c), veh/h | | | | 67 | 0 | 60 | 537 | 0 | 944 | 6 | 0 | 400 |
| V/C Ratio(X) | | | | 0.46 | 0.00 | 0.15 | 0.78 | 0.00 | 0.72 | 0.17 | 0.00 | 0.53 |
| Avail Cap(c_a), veh/h | | | | 944 | 0 | 839 | 1031 | 0 | 1912 | 236 | 0 | 1112 |
| HCM Platoon Ratio | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | | | | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | | | | 14.2 | 0.0 | 14.1 | 9.6 | 0.0 | 5.7 | 15.1 | 0.0 | 10.5 |
| Incr Delay (d2), s/veh | | | | 4.8 | 0.0 | 1.1 | 2.5 | 0.0 | 1.1 | 13.0 | 0.0 | 1.1 |
| Initial Q Delay(d3),s/veh | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | | 0.3 | 0.0 | 0.1 | 2.0 | 0.0 | 1.6 | 0.0 | 0.0 | 1.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | 19.1 | 0.0 | 15.2 | 12.1 | 0.0 | 6.7 | 28.1 | 0.0 | 11.6 |
| LnGrp LOS | | | | B | A | B | B | A | A | C | A | B |
| Approach Vol, veh/h | | | | | 40 | | | 1097 | | | 213 | |
| Approach Delay, s/veh | | | | | 18.2 | | | 8.8 | | | 11.7 | |
| Approach LOS | | | | | B | | | A | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 5 | 6 | | 8 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 4.5 | 20.1 | | 13.6 | 11.0 | | 5.6 | | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | | | | | |
| Max Green Setting (Gmax), s | 4.0 | 31.5 | | 17.5 | 18.0 | | 16.0 | | | | | |
| Max Q Clear Time (g_c+I1), s | 2.0 | 10.6 | | 8.5 | 5.0 | | 2.5 | | | | | |
| Green Ext Time (p_c), s | 0.0 | 4.9 | | 0.9 | 0.9 | | 0.1 | | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 9.5 | |
| HCM 6th LOS | A | |

HCM 6th Signalized Intersection Summary
N:\2462\Analysis\Intersections\Synchro\No School Alt\8 Existing + Cuml + Proj PM.syn

| Intersection | |
|---|---|
| Int Delay, s/veh | 5.3 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 155 | 419 | 353 | 0 | 0 | 779 |
| Future Vol, veh/h | 155 | 419 | 353 | 0 | 0 | 779 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 1 | 1 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | 300 | - | - | - | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 168 | 455 | 384 | 0 | 0 | 847 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 808 | 192 | 0 | - | - | - |
| Stage 1 | 384 | - | - | - | - | - |
| Stage 2 | 424 | - | - | - | - | - |
| Critical Hdwy | 6.84 | 6.94 | - | - | - | - |
| Critical Hdwy Stg 1 | 5.84 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.84 | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 3.32 | - | - | - | - |
| Pot Cap-1 Maneuver | 319 | 817 | - | 0 | 0 | - |
| Stage 1 | 658 | - | - | 0 | 0 | - |
| Stage 2 | 628 | - | - | 0 | 0 | - |
| Platoon blocked, % | | | - | | | - |
| Mov Cap-1 Maneuver | 319 | 817 | - | - | - | - |
| Mov Cap-2 Maneuver | 439 | - | - | - | - | - |
| Stage 1 | 658 | - | - | - | - | - |
| Stage 2 | 628 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 15.7 | 0 | 0 |
| HCM LOS | C | | |

| Minor Lane/Major Mvmt | NBT | WBLn1 | WBLn2 | SBT |
|---|---|---|---|---|
| Capacity (veh/h) | - | 439 | 817 | - |
| HCM Lane V/C Ratio | - | 0.384 | 0.557 | - |
| HCM Control Delay (s) | - | 18.2 | 14.8 | - |
| HCM Lane LOS | - | C | B | - |
| HCM 95th %tile Q(veh) | - | 1.8 | 3.5 | - |





| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 353 | 91 | 377 | 557 |
| Future Volume (Veh/h) | 0 | 0 | 353 | 91 | 377 | 557 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 0 | 384 | 99 | 410 | 605 |
| Pedestrians | 1 | | | | | |
| Lane Width (ft) | 0.0 | | | | | |
| Walking Speed (ft/s) | 4.0 | | | | | |
| Percent Blockage | 0 | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | 769 | | | 1029 |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 1557 | 242 | | | 484 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 1557 | 242 | | | 484 | |
| tC, single (s) | 6.8 | 6.9 | | | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 100 | 100 | | | 62 | |
| cM capacity (veh/h) | 64 | 758 | | | 1075 | |

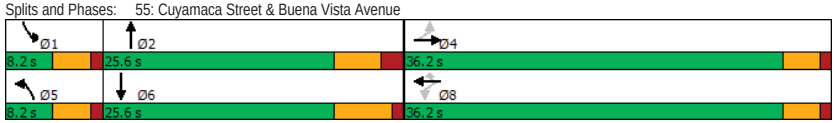
| Direction, Lane # | NB 1 | NB 2 | SB 1 | SB 2 | SB 3 |
|---|---|---|---|---|---|
| Volume Total | 256 | 227 | 410 | 302 | 302 |
| Volume Left | 0 | 0 | 410 | 0 | 0 |
| Volume Right | 0 | 99 | 0 | 0 | 0 |
| cSH | 1700 | 1700 | 1075 | 1700 | 1700 |
| Volume to Capacity | 0.15 | 0.13 | 0.38 | 0.18 | 0.18 |
| Queue Length 95th (ft) | 0 | 0 | 45 | 0 | 0 |
| Control Delay (s) | 0.0 | 0.0 | 10.4 | 0.0 | 0.0 |
| Lane LOS | | | B | | |
| Approach Delay (s) | 0.0 | | 4.2 | | |
| Approach LOS | | | | | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Average Delay | 2.8 | | | |
| Intersection Capacity Utilization | 42.5% | ICU Level of Service | | A |
| Analysis Period (min) | 15 | | | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 29 | 18 | 48 | 347 | 4 | 89 | 26 | 1846 | 234 | 74 | 1678 | 15 |
| Future Volume (vph) | 29 | 18 | 48 | 347 | 4 | 89 | 26 | 1846 | 234 | 74 | 1678 | 15 |
| Confl. Peds. (#/hr) | | | 5 | | | 11 | | | 14 | | | 3 |
| Confl. Bikes (#/hr) | | | 1 | | | 1 | | | 2 | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Perm | NA | | Perm | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | 8 | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | 8 | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 10.0 | | 4.0 | 10.0 | |
| Minimum Split (s) | 36.2 | 36.2 | | 34.2 | 34.2 | 34.2 | 8.2 | 24.0 | | 8.2 | 24.0 | |
| Total Split (s) | 36.2 | 36.2 | | 36.2 | 36.2 | 36.2 | 8.2 | 25.6 | | 8.2 | 25.6 | |
| Total Split (%) | 51.7% | 51.7% | | 51.7% | 51.7% | 51.7% | 11.7% | 36.6% | | 11.7% | 36.6% | |
| Yellow Time (s) | 3.2 | 3.2 | | 3.2 | 3.2 | 3.2 | 3.2 | 4.0 | | 3.2 | 4.9 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 2.0 | | 1.0 | 1.1 | |
| Lost Time Adjust (s) | | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | | 4.2 | | | 4.2 | 4.2 | 4.2 | 6.0 | | 4.2 | 6.0 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | None | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 70 |
| Actuated Cycle Length: 57.9 |
| Natural Cycle: 90 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 55: Cuyamaca Street & Buena Vista Avenue








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 29 | 18 | 48 | 347 | 4 | 89 | 26 | 1846 | 234 | 74 | 1678 | 15 |
| Future Volume (veh/h) | 29 | 18 | 48 | 347 | 4 | 89 | 26 | 1846 | 234 | 74 | 1678 | 15 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.95 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 32 | 20 | 52 | 377 | 4 | 97 | 28 | 2007 | 254 | 80 | 1824 | 16 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 67 | 55 | 55 | 374 | 3 | 710 | 43 | 1280 | 159 | 102 | 1634 | 14 |
| Arrive On Green | 0.46 | 0.46 | 0.46 | 0.46 | 0.46 | 0.46 | 0.02 | 0.28 | 0.28 | 0.06 | 0.31 | 0.31 |
| Sat Flow, veh/h | 0 | 119 | 119 | 595 | 6 | 1554 | 1781 | 4570 | 569 | 1781 | 5219 | 46 |
| Grp Volume(v), veh/h | 104 | 0 | 0 | 381 | 0 | 97 | 28 | 1487 | 774 | 80 | 1190 | 650 |
| Grp Sat Flow(s),veh/h/ln | 239 | 0 | 0 | 602 | 0 | 1554 | 1781 | 1702 | 1735 | 1781 | 1702 | 1861 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.5 | 1.1 | 19.6 | 19.6 | 3.1 | 21.9 | 21.9 |
| Cycle Q Clear(g_c), s | 32.0 | 0.0 | 0.0 | 32.0 | 0.0 | 2.5 | 1.1 | 19.6 | 19.6 | 3.1 | 21.9 | 21.9 |
| Prop In Lane | 0.31 | | 0.50 | 0.99 | | 1.00 | 1.00 | | 0.33 | 1.00 | | 0.02 |
| Lane Grp Cap(c), veh/h | 176 | 0 | 0 | 377 | 0 | 710 | 43 | 953 | 486 | 102 | 1066 | 583 |
| V/C Ratio(X) | 0.59 | 0.00 | 0.00 | 1.01 | 0.00 | 0.14 | 0.66 | 1.56 | 1.59 | 0.79 | 1.12 | 1.12 |
| Avail Cap(c_a), veh/h | 176 | 0 | 0 | 377 | 0 | 710 | 102 | 953 | 486 | 102 | 1066 | 583 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 16.4 | 0.0 | 0.0 | 23.3 | 0.0 | 11.0 | 33.9 | 25.2 | 25.2 | 32.6 | 24.0 | 24.0 |
| Incr Delay (d2), s/veh | 3.5 | 0.0 | 0.0 | 48.8 | 0.0 | 0.0 | 6.2 | 257.0 | 277.1 | 30.0 | 65.2 | 73.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.0 | 0.0 | 0.0 | 11.3 | 0.0 | 0.8 | 0.5 | 41.2 | 44.7 | 2.1 | 17.6 | 20.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 19.9 | 0.0 | 0.0 | 72.1 | 0.0 | 11.0 | 40.0 | 282.2 | 302.3 | 62.6 | 89.2 | 97.5 |
| LnGrp LOS | B | A | A | F | A | B | D | F | F | E | F | F |
| Approach Vol, veh/h | | 104 | | | 478 | | | 2289 | | | 1920 | |
| Approach Delay, s/veh | | 19.9 | | | 59.7 | | | 286.0 | | | 90.9 | |
| Approach LOS | | B | | | E | | | F | | | F | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 8.2 | 25.6 | | 36.2 | 5.9 | 27.9 | | 36.2 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 6.0 | | * 4.2 | * 4.2 | * 6 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | * 4 | 19.6 | | * 32 | * 4 | * 20 | | * 32 | | | | |
| Max Q Clear Time (g_c+I1), s | 5.1 | 21.6 | | 34.0 | 3.1 | 23.9 | | 34.0 | | | | |
| Green Ext Time (p_c), s | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | | 0.0 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 179.5 | |
| HCM 6th LOS | F | |

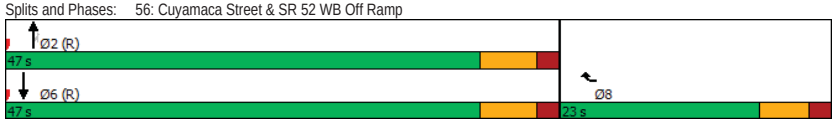
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 681 | 1333 | 336 | 0 | 1942 |
| Future Volume (vph) | 0 | 681 | 1333 | 336 | 0 | 1942 |
| Confl. Peds. (#/hr) | | | | 4 | | |
| Confl. Bikes (#/hr) | | | | 3 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | 0% | | | 0% |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | | Prot | NA | Perm | | NA |
| Protected Phases | | 8 | 2 | | | 6 |
| Permitted Phases | | | | 2 | | |
| Detector Phase | | 8 | 2 | 2 | | 6 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | | 5.0 | 14.0 | 14.0 | | 14.0 |
| Minimum Split (s) | | 20.0 | 45.8 | 45.8 | | 20.8 |
| Total Split (s) | | 23.0 | 47.0 | 47.0 | | 47.0 |
| Total Split (%) | | 32.9% | 67.1% | 67.1% | | 67.1% |
| Yellow Time (s) | | 4.1 | 4.8 | 4.8 | | 4.8 |
| All-Red Time (s) | | 2.0 | 2.0 | 2.0 | | 2.0 |
| Lost Time Adjust (s) | | 0.0 | 0.0 | 0.0 | | 0.0 |
| Total Lost Time (s) | | 6.1 | 6.8 | 6.8 | | 6.8 |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | | None | C-Max | C-Max | | C-Max |

| Intersection Summary |
|---|
| Cycle Length: 70 |
| Actuated Cycle Length: 70 |
| Offset: 22 (31%), Referenced to phase 2:NBT and 6:SBT, Start of Green |
| Natural Cycle: 70 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 56: Cuyamaca Street & SR 52 WB Off Ramp








| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 681 | 1333 | 336 | 0 | 1942 |
| Future Volume (veh/h) | 0 | 681 | 1333 | 336 | 0 | 1942 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | | 0.98 | 1.00 | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | No | | | No |
| Adj Sat Flow, veh/h/ln | 0 | 1870 | 1870 | 1870 | 0 | 1870 |
| Adj Flow Rate, veh/h | 0 | 740 | 1449 | 365 | 0 | 2111 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 0 | 2 | 2 | 2 | 0 | 2 |
| Cap, veh/h | 0 | 0 | 4610 | 1398 | 0 | 4610 |
| Arrive On Green | 0.00 | 0.00 | 0.30 | 0.30 | 0.00 | 0.90 |
| Sat Flow, veh/h | 0 | | 5274 | 1548 | 0 | 5443 |
| Grp Volume(v), veh/h | 0.0 | | 1449 | 365 | 0 | 2111 |
| Grp Sat Flow(s),veh/h/ln | | | 1702 | 1548 | 0 | 1702 |
| Q Serve(g_s), s | | | 15.4 | 12.6 | 0.0 | 4.8 |
| Cycle Q Clear(g_c), s | | | 15.4 | 12.6 | 0.0 | 4.8 |
| Prop In Lane | | | | 1.00 | 0.00 | |
| Lane Grp Cap(c), veh/h | | | 4610 | 1398 | 0 | 4610 |
| V/C Ratio(X) | | | 0.31 | 0.26 | 0.00 | 0.46 |
| Avail Cap(c_a), veh/h | | | 4610 | 1398 | 0 | 4610 |
| HCM Platoon Ratio | | | 0.33 | 0.33 | 1.00 | 1.00 |
| Upstream Filter(I) | | | 1.00 | 1.00 | 0.00 | 0.34 |
| Uniform Delay (d), s/veh | | | 7.8 | 6.8 | 0.0 | 0.6 |
| Incr Delay (d2), s/veh | | | 0.2 | 0.5 | 0.0 | 0.1 |
| Initial Q Delay(d3),s/veh | | | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | 2.7 | 0.6 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | | | 8.0 | 7.3 | 0.0 | 0.7 |
| LnGrp LOS | | | A | A | A | A |
| Approach Vol, veh/h | | | 1814 | | | 2111 |
| Approach Delay, s/veh | | | 7.8 | | | 0.7 |
| Approach LOS | | | A | | | A |

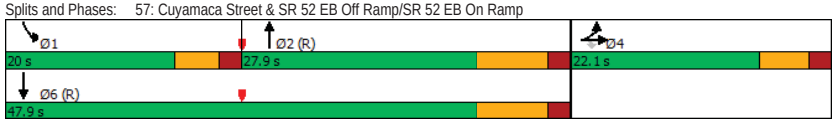
| Timer - Assigned Phs | 2 | | | | | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 70.0 | | | | | 70.0 |
| Change Period (Y+Rc), s | 6.8 | | | | | 6.8 |
| Max Green Setting (Gmax), s | 40.2 | | | | | 40.2 |
| Max Q Clear Time (g_c+I1), s | 17.4 | | | | | 6.8 |
| Green Ext Time (p_c), s | 12.8 | | | | | 22.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 4.0 |
| HCM 6th LOS | A |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 710 | 5 | 356 | 0 | 0 | 0 | 0 | 960 | 221 | 679 | 635 | 0 |
| Future Volume (vph) | 710 | 5 | 356 | 0 | 0 | 0 | 0 | 960 | 221 | 679 | 635 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | | | | 9 | | | 13 |
| Confl. Bikes (#/hr) | | | | | | | | | 2 | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | 50% | | | | | | | | | | | |
| Turn Type | Split | NA | Perm | | | | | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | | | | | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | | | | |
| Detector Phase | 4 | 4 | 4 | | | | | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | | | | | 11.0 | | 5.0 | 12.0 | |
| Minimum Split (s) | 22.1 | 22.1 | 22.1 | | | | | 27.0 | | 10.7 | 32.0 | |
| Total Split (s) | 22.1 | 22.1 | 22.1 | | | | | 27.9 | | 20.0 | 47.9 | |
| Total Split (%) | 31.6% | 31.6% | 31.6% | | | | | 39.9% | | 28.6% | 68.4% | |
| Yellow Time (s) | 4.1 | 4.1 | 4.1 | | | | | 6.0 | | 3.7 | 6.0 | |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | | | | | 2.0 | | 2.0 | 2.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | | | | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 6.1 | 6.1 | 6.1 | | | | | 8.0 | | 5.7 | 8.0 | |
| Lead/Lag | | | | | | | | Lag | | Lead | | |
| Lead-Lag Optimize? | | | | | | | | Yes | | Yes | | |
| Recall Mode | None | None | None | | | | | C-Min | | None | C-Min | |

| Intersection Summary |
|---|
| Cycle Length: 70 |
| Actuated Cycle Length: 70 |
| Offset: 10 (14%), Referenced to phase 2:NBT and 6:SBT, Start of Green |
| Natural Cycle: 90 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 57: Cuyamaca Street & SR 52 EB Off Ramp/SR 52 EB On Ramp








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 710 | 5 | 356 | 0 | 0 | 0 | 0 | 960 | 221 | 679 | 635 | 0 |
| Future Volume (veh/h) | 710 | 5 | 356 | 0 | 0 | 0 | 0 | 960 | 221 | 679 | 635 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | | | | 1.00 | | 0.98 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | | | | 0 | 1870 | 1870 | 1870 | 1870 | 0 |
| Adj Flow Rate, veh/h | 776 | 0 | 348 | | | | 0 | 1043 | 216 | 738 | 690 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | | | | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | | | | 0 | 2 | 2 | 2 | 2 | 0 |
| Cap, veh/h | 814 | 0 | 361 | | | | 0 | 1200 | 248 | 706 | 2026 | 0 |
| Arrive On Green | 0.23 | 0.00 | 0.23 | | | | 0.00 | 0.09 | 0.09 | 0.07 | 0.19 | 0.00 |
| Sat Flow, veh/h | 3563 | 0 | 1581 | | | | 0 | 4389 | 873 | 3456 | 3647 | 0 |
| Grp Volume(v), veh/h | 776 | 0 | 348 | | | | 0 | 841 | 418 | 738 | 690 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1581 | | | | 0 | 1702 | 1689 | 1728 | 1777 | 0 |
| Q Serve(g_s), s | 15.0 | 0.0 | 15.2 | | | | 0.0 | 17.1 | 17.1 | 14.3 | 11.8 | 0.0 |
| Cycle Q Clear(g_c), s | 15.0 | 0.0 | 15.2 | | | | 0.0 | 17.1 | 17.1 | 14.3 | 11.8 | 0.0 |
| Prop In Lane | 1.00 | | 1.00 | | | | 0.00 | | 0.52 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 814 | 0 | 361 | | | | 0 | 968 | 480 | 706 | 2026 | 0 |
| V/C Ratio(X) | 0.95 | 0.00 | 0.96 | | | | 0.00 | 0.87 | 0.87 | 1.05 | 0.34 | 0.00 |
| Avail Cap(c_a), veh/h | 814 | 0 | 361 | | | | 0 | 968 | 480 | 706 | 2026 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | | | | 1.00 | 0.33 | 0.33 | 0.33 | 0.33 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | | | | 0.00 | 0.88 | 0.88 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | 26.6 | 0.0 | 26.7 | | | | 0.0 | 30.4 | 30.4 | 32.6 | 17.0 | 0.0 |
| Incr Delay (d2), s/veh | 20.9 | 0.0 | 37.5 | | | | 0.0 | 9.4 | 17.1 | 46.3 | 0.5 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 8.4 | 0.0 | 9.2 | | | | 0.0 | 8.9 | 9.8 | 11.0 | 5.5 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 47.5 | 0.0 | 64.3 | | | | 0.0 | 39.8 | 47.6 | 79.0 | 17.5 | 0.0 |
| LnGrp LOS | D | A | E | | | | A | D | D | F | B | A |
| Approach Vol, veh/h | | 1124 | | | | | | 1259 | | | 1428 | |
| Approach Delay, s/veh | | 52.7 | | | | | | 42.4 | | | 49.2 | |
| Approach LOS | | D | | | | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | 4 | 6 |
|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 20.0 | 27.9 | 22.1 | 47.9 |
| Change Period (Y+Rc), s | * 5.7 | 8.0 | 6.1 | 8.0 |
| Max Green Setting (Gmax), s | * 14 | 19.9 | 16.0 | 39.9 |
| Max Q Clear Time (g_c+I1), s | 16.3 | 19.1 | 17.2 | 13.8 |
| Green Ext Time (p_c), s | 0.0 | 0.6 | 0.0 | 4.9 |

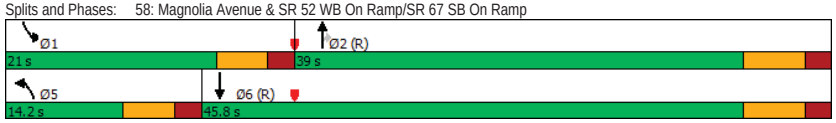
| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 48.0 |
| HCM 6th LOS | D |

| Notes |
|---|
| User approved volume balancing among the lanes for turning movement. |
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 243 | 1642 | 142 | 609 | 647 | 349 |
| Future Volume (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 243 | 1642 | 142 | 609 | 647 | 349 |
| Confl. Peds. (#/hr) | | | | | | | | | 2 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | | | | | | | Prot | NA | Perm | Prot | NA | |
| Protected Phases | | | | | | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | | | 2 | | | |
| Detector Phase | | | | | | | 5 | 2 | 2 | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | | | | | | 5.0 | 6.0 | 6.0 | 5.0 | 7.0 | |
| Minimum Split (s) | | | | | | | 10.7 | 38.4 | 38.4 | 10.7 | 39.4 | |
| Total Split (s) | | | | | | | 14.2 | 39.0 | 39.0 | 21.0 | 45.8 | |
| Total Split (%) | | | | | | | 23.7% | 65.0% | 65.0% | 35.0% | 76.3% | |
| Yellow Time (s) | | | | | | | 3.7 | 4.4 | 4.4 | 3.7 | 4.4 | |
| All-Red Time (s) | | | | | | | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | |
| Lost Time Adjust (s) | | | | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | | | | | | | 5.7 | 6.4 | 6.4 | 5.7 | 6.4 | |
| Lead/Lag | | | | | | | Lead | Lag | Lag | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | Yes | Yes | Yes | |
| Recall Mode | | | | | | | None | C-Max | C-Max | None | C-Max | |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 60 |
| Offset: 17 (28%), Referenced to phase 2:NBT and 6:SBT, Start of Green |
| Natural Cycle: 60 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 58: Magnolia Avenue & SR 52 WB On Ramp/SR 67 SB On Ramp








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 0 | 0 | 0 | 243 | 1642 | 142 | 609 | 647 | 349 |
| Future Volume (veh/h) | 0 | 0 | 0 | 0 | 0 | 0 | 243 | 1642 | 142 | 609 | 647 | 349 |
| Initial Q (Qb), veh | | | | | | | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | | | | | | 1.00 | | 1.00 | 1.00 | | 0.98 |
| Parking Bus, Adj | | | | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | | | | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | | | | | | | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | | | | | | | 264 | 1785 | 154 | 662 | 703 | 379 |
| Peak Hour Factor | | | | | | | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | | | | | | | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | | | | | | | 364 | 2956 | 916 | 758 | 1532 | 825 |
| Arrive On Green | | | | | | | 0.21 | 1.00 | 1.00 | 0.37 | 1.00 | 1.00 |
| Sat Flow, veh/h | | | | | | | 3456 | 5106 | 1582 | 3456 | 2210 | 1190 |
| Grp Volume(v), veh/h | | | | | | | 264 | 1785 | 154 | 662 | 565 | 517 |
| Grp Sat Flow(s),veh/h/ln | | | | | | | 1728 | 1702 | 1582 | 1728 | 1777 | 1623 |
| Q Serve(g_s), s | | | | | | | 4.3 | 0.0 | 0.0 | 10.7 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | | | | | | | 4.3 | 0.0 | 0.0 | 10.7 | 0.0 | 0.0 |
| Prop In Lane | | | | | | | 1.00 | | 1.00 | 1.00 | | 0.73 |
| Lane Grp Cap(c), veh/h | | | | | | | 364 | 2956 | 916 | 758 | 1231 | 1125 |
| V/C Ratio(X) | | | | | | | 0.73 | 0.60 | 0.17 | 0.87 | 0.46 | 0.46 |
| Avail Cap(c_a), veh/h | | | | | | | 490 | 2956 | 916 | 881 | 1231 | 1125 |
| HCM Platoon Ratio | | | | | | | 2.00 | 2.00 | 2.00 | 1.67 | 1.67 | 1.67 |
| Upstream Filter(I) | | | | | | | 0.14 | 0.14 | 0.14 | 0.64 | 0.64 | 0.64 |
| Uniform Delay (d), s/veh | | | | | | | 22.9 | 0.0 | 0.0 | 18.2 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | | | | | | | 0.3 | 0.1 | 0.1 | 5.2 | 0.8 | 0.9 |
| Initial Q Delay(d3),s/veh | | | | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | | | | | 1.5 | 0.0 | 0.0 | 3.5 | 0.3 | 0.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | | | | 23.2 | 0.1 | 0.1 | 23.4 | 0.8 | 0.9 |
| LnGrp LOS | | | | | | | C | A | A | C | A | A |
| Approach Vol, veh/h | | | | | | | | 2203 | | | 1744 | |
| Approach Delay, s/veh | | | | | | | | 2.9 | | | 9.4 | |
| Approach LOS | | | | | | | | A | | | A | |

| Timer - Assigned Phs | 1 | 2 | | 5 | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 18.9 | 41.1 | | 12.0 | 48.0 |
| Change Period (Y+Rc), s | * 5.7 | 6.4 | | * 5.7 | 6.4 |
| Max Green Setting (Gmax), s | * 15 | 32.6 | | * 8.5 | 39.4 |
| Max Q Clear Time (g_c+I1), s | 12.7 | 2.0 | | 6.3 | 2.0 |
| Green Ext Time (p_c), s | 0.5 | 18.4 | | 0.1 | 8.1 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 5.8 | |
| HCM 6th LOS | A | |

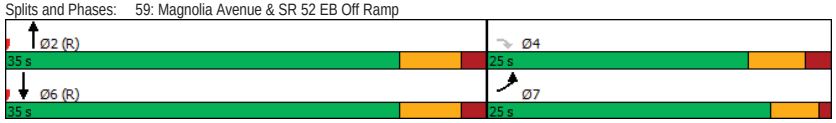
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 520 | 488 | 0 | 1547 | 588 | 0 |
| Future Volume (vph) | 520 | 488 | 0 | 1547 | 588 | 0 |
| Confl. Peds. (#/hr) | | | | | | 1 |
| Confl. Bikes (#/hr) | | | | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | | NA | NA | |
| Protected Phases | 7 | | | 2 | 6 | |
| Permitted Phases | | 4 | | | | |
| Detector Phase | 7 | 4 | | 2 | 6 | |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 5.0 | | 5.0 | 5.0 | |
| Minimum Split (s) | 8.5 | 22.1 | | 22.4 | 27.4 | |
| Total Split (s) | 25.0 | 25.0 | | 35.0 | 35.0 | |
| Total Split (%) | 41.7% | 41.7% | | 58.3% | 58.3% | |
| Yellow Time (s) | 3.5 | 4.1 | | 4.4 | 4.4 | |
| All-Red Time (s) | 1.0 | 2.0 | | 2.0 | 2.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 6.1 | | 6.4 | 6.4 | |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | None | None | | C-Max | C-Max | |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 60 |
| Offset: 2 (3%), Referenced to phase 2:NBT and 6:SBT, Start of Green |
| Natural Cycle: 80 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 59: Magnolia Avenue & SR 52 EB Off Ramp






Existing + Cuml + Proj PM (No School)
59: Magnolia Avenue & SR 52 EB Off Ramp
Fanita Ranch
06/06/2019

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 520 | 488 | 0 | 1547 | 588 | 0 |
| Future Volume (veh/h) | 520 | 488 | 0 | 1547 | 588 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 0 | 1870 | 1870 | 0 |
| Adj Flow Rate, veh/h | 565 | 530 | 0 | 1682 | 639 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 0 | 2 | 2 | 0 |
| Cap, veh/h | 609 | 542 | 0 | 1694 | 1694 | 0 |
| Arrive On Green | 0.34 | 0.34 | 0.00 | 0.48 | 0.95 | 0.00 |
| Sat Flow, veh/h | 1781 | 1585 | 0 | 3741 | 3741 | 0 |
| Grp Volume(v), veh/h | 565 | 530 | 0 | 1682 | 639 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 0 | 1777 | 1777 | 0 |
| Q Serve(g_s), s | 18.3 | 19.8 | 0.0 | 28.2 | 0.8 | 0.0 |
| Cycle Q Clear(g_c), s | 18.3 | 19.8 | 0.0 | 28.2 | 0.8 | 0.0 |
| Prop In Lane | 1.00 | 1.00 | 0.00 | | | 0.00 |
| Lane Grp Cap(c), veh/h | 609 | 542 | 0 | 1694 | 1694 | 0 |
| V/C Ratio(X) | 0.93 | 0.98 | 0.00 | 0.99 | 0.38 | 0.00 |
| Avail Cap(c_a), veh/h | 609 | 542 | 0 | 1694 | 1694 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 2.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.61 | 0.87 | 0.00 |
| Uniform Delay (d), s/veh | 19.0 | 19.5 | 0.0 | 15.6 | 0.8 | 0.0 |
| Incr Delay (d2), s/veh | 20.7 | 33.1 | 0.0 | 15.5 | 0.6 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 10.2 | 11.4 | 0.0 | 11.9 | 0.3 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 39.8 | 52.7 | 0.0 | 31.1 | 1.3 | 0.0 |
| LnGrp LOS | D | D | A | C | A | A |
| Approach Vol, veh/h | 1095 | | | 1682 | 639 | |
| Approach Delay, s/veh | 46.0 | | | 31.1 | 1.3 | |
| Approach LOS | D | | | C | A | |

| Timer - Assigned Phs | | 2 | | 4 | | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 35.0 | | 25.0 | | 35.0 |
| Change Period (Y+Rc), s | | 6.4 | | 4.5 | | 6.4 |
| Max Green Setting (Gmax), s | | 28.6 | | 20.5 | | 28.6 |
| Max Q Clear Time (g_c+I1), s | | 30.2 | | 21.8 | | 2.8 |
| Green Ext Time (p_c), s | | 0.0 | | 0.0 | | 4.1 |

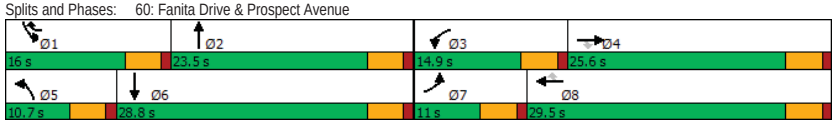
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 30.3 | |
| HCM 6th LOS | C | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 90 | 91 | 39 | 103 | 106 | 145 | 42 | 222 | 89 | 193 | 255 | 106 |
| Future Volume (vph) | 90 | 91 | 39 | 103 | 106 | 145 | 42 | 222 | 89 | 193 | 255 | 106 |
| Confl. Peds. (#/hr) | | | 6 | | | 4 | | | 2 | | | 1 |
| Confl. Bikes (#/hr) | | | 4 | | | 4 | | | 1 | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | pm+ov | Prot | NA | | Prot | NA | |
| Protected Phases | 7 | 4 | | 3 | 8 | 1 | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | | | | |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | 1 | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | 8.5 | 24.5 | 24.5 | 8.5 | 29.5 | 8.5 | 8.5 | 22.5 | | 8.5 | 24.5 | |
| Total Split (s) | 11.0 | 25.6 | 25.6 | 14.9 | 29.5 | 16.0 | 10.7 | 23.5 | | 16.0 | 28.8 | |
| Total Split (%) | 13.8% | 32.0% | 32.0% | 18.6% | 36.9% | 20.0% | 13.4% | 29.4% | | 20.0% | 36.0% | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | None | None | None | None | None | Min | | None | Min | |

**Intersection Summary**

Cycle Length: 80
Actuated Cycle Length: 59.8
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

Splits and Phases: 60: Fanita Drive & Prospect Avenue








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 90 | 91 | 39 | 103 | 106 | 145 | 42 | 222 | 89 | 193 | 255 | 106 |
| Future Volume (veh/h) | 90 | 91 | 39 | 103 | 106 | 145 | 42 | 222 | 89 | 193 | 255 | 106 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 98 | 99 | 42 | 112 | 115 | 158 | 46 | 241 | 97 | 210 | 277 | 115 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 125 | 287 | 236 | 146 | 309 | 492 | 68 | 310 | 125 | 266 | 877 | 354 |
| Arrive On Green | 0.07 | 0.15 | 0.15 | 0.08 | 0.17 | 0.17 | 0.04 | 0.25 | 0.25 | 0.15 | 0.36 | 0.36 |
| Sat Flow, veh/h | 1781 | 1870 | 1539 | 1781 | 1870 | 1546 | 1781 | 1258 | 506 | 1781 | 2451 | 988 |
| Grp Volume(v), veh/h | 98 | 99 | 42 | 112 | 115 | 158 | 46 | 0 | 338 | 210 | 199 | 193 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1539 | 1781 | 1870 | 1546 | 1781 | 0 | 1764 | 1781 | 1777 | 1662 |
| Q Serve(g_s), s | 2.6 | 2.3 | 1.2 | 3.0 | 2.7 | 3.8 | 1.2 | 0.0 | 8.7 | 5.6 | 3.9 | 4.1 |
| Cycle Q Clear(g_c), s | 2.6 | 2.3 | 1.2 | 3.0 | 2.7 | 3.8 | 1.2 | 0.0 | 8.7 | 5.6 | 3.9 | 4.1 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.29 | 1.00 | | 0.59 |
| Lane Grp Cap(c), veh/h | 125 | 287 | 236 | 146 | 309 | 492 | 68 | 0 | 435 | 266 | 636 | 595 |
| V/C Ratio(X) | 0.78 | 0.34 | 0.18 | 0.77 | 0.37 | 0.32 | 0.68 | 0.00 | 0.78 | 0.79 | 0.31 | 0.33 |
| Avail Cap(c_a), veh/h | 237 | 808 | 665 | 379 | 957 | 1029 | 226 | 0 | 686 | 419 | 884 | 827 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 22.3 | 18.5 | 18.0 | 22.0 | 18.1 | 12.8 | 23.2 | 0.0 | 17.2 | 20.0 | 11.3 | 11.4 |
| Incr Delay (d2), s/veh | 10.0 | 0.7 | 0.4 | 8.2 | 0.7 | 0.4 | 11.3 | 0.0 | 3.0 | 5.2 | 0.3 | 0.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.4 | 1.0 | 0.4 | 1.4 | 1.1 | 1.1 | 0.7 | 0.0 | 3.2 | 2.3 | 1.2 | 1.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 32.4 | 19.2 | 18.3 | 30.2 | 18.9 | 13.2 | 34.5 | 0.0 | 20.2 | 25.2 | 11.6 | 11.7 |
| LnGrp LOS | C | B | B | C | B | B | C | A | C | C | B | B |
| Approach Vol, veh/h | | 239 | | | 385 | | | 384 | | | 602 | |
| Approach Delay, s/veh | | 24.4 | | | 19.8 | | | 21.9 | | | 16.4 | |
| Approach LOS | | C | | | B | | | C | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 11.8 | 16.5 | 8.5 | 12.0 | 6.4 | 22.0 | 7.9 | 12.6 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 11.5 | 19.0 | 10.4 | 21.1 | 6.2 | 24.3 | 6.5 | 25.0 |
| Max Q Clear Time (g_c+I1), s | 7.6 | 10.7 | 5.0 | 4.3 | 3.2 | 6.1 | 4.6 | 5.8 |
| Green Ext Time (p_c), s | 0.2 | 1.2 | 0.1 | 0.5 | 0.0 | 2.0 | 0.0 | 1.0 |

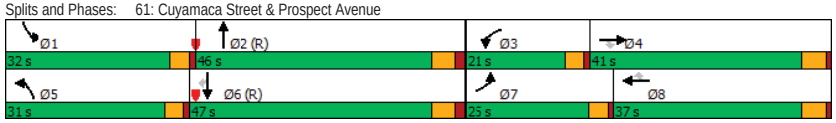
**Intersection Summary**

| | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 19.7 |
| HCM 6th LOS | | B |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 127 | 170 | 174 | 93 | 180 | 211 | 178 | 822 | 75 | 183 | 614 | 212 |
| Future Volume (vph) | 127 | 170 | 174 | 93 | 180 | 211 | 178 | 822 | 75 | 183 | 614 | 212 |
| Confl. Peds. (#/hr) | | | 4 | | | 10 | | | 7 | | | 6 |
| Confl. Bikes (#/hr) | | | 2 | | | 2 | | | 4 | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | | | | 6 |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | 8 | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 7.0 | 7.0 | 4.0 | 7.0 | 7.0 | 4.0 | 10.0 | | 4.0 | 10.0 | 10.0 |
| Minimum Split (s) | 8.2 | 35.2 | 35.2 | 8.2 | 36.2 | 36.2 | 8.2 | 33.0 | | 8.2 | 31.0 | 31.0 |
| Total Split (s) | 25.0 | 41.0 | 41.0 | 21.0 | 37.0 | 37.0 | 31.0 | 46.0 | | 32.0 | 47.0 | 47.0 |
| Total Split (%) | 17.9% | 29.3% | 29.3% | 15.0% | 26.4% | 26.4% | 22.1% | 32.9% | | 22.9% | 33.6% | 33.6% |
| Yellow Time (s) | 3.2 | 4.2 | 4.2 | 3.2 | 4.2 | 4.2 | 3.2 | 4.0 | | 3.2 | 4.1 | 4.1 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 2.0 | | 1.0 | 1.9 | 1.9 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.2 | 5.2 | 4.2 | 5.2 | 5.2 | 4.2 | 6.0 | | 4.2 | 6.0 | 6.0 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | None | None | C-Min | | None | C-Min | C-Min |

| Intersection Summary |
|---|
| Cycle Length: 140 |
| Actuated Cycle Length: 140 |
| Offset: 26 (19%), Referenced to phase 2:NBT and 6:SBT, Start of Green |
| Natural Cycle: 90 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 61: Cuyamaca Street & Prospect Avenue








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 127 | 170 | 174 | 93 | 180 | 211 | 178 | 822 | 75 | 183 | 614 | 212 |
| Future Volume (veh/h) | 127 | 170 | 174 | 93 | 180 | 211 | 178 | 822 | 75 | 183 | 614 | 212 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 0.97 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 138 | 185 | 189 | 101 | 196 | 229 | 193 | 893 | 82 | 199 | 667 | 230 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 162 | 375 | 312 | 123 | 636 | 275 | 218 | 2212 | 202 | 221 | 1663 | 729 |
| Arrive On Green | 0.09 | 0.20 | 0.20 | 0.07 | 0.18 | 0.18 | 0.12 | 0.47 | 0.47 | 0.25 | 0.94 | 0.94 |
| Sat Flow, veh/h | 1781 | 1870 | 1553 | 1781 | 3554 | 1536 | 1781 | 4746 | 434 | 1781 | 3554 | 1559 |
| Grp Volume(v), veh/h | 138 | 185 | 189 | 101 | 196 | 229 | 193 | 639 | 336 | 199 | 667 | 230 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1553 | 1781 | 1777 | 1536 | 1781 | 1702 | 1776 | 1781 | 1777 | 1559 |
| Q Serve(g_s), s | 10.7 | 12.3 | 15.5 | 7.8 | 6.7 | 20.1 | 14.9 | 17.3 | 17.4 | 15.2 | 2.7 | 1.9 |
| Cycle Q Clear(g_c), s | 10.7 | 12.3 | 15.5 | 7.8 | 6.7 | 20.1 | 14.9 | 17.3 | 17.4 | 15.2 | 2.7 | 1.9 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.24 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 162 | 375 | 312 | 123 | 636 | 275 | 218 | 1587 | 828 | 221 | 1663 | 729 |
| V/C Ratio(X) | 0.85 | 0.49 | 0.61 | 0.82 | 0.31 | 0.83 | 0.89 | 0.40 | 0.41 | 0.90 | 0.40 | 0.32 |
| Avail Cap(c_a), veh/h | 265 | 478 | 397 | 214 | 807 | 349 | 341 | 1587 | 828 | 354 | 1663 | 729 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 2.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 0.96 | 0.96 | 0.96 | 1.00 | 1.00 | 1.00 | 0.87 | 0.87 | 0.87 |
| Uniform Delay (d), s/veh | 62.7 | 49.6 | 50.9 | 64.3 | 49.9 | 55.4 | 60.5 | 24.6 | 24.6 | 51.8 | 2.5 | 2.5 |
| Incr Delay (d2), s/veh | 6.9 | 1.1 | 2.1 | 4.8 | 0.2 | 11.0 | 10.8 | 0.8 | 1.5 | 10.3 | 0.6 | 1.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 5.1 | 5.9 | 6.2 | 3.7 | 3.0 | 8.6 | 7.4 | 7.1 | 7.6 | 6.5 | 0.9 | 0.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 69.6 | 50.7 | 53.0 | 69.1 | 50.1 | 66.4 | 71.3 | 25.3 | 26.1 | 62.2 | 3.1 | 3.4 |
| LnGrp LOS | E | D | D | E | D | E | E | C | C | E | A | A |
| Approach Vol, veh/h | | 512 | | | 526 | | | 1168 | | | 1096 | |
| Approach Delay, s/veh | | 56.7 | | | 60.8 | | | 33.1 | | | 13.9 | |
| Approach LOS | | E | | | E | | | C | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 21.5 | 71.3 | 13.9 | 33.3 | 21.3 | 71.5 | 16.9 | 30.3 |
| Change Period (Y+Rc), s | * 4.2 | 6.0 | * 4.2 | 5.2 | * 4.2 | * 6 | * 4.2 | 5.2 |
| Max Green Setting (Gmax), s | * 28 | 40.0 | * 17 | 35.8 | * 27 | * 41 | * 21 | 31.8 |
| Max Q Clear Time (g_c+I1), s | 17.2 | 19.4 | 9.8 | 17.5 | 16.9 | 4.7 | 12.7 | 22.1 |
| Green Ext Time (p_c), s | 0.2 | 8.9 | 0.1 | 1.7 | 0.2 | 9.0 | 0.1 | 1.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 34.8 |
| HCM 6th LOS | C |

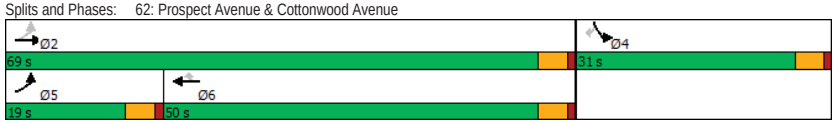
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 93 | 343 | 258 | 97 | 77 | 45 |
| Future Volume (vph) | 93 | 343 | 258 | 97 | 77 | 45 |
| Confl. Peds. (#/hr) | | | | 1 | | 4 |
| Confl. Bikes (#/hr) | | | | 3 | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | pm+pt | NA | NA | Perm | Prot | Perm |
| Protected Phases | 5 | 2 | 6 | | 4 | |
| Permitted Phases | 2 | | | 6 | | 4 |
| Detector Phase | 5 | 2 | 6 | 6 | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 |
| Total Split (s) | 19.0 | 69.0 | 50.0 | 50.0 | 31.0 | 31.0 |
| Total Split (%) | 19.0% | 69.0% | 50.0% | 50.0% | 31.0% | 31.0% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | | Lag | Lag | | |
| Lead-Lag Optimize? | Yes | | Yes | Yes | | |
| Recall Mode | None | Min | Min | Min | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 41.6 |
| Natural Cycle: 55 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 62: Prospect Avenue & Cottonwood Avenue








| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 93 | 343 | 258 | 97 | 77 | 45 |
| Future Volume (veh/h) | 93 | 343 | 258 | 97 | 77 | 45 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 0.97 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 101 | 373 | 280 | 105 | 84 | 49 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 591 | 1023 | 539 | 445 | 171 | 152 |
| Arrive On Green | 0.08 | 0.55 | 0.29 | 0.29 | 0.10 | 0.10 |
| Sat Flow, veh/h | 1781 | 1870 | 1870 | 1545 | 1781 | 1585 |
| Grp Volume(v), veh/h | 101 | 373 | 280 | 105 | 84 | 49 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1870 | 1545 | 1781 | 1585 |
| Q Serve(g_s), s | 0.8 | 2.8 | 3.2 | 1.3 | 1.1 | 0.7 |
| Cycle Q Clear(g_c), s | 0.8 | 2.8 | 3.2 | 1.3 | 1.1 | 0.7 |
| Prop In Lane | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 591 | 1023 | 539 | 445 | 171 | 152 |
| V/C Ratio(X) | 0.17 | 0.36 | 0.52 | 0.24 | 0.49 | 0.32 |
| Avail Cap(c_a), veh/h | 1472 | 4783 | 3374 | 2786 | 1872 | 1665 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 4.7 | 3.2 | 7.5 | 6.9 | 10.8 | 10.6 |
| Incr Delay (d2), s/veh | 0.1 | 0.2 | 0.8 | 0.3 | 2.2 | 1.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.1 | 0.1 | 0.7 | 0.2 | 0.4 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 4.8 | 3.4 | 8.3 | 7.1 | 13.0 | 11.8 |
| LnGrp LOS | A | A | A | A | B | B |
| Approach Vol, veh/h | | 474 | 385 | | 133 | |
| Approach Delay, s/veh | | 3.7 | 8.0 | | 12.6 | |
| Approach LOS | | A | A | | B | |

| Timer - Assigned Phs | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 18.3 | | 6.9 | 6.5 | 11.8 |
| Change Period (Y+Rc), s | 4.5 | | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 64.5 | | 26.5 | 14.5 | 45.5 |
| Max Q Clear Time (g_c+I1), s | 4.8 | | 3.1 | 2.8 | 5.2 |
| Green Ext Time (p_c), s | 2.4 | | 0.3 | 0.2 | 2.1 |

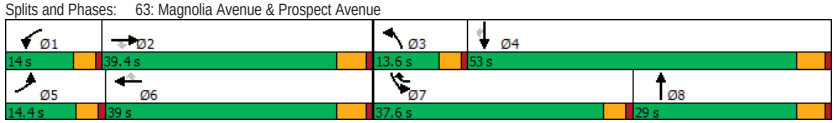
| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 6.6 |
| HCM 6th LOS | A |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 147 | 289 | 87 | 63 | 282 | 992 | 40 | 437 | 90 | 656 | 390 | 73 |
| Future Volume (vph) | 147 | 289 | 87 | 63 | 282 | 992 | 40 | 437 | 90 | 656 | 390 | 73 |
| Confl. Peds. (#/hr) | | | 9 | | | 1 | | | 5 | | | 4 |
| Confl. Bikes (#/hr) | | | 2 | | | 1 | | | 1 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | pm+ov | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | 4.0 | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 39.3 | 39.3 | 8.2 | 37.4 | 8.2 | 8.2 | 23.2 | | 8.2 | 36.2 | 36.2 |
| Total Split (s) | 14.4 | 39.4 | 39.4 | 14.0 | 39.0 | 37.6 | 13.6 | 29.0 | | 37.6 | 53.0 | 53.0 |
| Total Split (%) | 12.0% | 32.8% | 32.8% | 11.7% | 32.5% | 31.3% | 11.3% | 24.2% | | 31.3% | 44.2% | 44.2% |
| Yellow Time (s) | 3.2 | 4.3 | 4.3 | 3.2 | 4.4 | 3.2 | 3.2 | 4.2 | | 3.2 | 4.2 | 4.2 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | 5.3 | 4.2 | 5.4 | 4.2 | 4.2 | 5.2 | | 4.2 | 5.2 | 5.2 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | Min | Min | None | Min | None | None | None | | None | None | None |

**Intersection Summary**

Cycle Length: 120
Actuated Cycle Length: 100.8
Natural Cycle: 95
Control Type: Actuated-Uncoordinated

Splits and Phases: 63: Magnolia Avenue & Prospect Avenue








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 147 | 289 | 87 | 63 | 282 | 992 | 40 | 437 | 90 | 656 | 390 | 73 |
| Future Volume (veh/h) | 147 | 289 | 87 | 63 | 282 | 992 | 40 | 437 | 90 | 656 | 390 | 73 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 160 | 314 | 95 | 68 | 307 | 1078 | 43 | 475 | 98 | 713 | 424 | 79 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 226 | 628 | 521 | 88 | 1135 | 1536 | 55 | 565 | 116 | 824 | 1424 | 625 |
| Arrive On Green | 0.07 | 0.34 | 0.34 | 0.05 | 0.32 | 0.32 | 0.03 | 0.19 | 0.19 | 0.24 | 0.40 | 0.40 |
| Sat Flow, veh/h | 3456 | 1870 | 1551 | 1781 | 3554 | 2726 | 1781 | 2925 | 599 | 3456 | 3554 | 1561 |
| Grp Volume(v), veh/h | 160 | 314 | 95 | 68 | 307 | 1078 | 43 | 287 | 286 | 713 | 424 | 79 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1870 | 1551 | 1781 | 1777 | 1363 | 1781 | 1777 | 1747 | 1728 | 1777 | 1561 |
| Q Serve(g_s), s | 4.7 | 13.9 | 4.5 | 3.9 | 6.7 | 29.9 | 2.5 | 16.1 | 16.3 | 20.5 | 8.4 | 3.3 |
| Cycle Q Clear(g_c), s | 4.7 | 13.9 | 4.5 | 3.9 | 6.7 | 29.9 | 2.5 | 16.1 | 16.3 | 20.5 | 8.4 | 3.3 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.34 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 226 | 628 | 521 | 88 | 1135 | 1536 | 55 | 343 | 338 | 824 | 1424 | 625 |
| V/C Ratio(X) | 0.71 | 0.50 | 0.18 | 0.77 | 0.27 | 0.70 | 0.78 | 0.84 | 0.85 | 0.87 | 0.30 | 0.13 |
| Avail Cap(c_a), veh/h | 340 | 628 | 521 | 169 | 1153 | 1550 | 162 | 408 | 402 | 1115 | 1640 | 720 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 47.4 | 27.5 | 24.3 | 48.7 | 26.2 | 16.7 | 49.8 | 40.2 | 40.3 | 37.8 | 21.1 | 19.6 |
| Incr Delay (d2), s/veh | 4.0 | 0.6 | 0.2 | 13.4 | 0.1 | 1.4 | 20.9 | 12.3 | 13.5 | 5.6 | 0.1 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.1 | 6.2 | 1.7 | 2.1 | 2.8 | 9.1 | 1.4 | 8.1 | 8.2 | 9.2 | 3.5 | 1.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 51.4 | 28.1 | 24.5 | 62.1 | 26.4 | 18.2 | 70.7 | 52.5 | 53.8 | 43.4 | 21.2 | 19.7 |
| LnGrp LOS | D | C | C | E | C | B | E | D | D | D | C | B |
| Approach Vol, veh/h | | 569 | | | 1453 | | | 616 | | | 1216 | |
| Approach Delay, s/veh | | 34.1 | | | 22.0 | | | 54.4 | | | 34.1 | |
| Approach LOS | | C | | | C | | | D | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 9.3 | 40.2 | 7.4 | 46.7 | 11.0 | 38.5 | 28.9 | 25.2 |
| Change Period (Y+Rc), s | * 4.2 | * 5.4 | * 4.2 | 5.2 | * 4.2 | 5.4 | * 4.2 | 5.2 |
| Max Green Setting (Gmax), s | * 9.8 | * 34 | * 9.4 | 47.8 | * 10 | 33.6 | * 33 | 23.8 |
| Max Q Clear Time (g_c+I1), s | 5.9 | 15.9 | 4.5 | 10.4 | 6.7 | 31.9 | 22.5 | 18.3 |
| Green Ext Time (p_c), s | 0.0 | 2.1 | 0.0 | 3.4 | 0.1 | 1.1 | 2.2 | 1.7 |

**Intersection Summary**

| | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 32.8 | |
| HCM 6th LOS | | C | |

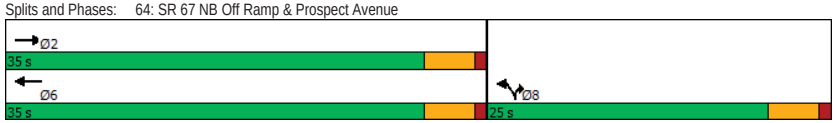
**Notes**

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 1093 | 0 | 0 | 662 | 737 | 150 |
| Future Volume (vph) | 1093 | 0 | 0 | 662 | 737 | 150 |
| Confl. Peds. (#/hr) | | 5 | | | | |
| Confl. Bikes (#/hr) | | 3 | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | NA | | | NA | Prot | Prot |
| Protected Phases | 2 | | | 6 | 8 | 8 |
| Permitted Phases | | | | | | |
| Detector Phase | 2 | | | 6 | 8 | 8 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 5.0 | | | 10.0 | 5.0 | 5.0 |
| Minimum Split (s) | 20.6 | | | 20.6 | 20.6 | 20.6 |
| Total Split (s) | 35.0 | | | 35.0 | 25.0 | 25.0 |
| Total Split (%) | 58.3% | | | 58.3% | 41.7% | 41.7% |
| Yellow Time (s) | 3.6 | | | 3.6 | 3.6 | 3.6 |
| All-Red Time (s) | 1.0 | | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.6 | | | 4.6 | 4.6 | 4.6 |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | Min | | | Min | None | None |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 46.8 |
| Natural Cycle: 50 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 64: SR 67 NB Off Ramp & Prospect Avenue






Existing + Cuml + Proj PM (No School)
64: SR 67 NB Off Ramp & Prospect Avenue
Fanita Ranch
06/06/2019

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 1093 | 0 | 0 | 662 | 737 | 150 |
| Future Volume (veh/h) | 1093 | 0 | 0 | 662 | 737 | 150 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | 1.00 | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 0 | 0 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 1188 | 0 | 0 | 720 | 801 | 163 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 0 | 0 | 2 | 2 | 2 |
| Cap, veh/h | 1646 | 0 | 0 | 1646 | 1048 | 481 |
| Arrive On Green | 0.46 | 0.00 | 0.00 | 0.46 | 0.30 | 0.30 |
| Sat Flow, veh/h | 3741 | 0 | 0 | 3741 | 3456 | 1585 |
| Grp Volume(v), veh/h | 1188 | 0 | 0 | 720 | 801 | 163 |
| Grp Sat Flow(s),veh/h/ln | 1777 | 0 | 0 | 1777 | 1728 | 1585 |
| Q Serve(g_s), s | 10.6 | 0.0 | 0.0 | 5.4 | 8.3 | 3.1 |
| Cycle Q Clear(g_c), s | 10.6 | 0.0 | 0.0 | 5.4 | 8.3 | 3.1 |
| Prop In Lane | | 0.00 | 0.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 1646 | 0 | 0 | 1646 | 1048 | 481 |
| V/C Ratio(X) | 0.72 | 0.00 | 0.00 | 0.44 | 0.76 | 0.34 |
| Avail Cap(c_a), veh/h | 2741 | 0 | 0 | 2741 | 1788 | 820 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 8.5 | 0.0 | 0.0 | 7.1 | 12.5 | 10.7 |
| Incr Delay (d2), s/veh | 0.2 | 0.0 | 0.0 | 0.2 | 0.4 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.5 | 0.0 | 0.0 | 1.3 | 2.5 | 0.9 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 8.8 | 0.0 | 0.0 | 7.3 | 12.9 | 10.8 |
| LnGrp LOS | A | A | A | A | B | B |
| Approach Vol, veh/h | 1188 | | | 720 | 964 | |
| Approach Delay, s/veh | 8.8 | | | 7.3 | 12.5 | |
| Approach LOS | A | | | A | B | |

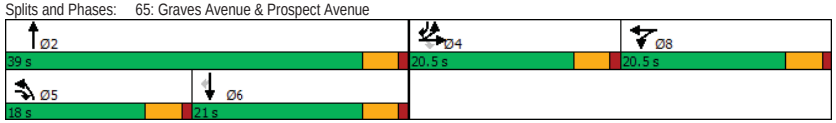
| Timer - Assigned Phs | 2 | | | 6 | 8 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 22.9 | | | 22.9 | 16.6 |
| Change Period (Y+Rc), s | 4.6 | | | 4.6 | 4.6 |
| Max Green Setting (Gmax), s | 30.4 | | | 30.4 | 20.4 |
| Max Q Clear Time (g_c+I1), s | 12.6 | | | 7.4 | 10.3 |
| Green Ext Time (p_c), s | 5.6 | | | 5.0 | 1.7 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 9.7 | |
| HCM 6th LOS | A | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 358 | 15 | 768 | 2 | 12 | 0 | 449 | 34 | 1 | 0 | 46 | 226 |
| Future Volume (vph) | 358 | 15 | 768 | 2 | 12 | 0 | 449 | 34 | 1 | 0 | 46 | 226 |
| Confl. Peds. (#/hr) | | | | | | 1 | | | 6 | | | |
| Confl. Bikes (#/hr) | | | 3 | | | 1 | | | 2 | | | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | 48% | | | | | | | | | | | |
| Turn Type | Split | NA | pm+ov | Split | NA | | Prot | NA | | | NA | pm+ov |
| Protected Phases | 4 | 4 | 5 | 8 | 8 | | 5 | 2 | | | 6 | 4 |
| Permitted Phases | | | 4 | | | | | | | | | 6 |
| Detector Phase | 4 | 4 | 5 | 8 | 8 | | 5 | 2 | | | 6 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | | 4.0 | 4.0 |
| Minimum Split (s) | 20.5 | 20.5 | 8.5 | 20.5 | 20.5 | | 8.5 | 20.5 | | | 20.5 | 20.5 |
| Total Split (s) | 20.5 | 20.5 | 18.0 | 20.5 | 20.5 | | 18.0 | 39.0 | | | 21.0 | 20.5 |
| Total Split (%) | 25.6% | 25.6% | 22.5% | 25.6% | 25.6% | | 22.5% | 48.8% | | | 26.3% | 25.6% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | | | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | | | 4.5 | 4.5 |
| Lead/Lag | | | Lead | | | | Lead | | | | Lag | |
| Lead-Lag Optimize? | | | Yes | | | | Yes | | | | Yes | |
| Recall Mode | None | None | None | None | None | | None | Min | | | Min | None |

| Intersection Summary |
|---|
| Cycle Length: 80 |
| Actuated Cycle Length: 47.6 |
| Natural Cycle: 80 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 65: Graves Avenue & Prospect Avenue








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 358 | 15 | 768 | 2 | 12 | 0 | 449 | 34 | 1 | 0 | 46 | 226 |
| Future Volume (veh/h) | 358 | 15 | 768 | 2 | 12 | 0 | 449 | 34 | 1 | 0 | 46 | 226 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 1.00 | 1.00 | | 0.97 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 0 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 400 | 0 | 835 | 2 | 13 | 0 | 488 | 37 | 1 | 0 | 50 | 246 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 0 | 2 | 2 |
| Cap, veh/h | 1077 | 0 | 764 | 30 | 32 | 0 | 645 | 770 | 21 | 0 | 288 | 719 |
| Arrive On Green | 0.30 | 0.00 | 0.30 | 0.02 | 0.02 | 0.00 | 0.19 | 0.43 | 0.43 | 0.00 | 0.15 | 0.15 |
| Sat Flow, veh/h | 3563 | 0 | 1548 | 1781 | 1870 | 0 | 3456 | 1811 | 49 | 0 | 1870 | 1559 |
| Grp Volume(v), veh/h | 400 | 0 | 835 | 2 | 13 | 0 | 488 | 0 | 38 | 0 | 50 | 246 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1548 | 1781 | 1870 | 0 | 1728 | 0 | 1860 | 0 | 1870 | 1559 |
| Q Serve(g_s), s | 4.7 | 0.0 | 16.0 | 0.1 | 0.4 | 0.0 | 7.1 | 0.0 | 0.6 | 0.0 | 1.2 | 5.4 |
| Cycle Q Clear(g_c), s | 4.7 | 0.0 | 16.0 | 0.1 | 0.4 | 0.0 | 7.1 | 0.0 | 0.6 | 0.0 | 1.2 | 5.4 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.00 | 1.00 | | 0.03 | 0.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 1077 | 0 | 764 | 30 | 32 | 0 | 645 | 0 | 791 | 0 | 288 | 719 |
| V/C Ratio(X) | 0.37 | 0.00 | 1.09 | 0.07 | 0.41 | 0.00 | 0.76 | 0.00 | 0.05 | 0.00 | 0.17 | 0.34 |
| Avail Cap(c_a), veh/h | 1077 | 0 | 764 | 539 | 565 | 0 | 882 | 0 | 1213 | 0 | 583 | 965 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 14.5 | 0.0 | 13.6 | 25.6 | 25.7 | 0.0 | 20.4 | 0.0 | 8.9 | 0.0 | 19.5 | 9.3 |
| Incr Delay (d2), s/veh | 0.2 | 0.0 | 61.0 | 0.9 | 8.1 | 0.0 | 2.5 | 0.0 | 0.0 | 0.0 | 0.3 | 0.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.7 | 0.0 | 19.9 | 0.0 | 0.2 | 0.0 | 2.8 | 0.0 | 0.2 | 0.0 | 0.5 | 2.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 14.7 | 0.0 | 74.6 | 26.5 | 33.8 | 0.0 | 22.9 | 0.0 | 8.9 | 0.0 | 19.8 | 9.6 |
| LnGrp LOS | B | A | F | C | C | A | C | A | A | A | B | A |
| Approach Vol, veh/h | | 1235 | | | 15 | | | 526 | | | 296 | |
| Approach Delay, s/veh | | 55.2 | | | 32.8 | | | 21.9 | | | 11.3 | |
| Approach LOS | | E | | | C | | | C | | | B | |

| Timer - Assigned Phs | 2 | | 4 | 5 | 6 | | 8 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 27.0 | | 20.5 | 14.4 | 12.6 | | 5.4 | | | | | |
| Change Period (Y+Rc), s | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | | |
| Max Green Setting (Gmax), s | 34.5 | | 16.0 | 13.5 | 16.5 | | 16.0 | | | | | |
| Max Q Clear Time (g_c+I1), s | 2.6 | | 18.0 | 9.1 | 7.4 | | 2.4 | | | | | |
| Green Ext Time (p_c), s | 0.1 | | 0.0 | 0.8 | 0.7 | | 0.0 | | | | | |

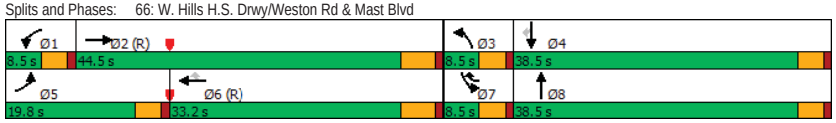
| Intersection Summary | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HCM 6th Ctrl Delay | | | 40.3 | | | | | | | | | |
| HCM 6th LOS | | | D | | | | | | | | | |

| Notes |
|---|
| User approved volume balancing among the lanes for turning movement. |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 190 | 2148 | 3 | 13 | 777 | 102 | 0 | 9 | 4 | 44 | 4 | 81 |
| Future Volume (vph) | 190 | 2148 | 3 | 13 | 777 | 102 | 0 | 9 | 4 | 44 | 4 | 81 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | 4.0 | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.5 | 22.5 | | 8.5 | 27.3 | 8.5 | 8.5 | 38.5 | | 8.5 | 33.5 | 33.5 |
| Total Split (s) | 19.8 | 44.5 | | 8.5 | 33.2 | 8.5 | 8.5 | 38.5 | | 8.5 | 38.5 | 38.5 |
| Total Split (%) | 19.8% | 44.5% | | 8.5% | 33.2% | 8.5% | 8.5% | 38.5% | | 8.5% | 38.5% | 38.5% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | 3.2 | 3.2 | 3.2 | | 3.2 | 3.2 | 3.2 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | 4.2 | 4.2 | 4.2 | | 4.2 | 4.2 | 4.2 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | C-Min | | None | C-Min | None | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 81 (81%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 145 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 66: W. Hills H.S. Drwy/Weston Rd & Mast Blvd






Existing + Cuml + Proj PM (No School)
66: W. Hills H.S. Drwy/Weston Rd & Mast Blvd
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 190 | 2148 | 3 | 13 | 777 | 102 | 0 | 9 | 4 | 44 | 4 | 81 |
| Future Volume (veh/h) | 190 | 2148 | 3 | 13 | 777 | 102 | 0 | 9 | 4 | 44 | 4 | 81 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 207 | 2335 | 3 | 14 | 845 | 111 | 0 | 10 | 4 | 48 | 4 | 88 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 240 | 2576 | 3 | 23 | 2081 | 983 | 2 | 84 | 34 | 61 | 267 | 226 |
| Arrive On Green | 0.13 | 0.71 | 0.71 | 0.03 | 1.00 | 1.00 | 0.00 | 0.07 | 0.07 | 0.03 | 0.14 | 0.14 |
| Sat Flow, veh/h | 1781 | 3642 | 5 | 1781 | 3554 | 1585 | 1781 | 1271 | 508 | 1781 | 1870 | 1585 |
| Grp Volume(v), veh/h | 207 | 1139 | 1199 | 14 | 845 | 111 | 0 | 0 | 14 | 48 | 4 | 88 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1870 | 1781 | 1777 | 1585 | 1781 | 0 | 1779 | 1781 | 1870 | 1585 |
| Q Serve(g_s), s | 11.4 | 52.3 | 52.3 | 0.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.7 | 2.7 | 0.2 | 5.0 |
| Cycle Q Clear(g_c), s | 11.4 | 52.3 | 52.3 | 0.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.7 | 2.7 | 0.2 | 5.0 |
| Prop In Lane | 1.00 | | 0.00 | 1.00 | | 1.00 | 1.00 | | 0.29 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 240 | 1257 | 1322 | 23 | 2081 | 983 | 2 | 0 | 118 | 61 | 267 | 226 |
| V/C Ratio(X) | 0.86 | 0.91 | 0.91 | 0.61 | 0.41 | 0.11 | 0.00 | 0.00 | 0.12 | 0.78 | 0.01 | 0.39 |
| Avail Cap(c_a), veh/h | 278 | 1257 | 1322 | 77 | 2081 | 983 | 77 | 0 | 610 | 77 | 642 | 544 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.36 | 0.36 | 0.36 | 0.96 | 0.96 | 0.96 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 42.4 | 11.9 | 11.9 | 48.5 | 0.0 | 0.0 | 0.0 | 0.0 | 43.9 | 47.9 | 36.8 | 38.9 |
| Incr Delay (d2), s/veh | 9.0 | 4.5 | 4.3 | 22.5 | 0.6 | 0.2 | 0.0 | 0.0 | 0.4 | 32.9 | 0.0 | 1.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 5.4 | 16.8 | 17.6 | 0.5 | 0.2 | 0.1 | 0.0 | 0.0 | 0.3 | 1.7 | 0.1 | 2.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 51.3 | 16.4 | 16.3 | 71.0 | 0.6 | 0.2 | 0.0 | 0.0 | 44.4 | 80.8 | 36.8 | 40.0 |
| LnGrp LOS | D | B | B | E | A | A | A | A | D | F | D | D |
| Approach Vol, veh/h | | 2545 | | | 970 | | | 14 | | | 140 | |
| Approach Delay, s/veh | | 19.2 | | | 1.5 | | | 44.4 | | | 53.9 | |
| Approach LOS | | B | | | A | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.5 | 76.0 | 0.0 | 18.5 | 17.7 | 63.9 | 7.6 | 10.8 |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | * 4.2 | * 4.2 | * 4.2 | 5.3 | * 4.2 | * 4.2 |
| Max Green Setting (Gmax), s | * 4.3 | 39.2 | * 4.3 | * 34 | * 16 | 27.9 | * 4.3 | * 34 |
| Max Q Clear Time (g_c+I1), s | 2.8 | 54.3 | 0.0 | 7.0 | 13.4 | 2.0 | 4.7 | 2.7 |
| Green Ext Time (p_c), s | 0.0 | 0.0 | 0.0 | 0.3 | 0.1 | 6.4 | 0.0 | 0.0 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 15.9 | |
| HCM 6th LOS | B | |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

# APPENDIX N

## PEAK HOUR INTERSECTION ANALYSIS WORKSHEETS – YEAR 2035 WITH PROJECT (NO SCHOOL ALTERNATIVE)

| Intersection | |
|---|---|
| Int Delay, s/veh | 7 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 220 | 15 | 189 | 80 | 10 | 464 |
| Future Vol, veh/h | 220 | 15 | 189 | 80 | 10 | 464 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | 150 | 50 | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 239 | 16 | 205 | 87 | 11 | 504 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 731 | 205 | 0 | 0 | 292 | 0 |
| Stage 1 | 205 | - | - | - | - | - |
| Stage 2 | 526 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | - | - | 4.12 | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | - | - | 2.218 | - |
| Pot Cap-1 Maneuver | 389 | 836 | - | - | 1270 | - |
| Stage 1 | 829 | - | - | - | - | - |
| Stage 2 | 593 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | |
| Mov Cap-1 Maneuver | 385 | 836 | - | - | 1270 | - |
| Mov Cap-2 Maneuver | 385 | - | - | - | - | - |
| Stage 1 | 822 | - | - | - | - | - |
| Stage 2 | 593 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 28.7 | 0 | 0.2 |
| HCM LOS | D | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | SBL | SBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 399 | 1270 | - |
| HCM Lane V/C Ratio | - | - | 0.64 | 0.009 | - |
| HCM Control Delay (s) | - | - | 28.7 | 7.9 | - |
| HCM Lane LOS | - | - | D | A | - |
| HCM 95th %tile Q(veh) | - | - | 4.3 | 0 | - |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 11.7 |
| Intersection LOS | B |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 90 | 35 | 10 | 0 | 40 | 137 | 10 | 0 | 346 | 0 |
| Future Vol, veh/h | 0 | 0 | 90 | 35 | 10 | 0 | 40 | 137 | 10 | 0 | 346 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 98 | 38 | 11 | 0 | 43 | 149 | 11 | 0 | 376 | 0 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 3 | 3 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 3 | 3 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 3 | 3 | 1 | 1 |
| HCM Control Delay | 9 | 9.9 | 9.4 | 13.8 |
| HCM LOS | A | A | A | B |

| Lane | NBLn1 | NBLn2 | NBLn3 | EBLn1 | WBLn1 | SBLn1 | SBLn2 | SBLn3 |
|---|---|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 0% | 78% | 0% | 0% | 0% |
| Vol Thru, % | 0% | 100% | 0% | 0% | 22% | 100% | 100% | 100% |
| Vol Right, % | 0% | 0% | 100% | 100% | 0% | 0% | 0% | 0% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 40 | 137 | 10 | 90 | 45 | 0 | 346 | 0 |
| LT Vol | 40 | 0 | 0 | 0 | 35 | 0 | 0 | 0 |
| Through Vol | 0 | 137 | 0 | 0 | 10 | 0 | 346 | 0 |
| RT Vol | 0 | 0 | 10 | 90 | 0 | 0 | 0 | 0 |
| Lane Flow Rate | 43 | 149 | 11 | 98 | 49 | 0 | 376 | 0 |
| Geometry Grp | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| Degree of Util (X) | 0.07 | 0.219 | 0.014 | 0.145 | 0.088 | 0 | 0.538 | 0 |
| Departure Headway (Hd) | 5.803 | 5.299 | 4.593 | 5.329 | 6.485 | 5.147 | 5.147 | 5.147 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 613 | 673 | 772 | 667 | 548 | 0 | 696 | 0 |
| Service Time | 3.573 | 3.068 | 2.361 | 3.11 | 4.278 | 2.906 | 2.906 | 2.906 |
| HCM Lane V/C Ratio | 0.07 | 0.221 | 0.014 | 0.147 | 0.089 | 0 | 0.54 | 0 |
| HCM Control Delay | 9 | 9.6 | 7.4 | 9 | 9.9 | 7.9 | 13.8 | 7.9 |
| HCM Lane LOS | A | A | A | A | A | N | B | N |
| HCM 95th-tile Q | 0.2 | 0.8 | 0 | 0.5 | 0.3 | 0 | 3.2 | 0 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 9.6 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 5 | 5 | 20 | 128 | 5 | 5 | 15 | 253 | 58 | 5 | 652 | 5 |
| Future Vol, veh/h | 5 | 5 | 20 | 128 | 5 | 5 | 15 | 253 | 58 | 5 | 652 | 5 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 5 | 5 | 22 | 139 | 5 | 5 | 16 | 275 | 63 | 5 | 709 | 5 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1066 | 1092 | 712 | 1074 | 1063 | 307 | 714 | 0 | 0 | 338 | 0 | 0 |
| Stage 1 | 722 | 722 | - | 339 | 339 | - | - | - | - | - | - | - |
| Stage 2 | 344 | 370 | - | 735 | 724 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | 4.12 | - | - | 4.12 | - | - |
| Critical Hdwy Stg 1 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | 2.218 | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 200 | 215 | 432 | 198 | 223 | 733 | 886 | - | - | 1221 | - | - |
| Stage 1 | 418 | 431 | - | 676 | 640 | - | - | - | - | - | - | - |
| Stage 2 | 671 | 620 | - | 411 | 430 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 190 | 209 | 432 | 180 | 217 | 733 | 886 | - | - | 1221 | - | - |
| Mov Cap-2 Maneuver | 190 | 209 | - | 180 | 217 | - | - | - | - | - | - | - |
| Stage 1 | 409 | 428 | - | 661 | 626 | - | - | - | - | - | - | - |
| Stage 2 | 646 | 606 | - | 383 | 427 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 17.9 | 75.3 | 0.4 | 0.1 |
| HCM LOS | C | F | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 886 | - | - | 311 | 186 | 1221 | - | - |
| HCM Lane V/C Ratio | 0.018 | - | - | 0.105 | 0.806 | 0.004 | - | - |
| HCM Control Delay (s) | 9.1 | 0 | - | 17.9 | 75.3 | 8 | 0 | - |
| HCM Lane LOS | A | A | - | C | F | A | A | - |
| HCM 95th %tile Q(veh) | 0.1 | - | - | 0.3 | 5.6 | 0 | - | - |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 78.7 |
| Intersection LOS | F |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 0 | 5 | 15 | 235 | 0 | 5 | 5 | 254 | 70 | 10 | 659 | 0 |
| Future Vol, veh/h | 0 | 5 | 15 | 235 | 0 | 5 | 5 | 254 | 70 | 10 | 659 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 5 | 16 | 255 | 0 | 5 | 5 | 276 | 76 | 11 | 716 | 0 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |

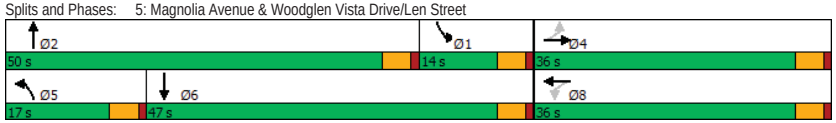
| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay | 11 | 17.1 | 19 | 132.1 |
| HCM LOS | B | C | C | F |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 98% | 100% | 0% |
| Vol Thru, % | 0% | 78% | 25% | 0% | 0% | 100% |
| Vol Right, % | 0% | 22% | 75% | 2% | 0% | 0% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 5 | 324 | 20 | 240 | 10 | 659 |
| LT Vol | 5 | 0 | 0 | 235 | 10 | 0 |
| Through Vol | 0 | 254 | 5 | 0 | 0 | 659 |
| RT Vol | 0 | 70 | 15 | 5 | 0 | 0 |
| Lane Flow Rate | 5 | 352 | 22 | 261 | 11 | 716 |
| Geometry Grp | 7 | 7 | 2 | 2 | 7 | 7 |
| Degree of Util (X) | 0.01 | 0.612 | 0.043 | 0.493 | 0.02 | 1.218 |
| Departure Headway (Hd) | 7.245 | 6.578 | 7.683 | 7.266 | 6.631 | 6.122 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 497 | 553 | 469 | 498 | 540 | 595 |
| Service Time | 4.945 | 4.278 | 5.683 | 5.266 | 4.372 | 3.863 |
| HCM Lane V/C Ratio | 0.01 | 0.637 | 0.047 | 0.524 | 0.02 | 1.203 |
| HCM Control Delay | 10 | 19.1 | 11 | 17.1 | 9.5 | 134 |
| HCM Lane LOS | A | C | B | C | A | F |
| HCM 95th-tile Q | 0 | 4.1 | 0.1 | 2.7 | 0.1 | 26.1 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 20 | 5 | 115 | 45 | 15 | 10 | 40 | 282 | 15 | 10 | 686 | 15 |
| Future Volume (vph) | 20 | 5 | 115 | 45 | 15 | 10 | 40 | 282 | 15 | 10 | 686 | 15 |
| Confl. Peds. (#/hr) | | | 95 | | | 4 | | | 15 | | | 95 |
| Confl. Bikes (#/hr) | | | 1 | | | 1 | | | | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Perm | NA | | Perm | NA | | Prot | NA | | Prot | NA | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 26.5 | 26.5 | | 26.5 | 26.5 | | 11.5 | 22.5 | | 11.5 | 22.5 | |
| Total Split (s) | 36.0 | 36.0 | | 36.0 | 36.0 | | 17.0 | 50.0 | | 14.0 | 47.0 | |
| Total Split (%) | 36.0% | 36.0% | | 36.0% | 36.0% | | 17.0% | 50.0% | | 14.0% | 47.0% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | | | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lead | | Lag | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 42.2 |
| Natural Cycle: 65 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 5: Magnolia Avenue & Woodglen Vista Drive/Len Street






Year 2035 + Proj AM (No School) Fanita Ranch
5: Magnolia Avenue & Woodglen Vista Drive/Len Street 06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 20 | 5 | 115 | 45 | 15 | 10 | 40 | 282 | 15 | 10 | 686 | 15 |
| Future Volume (veh/h) | 20 | 5 | 115 | 45 | 15 | 10 | 40 | 282 | 15 | 10 | 686 | 15 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.89 | 0.93 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 0.85 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 22 | 5 | 125 | 49 | 16 | 11 | 43 | 307 | 16 | 11 | 746 | 16 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 597 | 16 | 410 | 320 | 100 | 50 | 114 | 933 | 48 | 255 | 1245 | 27 |
| Arrive On Green | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | 0.06 | 0.27 | 0.27 | 0.14 | 0.35 | 0.35 |
| Sat Flow, veh/h | 1379 | 55 | 1375 | 653 | 335 | 167 | 1781 | 3431 | 178 | 1781 | 3541 | 76 |
| Grp Volume(v), veh/h | 22 | 0 | 130 | 76 | 0 | 0 | 43 | 158 | 165 | 11 | 374 | 388 |
| Grp Sat Flow(s),veh/h/ln | 1379 | 0 | 1430 | 1154 | 0 | 0 | 1781 | 1777 | 1832 | 1781 | 1777 | 1840 |
| Q Serve(g_s), s | 0.0 | 0.0 | 3.3 | 0.6 | 0.0 | 0.0 | 1.1 | 3.4 | 3.4 | 0.3 | 8.2 | 8.2 |
| Cycle Q Clear(g_c), s | 0.4 | 0.0 | 3.3 | 3.9 | 0.0 | 0.0 | 1.1 | 3.4 | 3.4 | 0.3 | 8.2 | 8.2 |
| Prop In Lane | 1.00 | | 0.96 | 0.64 | | 0.14 | 1.00 | | 0.10 | 1.00 | | 0.04 |
| Lane Grp Cap(c), veh/h | 597 | 0 | 427 | 470 | 0 | 0 | 114 | 483 | 498 | 255 | 624 | 647 |
| V/C Ratio(X) | 0.04 | 0.00 | 0.30 | 0.16 | 0.00 | 0.00 | 0.38 | 0.33 | 0.33 | 0.04 | 0.60 | 0.60 |
| Avail Cap(c_a), veh/h | 1106 | 0 | 955 | 959 | 0 | 0 | 472 | 1714 | 1767 | 359 | 1601 | 1658 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 11.8 | 0.0 | 12.8 | 12.6 | 0.0 | 0.0 | 21.2 | 13.7 | 13.7 | 17.4 | 12.6 | 12.6 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 0.4 | 0.2 | 0.0 | 0.0 | 2.1 | 0.4 | 0.4 | 0.1 | 0.9 | 0.9 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.1 | 0.0 | 1.0 | 0.5 | 0.0 | 0.0 | 0.5 | 1.1 | 1.2 | 0.1 | 2.6 | 2.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 11.8 | 0.0 | 13.2 | 12.7 | 0.0 | 0.0 | 23.2 | 14.1 | 14.1 | 17.5 | 13.5 | 13.5 |
| LnGrp LOS | B | A | B | B | A | A | C | B | B | B | B | B |
| Approach Vol, veh/h | | 152 | | | 76 | | | 366 | | | 773 | |
| Approach Delay, s/veh | | 13.0 | | | 12.7 | | | 15.2 | | | 13.5 | |
| Approach LOS | | B | | | B | | | B | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 11.3 | 17.3 | | 18.6 | 7.5 | 21.1 | | 18.6 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 9.5 | 45.5 | | 31.5 | 12.5 | 42.5 | | 31.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.3 | 5.4 | | 5.3 | 3.1 | 10.2 | | 5.9 | | | | |
| Green Ext Time (p_c), s | 0.0 | 1.8 | | 0.9 | 0.0 | 4.9 | | 0.4 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 13.9 | |
| HCM 6th LOS | B | |

Fanita Ranch
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| Intersection | |
|---|---|
| Intersection Delay, s/veh | 14.9 |
| Intersection LOS | F |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 5 | 10 | 265 | 5 | 5 | 5 | 319 | 50 | 5 | 894 | 5 |
| Future Vol, veh/h | 0 | 5 | 10 | 265 | 5 | 5 | 5 | 319 | 50 | 5 | 894 | 5 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 5 | 11 | 288 | 5 | 5 | 5 | 347 | 54 | 5 | 972 | 5 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay | 12.6 | 21.6 | 26.8 | 354.8 |
| HCM LOS | B | C | D | F |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 96% | 100% | 0% |
| Vol Thru, % | 0% | 86% | 33% | 2% | 0% | 99% |
| Vol Right, % | 0% | 14% | 67% | 2% | 0% | 1% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 5 | 369 | 15 | 275 | 5 | 899 |
| LT Vol | 5 | 0 | 0 | 265 | 5 | 0 |
| Through Vol | 0 | 319 | 5 | 5 | 0 | 894 |
| RT Vol | 0 | 50 | 10 | 5 | 0 | 5 |
| Lane Flow Rate | 5 | 401 | 16 | 299 | 5 | 977 |
| Geometry Grp | 7 | 7 | 2 | 2 | 7 | 7 |
| Degree of Util (X) | 0.011 | 0.724 | 0.034 | 0.575 | 0.01 | 1.74 |
| Departure Headway (Hd) | 7.97 | 7.355 | 9.26 | 8.164 | 6.925 | 6.411 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 452 | 497 | 389 | 445 | 517 | 577 |
| Service Time | 5.67 | 5.055 | 7.26 | 6.164 | 4.664 | 4.15 |
| HCM Lane V/C Ratio | 0.011 | 0.807 | 0.041 | 0.672 | 0.01 | 1.693 |
| HCM Control Delay | 10.8 | 27 | 12.6 | 21.6 | 9.7 | 356.7 |
| HCM Lane LOS | B | D | B | C | A | F |
| HCM 95th-tile Q | 0 | 5.8 | 0.1 | 3.5 | 0 | 57.9 |

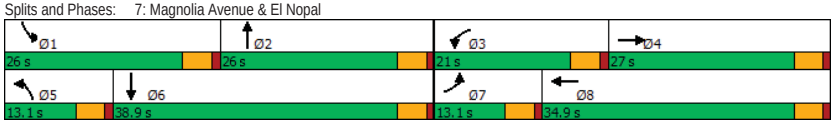




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 50 | 65 | 100 | 140 | 125 | 159 | 55 | 348 | 55 | 262 | 669 | 85 |
| Future Volume (vph) | 50 | 65 | 100 | 140 | 125 | 159 | 55 | 348 | 55 | 262 | 669 | 85 |
| Confl. Peds. (#/hr) | | | | | | 2 | | | | | | |
| Confl. Bikes (#/hr) | | | 2 | | | 2 | | | 1 | | | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | | Prot | NA | |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 11.5 | 26.5 | | 11.5 | 25.5 | | 11.5 | 22.5 | | 11.5 | 22.5 | |
| Total Split (s) | 13.1 | 27.0 | | 21.0 | 34.9 | | 13.1 | 26.0 | | 26.0 | 38.9 | |
| Total Split (%) | 13.1% | 27.0% | | 21.0% | 34.9% | | 13.1% | 26.0% | | 26.0% | 38.9% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | | None | Max | | None | Max | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 84.3 |
| Natural Cycle: 80 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 7: Magnolia Avenue & El Nopal



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 50 | 65 | 100 | 140 | 125 | 159 | 55 | 348 | 55 | 262 | 669 | 85 |
| Future Volume (veh/h) | 50 | 65 | 100 | 140 | 125 | 159 | 55 | 348 | 55 | 262 | 669 | 85 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 54 | 71 | 109 | 152 | 136 | 173 | 60 | 378 | 60 | 285 | 727 | 92 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 109 | 116 | 178 | 191 | 165 | 209 | 115 | 941 | 148 | 331 | 1355 | 171 |
| Arrive On Green | 0.06 | 0.18 | 0.18 | 0.11 | 0.22 | 0.22 | 0.06 | 0.31 | 0.31 | 0.19 | 0.43 | 0.43 |
| Sat Flow, veh/h | 1781 | 659 | 1012 | 1781 | 740 | 942 | 1781 | 3066 | 482 | 1781 | 3164 | 400 |
| Grp Volume(v), veh/h | 54 | 0 | 180 | 152 | 0 | 309 | 60 | 218 | 220 | 285 | 408 | 411 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1671 | 1781 | 0 | 1682 | 1781 | 1777 | 1771 | 1781 | 1777 | 1787 |
| Q Serve(g_s), s | 2.4 | 0.0 | 8.0 | 6.7 | 0.0 | 14.1 | 2.6 | 7.8 | 7.9 | 12.5 | 13.7 | 13.7 |
| Cycle Q Clear(g_c), s | 2.4 | 0.0 | 8.0 | 6.7 | 0.0 | 14.1 | 2.6 | 7.8 | 7.9 | 12.5 | 13.7 | 13.7 |
| Prop In Lane | 1.00 | | 0.61 | 1.00 | | 0.56 | 1.00 | | 0.27 | 1.00 | | 0.22 |
| Lane Grp Cap(c), veh/h | 109 | 0 | 294 | 191 | 0 | 374 | 115 | 546 | 544 | 331 | 761 | 766 |
| V/C Ratio(X) | 0.50 | 0.00 | 0.61 | 0.80 | 0.00 | 0.83 | 0.52 | 0.40 | 0.41 | 0.86 | 0.54 | 0.54 |
| Avail Cap(c_a), veh/h | 191 | 0 | 468 | 366 | 0 | 637 | 191 | 546 | 544 | 477 | 761 | 766 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 36.5 | 0.0 | 30.6 | 35.0 | 0.0 | 29.8 | 36.4 | 22.0 | 22.0 | 31.7 | 17.0 | 17.0 |
| Incr Delay (d2), s/veh | 3.5 | 0.0 | 2.1 | 7.3 | 0.0 | 4.7 | 3.7 | 2.2 | 2.2 | 10.7 | 2.7 | 2.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.1 | 0.0 | 3.3 | 3.3 | 0.0 | 6.0 | 1.2 | 3.3 | 3.4 | 6.0 | 5.6 | 5.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 40.0 | 0.0 | 32.6 | 42.3 | 0.0 | 34.4 | 40.1 | 24.1 | 24.3 | 42.4 | 19.7 | 19.7 |
| LnGrp LOS | D | A | C | D | A | C | D | C | C | D | B | B |
| Approach Vol, veh/h | | 234 | | | 461 | | | 498 | | | 1104 | |
| Approach Delay, s/veh | | 34.3 | | | 37.0 | | | 26.1 | | | 25.6 | |
| Approach LOS | | C | | | D | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 19.4 | 29.2 | 13.1 | 18.6 | 9.7 | 38.9 | 9.4 | 22.3 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 21.5 | 21.5 | 16.5 | 22.5 | 8.6 | 34.4 | 8.6 | 30.4 |
| Max Q Clear Time (g_c+I1), s | 14.5 | 9.9 | 8.7 | 10.0 | 4.6 | 15.7 | 4.4 | 16.1 |
| Green Ext Time (p_c), s | 0.5 | 1.8 | 0.2 | 0.8 | 0.0 | 4.7 | 0.0 | 1.7 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 28.9 |
| HCM 6th LOS | C |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 24.3 |
| Intersection LOS | C |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 387 | 20 | 190 | 285 | 25 | 250 |
| Future Vol, veh/h | 387 | 20 | 190 | 285 | 25 | 250 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 421 | 22 | 207 | 310 | 27 | 272 |
| Number of Lanes | 1 | 1 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB |
|---|---|---|---|
| Opposing Approach | WB | EB | |
| Opposing Lanes | 1 | 2 | 0 |
| Conflicting Approach Left | | NB | EB |
| Conflicting Lanes Left | 0 | 1 | 2 |
| Conflicting Approach Right | NB | | WB |
| Conflicting Lanes Right | 1 | 0 | 1 |
| HCM Control Delay | 22.9 | 31.1 | 14.7 |
| HCM LOS | C | D | B |

| Lane | NBLn1 | EBLn1 | EBLn2 | WBLn1 |
|---|---|---|---|---|
| Vol Left, % | 9% | 0% | 0% | 40% |
| Vol Thru, % | 0% | 100% | 0% | 60% |
| Vol Right, % | 91% | 0% | 100% | 0% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 275 | 387 | 20 | 475 |
| LT Vol | 25 | 0 | 0 | 190 |
| Through Vol | 0 | 387 | 0 | 285 |
| RT Vol | 250 | 0 | 20 | 0 |
| Lane Flow Rate | 299 | 421 | 22 | 516 |
| Geometry Grp | 2 | 7 | 7 | 5 |
| Degree of Util (X) | 0.493 | 0.723 | 0.033 | 0.831 |
| Departure Headway (Hd) | 5.94 | 6.186 | 5.473 | 5.791 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 601 | 580 | 650 | 625 |
| Service Time | 4.025 | 3.958 | 3.245 | 3.858 |
| HCM Lane V/C Ratio | 0.498 | 0.726 | 0.034 | 0.826 |
| HCM Control Delay | 14.7 | 23.6 | 8.4 | 31.1 |
| HCM Lane LOS | B | C | A | D |
| HCM 95th-tile Q | 2.7 | 6 | 0.1 | 8.8 |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 66.3 |
| Intersection LOS | F |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 90 | 26 | 298 | 75 | 51 | 728 |
| Future Vol, veh/h | 90 | 26 | 298 | 75 | 51 | 728 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 98 | 28 | 324 | 82 | 55 | 791 |
| Number of Lanes | 1 | 0 | 1 | 0 | 0 | 1 |

| Approach | WB | NB | SB |
|---|---|---|---|
| Opposing Approach | | SB | NB |
| Opposing Lanes | 0 | 1 | 1 |
| Conflicting Approach Left | NB | | WB |
| Conflicting Lanes Left | 1 | 0 | 1 |
| Conflicting Approach Right | SB | WB | |
| Conflicting Lanes Right | 1 | 1 | 0 |
| HCM Control Delay | 11.9 | 15.2 | 98.8 |
| HCM LOS | B | C | F |

| Lane | NBLn1 | WBLn1 | SBLn1 |
|---|---|---|---|
| Vol Left, % | 0% | 78% | 7% |
| Vol Thru, % | 80% | 0% | 93% |
| Vol Right, % | 20% | 22% | 0% |
| Sign Control | Stop | Stop | Stop |
| Traffic Vol by Lane | 373 | 116 | 779 |
| LT Vol | 0 | 90 | 51 |
| Through Vol | 298 | 0 | 728 |
| RT Vol | 75 | 26 | 0 |
| Lane Flow Rate | 405 | 126 | 847 |
| Geometry Grp | 1 | 1 | 1 |
| Degree of Util (X) | 0.573 | 0.227 | 1.14 |
| Departure Headway (Hd) | 5.319 | 6.855 | 4.845 |
| Convergence, Y/N | Yes | Yes | Yes |
| Cap | 681 | 527 | 745 |
| Service Time | 3.319 | 4.855 | 2.928 |
| HCM Lane V/C Ratio | 0.595 | 0.239 | 1.137 |
| HCM Control Delay | 15.2 | 11.9 | 98.8 |
| HCM Lane LOS | C | B | F |
| HCM 95th-tile Q | 3.7 | 0.9 | 25.2 |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 11.5 |
| Intersection LOS | B |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 5 | 20 | 248 | 10 | 30 | 10 | 230 | 47 | 5 | 5 | 36 | 5 |
| Future Vol, veh/h | 5 | 20 | 248 | 10 | 30 | 10 | 230 | 47 | 5 | 5 | 36 | 5 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 5 | 22 | 270 | 11 | 33 | 11 | 250 | 51 | 5 | 5 | 39 | 5 |
| Number of Lanes | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 2 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 2 | 2 | 3 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 3 | 2 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 3 | 2 | 1 | 2 |
| HCM Control Delay | 10.9 | 9.7 | 12.8 | 9.6 |
| HCM LOS | B | A | B | A |

| Lane | NBLn1 | NBLn2 | NBLn3 | EBLn1 | EBLn2 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 20% | 0% | 20% | 100% | 0% |
| Vol Thru, % | 0% | 100% | 76% | 80% | 0% | 60% | 0% | 88% |
| Vol Right, % | 0% | 0% | 24% | 0% | 100% | 20% | 0% | 12% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 230 | 31 | 21 | 25 | 248 | 50 | 5 | 41 |
| LT Vol | 230 | 0 | 0 | 5 | 0 | 10 | 5 | 0 |
| Through Vol | 0 | 31 | 16 | 20 | 0 | 30 | 0 | 36 |
| RT Vol | 0 | 0 | 5 | 0 | 248 | 10 | 0 | 5 |
| Lane Flow Rate | 250 | 34 | 22 | 27 | 270 | 54 | 5 | 45 |
| Geometry Grp | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| Degree of Util (X) | 0.433 | 0.054 | 0.035 | 0.045 | 0.387 | 0.095 | 0.01 | 0.078 |
| Departure Headway (Hd) | 6.239 | 5.735 | 5.564 | 5.965 | 5.162 | 6.306 | 6.884 | 6.29 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 578 | 625 | 644 | 604 | 701 | 568 | 520 | 570 |
| Service Time | 3.967 | 3.462 | 3.291 | 3.665 | 2.862 | 4.043 | 4.624 | 4.029 |
| HCM Lane V/C Ratio | 0.433 | 0.054 | 0.034 | 0.045 | 0.385 | 0.095 | 0.01 | 0.079 |
| HCM Control Delay | 13.7 | 8.8 | 8.5 | 8.9 | 11.1 | 9.7 | 9.7 | 9.6 |
| HCM Lane LOS | B | A | A | A | B | A | A | A |
| HCM 95th-tile Q | 2.2 | 0.2 | 0.1 | 0.1 | 1.8 | 0.3 | 0 | 0.3 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 5 |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 10 | 45 | 25 | 20 | 0 | 35 |
| Future Vol, veh/h | 10 | 45 | 25 | 20 | 0 | 35 |
| Conflicting Peds, #/hr | 1 | 1 | 1 | 0 | 0 | 1 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | 150 | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 11 | 49 | 27 | 22 | 0 | 38 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 97 | 21 | 39 | 0 | - | 0 |
| Stage 1 | 20 | - | - | - | - | - |
| Stage 2 | 77 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | 4.12 | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | 2.218 | - | - | - |
| Pot Cap-1 Maneuver | 902 | 1056 | 1571 | - | - | - |
| Stage 1 | 1003 | - | - | - | - | - |
| Stage 2 | 946 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 885 | 1054 | 1570 | - | - | - |
| Mov Cap-2 Maneuver | 885 | - | - | - | - | - |
| Stage 1 | 985 | - | - | - | - | - |
| Stage 2 | 945 | - | - | - | - | - |

| Approach | EB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 8.8 | 4.1 | 0 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1570 | - | 1019 | - | - |
| HCM Lane V/C Ratio | 0.017 | - | 0.059 | - | - |
| HCM Control Delay (s) | 7.3 | - | 8.8 | - | - |
| HCM Lane LOS | A | - | A | - | - |
| HCM 95th %tile Q(veh) | 0.1 | - | 0.2 | - | - |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 338.6 |
| Intersection LOS | F |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 15 | 95 | 5 | 5 | 5 | 354 | 35 | 5 | 1119 | 0 |
| Future Vol, veh/h | 0 | 0 | 15 | 95 | 5 | 5 | 5 | 354 | 35 | 5 | 1119 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 16 | 103 | 5 | 5 | 5 | 385 | 38 | 5 | 1216 | 0 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 3 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 3 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 3 | 2 | 1 | 1 |
| HCM Control Delay | 11.7 | 15 | 18 | 485.6 |
| HCM LOS | B | B | C | F |

| Lane | NBLn1 | NBLn2 | NBLn3 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 0% | 90% | 100% | 0% |
| Vol Thru, % | 0% | 100% | 0% | 0% | 5% | 0% | 100% |
| Vol Right, % | 0% | 0% | 100% | 100% | 5% | 0% | 0% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 5 | 354 | 35 | 15 | 105 | 5 | 1119 |
| LT Vol | 5 | 0 | 0 | 0 | 95 | 5 | 0 |
| Through Vol | 0 | 354 | 0 | 0 | 5 | 0 | 1119 |
| RT Vol | 0 | 0 | 35 | 15 | 5 | 0 | 0 |
| Lane Flow Rate | 5 | 385 | 38 | 16 | 114 | 5 | 1216 |
| Geometry Grp | 7 | 7 | 7 | 7 | 7 | 8 | 8 |
| Degree of Util (X) | 0.009 | 0.61 | 0.053 | 0.031 | 0.241 | 0.01 | 2.038 |
| Departure Headway (Hd) | 7.08 | 6.569 | 5.853 | 8.757 | 9.328 | 6.537 | 6.032 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 509 | 554 | 616 | 411 | 388 | 543 | 608 |
| Service Time | 4.78 | 4.269 | 3.553 | 6.457 | 7.028 | 4.329 | 3.824 |
| HCM Lane V/C Ratio | 0.01 | 0.695 | 0.062 | 0.039 | 0.294 | 0.009 | 2 |
| HCM Control Delay | 9.8 | 19 | 8.9 | 11.7 | 15 | 9.4 | 487.7 |
| HCM Lane LOS | A | C | A | B | B | A | F |
| HCM 95th-tile Q | 0 | 4.1 | 0.2 | 0.1 | 0.9 | 0 | 81.8 |

| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 165 | 35 | 443 | 140 | 115 | 934 |
| Future Volume (vph) | 165 | 35 | 443 | 140 | 115 | 934 |
| Confl. Peds. (#/hr) | | 4 | | 11 | | |
| Confl. Bikes (#/hr) | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | 0% | | | 0% |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | NA | | Prot | NA |
| Protected Phases | 8 | | 2 | | 1 | 6 |
| Permitted Phases | | 8 | | | | |
| Detector Phase | 8 | 8 | 2 | | 1 | 6 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | | 8.5 | 20.5 |
| Total Split (s) | 22.5 | 22.5 | 22.5 | | 10.0 | 32.5 |
| Total Split (%) | 40.9% | 40.9% | 40.9% | | 18.2% | 59.1% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Lead/Lag | | | Lag | | Lead | |
| Lead-Lag Optimize? | | | Yes | | Yes | |
| Recall Mode | None | None | Min | | None | Min |

| Intersection Summary |
|---|
| Cycle Length: 55 |
| Actuated Cycle Length: 41.5 |
| Natural Cycle: 55 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 13: Magnolia Avenue & 2nd Street

Year 2035 + Proj AM (No School)
13: Magnolia Avenue & 2nd Street
Fanita Ranch
06/06/2019

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 165 | 35 | 443 | 140 | 115 | 934 |
| Future Volume (veh/h) | 165 | 35 | 443 | 140 | 115 | 934 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | | 0.98 | 1.00 | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | No | | | No |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 179 | 38 | 482 | 152 | 125 | 1015 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 265 | 236 | 855 | 268 | 158 | 1982 |
| Arrive On Green | 0.15 | 0.15 | 0.32 | 0.32 | 0.09 | 0.56 |
| Sat Flow, veh/h | 1781 | 1585 | 2744 | 830 | 1781 | 3647 |
| Grp Volume(v), veh/h | 179 | 38 | 322 | 312 | 125 | 1015 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 1777 | 1704 | 1781 | 1777 |
| Q Serve(g_s), s | 2.9 | 0.6 | 4.6 | 4.7 | 2.1 | 5.4 |
| Cycle Q Clear(g_c), s | 2.9 | 0.6 | 4.6 | 4.7 | 2.1 | 5.4 |
| Prop In Lane | 1.00 | 1.00 | | 0.49 | 1.00 | |
| Lane Grp Cap(c), veh/h | 265 | 236 | 573 | 550 | 158 | 1982 |
| V/C Ratio(X) | 0.68 | 0.16 | 0.56 | 0.57 | 0.79 | 0.51 |
| Avail Cap(c_a), veh/h | 1046 | 931 | 1043 | 1000 | 320 | 3245 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 12.4 | 11.4 | 8.6 | 8.6 | 13.7 | 4.2 |
| Incr Delay (d2), s/veh | 3.0 | 0.3 | 0.9 | 0.9 | 8.6 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.1 | 0.2 | 1.1 | 1.1 | 1.0 | 0.4 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 15.4 | 11.7 | 9.5 | 9.5 | 22.3 | 4.4 |
| LnGrp LOS | B | B | A | A | C | A |
| Approach Vol, veh/h | 217 | | 634 | | | 1140 |
| Approach Delay, s/veh | 14.7 | | 9.5 | | | 6.4 |
| Approach LOS | B | | A | | | A |

| Timer - Assigned Phs | 1 | 2 | | | 6 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.2 | 14.4 | | | 21.6 | 9.1 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 5.5 | 18.0 | | | 28.0 | 18.0 |
| Max Q Clear Time (g_c+I1), s | 4.1 | 6.7 | | | 7.4 | 4.9 |
| Green Ext Time (p_c), s | 0.0 | 2.8 | | | 7.0 | 0.5 |

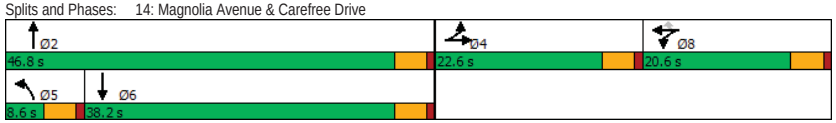
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 8.3 | |
| HCM 6th LOS | A | |

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\No School Alt\11 2035+P AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 11 | 0 | 80 | 190 | 0 | 35 | 20 | 572 | 0 | 0 | 1174 | 15 |
| Future Volume (vph) | 11 | 0 | 80 | 190 | 0 | 35 | 20 | 572 | 0 | 0 | 1174 | 15 |
| Confl. Peds. (#/hr) | | | 115 | | | | | | 13 | | | 18 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | 50% | | | | | | | | |
| Turn Type | Split | NA | | Split | NA | Perm | Prot | NA | | | NA | |
| Protected Phases | 4 | 4 | | 8 | 8 | | 5 | 2 | | | 6 | |
| Permitted Phases | | | | | | 8 | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | 8 | 5 | 2 | | | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | | 4.0 | |
| Minimum Split (s) | 22.5 | 22.5 | | 20.5 | 20.5 | 20.5 | 8.5 | 22.5 | | | 22.5 | |
| Total Split (s) | 22.6 | 22.6 | | 20.6 | 20.6 | 20.6 | 8.6 | 46.8 | | | 38.2 | |
| Total Split (%) | 25.1% | 25.1% | | 22.9% | 22.9% | 22.9% | 9.6% | 52.0% | | | 42.4% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | 0.0 | |
| Total Lost Time (s) | | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | | 4.5 | |
| Lead/Lag | | | | | | | Lead | | | | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | | | | Yes | |
| Recall Mode | None | None | | None | None | None | None | Min | | | Min | |

| Intersection Summary |
|---|
| Cycle Length: 90 |
| Actuated Cycle Length: 66.7 |
| Natural Cycle: 90 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 14: Magnolia Avenue & Carefree Drive






Year 2035 + Proj AM (No School)
14: Magnolia Avenue & Carefree Drive
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 11 | 0 | 80 | 190 | 0 | 35 | 20 | 572 | 0 | 0 | 1174 | 15 |
| Future Volume (veh/h) | 11 | 0 | 80 | 190 | 0 | 35 | 20 | 572 | 0 | 0 | 1174 | 15 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.83 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.96 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 0 | 0 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 12 | 0 | 87 | 207 | 0 | 38 | 22 | 622 | 0 | 0 | 1276 | 16 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 0 | 0 | 2 | 2 |
| Cap, veh/h | 33 | 0 | 242 | 329 | 0 | 146 | 36 | 1812 | 0 | 0 | 1526 | 19 |
| Arrive On Green | 0.20 | 0.00 | 0.20 | 0.09 | 0.00 | 0.09 | 0.02 | 0.51 | 0.00 | 0.00 | 0.42 | 0.42 |
| Sat Flow, veh/h | 165 | 0 | 1194 | 3563 | 0 | 1585 | 1781 | 3647 | 0 | 0 | 3685 | 45 |
| Grp Volume(v), veh/h | 99 | 0 | 0 | 207 | 0 | 38 | 22 | 622 | 0 | 0 | 631 | 661 |
| Grp Sat Flow(s),veh/h/ln | 1358 | 0 | 0 | 1781 | 0 | 1585 | 1781 | 1777 | 0 | 0 | 1777 | 1860 |
| Q Serve(g_s), s | 4.3 | 0.0 | 0.0 | 3.9 | 0.0 | 1.5 | 0.8 | 7.2 | 0.0 | 0.0 | 21.9 | 21.9 |
| Cycle Q Clear(g_c), s | 4.3 | 0.0 | 0.0 | 3.9 | 0.0 | 1.5 | 0.8 | 7.2 | 0.0 | 0.0 | 21.9 | 21.9 |
| Prop In Lane | 0.12 | | 0.88 | 1.00 | | 1.00 | 1.00 | | 0.00 | 0.00 | | 0.02 |
| Lane Grp Cap(c), veh/h | 275 | 0 | 0 | 329 | 0 | 146 | 36 | 1812 | 0 | 0 | 755 | 790 |
| V/C Ratio(X) | 0.36 | 0.00 | 0.00 | 0.63 | 0.00 | 0.26 | 0.62 | 0.34 | 0.00 | 0.00 | 0.84 | 0.84 |
| Avail Cap(c_a), veh/h | 355 | 0 | 0 | 829 | 0 | 369 | 106 | 2172 | 0 | 0 | 865 | 906 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 23.7 | 0.0 | 0.0 | 30.3 | 0.0 | 29.2 | 33.7 | 10.1 | 0.0 | 0.0 | 17.7 | 17.7 |
| Incr Delay (d2), s/veh | 0.8 | 0.0 | 0.0 | 2.0 | 0.0 | 0.9 | 16.3 | 0.1 | 0.0 | 0.0 | 6.4 | 6.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.4 | 0.0 | 0.0 | 1.7 | 0.0 | 0.6 | 0.5 | 2.3 | 0.0 | 0.0 | 8.9 | 9.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 24.5 | 0.0 | 0.0 | 32.2 | 0.0 | 30.1 | 49.9 | 10.2 | 0.0 | 0.0 | 24.2 | 23.9 |
| LnGrp LOS | C | A | A | C | A | C | D | B | A | A | C | C |
| Approach Vol, veh/h | | 99 | | | 245 | | | 644 | | | 1292 | |
| Approach Delay, s/veh | | 24.5 | | | 31.9 | | | 11.5 | | | 24.0 | |
| Approach LOS | | C | | | C | | | B | | | C | |

| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 39.8 | | 18.5 | 5.9 | 33.9 | | 10.9 | | | | |
| Change Period (Y+Rc), s | | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | | 42.3 | | 18.1 | 4.1 | 33.7 | | 16.1 | | | | |
| Max Q Clear Time (g_c+I1), s | | 9.2 | | 6.3 | 2.8 | 23.9 | | 5.9 | | | | |
| Green Ext Time (p_c), s | | 4.3 | | 0.4 | 0.0 | 5.5 | | 0.6 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 21.4 | |
| HCM 6th LOS | C | |

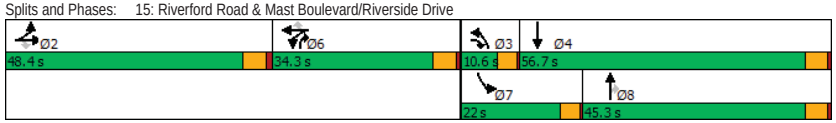
| Notes |
|---|
| User approved volume balancing among the lanes for turning movement. |

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\No School Alt\11 2035+P AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 70 | 70 | 120 | 580 | 20 | 297 | 40 | 247 | 420 | 379 | 428 | 30 |
| Future Volume (vph) | 70 | 70 | 120 | 580 | 20 | 297 | 40 | 247 | 420 | 379 | 428 | 30 |
| Confl. Peds. (#/hr) | | | 4 | | | 3 | | | 7 | | | |
| Confl. Bikes (#/hr) | | | 1 | | | 2 | | | 2 | | | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Split | NA | pm+ov | Split | NA | Perm | Prot | NA | pm+ov | Prot | NA | |
| Protected Phases | 2 | 2 | 3 | 6 | 6 | | 3 | 8 | 6 | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | 8 | | | |
| Detector Phase | 2 | 2 | 3 | 6 | 6 | 6 | 3 | 8 | 6 | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 6.0 | 6.0 | 5.0 | 4.0 | 4.0 | 4.0 | 5.0 | 6.0 | 4.0 | 4.0 | 6.0 | |
| Minimum Split (s) | 45.3 | 45.3 | 9.1 | 34.3 | 34.3 | 34.3 | 9.1 | 45.3 | 34.3 | 8.6 | 49.9 | |
| Total Split (s) | 48.4 | 48.4 | 10.6 | 34.3 | 34.3 | 34.3 | 10.6 | 45.3 | 34.3 | 22.0 | 56.7 | |
| Total Split (%) | 32.3% | 32.3% | 7.1% | 22.9% | 22.9% | 22.9% | 7.1% | 30.2% | 22.9% | 14.7% | 37.8% | |
| Yellow Time (s) | 4.3 | 4.3 | 3.6 | 4.3 | 4.3 | 4.3 | 3.6 | 3.9 | 4.3 | 3.6 | 3.9 | |
| All-Red Time (s) | 1.0 | 1.0 | 0.5 | 1.0 | 1.0 | 1.0 | 0.5 | 1.0 | 1.0 | 0.5 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 5.3 | 5.3 | 4.1 | 5.3 | 5.3 | 5.3 | 4.1 | 4.9 | 5.3 | 4.1 | 4.9 | |
| Lead/Lag | | | Lead | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | Yes | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | None | None | None | None | None | Min | None | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 150 |
| Actuated Cycle Length: 103.3 |
| Natural Cycle: 150 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 15: Riverford Road & Mast Boulevard/Riverside Drive








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 70 | 70 | 120 | 580 | 20 | 297 | 40 | 247 | 420 | 379 | 428 | 30 |
| Future Volume (veh/h) | 70 | 70 | 120 | 580 | 20 | 297 | 40 | 247 | 420 | 379 | 428 | 30 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.96 | 1.00 | | 0.97 | 1.00 | | 0.98 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 76 | 76 | 130 | 630 | 22 | 323 | 43 | 268 | 457 | 412 | 465 | 33 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 170 | 339 | 353 | 856 | 880 | 381 | 63 | 504 | 811 | 329 | 722 | 51 |
| Arrive On Green | 0.10 | 0.10 | 0.10 | 0.25 | 0.25 | 0.25 | 0.04 | 0.27 | 0.27 | 0.18 | 0.42 | 0.42 |
| Sat Flow, veh/h | 1781 | 3554 | 2666 | 3456 | 3554 | 1539 | 1781 | 1870 | 1551 | 1781 | 1724 | 122 |
| Grp Volume(v), veh/h | 76 | 76 | 130 | 630 | 22 | 323 | 43 | 268 | 457 | 412 | 0 | 498 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1333 | 1728 | 1777 | 1539 | 1781 | 1870 | 1551 | 1781 | 0 | 1846 |
| Q Serve(g_s), s | 3.9 | 1.9 | 4.3 | 16.2 | 0.5 | 19.3 | 2.3 | 11.8 | 19.5 | 17.9 | 0.0 | 20.8 |
| Cycle Q Clear(g_c), s | 3.9 | 1.9 | 4.3 | 16.2 | 0.5 | 19.3 | 2.3 | 11.8 | 19.5 | 17.9 | 0.0 | 20.8 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.07 |
| Lane Grp Cap(c), veh/h | 170 | 339 | 353 | 856 | 880 | 381 | 63 | 504 | 811 | 329 | 0 | 774 |
| V/C Ratio(X) | 0.45 | 0.22 | 0.37 | 0.74 | 0.02 | 0.85 | 0.68 | 0.53 | 0.56 | 1.25 | 0.00 | 0.64 |
| Avail Cap(c_a), veh/h | 793 | 1582 | 1286 | 1035 | 1065 | 461 | 120 | 781 | 1040 | 329 | 0 | 988 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 41.4 | 40.5 | 38.4 | 33.5 | 27.6 | 34.7 | 46.1 | 30.1 | 16.0 | 39.4 | 0.0 | 22.4 |
| Incr Delay (d2), s/veh | 1.8 | 0.3 | 0.6 | 2.2 | 0.0 | 11.8 | 12.2 | 0.9 | 0.6 | 135.5 | 0.0 | 0.9 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.8 | 0.8 | 1.4 | 6.8 | 0.2 | 8.3 | 1.2 | 5.4 | 11.0 | 20.1 | 0.0 | 8.9 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 43.2 | 40.8 | 39.1 | 35.7 | 27.6 | 46.5 | 58.3 | 31.0 | 16.6 | 175.0 | 0.0 | 23.3 |
| LnGrp LOS | D | D | D | D | C | D | E | C | B | F | A | C |
| Approach Vol, veh/h | | 282 | | | 975 | | | 768 | | | 910 | |
| Approach Delay, s/veh | | 40.7 | | | 39.1 | | | 24.0 | | | 92.0 | |
| Approach LOS | | D | | | D | | | C | | | F | |

| Timer - Assigned Phs | 2 | 3 | 4 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 14.5 | 7.5 | 45.5 | 29.3 | 22.0 | 31.0 |
| Change Period (Y+Rc), s | 5.3 | 4.1 | 4.9 | 5.3 | 4.1 | 4.9 |
| Max Green Setting (Gmax), s | 43.1 | 6.5 | 51.8 | 29.0 | 17.9 | 40.4 |
| Max Q Clear Time (g_c+I1), s | 6.3 | 4.3 | 22.8 | 21.3 | 19.9 | 21.5 |
| Green Ext Time (p_c), s | 1.2 | 0.0 | 3.5 | 2.4 | 0.0 | 3.3 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 51.7 | |
| HCM 6th LOS | D | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 10 | 15 | 265 | 35 | 0 | 0 | 0 | 0 | 514 | 0 | 5 |
| Future Volume (vph) | 0 | 10 | 15 | 265 | 35 | 0 | 0 | 0 | 0 | 514 | 0 | 5 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | 1 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | 49% | | |
| Turn Type | | NA | | Split | NA | | | | | Split | NA | |
| Protected Phases | | 8 | | 4 | 4 | | | | | 2 | 2 | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | | 8 | | 4 | 4 | | | | | 2 | 2 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | 7.0 | | 8.0 | 8.0 | | | | | 5.0 | 5.0 | |
| Minimum Split (s) | | 25.1 | | 28.4 | 28.4 | | | | | 32.3 | 32.3 | |
| Total Split (s) | | 25.1 | | 31.0 | 31.0 | | | | | 33.9 | 33.9 | |
| Total Split (%) | | 27.9% | | 34.4% | 34.4% | | | | | 37.7% | 37.7% | |
| Yellow Time (s) | | 4.1 | | 4.4 | 4.4 | | | | | 4.1 | 4.1 | |
| All-Red Time (s) | | 1.0 | | 1.0 | 1.0 | | | | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | | 0.0 | 0.0 | | | | | 0.0 | 0.0 | |
| Total Lost Time (s) | | 5.1 | | 5.4 | 5.4 | | | | | 5.1 | 5.1 | |
| Lead/Lag | | | | | | | | | | | | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Recall Mode | | None | | None | None | | | | | None | None | |

**Intersection Summary**

Cycle Length: 90
Actuated Cycle Length: 48.1
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 16: SR 52 EB Ramps & Mast Blvd

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 10 | 15 | 265 | 35 | 0 | 0 | 0 | 0 | 514 | 0 | 5 |
| Future Volume (veh/h) | 0 | 10 | 15 | 265 | 35 | 0 | 0 | 0 | 0 | 514 | 0 | 5 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | | | | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | | | | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | | | | No | |
| Adj Sat Flow, veh/h/ln | 0 | 1870 | 1870 | 1870 | 1870 | 0 | | | | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 11 | 16 | 288 | 38 | 0 | | | | 564 | 0 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 0 | 2 | 2 | 2 | 2 | 0 | | | | 2 | 2 | 2 |
| Cap, veh/h | 0 | 32 | 46 | 404 | 425 | 0 | | | | 932 | 489 | 0 |
| Arrive On Green | 0.00 | 0.05 | 0.05 | 0.23 | 0.23 | 0.00 | | | | 0.26 | 0.00 | 0.00 |
| Sat Flow, veh/h | 0 | 689 | 1002 | 1781 | 1870 | 0 | | | | 3563 | 1870 | 0 |
| Grp Volume(v), veh/h | 0 | 0 | 27 | 288 | 38 | 0 | | | | 564 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 0 | 0 | 1690 | 1781 | 1870 | 0 | | | | 1781 | 1870 | 0 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.5 | 5.0 | 0.5 | 0.0 | | | | 4.7 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 0.0 | 0.0 | 0.5 | 5.0 | 0.5 | 0.0 | | | | 4.7 | 0.0 | 0.0 |
| Prop In Lane | 0.00 | | 0.59 | 1.00 | | 0.00 | | | | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 0 | 0 | 78 | 404 | 425 | 0 | | | | 932 | 489 | 0 |
| V/C Ratio(X) | 0.00 | 0.00 | 0.34 | 0.71 | 0.09 | 0.00 | | | | 0.60 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 0 | 0 | 1007 | 1359 | 1427 | 0 | | | | 3058 | 1605 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.00 | | | | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 0.0 | 0.0 | 15.5 | 12.0 | 10.2 | 0.0 | | | | 10.9 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 1.0 | 2.3 | 0.1 | 0.0 | | | | 0.6 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.0 | 0.2 | 1.7 | 0.2 | 0.0 | | | | 1.4 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 0.0 | 16.5 | 14.3 | 10.3 | 0.0 | | | | 11.5 | 0.0 | 0.0 |
| LnGrp LOS | A | A | B | B | B | A | | | | B | A | A |
| Approach Vol, veh/h | | 27 | | | 326 | | | | | | 564 | |
| Approach Delay, s/veh | | 16.5 | | | 13.8 | | | | | | 11.5 | |
| Approach LOS | | B | | | B | | | | | | B | |

| Timer - Assigned Phs | | 2 | | 4 | | | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 13.9 | | 13.0 | | | | 6.7 | | | | |
| Change Period (Y+Rc), s | | 5.1 | | 5.4 | | | | 5.1 | | | | |
| Max Green Setting (Gmax), s | | 28.8 | | 25.6 | | | | 20.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 6.7 | | 7.0 | | | | 2.5 | | | | |
| Green Ext Time (p_c), s | | 2.1 | | 1.0 | | | | 0.0 | | | | |

**Intersection Summary**

| | | |
|---|---|---|
| HCM 6th Ctrl Delay | 12.5 | |
| HCM 6th LOS | B | |

**Notes**

User approved volume balancing among the lanes for turning movement.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 20 | 504 | 0 | 0 | 290 | 2856 | 10 | 0 | 75 | 0 | 0 | 0 |
| Future Volume (vph) | 20 | 504 | 0 | 0 | 290 | 2856 | 10 | 0 | 75 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | 46% | | | 44% | | | |
| Turn Type | Prot | NA | | | NA | Perm | Perm | NA | Perm | | | |
| Protected Phases | 5 | 2 | | | 6 | | | 8 | | | | |
| Permitted Phases | | | | | | 6 | 8 | | 8 | | | |
| Detector Phase | 5 | 2 | | | 6 | 6 | 8 | 8 | 8 | | | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 10.0 | | | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | | | |
| Minimum Split (s) | 11.7 | 38.6 | | | 28.4 | 28.4 | 43.1 | 43.1 | 43.1 | | | |
| Total Split (s) | 11.7 | 86.9 | | | 75.2 | 75.2 | 43.1 | 43.1 | 43.1 | | | |
| Total Split (%) | 9.0% | 66.8% | | | 57.8% | 57.8% | 33.2% | 33.2% | 33.2% | | | |
| Yellow Time (s) | 3.7 | 4.1 | | | 4.4 | 4.4 | 4.1 | 4.1 | 4.1 | | | |
| All-Red Time (s) | 1.0 | 1.0 | | | 1.0 | 1.0 | 2.0 | 2.0 | 2.0 | | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | 0.0 | | | |
| Total Lost Time (s) | 4.7 | 5.1 | | | 5.4 | 5.4 | | 6.1 | 6.1 | | | |
| Lead/Lag | Lead | | | | Lag | Lag | | | | | | |
| Lead-Lag Optimize? | Yes | | | | Yes | Yes | | | | | | |
| Recall Mode | None | Min | | | Min | Min | None | None | None | | | |

| Intersection Summary |
|---|
| Cycle Length: 130 |
| Actuated Cycle Length: 105.2 |
| Natural Cycle: 145 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 17: SR-52 WB Ramps & Mast Blvd

Year 2035 + Proj AM (No School)
17: SR-52 WB Ramps & Mast Blvd
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 20 | 504 | 0 | 0 | 290 | 2856 | 10 | 0 | 75 | 0 | 0 | 0 |
| Future Volume (veh/h) | 20 | 504 | 0 | 0 | 290 | 2856 | 10 | 0 | 75 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.98 | 1.00 | | 1.00 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.99 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 0 | 0 | 1870 | 1945 | 1870 | 1870 | 1870 | | | |
| Adj Flow Rate, veh/h | 22 | 548 | 0 | 0 | 0 | 3314 | 0 | 0 | 94 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | |
| Percent Heavy Veh, % | 2 | 2 | 0 | 0 | 2 | 2 | 2 | 2 | 2 | | | |
| Cap, veh/h | 57 | 2805 | 0 | 0 | 1327 | 2291 | 0 | 173 | 297 | | | |
| Arrive On Green | 0.03 | 0.79 | 0.00 | 0.00 | 0.00 | 0.71 | 0.00 | 0.00 | 0.09 | | | |
| Sat Flow, veh/h | 1781 | 3647 | 0 | 0 | 1870 | 3229 | 0 | 1848 | 3170 | | | |
| Grp Volume(v), veh/h | 22 | 548 | 0 | 0 | 0 | 3314 | 0 | 0 | 94 | | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 0 | 0 | 1870 | 1615 | 0 | 1848 | 1585 | | | |
| Q Serve(g_s), s | 1.2 | 3.8 | 0.0 | 0.0 | 0.0 | 69.8 | 0.0 | 0.0 | 2.7 | | | |
| Cycle Q Clear(g_c), s | 1.2 | 3.8 | 0.0 | 0.0 | 0.0 | 69.8 | 0.0 | 0.0 | 2.7 | | | |
| Prop In Lane | 1.00 | | 0.00 | 0.00 | | 1.00 | 0.00 | | 1.00 | | | |
| Lane Grp Cap(c), veh/h | 57 | 2805 | 0 | 0 | 1327 | 2291 | 0 | 173 | 297 | | | |
| V/C Ratio(X) | 0.38 | 0.20 | 0.00 | 0.00 | 0.00 | 1.45 | 0.00 | 0.00 | 0.32 | | | |
| Avail Cap(c_a), veh/h | 127 | 2954 | 0 | 0 | 1327 | 2291 | 0 | 695 | 1192 | | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | | | |
| Uniform Delay (d), s/veh | 46.7 | 2.6 | 0.0 | 0.0 | 0.0 | 14.3 | 0.0 | 0.0 | 41.6 | | | |
| Incr Delay (d2), s/veh | 1.6 | 0.0 | 0.0 | 0.0 | 0.0 | 203.5 | 0.0 | 0.0 | 0.2 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ln | 0.5 | 0.9 | 0.0 | 0.0 | 0.0 | 83.8 | 0.0 | 0.0 | 1.1 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 48.2 | 2.6 | 0.0 | 0.0 | 0.0 | 217.8 | 0.0 | 0.0 | 41.9 | | | |
| LnGrp LOS | D | A | A | A | A | F | A | A | D | | | |
| Approach Vol, veh/h | | 570 | | | 3314 | | | 94 | | | | |
| Approach Delay, s/veh | | 4.4 | | | 217.8 | | | 41.9 | | | | |
| Approach LOS | | A | | | F | | | D | | | | |

| Timer - Assigned Phs | 2 | 5 | 6 | 8 |
|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 83.1 | 7.9 | 75.2 | 15.3 |
| Change Period (Y+Rc), s | * 5.4 | * 4.7 | 5.4 | 6.1 |
| Max Green Setting (Gmax), s | * 82 | * 7 | 69.8 | 37.0 |
| Max Q Clear Time (g_c+I1), s | 5.8 | 3.2 | 71.8 | 4.7 |
| Green Ext Time (p_c), s | 4.1 | 0.0 | 0.0 | 0.2 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 183.1 | |
| HCM 6th LOS | F | |

| Notes |
|---|
| User approved volume balancing among the lanes for turning movement. |
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. |

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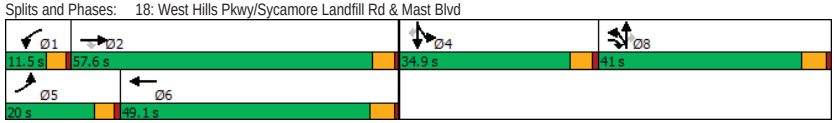
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 120 | 349 | 110 | 185 | 1846 | 20 | 1200 | 15 | 436 | 10 | 10 | 100 |
| Future Volume (vph) | 120 | 349 | 110 | 185 | 1846 | 20 | 1200 | 15 | 436 | 10 | 10 | 100 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | 49% | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | | Split | NA | Perm | Split | NA | Perm |
| Protected Phases | 5 | 2 | 8 | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Permitted Phases | | | 2 | | | | | | 8 | | | 4 |
| Detector Phase | 5 | 2 | 8 | 1 | 6 | | 8 | 8 | 8 | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 10.0 | 10.0 | 4.0 | 10.0 | | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| Minimum Split (s) | 20.0 | 34.9 | 33.4 | 8.4 | 35.2 | | 33.4 | 33.4 | 33.4 | 34.9 | 34.9 | 34.9 |
| Total Split (s) | 20.0 | 57.6 | 41.0 | 11.5 | 49.1 | | 41.0 | 41.0 | 41.0 | 34.9 | 34.9 | 34.9 |
| Total Split (%) | 13.8% | 39.7% | 28.3% | 7.9% | 33.9% | | 28.3% | 28.3% | 28.3% | 24.1% | 24.1% | 24.1% |
| Yellow Time (s) | 3.4 | 3.9 | 4.4 | 3.4 | 4.2 | | 4.4 | 4.4 | 4.4 | 3.9 | 3.9 | 3.9 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.4 | 4.9 | 5.4 | 4.4 | 5.2 | | 5.4 | 5.4 | 5.4 | | 4.9 | 4.9 |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | Min | None | None | Min | | None | None | None | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 145 |
| Actuated Cycle Length: 122.3 |
| Natural Cycle: 145 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 18: West Hills Pkwy/Sycamore Landfill Rd & Mast Blvd






Year 2035 + Proj AM (No School) Fanita Ranch
18: West Hills Pkwy/Sycamore Landfill Rd & Mast Blvd 06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 120 | 349 | 110 | 185 | 1846 | 20 | 1200 | 15 | 436 | 10 | 10 | 100 |
| Future Volume (veh/h) | 120 | 349 | 110 | 185 | 1846 | 20 | 1200 | 15 | 436 | 10 | 10 | 100 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.98 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 130 | 379 | 120 | 201 | 2007 | 22 | 1315 | 0 | 474 | 11 | 11 | 109 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 158 | 1401 | 1093 | 204 | 1312 | 14 | 1053 | 0 | 468 | 78 | 78 | 136 |
| Arrive On Green | 0.09 | 0.39 | 0.39 | 0.06 | 0.36 | 0.36 | 0.30 | 0.00 | 0.30 | 0.09 | 0.09 | 0.09 |
| Sat Flow, veh/h | 1781 | 3554 | 1585 | 3456 | 3600 | 39 | 3563 | 0 | 1585 | 912 | 912 | 1585 |
| Grp Volume(v), veh/h | 130 | 379 | 120 | 201 | 988 | 1041 | 1315 | 0 | 474 | 22 | 0 | 109 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1585 | 1728 | 1777 | 1862 | 1781 | 0 | 1585 | 1825 | 0 | 1585 |
| Q Serve(g_s), s | 8.6 | 8.7 | 3.1 | 7.0 | 43.9 | 43.9 | 35.6 | 0.0 | 35.6 | 1.3 | 0.0 | 8.1 |
| Cycle Q Clear(g_c), s | 8.6 | 8.7 | 3.1 | 7.0 | 43.9 | 43.9 | 35.6 | 0.0 | 35.6 | 1.3 | 0.0 | 8.1 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.02 | 1.00 | | 1.00 | 0.50 | | 1.00 |
| Lane Grp Cap(c), veh/h | 158 | 1401 | 1093 | 204 | 648 | 679 | 1053 | 0 | 468 | 157 | 0 | 136 |
| V/C Ratio(X) | 0.82 | 0.27 | 0.11 | 0.99 | 1.53 | 1.53 | 1.25 | 0.00 | 1.01 | 0.14 | 0.00 | 0.80 |
| Avail Cap(c_a), veh/h | 231 | 1555 | 1162 | 204 | 648 | 679 | 1053 | 0 | 468 | 454 | 0 | 395 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 53.9 | 24.7 | 6.3 | 56.6 | 38.3 | 38.3 | 42.4 | 0.0 | 42.4 | 50.9 | 0.0 | 54.0 |
| Incr Delay (d2), s/veh | 9.2 | 0.1 | 0.1 | 59.0 | 244.8 | 247.3 | 120.1 | 0.0 | 44.6 | 0.4 | 0.0 | 10.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 4.2 | 3.6 | 2.2 | 4.7 | 62.3 | 65.8 | 32.5 | 0.0 | 19.1 | 0.6 | 0.0 | 3.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 63.2 | 24.9 | 6.3 | 115.6 | 283.0 | 285.6 | 162.5 | 0.0 | 87.0 | 51.3 | 0.0 | 64.3 |
| LnGrp LOS | E | C | A | F | F | F | F | A | F | D | A | E |
| Approach Vol, veh/h | | 629 | | | 2230 | | | 1789 | | | 131 | |
| Approach Delay, s/veh | | 29.2 | | | 269.2 | | | 142.5 | | | 62.1 | |
| Approach LOS | | C | | | F | | | F | | | E | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 11.5 | 52.7 | | 15.3 | 15.1 | 49.1 | | 41.0 | | | | |
| Change Period (Y+Rc), s | 4.4 | * 5.2 | | 4.9 | 4.4 | 5.2 | | 5.4 | | | | |
| Max Green Setting (Gmax), s | 7.1 | * 53 | | 30.0 | 15.6 | 43.9 | | 35.6 | | | | |
| Max Q Clear Time (g_c+I1), s | 9.0 | 10.7 | | 10.1 | 10.6 | 45.9 | | 37.6 | | | | |
| Green Ext Time (p_c), s | 0.0 | 3.9 | | 0.4 | 0.1 | 0.0 | | 0.0 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 184.5 | |
| HCM 6th LOS | F | |

| Notes |
|---|
| User approved volume balancing among the lanes for turning movement. |
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. |

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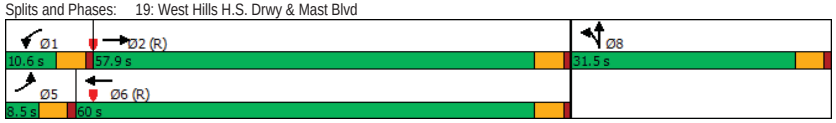
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 5 | 645 | 50 | 77 | 1886 | 0 | 30 | 0 | 34 | 0 | 0 | 0 |
| Future Volume (vph) | 5 | 645 | 50 | 77 | 1886 | 0 | 30 | 0 | 34 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | 9 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Split | NA | | | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | | | | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | | | | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | | | | |
| Minimum Split (s) | 8.5 | 22.5 | | 8.5 | 20.5 | | 31.5 | 31.5 | | | | |
| Total Split (s) | 8.5 | 57.9 | | 10.6 | 60.0 | | 31.5 | 31.5 | | | | |
| Total Split (%) | 8.5% | 57.9% | | 10.6% | 60.0% | | 31.5% | 31.5% | | | | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | | | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | | |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | | 4.5 | | | | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | | | | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 100 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 19: West Hills H.S. Drwy & Mast Blvd






Year 2035 + Proj AM (No School)
19: West Hills H.S. Drwy & Mast Blvd

Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 5 | 645 | 50 | 77 | 1886 | 0 | 30 | 0 | 34 | 0 | 0 | 0 |
| Future Volume (veh/h) | 5 | 645 | 50 | 77 | 1886 | 0 | 30 | 0 | 34 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 0 | 1900 | 1870 | 1900 | | | |
| Adj Flow Rate, veh/h | 5 | 701 | 54 | 84 | 2050 | 0 | 33 | 0 | 37 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 0 | 0 | 2 | 0 | | | |
| Cap, veh/h | 9 | 2509 | 193 | 106 | 2860 | 0 | 43 | 0 | 49 | | | |
| Arrive On Green | 0.01 | 0.75 | 0.75 | 0.12 | 1.00 | 0.00 | 0.06 | 0.00 | 0.06 | | | |
| Sat Flow, veh/h | 1781 | 3343 | 257 | 1781 | 3647 | 0 | 788 | 0 | 884 | | | |
| Grp Volume(v), veh/h | 5 | 372 | 383 | 84 | 2050 | 0 | 70 | 0 | 0 | | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1824 | 1781 | 1777 | 0 | 1672 | 0 | 0 | | | |
| Q Serve(g_s), s | 0.3 | 6.6 | 6.6 | 4.6 | 0.0 | 0.0 | 4.1 | 0.0 | 0.0 | | | |
| Cycle Q Clear(g_c), s | 0.3 | 6.6 | 6.6 | 4.6 | 0.0 | 0.0 | 4.1 | 0.0 | 0.0 | | | |
| Prop In Lane | 1.00 | | 0.14 | 1.00 | | 0.00 | 0.47 | | 0.53 | | | |
| Lane Grp Cap(c), veh/h | 9 | 1333 | 1369 | 106 | 2860 | 0 | 92 | 0 | 0 | | | |
| V/C Ratio(X) | 0.54 | 0.28 | 0.28 | 0.79 | 0.72 | 0.00 | 0.76 | 0.00 | 0.00 | | | |
| Avail Cap(c_a), veh/h | 71 | 1333 | 1369 | 109 | 2860 | 0 | 451 | 0 | 0 | | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 0.84 | 0.84 | 0.84 | 0.17 | 0.17 | 0.00 | 1.00 | 0.00 | 0.00 | | | |
| Uniform Delay (d), s/veh | 49.6 | 3.9 | 3.9 | 43.5 | 0.0 | 0.0 | 46.6 | 0.0 | 0.0 | | | |
| Incr Delay (d2), s/veh | 35.6 | 0.4 | 0.4 | 6.6 | 0.3 | 0.0 | 12.1 | 0.0 | 0.0 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ln | 0.2 | 1.9 | 1.9 | 2.1 | 0.1 | 0.0 | 2.0 | 0.0 | 0.0 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 85.2 | 4.4 | 4.4 | 50.1 | 0.3 | 0.0 | 58.7 | 0.0 | 0.0 | | | |
| LnGrp LOS | F | A | A | D | A | A | E | A | A | | | |
| Approach Vol, veh/h | | 760 | | | 2134 | | | 70 | | | | |
| Approach Delay, s/veh | | 4.9 | | | 2.2 | | | 58.7 | | | | |
| Approach LOS | | A | | | A | | | E | | | | |

| Timer - Assigned Phs | 1 | 2 | | 5 | 6 | | 8 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 10.4 | 79.5 | | 5.0 | 85.0 | | 10.0 | | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | | | | | |
| Max Green Setting (Gmax), s | 6.1 | 53.4 | | 4.0 | 55.5 | | 27.0 | | | | | |
| Max Q Clear Time (g_c+I1), s | 6.6 | 8.6 | | 2.3 | 2.0 | | 6.1 | | | | | |
| Green Ext Time (p_c), s | 0.0 | 5.0 | | 0.0 | 29.3 | | 0.3 | | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 4.3 | |
| HCM 6th LOS | A | |

Fanita Ranch
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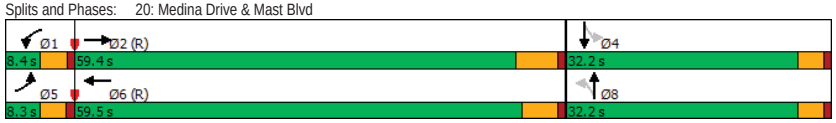
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 10 | 789 | 40 | 15 | 1903 | 10 | 40 | 5 | 10 | 25 | 15 | 30 |
| Future Volume (vph) | 10 | 789 | 40 | 15 | 1903 | 10 | 40 | 5 | 10 | 25 | 15 | 30 |
| Confl. Peds. (#/hr) | | | 2 | | | | | | 1 | | | 10 |
| Confl. Bikes (#/hr) | | | 1 | | | 1 | | | 2 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Perm | NA | | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | | 4 | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 22.0 | | 8.2 | 22.0 | | 32.2 | 32.2 | | 32.2 | 32.2 | |
| Total Split (s) | 8.3 | 59.4 | | 8.4 | 59.5 | | 32.2 | 32.2 | | 32.2 | 32.2 | |
| Total Split (%) | 8.3% | 59.4% | | 8.4% | 59.5% | | 32.2% | 32.2% | | 32.2% | 32.2% | |
| Yellow Time (s) | 3.2 | 5.1 | | 3.2 | 4.3 | | 3.2 | 3.2 | | 3.2 | 3.2 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | 0.0 | |
| Total Lost Time (s) | 4.2 | 6.1 | | 4.2 | 5.3 | | | 4.2 | | | 4.2 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 110 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 20: Medina Drive & Mast Blvd






Year 2035 + Proj AM (No School)
20: Medina Drive & Mast Blvd
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 10 | 789 | 40 | 15 | 1903 | 10 | 40 | 5 | 10 | 25 | 15 | 30 |
| Future Volume (veh/h) | 10 | 789 | 40 | 15 | 1903 | 10 | 40 | 5 | 10 | 25 | 15 | 30 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 0.98 | | 0.98 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 11 | 858 | 43 | 16 | 2068 | 11 | 43 | 5 | 11 | 27 | 16 | 33 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 19 | 2551 | 128 | 26 | 2702 | 14 | 165 | 23 | 29 | 88 | 50 | 68 |
| Arrive On Green | 0.00 | 0.24 | 0.24 | 0.03 | 1.00 | 1.00 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 |
| Sat Flow, veh/h | 1781 | 3439 | 172 | 1781 | 3624 | 19 | 1041 | 231 | 292 | 393 | 509 | 693 |
| Grp Volume(v), veh/h | 11 | 443 | 458 | 16 | 1013 | 1066 | 59 | 0 | 0 | 76 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1835 | 1781 | 1777 | 1866 | 1564 | 0 | 0 | 1595 | 0 | 0 |
| Q Serve(g_s), s | 0.6 | 20.5 | 20.5 | 0.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.2 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 0.6 | 20.5 | 20.5 | 0.9 | 0.0 | 0.0 | 3.1 | 0.0 | 0.0 | 4.3 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | | 0.09 | 1.00 | | 0.01 | 0.73 | | 0.19 | 0.36 | | 0.43 |
| Lane Grp Cap(c), veh/h | 19 | 1318 | 1361 | 26 | 1325 | 1392 | 217 | 0 | 0 | 207 | 0 | 0 |
| V/C Ratio(X) | 0.59 | 0.34 | 0.34 | 0.63 | 0.76 | 0.77 | 0.27 | 0.00 | 0.00 | 0.37 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 73 | 1318 | 1361 | 75 | 1325 | 1392 | 470 | 0 | 0 | 485 | 0 | 0 |
| HCM Platoon Ratio | 0.33 | 0.33 | 0.33 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.92 | 0.92 | 0.92 | 0.39 | 0.39 | 0.39 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 49.6 | 17.5 | 17.5 | 48.3 | 0.0 | 0.0 | 42.0 | 0.0 | 0.0 | 42.5 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 24.0 | 0.6 | 0.6 | 3.6 | 1.7 | 1.6 | 0.2 | 0.0 | 0.0 | 0.4 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.4 | 9.9 | 10.2 | 0.4 | 0.6 | 0.6 | 1.4 | 0.0 | 0.0 | 1.8 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 73.6 | 18.1 | 18.1 | 51.9 | 1.7 | 1.6 | 42.2 | 0.0 | 0.0 | 42.9 | 0.0 | 0.0 |
| LnGrp LOS | E | B | B | D | A | A | D | A | A | D | A | A |
| Approach Vol, veh/h | | 912 | | | 2095 | | | 59 | | | 76 | |
| Approach Delay, s/veh | | 18.8 | | | 2.0 | | | 42.2 | | | 42.9 | |
| Approach LOS | | B | | | A | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.6 | 80.3 | | 14.1 | 5.3 | 80.7 | | 14.1 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 6.1 | | * 4.2 | * 4.2 | * 6.1 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | * 4.2 | 53.3 | | * 28 | * 4.1 | * 54 | | * 28 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.9 | 22.5 | | 6.3 | 2.6 | 2.0 | | 5.1 | | | | |
| Green Ext Time (p_c), s | 0.0 | 10.2 | | 0.2 | 0.0 | 42.6 | | 0.2 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 8.6 | |
| HCM 6th LOS | A | |

Notes

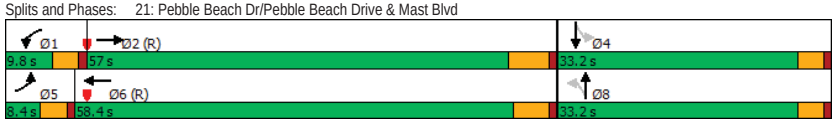
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\No School Alt\11 2035+P AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 20 | 779 | 30 | 20 | 1923 | 30 | 20 | 10 | 40 | 100 | 30 | 30 |
| Future Volume (vph) | 20 | 779 | 30 | 20 | 1923 | 30 | 20 | 10 | 40 | 100 | 30 | 30 |
| Confl. Peds. (#/hr) | | | 8 | | | 1 | | | 2 | | | 11 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Perm | NA | | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | | 4 | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 23.9 | | 8.2 | 23.3 | | 33.2 | 33.2 | | 32.2 | 32.2 | |
| Total Split (s) | 8.4 | 57.0 | | 9.8 | 58.4 | | 33.2 | 33.2 | | 33.2 | 33.2 | |
| Total Split (%) | 8.4% | 57.0% | | 9.8% | 58.4% | | 33.2% | 33.2% | | 33.2% | 33.2% | |
| Yellow Time (s) | 3.2 | 4.9 | | 3.2 | 4.3 | | 3.2 | 3.2 | | 3.2 | 3.2 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | 0.0 | |
| Total Lost Time (s) | 4.2 | 5.9 | | 4.2 | 5.3 | | | 4.2 | | | 4.2 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 110 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 21: Pebble Beach Dr/Pebble Beach Drive & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 20 | 779 | 30 | 20 | 1923 | 30 | 20 | 10 | 40 | 100 | 30 | 30 |
| Future Volume (veh/h) | 20 | 779 | 30 | 20 | 1923 | 30 | 20 | 10 | 40 | 100 | 30 | 30 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 1.00 | 0.99 | | 1.00 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 22 | 847 | 33 | 22 | 2090 | 33 | 22 | 11 | 43 | 109 | 33 | 33 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 33 | 2382 | 93 | 33 | 2447 | 39 | 98 | 59 | 145 | 200 | 54 | 45 |
| Arrive On Green | 0.04 | 1.00 | 1.00 | 0.02 | 0.68 | 0.68 | 0.16 | 0.16 | 0.16 | 0.16 | 0.16 | 0.16 |
| Sat Flow, veh/h | 1781 | 3486 | 136 | 1781 | 3581 | 56 | 334 | 383 | 933 | 909 | 347 | 292 |
| Grp Volume(v), veh/h | 22 | 432 | 448 | 22 | 1034 | 1089 | 76 | 0 | 0 | 175 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1845 | 1781 | 1777 | 1860 | 1650 | 0 | 0 | 1549 | 0 | 0 |
| Q Serve(g_s), s | 1.2 | 0.0 | 0.0 | 1.2 | 44.1 | 44.7 | 0.0 | 0.0 | 0.0 | 6.5 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 1.2 | 0.0 | 0.0 | 1.2 | 44.1 | 44.7 | 4.0 | 0.0 | 0.0 | 10.4 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | | 0.07 | 1.00 | | 0.03 | 0.29 | | 0.57 | 0.62 | | 0.19 |
| Lane Grp Cap(c), veh/h | 33 | 1214 | 1261 | 33 | 1214 | 1271 | 303 | 0 | 0 | 299 | 0 | 0 |
| V/C Ratio(X) | 0.68 | 0.36 | 0.36 | 0.68 | 0.85 | 0.86 | 0.25 | 0.00 | 0.00 | 0.59 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 75 | 1214 | 1261 | 100 | 1214 | 1271 | 508 | 0 | 0 | 496 | 0 | 0 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.95 | 0.95 | 0.95 | 0.09 | 0.09 | 0.09 | 0.99 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 47.9 | 0.0 | 0.0 | 48.8 | 12.0 | 12.1 | 37.3 | 0.0 | 0.0 | 39.8 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 8.3 | 0.8 | 0.7 | 0.8 | 0.8 | 0.8 | 0.2 | 0.0 | 0.0 | 0.7 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.6 | 0.3 | 0.3 | 0.5 | 13.8 | 14.6 | 1.7 | 0.0 | 0.0 | 4.1 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 56.2 | 0.8 | 0.7 | 49.6 | 12.8 | 12.8 | 37.5 | 0.0 | 0.0 | 40.5 | 0.0 | 0.0 |
| LnGrp LOS | E | A | A | D | B | B | D | A | A | D | A | A |
| Approach Vol, veh/h | | 902 | | | 2145 | | | 76 | | | 175 | |
| Approach Delay, s/veh | | 2.1 | | | 13.2 | | | 37.5 | | | 40.5 | |
| Approach LOS | | A | | | B | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 6.0 | 74.2 | | 19.7 | 6.0 | 74.2 | | 19.7 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 5.9 | | * 4.2 | * 4.2 | * 5.9 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | * 5.6 | 51.1 | | * 29 | * 4.2 | * 53 | | * 29 | | | | |
| Max Q Clear Time (g_c+I1), s | 3.2 | 2.0 | | 12.4 | 3.2 | 46.7 | | 6.0 | | | | |
| Green Ext Time (p_c), s | 0.0 | 13.2 | | 0.6 | 0.0 | 6.3 | | 0.2 | | | | |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 12.2 |
| HCM 6th LOS | B |

| Notes |
|---|
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 228 | 551 | 180 | 120 | 1505 | 83 | 70 | 108 | 50 | 71 | 243 | 508 |
| Future Volume (vph) | 228 | 551 | 180 | 120 | 1505 | 83 | 70 | 108 | 50 | 71 | 243 | 508 |
| Confl. Peds. (#/hr) | | | 8 | | | | | | 6 | | | 2 |
| Confl. Bikes (#/hr) | | | 2 | | | 2 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | | | | | | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 27.5 | 27.5 | 8.2 | 28.1 | | 8.2 | 35.1 | | 8.2 | 28.1 | 28.1 |
| Total Split (s) | 13.0 | 37.7 | 37.7 | 19.0 | 43.7 | | 11.4 | 35.1 | | 8.2 | 31.9 | 31.9 |
| Total Split (%) | 13.0% | 37.7% | 37.7% | 19.0% | 43.7% | | 11.4% | 35.1% | | 8.2% | 31.9% | 31.9% |
| Yellow Time (s) | 3.2 | 4.5 | 4.5 | 3.2 | 4.1 | | 3.2 | 4.1 | | 3.2 | 4.1 | 4.1 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.5 | 5.5 | 4.2 | 5.1 | | 4.2 | 5.1 | | 4.2 | 5.1 | 5.1 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | C-Max | C-Max | None | C-Max | | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 14.1 (14%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 150 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 22: Fanita Parkway & Mast Blvd

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 228 | 551 | 180 | 120 | 1505 | 83 | 70 | 108 | 50 | 71 | 243 | 508 |
| Future Volume (veh/h) | 228 | 551 | 180 | 120 | 1505 | 83 | 70 | 108 | 50 | 71 | 243 | 508 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.98 | 1.00 | | 0.99 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 248 | 599 | 196 | 130 | 1636 | 90 | 76 | 117 | 54 | 77 | 264 | 552 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 157 | 1411 | 610 | 161 | 1366 | 75 | 97 | 342 | 158 | 71 | 501 | 424 |
| Arrive On Green | 0.18 | 0.79 | 0.79 | 0.09 | 0.40 | 0.40 | 0.05 | 0.28 | 0.28 | 0.04 | 0.27 | 0.27 |
| Sat Flow, veh/h | 1781 | 3554 | 1535 | 1781 | 3422 | 187 | 1781 | 1208 | 558 | 1781 | 1870 | 1582 |
| Grp Volume(v), veh/h | 248 | 599 | 196 | 130 | 845 | 881 | 76 | 0 | 171 | 77 | 264 | 552 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1535 | 1781 | 1777 | 1832 | 1781 | 0 | 1766 | 1781 | 1870 | 1582 |
| Q Serve(g_s), s | 8.8 | 5.2 | 3.5 | 7.2 | 39.9 | 39.9 | 4.2 | 0.0 | 7.7 | 4.0 | 12.0 | 26.8 |
| Cycle Q Clear(g_c), s | 8.8 | 5.2 | 3.5 | 7.2 | 39.9 | 39.9 | 4.2 | 0.0 | 7.7 | 4.0 | 12.0 | 26.8 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.10 | 1.00 | | 0.32 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 157 | 1411 | 610 | 161 | 710 | 731 | 97 | 0 | 499 | 71 | 501 | 424 |
| V/C Ratio(X) | 1.58 | 0.42 | 0.32 | 0.81 | 1.19 | 1.21 | 0.78 | 0.00 | 0.34 | 1.08 | 0.53 | 1.30 |
| Avail Cap(c_a), veh/h | 157 | 1411 | 610 | 264 | 710 | 731 | 128 | 0 | 530 | 71 | 501 | 424 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.94 | 0.94 | 0.94 | 0.20 | 0.20 | 0.20 | 0.99 | 0.00 | 0.99 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 41.2 | 6.7 | 6.6 | 44.7 | 30.0 | 30.0 | 46.7 | 0.0 | 28.5 | 48.0 | 31.2 | 36.6 |
| Incr Delay (d2), s/veh | 288.6 | 0.9 | 1.3 | 1.5 | 88.7 | 95.1 | 17.4 | 0.0 | 1.5 | 130.5 | 2.8 | 152.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 15.9 | 1.6 | 1.2 | 3.2 | 33.5 | 35.9 | 2.3 | 0.0 | 3.3 | 4.3 | 5.6 | 27.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 329.8 | 7.6 | 7.9 | 46.2 | 118.7 | 125.1 | 64.1 | 0.0 | 29.9 | 178.5 | 34.0 | 189.0 |
| LnGrp LOS | F | A | A | D | F | F | E | A | C | F | C | F |
| Approach Vol, veh/h | | 1043 | | | 1856 | | | 247 | | | 893 | |
| Approach Delay, s/veh | | 84.3 | | | 116.7 | | | 40.5 | | | 142.3 | |
| Approach LOS | | F | | | F | | | D | | | F | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 13.2 | 45.2 | 9.7 | 31.9 | 13.0 | 45.4 | 8.2 | 33.4 |
| Change Period (Y+Rc), s | * 4.2 | 5.5 | * 4.2 | 5.1 | * 4.2 | * 5.5 | * 4.2 | 5.1 |
| Max Green Setting (Gmax), s | * 15 | 32.2 | * 7.2 | 26.8 | * 8.8 | * 39 | * 4 | 30.0 |
| Max Q Clear Time (g_c+I1), s | 9.2 | 7.2 | 6.2 | 28.8 | 10.8 | 41.9 | 6.0 | 9.7 |
| Green Ext Time (p_c), s | 0.1 | 11.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.9 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 109.3 | |
| HCM 6th LOS | F | |

Notes

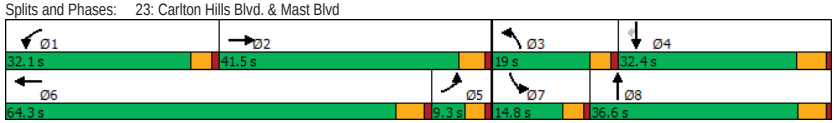
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 55 | 411 | 241 | 225 | 1490 | 120 | 188 | 175 | 95 | 120 | 263 | 95 |
| Future Volume (vph) | 55 | 411 | 241 | 225 | 1490 | 120 | 188 | 175 | 95 | 120 | 263 | 95 |
| Confl. Peds. (#/hr) | | | 5 | | | 6 | | | 22 | | | 8 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 33.1 | | 8.2 | 32.4 | | 8.2 | 34.2 | | 8.2 | 32.4 | 32.4 |
| Total Split (s) | 9.3 | 41.5 | | 32.1 | 64.3 | | 19.0 | 36.6 | | 14.8 | 32.4 | 32.4 |
| Total Split (%) | 7.4% | 33.2% | | 25.7% | 51.4% | | 15.2% | 29.3% | | 11.8% | 25.9% | 25.9% |
| Yellow Time (s) | 3.2 | 4.1 | | 3.2 | 4.4 | | 3.2 | 4.2 | | 3.2 | 4.4 | 4.4 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.1 | | 4.2 | 5.4 | | 4.2 | 5.2 | | 4.2 | 5.4 | 5.4 |
| Lead/Lag | Lag | Lag | | Lead | Lead | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | Min | | None | Min | | None | Min | | None | Min | Min |

**Intersection Summary**

Cycle Length: 125
Actuated Cycle Length: 117.5
Natural Cycle: 135
Control Type: Actuated-Uncoordinated

Splits and Phases: 23: Carlton Hills Blvd. & Mast Blvd






Year 2035 + Proj AM (No School)
23: Carlton Hills Blvd. & Mast Blvd
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 55 | 411 | 241 | 225 | 1490 | 120 | 188 | 175 | 95 | 120 | 263 | 95 |
| Future Volume (veh/h) | 55 | 411 | 241 | 225 | 1490 | 120 | 188 | 175 | 95 | 120 | 263 | 95 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.97 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 60 | 447 | 262 | 245 | 1620 | 130 | 204 | 190 | 103 | 130 | 286 | 103 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 76 | 853 | 496 | 274 | 1653 | 131 | 222 | 458 | 235 | 156 | 594 | 258 |
| Arrive On Green | 0.04 | 0.40 | 0.40 | 0.15 | 0.50 | 0.50 | 0.12 | 0.20 | 0.20 | 0.09 | 0.17 | 0.17 |
| Sat Flow, veh/h | 1781 | 2159 | 1256 | 1781 | 3333 | 265 | 1781 | 2242 | 1152 | 1781 | 3554 | 1542 |
| Grp Volume(v), veh/h | 60 | 367 | 342 | 245 | 857 | 893 | 204 | 148 | 145 | 130 | 286 | 103 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1639 | 1781 | 1777 | 1822 | 1781 | 1777 | 1618 | 1781 | 1777 | 1542 |
| Q Serve(g_s), s | 4.0 | 18.7 | 18.9 | 16.0 | 55.7 | 57.6 | 13.4 | 8.6 | 9.3 | 8.5 | 8.7 | 6.0 |
| Cycle Q Clear(g_c), s | 4.0 | 18.7 | 18.9 | 16.0 | 55.7 | 57.6 | 13.4 | 8.6 | 9.3 | 8.5 | 8.7 | 6.0 |
| Prop In Lane | 1.00 | | 0.77 | 1.00 | | 0.15 | 1.00 | | 0.71 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 76 | 702 | 648 | 274 | 881 | 903 | 222 | 363 | 331 | 156 | 594 | 258 |
| V/C Ratio(X) | 0.78 | 0.52 | 0.53 | 0.89 | 0.97 | 0.99 | 0.92 | 0.41 | 0.44 | 0.83 | 0.48 | 0.40 |
| Avail Cap(c_a), veh/h | 76 | 702 | 648 | 418 | 881 | 903 | 222 | 470 | 428 | 159 | 808 | 351 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 56.3 | 27.4 | 27.4 | 49.3 | 29.1 | 29.6 | 51.4 | 41.0 | 41.3 | 53.3 | 44.8 | 31.3 |
| Incr Delay (d2), s/veh | 37.3 | 1.8 | 2.0 | 10.8 | 24.1 | 27.3 | 38.2 | 2.1 | 2.6 | 28.1 | 2.6 | 4.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.5 | 8.0 | 7.5 | 7.8 | 27.9 | 30.1 | 8.3 | 4.0 | 3.9 | 5.0 | 4.0 | 3.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 93.6 | 29.2 | 29.4 | 60.1 | 53.3 | 56.9 | 89.6 | 43.2 | 43.9 | 81.4 | 47.4 | 35.6 |
| LnGrp LOS | F | C | C | E | D | E | F | D | D | F | D | D |
| Approach Vol, veh/h | | 769 | | | 1995 | | | 497 | | | 519 | |
| Approach Delay, s/veh | | 34.3 | | | 55.7 | | | 62.4 | | | 53.6 | |
| Approach LOS | | C | | | E | | | E | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 22.5 | 52.0 | 19.0 | 25.3 | 10.2 | 64.3 | 14.6 | 29.7 |
| Change Period (Y+Rc), s | * 4.2 | 5.1 | * 4.2 | 5.4 | 5.1 | * 5.4 | * 4.2 | * 5.4 |
| Max Green Setting (Gmax), s | * 28 | 36.4 | * 15 | 27.0 | 5.1 | * 59 | * 11 | * 31 |
| Max Q Clear Time (g_c+I1), s | 18.0 | 20.9 | 15.4 | 10.7 | 6.0 | 59.6 | 10.5 | 11.3 |
| Green Ext Time (p_c), s | 0.2 | 7.3 | 0.0 | 4.5 | 0.0 | 0.0 | 0.0 | 3.4 |

**Intersection Summary**

| | |
|---|---|
| HCM 6th Ctrl Delay | 51.9 |
| HCM 6th LOS | D |

**Notes**

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Fanita Ranch
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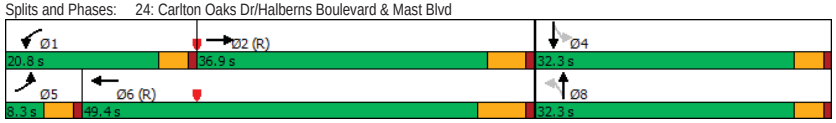
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 10 | 671 | 30 | 160 | 1675 | 30 | 70 | 40 | 130 | 60 | 60 | 60 |
| Future Volume (vph) | 10 | 671 | 30 | 160 | 1675 | 30 | 70 | 40 | 130 | 60 | 60 | 60 |
| Confl. Peds. (#/hr) | | | 6 | | | | | | 8 | | | 1 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Perm | NA | | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | | 4 | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 29.2 | | 8.2 | 28.3 | | 32.2 | 32.2 | | 32.2 | 32.2 | |
| Total Split (s) | 8.3 | 36.9 | | 20.8 | 49.4 | | 32.3 | 32.3 | | 32.3 | 32.3 | |
| Total Split (%) | 9.2% | 41.0% | | 23.1% | 54.9% | | 35.9% | 35.9% | | 35.9% | 35.9% | |
| Yellow Time (s) | 3.2 | 4.2 | | 3.2 | 5.3 | | 3.2 | 3.2 | | 3.2 | 3.2 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.2 | 5.2 | | 4.2 | 6.3 | | 4.2 | 4.2 | | 4.2 | 4.2 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 90 |
| Actuated Cycle Length: 90 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 100 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 24: Carlton Oaks Dr/Halberns Boulevard & Mast Blvd






Year 2035 + Proj AM (No School) Fanita Ranch
24: Carlton Oaks Dr/Halberns Boulevard & Mast Blvd 06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 10 | 671 | 30 | 160 | 1675 | 30 | 70 | 40 | 130 | 60 | 60 | 60 |
| Future Volume (veh/h) | 10 | 671 | 30 | 160 | 1675 | 30 | 70 | 40 | 130 | 60 | 60 | 60 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.99 | 0.99 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 11 | 729 | 33 | 174 | 1821 | 33 | 76 | 43 | 141 | 65 | 65 | 65 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 19 | 1812 | 82 | 209 | 2250 | 41 | 243 | 74 | 244 | 191 | 168 | 168 |
| Arrive On Green | 0.01 | 0.52 | 0.52 | 0.12 | 0.63 | 0.63 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 |
| Sat Flow, veh/h | 1781 | 3462 | 157 | 1781 | 3571 | 65 | 1259 | 380 | 1247 | 1191 | 857 | 857 |
| Grp Volume(v), veh/h | 11 | 374 | 388 | 174 | 904 | 950 | 76 | 0 | 184 | 65 | 0 | 130 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1842 | 1781 | 1777 | 1859 | 1259 | 0 | 1628 | 1191 | 0 | 1715 |
| Q Serve(g_s), s | 0.6 | 11.4 | 11.4 | 8.6 | 34.5 | 34.8 | 5.0 | 0.0 | 9.2 | 4.7 | 0.0 | 5.9 |
| Cycle Q Clear(g_c), s | 0.6 | 11.4 | 11.4 | 8.6 | 34.5 | 34.8 | 11.0 | 0.0 | 9.2 | 13.9 | 0.0 | 5.9 |
| Prop In Lane | 1.00 | | 0.09 | 1.00 | | 0.03 | 1.00 | | 0.77 | 1.00 | | 0.50 |
| Lane Grp Cap(c), veh/h | 19 | 930 | 964 | 209 | 1120 | 1171 | 243 | 0 | 319 | 191 | 0 | 336 |
| V/C Ratio(X) | 0.58 | 0.40 | 0.40 | 0.83 | 0.81 | 0.81 | 0.31 | 0.00 | 0.58 | 0.34 | 0.00 | 0.39 |
| Avail Cap(c_a), veh/h | 81 | 930 | 964 | 329 | 1120 | 1171 | 390 | 0 | 508 | 330 | 0 | 535 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.78 | 0.78 | 0.78 | 0.35 | 0.35 | 0.35 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 44.3 | 12.9 | 13.0 | 38.8 | 12.5 | 12.6 | 36.3 | 0.0 | 32.8 | 39.1 | 0.0 | 31.5 |
| Incr Delay (d2), s/veh | 7.8 | 1.0 | 1.0 | 2.0 | 2.3 | 2.3 | 0.3 | 0.0 | 0.6 | 0.4 | 0.0 | 0.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.3 | 4.3 | 4.5 | 3.7 | 11.6 | 12.2 | 1.5 | 0.0 | 3.6 | 1.4 | 0.0 | 2.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 52.1 | 14.0 | 13.9 | 40.8 | 14.8 | 14.8 | 36.5 | 0.0 | 33.4 | 39.5 | 0.0 | 31.8 |
| LnGrp LOS | D | B | B | D | B | B | D | A | C | D | A | C |
| Approach Vol, veh/h | | 773 | | | 2028 | | | 260 | | | 195 | |
| Approach Delay, s/veh | | 14.5 | | | 17.1 | | | 34.3 | | | 34.3 | |
| Approach LOS | | B | | | B | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 14.8 | 53.4 | | 21.8 | 5.2 | 63.0 | | 21.8 | | | | |
| Change Period (Y+Rc), s | * 4.2 | * 6.3 | | * 4.2 | * 4.2 | 6.3 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | * 17 | * 32 | | * 28 | * 4.1 | 43.1 | | * 28 | | | | |
| Max Q Clear Time (g_c+I1), s | 10.6 | 13.4 | | 15.9 | 2.6 | 36.8 | | 13.0 | | | | |
| Green Ext Time (p_c), s | 0.1 | 8.0 | | 0.4 | 0.0 | 6.0 | | 0.7 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 18.9 | |
| HCM 6th LOS | B | |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

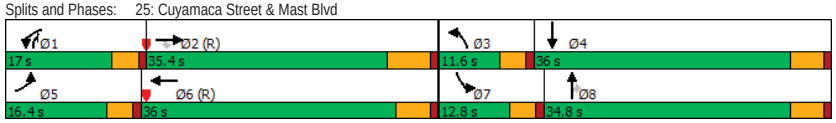
Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\No School Alt\11 2035+P AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 161 | 445 | 260 | 381 | 790 | 75 | 210 | 218 | 196 | 90 | 619 | 490 |
| Future Volume (vph) | 161 | 445 | 260 | 381 | 790 | 75 | 210 | 218 | 196 | 90 | 619 | 490 |
| Confl. Peds. (#/hr) | | | 8 | | | 5 | | | 3 | | | 3 |
| Confl. Bikes (#/hr) | | | 4 | | | 1 | | | 3 | | | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | | Prot | NA | pm+ov | Prot | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | 1 | 7 | 4 | |
| Permitted Phases | | | 2 | | | | | | 8 | | | |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | | 3 | 8 | 1 | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | | 4.0 | 7.0 | 4.0 | 4.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 34.3 | 34.3 | 8.2 | 32.3 | | 8.2 | 33.1 | 8.2 | 8.2 | 34.0 | |
| Total Split (s) | 16.4 | 35.4 | 35.4 | 17.0 | 36.0 | | 11.6 | 34.8 | 17.0 | 12.8 | 36.0 | |
| Total Split (%) | 16.4% | 35.4% | 35.4% | 17.0% | 36.0% | | 11.6% | 34.8% | 17.0% | 12.8% | 36.0% | |
| Yellow Time (s) | 3.2 | 5.3 | 5.3 | 3.2 | 4.3 | | 3.2 | 4.1 | 3.2 | 3.2 | 4.0 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.2 | 6.3 | 6.3 | 4.2 | 5.3 | | 4.2 | 5.1 | 4.2 | 4.2 | 5.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | |
| Recall Mode | None | C-Min | C-Min | None | C-Min | | None | None | None | None | None | |

**Intersection Summary**

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 31 (31%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 95
Control Type: Actuated-Coordinated

Splits and Phases: 25: Cuyamaca Street & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 161 | 445 | 260 | 381 | 790 | 75 | 210 | 218 | 196 | 90 | 619 | 490 |
| Future Volume (veh/h) | 161 | 445 | 260 | 381 | 790 | 75 | 210 | 218 | 196 | 90 | 619 | 490 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 175 | 484 | 283 | 414 | 859 | 82 | 228 | 237 | 213 | 98 | 673 | 533 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 206 | 1031 | 449 | 442 | 989 | 94 | 256 | 1118 | 693 | 124 | 582 | 457 |
| Arrive On Green | 0.12 | 0.29 | 0.29 | 0.13 | 0.30 | 0.30 | 0.07 | 0.31 | 0.31 | 0.07 | 0.31 | 0.31 |
| Sat Flow, veh/h | 1781 | 3554 | 1548 | 3456 | 3272 | 312 | 3456 | 3554 | 1558 | 1781 | 1878 | 1474 |
| Grp Volume(v), veh/h | 175 | 484 | 283 | 414 | 466 | 475 | 228 | 237 | 213 | 98 | 637 | 569 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1548 | 1728 | 1777 | 1808 | 1728 | 1777 | 1558 | 1781 | 1777 | 1575 |
| Q Serve(g_s), s | 9.6 | 11.2 | 15.9 | 11.9 | 24.8 | 24.8 | 6.5 | 4.9 | 8.8 | 5.4 | 31.0 | 31.0 |
| Cycle Q Clear(g_c), s | 9.6 | 11.2 | 15.9 | 11.9 | 24.8 | 24.8 | 6.5 | 4.9 | 8.8 | 5.4 | 31.0 | 31.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.17 | 1.00 | | 1.00 | 1.00 | | 0.94 |
| Lane Grp Cap(c), veh/h | 206 | 1031 | 449 | 442 | 537 | 547 | 256 | 1118 | 693 | 124 | 551 | 488 |
| V/C Ratio(X) | 0.85 | 0.47 | 0.63 | 0.94 | 0.87 | 0.87 | 0.89 | 0.21 | 0.31 | 0.79 | 1.16 | 1.17 |
| Avail Cap(c_a), veh/h | 217 | 1034 | 451 | 442 | 545 | 555 | 256 | 1118 | 693 | 153 | 551 | 488 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.92 | 0.92 | 0.92 | 0.89 | 0.89 | 0.89 | 0.85 | 0.85 | 0.85 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 43.4 | 29.2 | 30.8 | 43.2 | 33.0 | 33.0 | 45.9 | 25.2 | 18.0 | 45.8 | 34.5 | 34.5 |
| Incr Delay (d2), s/veh | 22.0 | 1.4 | 6.1 | 25.0 | 15.5 | 15.3 | 25.8 | 0.1 | 0.3 | 16.0 | 89.1 | 95.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 5.4 | 4.8 | 6.5 | 6.4 | 12.5 | 12.6 | 3.7 | 2.0 | 3.1 | 2.9 | 26.4 | 24.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 65.4 | 30.6 | 36.9 | 68.2 | 48.5 | 48.3 | 71.7 | 25.3 | 18.3 | 61.8 | 123.6 | 129.7 |
| LnGrp LOS | E | C | D | E | D | D | E | C | B | E | F | F |
| Approach Vol, veh/h | | 942 | | | 1355 | | | 678 | | | 1304 | |
| Approach Delay, s/veh | | 39.0 | | | 54.5 | | | 38.7 | | | 121.6 | |
| Approach LOS | | D | | | D | | | D | | | F | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 17.0 | 35.3 | 11.6 | 36.1 | 15.8 | 36.5 | 11.1 | 36.6 |
| Change Period (Y+Rc), s | * 4.2 | 6.3 | * 4.2 | * 5.1 | * 4.2 | * 6.3 | * 4.2 | 5.1 |
| Max Green Setting (Gmax), s | * 13 | 29.1 | * 7.4 | * 31 | * 12 | * 31 | * 8.6 | 29.7 |
| Max Q Clear Time (g_c+I1), s | 13.9 | 17.9 | 8.5 | 33.0 | 11.6 | 26.8 | 7.4 | 10.8 |
| Green Ext Time (p_c), s | 0.0 | 4.3 | 0.0 | 0.0 | 0.0 | 2.3 | 0.0 | 3.0 |

**Intersection Summary**

| | |
|---|---|
| HCM 6th Ctrl Delay | 69.0 |
| HCM 6th LOS | E |

**Notes**

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 521 | 90 | 150 | 1061 | 30 | 120 |
| Future Volume (vph) | 521 | 90 | 150 | 1061 | 30 | 120 |
| Confl. Peds. (#/hr) | | 17 | | | | 29 |
| Confl. Bikes (#/hr) | | 3 | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | NA | | Prot | NA | Prot | Perm |
| Protected Phases | 2 | | 1 | 6 | 8 | |
| Permitted Phases | | | | | | 8 |
| Detector Phase | 2 | | 1 | 6 | 8 | 8 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 22.5 | | 8.5 | 20.5 | 22.5 | 22.5 |
| Total Split (s) | 22.5 | | 15.0 | 37.5 | 22.5 | 22.5 |
| Total Split (%) | 37.5% | | 25.0% | 62.5% | 37.5% | 37.5% |
| Yellow Time (s) | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lag | | Lead | | | |
| Lead-Lag Optimize? | Yes | | Yes | | | |
| Recall Mode | Min | | None | Min | None | None |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 43.8 |
| Natural Cycle: 60 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 26: Park Center Drive & Mast Blvd

Year 2035 + Proj AM (No School)
26: Park Center Drive & Mast Blvd

Fanita Ranch
06/06/2019

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 521 | 90 | 150 | 1061 | 30 | 120 |
| Future Volume (veh/h) | 521 | 90 | 150 | 1061 | 30 | 120 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | 0.95 | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 566 | 98 | 163 | 1153 | 33 | 130 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 998 | 172 | 214 | 2117 | 209 | 186 |
| Arrive On Green | 0.33 | 0.33 | 0.12 | 0.60 | 0.12 | 0.12 |
| Sat Flow, veh/h | 3098 | 518 | 1781 | 3647 | 1781 | 1585 |
| Grp Volume(v), veh/h | 334 | 330 | 163 | 1153 | 33 | 130 |
| Grp Sat Flow(s),veh/h/ln | 1777 | 1746 | 1781 | 1777 | 1781 | 1585 |
| Q Serve(g_s), s | 4.8 | 4.9 | 2.8 | 6.1 | 0.5 | 2.5 |
| Cycle Q Clear(g_c), s | 4.8 | 4.9 | 2.8 | 6.1 | 0.5 | 2.5 |
| Prop In Lane | | 0.30 | 1.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 590 | 580 | 214 | 2117 | 209 | 186 |
| V/C Ratio(X) | 0.57 | 0.57 | 0.76 | 0.54 | 0.16 | 0.70 |
| Avail Cap(c_a), veh/h | 1020 | 1002 | 597 | 3741 | 1023 | 910 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 8.6 | 8.6 | 13.4 | 3.8 | 12.4 | 13.3 |
| Incr Delay (d2), s/veh | 0.9 | 0.9 | 5.5 | 0.2 | 0.3 | 4.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.2 | 1.1 | 1.1 | 0.2 | 0.2 | 0.9 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 9.5 | 9.5 | 18.9 | 4.0 | 12.8 | 18.0 |
| LnGrp LOS | A | A | B | A | B | B |
| Approach Vol, veh/h | 664 | | | 1316 | 163 | |
| Approach Delay, s/veh | 9.5 | | | 5.9 | 17.0 | |
| Approach LOS | A | | | A | B | |

| Timer - Assigned Phs | 1 | 2 | | | 6 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 8.3 | 14.9 | | | 23.2 | 8.2 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 10.5 | 18.0 | | | 33.0 | 18.0 |
| Max Q Clear Time (g_c+I1), s | 4.8 | 6.9 | | | 8.1 | 4.5 |
| Green Ext Time (p_c), s | 0.2 | 2.9 | | | 8.8 | 0.4 |

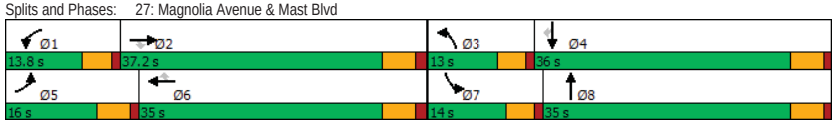
| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 7.8 | |
| HCM 6th LOS | | A | |

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\No School Alt\11 2035+P AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 286 | 165 | 240 | 135 | 300 | 85 | 320 | 611 | 115 | 145 | 793 | 561 |
| Future Volume (vph) | 286 | 165 | 240 | 135 | 300 | 85 | 320 | 611 | 115 | 145 | 793 | 561 |
| Confl. Peds. (#/hr) | | | 14 | | | 31 | | | 11 | | | 8 |
| Confl. Bikes (#/hr) | | | 5 | | | 5 | | | 3 | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 11.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 9.0 | | 7.0 | 9.0 | 9.0 |
| Minimum Split (s) | 16.0 | 34.5 | 34.5 | 11.5 | 34.5 | 34.5 | 11.5 | 35.0 | | 11.5 | 36.0 | 36.0 |
| Total Split (s) | 16.0 | 37.2 | 37.2 | 13.8 | 35.0 | 35.0 | 13.0 | 35.0 | | 14.0 | 36.0 | 36.0 |
| Total Split (%) | 16.0% | 37.2% | 37.2% | 13.8% | 35.0% | 35.0% | 13.0% | 35.0% | | 14.0% | 36.0% | 36.0% |
| Yellow Time (s) | 4.0 | 4.0 | 4.0 | 3.5 | 4.0 | 4.0 | 3.5 | 4.0 | | 3.5 | 4.0 | 4.0 |
| All-Red Time (s) | 1.0 | 1.5 | 1.5 | 1.0 | 1.5 | 1.5 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 5.0 | 5.5 | 5.5 | 4.5 | 5.5 | 5.5 | 4.5 | 5.0 | | 4.5 | 5.0 | 5.0 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | Min | Min | None | Min | Min | None | Min | | None | Min | Min |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 80.6 |
| Natural Cycle: 100 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 27: Magnolia Avenue & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 286 | 165 | 240 | 135 | 300 | 85 | 320 | 611 | 115 | 145 | 793 | 561 |
| Future Volume (veh/h) | 286 | 165 | 240 | 135 | 300 | 85 | 320 | 611 | 115 | 145 | 793 | 561 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.94 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 311 | 179 | 261 | 147 | 326 | 92 | 348 | 664 | 125 | 158 | 862 | 610 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 417 | 894 | 386 | 179 | 802 | 337 | 323 | 979 | 184 | 186 | 1210 | 529 |
| Arrive On Green | 0.12 | 0.25 | 0.25 | 0.10 | 0.23 | 0.23 | 0.09 | 0.33 | 0.33 | 0.10 | 0.34 | 0.34 |
| Sat Flow, veh/h | 3456 | 3554 | 1533 | 1781 | 3554 | 1495 | 3456 | 2972 | 559 | 1781 | 3554 | 1553 |
| Grp Volume(v), veh/h | 311 | 179 | 261 | 147 | 326 | 92 | 348 | 397 | 392 | 158 | 862 | 610 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1533 | 1781 | 1777 | 1495 | 1728 | 1777 | 1754 | 1781 | 1777 | 1553 |
| Q Serve(g_s), s | 7.9 | 3.6 | 14.0 | 7.4 | 7.1 | 4.6 | 8.5 | 17.5 | 17.6 | 7.9 | 19.2 | 31.0 |
| Cycle Q Clear(g_c), s | 7.9 | 3.6 | 14.0 | 7.4 | 7.1 | 4.6 | 8.5 | 17.5 | 17.6 | 7.9 | 19.2 | 31.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.32 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 417 | 894 | 386 | 179 | 802 | 337 | 323 | 585 | 578 | 186 | 1210 | 529 |
| V/C Ratio(X) | 0.75 | 0.20 | 0.68 | 0.82 | 0.41 | 0.27 | 1.08 | 0.68 | 0.68 | 0.85 | 0.71 | 1.15 |
| Avail Cap(c_a), veh/h | 418 | 1237 | 534 | 182 | 1151 | 484 | 323 | 585 | 578 | 186 | 1210 | 529 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 38.7 | 26.9 | 30.7 | 40.2 | 30.0 | 29.1 | 41.3 | 26.3 | 26.4 | 40.1 | 26.1 | 30.0 |
| Incr Delay (d2), s/veh | 7.4 | 0.1 | 2.5 | 23.3 | 0.4 | 0.5 | 72.7 | 3.1 | 3.2 | 28.1 | 2.0 | 89.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 3.7 | 1.5 | 5.2 | 4.3 | 3.0 | 1.6 | 6.7 | 7.5 | 7.4 | 4.8 | 7.9 | 23.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 46.1 | 27.0 | 33.2 | 63.5 | 30.4 | 29.6 | 113.9 | 29.5 | 29.6 | 68.2 | 28.1 | 119.0 |
| LnGrp LOS | D | C | C | E | C | C | F | C | C | E | C | F |
| Approach Vol, veh/h | | 751 | | | 565 | | | 1137 | | | 1630 | |
| Approach Delay, s/veh | | 37.1 | | | 38.9 | | | 55.4 | | | 66.0 | |
| Approach LOS | | D | | | D | | | E | | | E | |

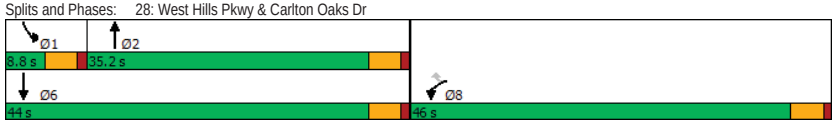
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 13.6 | 28.4 | 13.0 | 36.0 | 16.0 | 26.0 | 14.0 | 35.0 |
| Change Period (Y+Rc), s | 4.5 | 5.5 | 4.5 | 5.0 | 5.0 | 5.5 | 4.5 | 5.0 |
| Max Green Setting (Gmax), s | 9.3 | 31.7 | 8.5 | 31.0 | 11.0 | 29.5 | 9.5 | 30.0 |
| Max Q Clear Time (g_c+I1), s | 9.4 | 16.0 | 10.5 | 33.0 | 9.9 | 9.1 | 9.9 | 19.6 |
| Green Ext Time (p_c), s | 0.0 | 2.1 | 0.0 | 0.0 | 0.2 | 2.7 | 0.0 | 3.4 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 54.0 | |
| HCM 6th LOS | D | |

| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 451 | 740 | 911 | 123 | 50 | 265 |
| Future Volume (vph) | 451 | 740 | 911 | 123 | 50 | 265 |
| Confl. Peds. (#/hr) | | 9 | | 6 | | |
| Confl. Bikes (#/hr) | | | | 2 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | 0% | | | 0% |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | NA | | Prot | NA |
| Protected Phases | 8 | | 2 | | 1 | 6 |
| Permitted Phases | | 8 | | | | |
| Detector Phase | 8 | 8 | 2 | | 1 | 6 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | | 8.5 | 20.5 |
| Total Split (s) | 46.0 | 46.0 | 35.2 | | 8.8 | 44.0 |
| Total Split (%) | 51.1% | 51.1% | 39.1% | | 9.8% | 48.9% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Lead/Lag | | | Lag | | Lead | |
| Lead-Lag Optimize? | | | Yes | | Yes | |
| Recall Mode | None | None | Min | | None | Min |

| Intersection Summary |
|---|
| Cycle Length: 90 |
| Actuated Cycle Length: 72.5 |
| Natural Cycle: 65 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 28: West Hills Pkwy & Carlton Oaks Dr








| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 451 | 740 | 911 | 123 | 50 | 265 |
| Future Volume (veh/h) | 451 | 740 | 911 | 123 | 50 | 265 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | | 0.97 | 1.00 | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | No | | | No |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 490 | 777 | 990 | 134 | 54 | 288 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 645 | 1010 | 1220 | 165 | 69 | 1770 |
| Arrive On Green | 0.36 | 0.36 | 0.39 | 0.39 | 0.04 | 0.50 |
| Sat Flow, veh/h | 1781 | 2790 | 3226 | 424 | 1781 | 3647 |
| Grp Volume(v), veh/h | 490 | 777 | 561 | 563 | 54 | 288 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1395 | 1777 | 1779 | 1781 | 1777 |
| Q Serve(g_s), s | 15.6 | 15.8 | 18.1 | 18.2 | 1.9 | 2.8 |
| Cycle Q Clear(g_c), s | 15.6 | 15.8 | 18.1 | 18.2 | 1.9 | 2.8 |
| Prop In Lane | 1.00 | 1.00 | | 0.24 | 1.00 | |
| Lane Grp Cap(c), veh/h | 645 | 1010 | 692 | 693 | 69 | 1770 |
| V/C Ratio(X) | 0.76 | 0.77 | 0.81 | 0.81 | 0.79 | 0.16 |
| Avail Cap(c_a), veh/h | 1149 | 1800 | 848 | 849 | 119 | 2182 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 18.1 | 18.1 | 17.5 | 17.5 | 30.7 | 8.8 |
| Incr Delay (d2), s/veh | 1.9 | 1.3 | 4.9 | 5.0 | 17.7 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 6.1 | 4.8 | 7.0 | 7.0 | 1.1 | 0.9 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 19.9 | 19.4 | 22.5 | 22.5 | 48.4 | 8.9 |
| LnGrp LOS | B | B | C | C | D | A |
| Approach Vol, veh/h | 1267 | | 1124 | | | 342 |
| Approach Delay, s/veh | 19.6 | | 22.5 | | | 15.1 |
| Approach LOS | B | | C | | | B |

| Timer - Assigned Phs | 1 | 2 | | | 6 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.0 | 29.6 | | | 36.5 | 27.8 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 4.3 | 30.7 | | | 39.5 | 41.5 |
| Max Q Clear Time (g_c+I1), s | 3.9 | 20.2 | | | 4.8 | 17.8 |
| Green Ext Time (p_c), s | 0.0 | 4.9 | | | 1.7 | 5.4 |

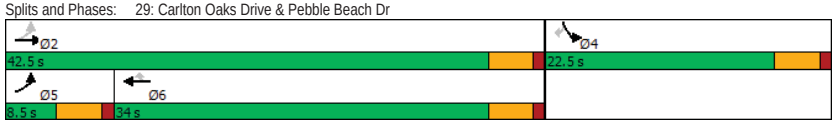
| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 20.2 | |
| HCM 6th LOS | | C | |

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 10 | 393 | 751 | 180 | 190 | 60 |
| Future Volume (vph) | 10 | 393 | 751 | 180 | 190 | 60 |
| Confl. Peds. (#/hr) | | | | 13 | | |
| Confl. Bikes (#/hr) | | | | 8 | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | pm+pt | NA | NA | Perm | Prot | Perm |
| Protected Phases | 5 | 2 | 6 | | 4 | |
| Permitted Phases | 2 | | | 6 | | 4 |
| Detector Phase | 5 | 2 | 6 | 6 | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 |
| Total Split (s) | 8.5 | 42.5 | 34.0 | 34.0 | 22.5 | 22.5 |
| Total Split (%) | 13.1% | 65.4% | 52.3% | 52.3% | 34.6% | 34.6% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | | Lag | Lag | | |
| Lead-Lag Optimize? | Yes | | Yes | Yes | | |
| Recall Mode | None | Min | Min | Min | None | None |

**Intersection Summary**

Cycle Length: 65
Actuated Cycle Length: 54.4
Natural Cycle: 70
Control Type: Semi Act-Uncoord

Splits and Phases: 29: Carlton Oaks Drive & Pebble Beach Dr








| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 10 | 393 | 751 | 180 | 190 | 60 |
| Future Volume (veh/h) | 10 | 393 | 751 | 180 | 190 | 60 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 0.96 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 11 | 427 | 816 | 196 | 207 | 65 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 268 | 1190 | 981 | 800 | 290 | 258 |
| Arrive On Green | 0.01 | 0.64 | 0.52 | 0.52 | 0.16 | 0.16 |
| Sat Flow, veh/h | 1781 | 1870 | 1870 | 1525 | 1781 | 1585 |
| Grp Volume(v), veh/h | 11 | 427 | 816 | 196 | 207 | 65 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1870 | 1525 | 1781 | 1585 |
| Q Serve(g_s), s | 0.1 | 4.8 | 16.5 | 3.1 | 4.9 | 1.6 |
| Cycle Q Clear(g_c), s | 0.1 | 4.8 | 16.5 | 3.1 | 4.9 | 1.6 |
| Prop In Lane | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 268 | 1190 | 981 | 800 | 290 | 258 |
| V/C Ratio(X) | 0.04 | 0.36 | 0.83 | 0.25 | 0.71 | 0.25 |
| Avail Cap(c_a), veh/h | 407 | 1587 | 1232 | 1005 | 716 | 637 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 7.9 | 3.8 | 9.0 | 5.8 | 17.8 | 16.4 |
| Incr Delay (d2), s/veh | 0.1 | 0.2 | 4.1 | 0.2 | 3.3 | 0.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.8 | 5.5 | 0.7 | 2.0 | 1.5 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 7.9 | 4.0 | 13.0 | 6.0 | 21.0 | 16.9 |
| LnGrp LOS | A | A | B | A | C | B |
| Approach Vol, veh/h | | 438 | 1012 | | 272 | |
| Approach Delay, s/veh | | 4.1 | 11.7 | | 20.0 | |
| Approach LOS | | A | B | | C | |

| Timer - Assigned Phs | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 33.0 | | 11.8 | 5.0 | 28.0 |
| Change Period (Y+Rc), s | 4.5 | | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 38.0 | | 18.0 | 4.0 | 29.5 |
| Max Q Clear Time (g_c+I1), s | 6.8 | | 6.9 | 2.1 | 18.5 |
| Green Ext Time (p_c), s | 2.7 | | 0.6 | 0.0 | 5.0 |

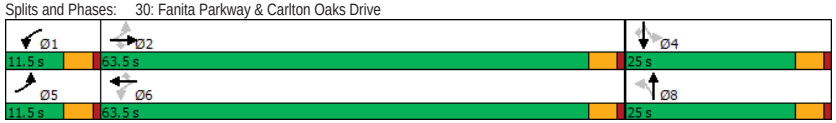
**Intersection Summary**

| | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 11.1 |
| HCM 6th LOS | | B |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 48 | 400 | 0 | 0 | 760 | 175 | 5 | 0 | 10 | 322 | 0 | 146 |
| Future Volume (vph) | 48 | 400 | 0 | 0 | 760 | 175 | 5 | 0 | 10 | 322 | 0 | 146 |
| Confl. Peds. (#/hr) | | | 4 | | | 4 | | | 14 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | 6 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | pm+pt | NA | Perm | pm+pt | NA | Perm | Perm | NA | | Perm | | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | 2 | | 2 | 6 | | 6 | 8 | | | 4 | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 8 | 8 | | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | | 7.0 | 7.0 | 7.0 |
| Minimum Split (s) | 11.5 | 26.5 | 26.5 | 11.5 | 20.5 | 20.5 | 22.5 | 22.5 | | 22.5 | 22.5 | 22.5 |
| Total Split (s) | 11.5 | 63.5 | 63.5 | 11.5 | 63.5 | 63.5 | 25.0 | 25.0 | | 25.0 | 25.0 | 25.0 |
| Total Split (%) | 11.5% | 63.5% | 63.5% | 11.5% | 63.5% | 63.5% | 25.0% | 25.0% | | 25.0% | 25.0% | 25.0% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | | | | | | |
| Recall Mode | None | Min | Min | None | Min | Min | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 79.5 |
| Natural Cycle: 90 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 30: Fanita Parkway & Carlton Oaks Drive






Year 2035 + Proj AM (No School)
30: Fanita Parkway & Carlton Oaks Drive
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 48 | 400 | 0 | 0 | 760 | 175 | 5 | 0 | 10 | 322 | 0 | 146 |
| Future Volume (veh/h) | 48 | 400 | 0 | 0 | 760 | 175 | 5 | 0 | 10 | 322 | 0 | 146 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.97 | 1.00 | | 0.97 | 0.97 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 52 | 435 | 0 | 0 | 826 | 190 | 5 | 0 | 11 | 350 | 0 | 159 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 265 | 1170 | 992 | 578 | 950 | 783 | 152 | 28 | 263 | 450 | 487 | 411 |
| Arrive On Green | 0.06 | 0.63 | 0.00 | 0.00 | 0.51 | 0.51 | 0.26 | 0.00 | 0.26 | 0.26 | 0.00 | 0.26 |
| Sat Flow, veh/h | 1781 | 1870 | 1585 | 1781 | 1870 | 1540 | 352 | 107 | 1010 | 1367 | 1870 | 1579 |
| Grp Volume(v), veh/h | 52 | 435 | 0 | 0 | 826 | 190 | 16 | 0 | 0 | 350 | 0 | 159 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1585 | 1781 | 1870 | 1540 | 1469 | 0 | 0 | 1367 | 1870 | 1579 |
| Q Serve(g_s), s | 1.0 | 8.9 | 0.0 | 0.0 | 30.7 | 5.5 | 0.0 | 0.0 | 0.0 | 19.3 | 0.0 | 6.5 |
| Cycle Q Clear(g_c), s | 1.0 | 8.9 | 0.0 | 0.0 | 30.7 | 5.5 | 0.6 | 0.0 | 0.0 | 19.9 | 0.0 | 6.5 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 0.31 | | 0.69 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 265 | 1170 | 992 | 578 | 950 | 783 | 442 | 0 | 0 | 450 | 487 | 411 |
| V/C Ratio(X) | 0.20 | 0.37 | 0.00 | 0.00 | 0.87 | 0.24 | 0.04 | 0.00 | 0.00 | 0.78 | 0.00 | 0.39 |
| Avail Cap(c_a), veh/h | 316 | 1400 | 1187 | 734 | 1400 | 1153 | 442 | 0 | 0 | 450 | 487 | 411 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 14.2 | 7.2 | 0.0 | 0.0 | 17.1 | 10.9 | 21.8 | 0.0 | 0.0 | 28.8 | 0.0 | 24.0 |
| Incr Delay (d2), s/veh | 0.4 | 0.2 | 0.0 | 0.0 | 4.2 | 0.2 | 0.0 | 0.0 | 0.0 | 8.4 | 0.0 | 0.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.4 | 2.9 | 0.0 | 0.0 | 12.4 | 1.7 | 0.2 | 0.0 | 0.0 | 7.2 | 0.0 | 2.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 14.5 | 7.4 | 0.0 | 0.0 | 21.3 | 11.0 | 21.8 | 0.0 | 0.0 | 37.3 | 0.0 | 24.6 |
| LnGrp LOS | B | A | A | A | C | B | C | A | A | D | A | C |
| Approach Vol, veh/h | | 487 | | | 1016 | | | 16 | | | 509 | |
| Approach Delay, s/veh | | 8.2 | | | 19.3 | | | 21.8 | | | 33.3 | |
| Approach LOS | | A | | | B | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 0.0 | 53.8 | | 25.0 | 9.3 | 44.5 | | 25.0 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 7.0 | 59.0 | | 20.5 | 7.0 | 59.0 | | 20.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 0.0 | 10.9 | | 21.9 | 3.0 | 32.7 | | 2.6 | | | | |
| Green Ext Time (p_c), s | 0.0 | 2.9 | | 0.0 | 0.0 | 7.4 | | 0.0 | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 20.2 | |
| HCM 6th LOS | | C | |

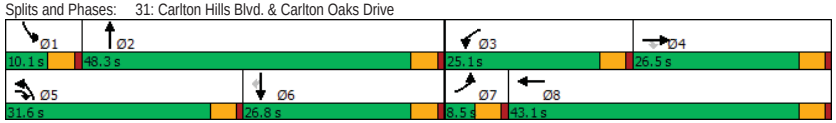
Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\No School Alt\11 2035+P AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 10 | 170 | 672 | 290 | 210 | 15 | 665 | 363 | 240 | 20 | 634 | 90 |
| Future Volume (vph) | 10 | 170 | 672 | 290 | 210 | 15 | 665 | 363 | 240 | 20 | 634 | 90 |
| Confl. Peds. (#/hr) | | | 16 | | | 2 | | | 3 | | | 4 |
| Confl. Bikes (#/hr) | | | 1 | | | 1 | | | 1 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 7 | 4 | 5 | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | | | | 6 |
| Detector Phase | 7 | 4 | 5 | 3 | 8 | | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 26.5 | 8.5 | 8.5 | 26.5 | | 8.5 | 22.5 | | 8.5 | 22.5 | 22.5 |
| Total Split (s) | 8.5 | 26.5 | 31.6 | 25.1 | 43.1 | | 31.6 | 48.3 | | 10.1 | 26.8 | 26.8 |
| Total Split (%) | 7.7% | 24.1% | 28.7% | 22.8% | 39.2% | | 28.7% | 43.9% | | 9.2% | 24.4% | 24.4% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | | None | Min | | None | Min | Min |

**Intersection Summary**

Cycle Length: 110
Actuated Cycle Length: 103.2
Natural Cycle: 100
Control Type: Actuated-Uncoordinated

Splits and Phases: 31: Carlton Hills Blvd. & Carlton Oaks Drive






Year 2035 + Proj AM (No School) Fanita Ranch
31: Carlton Hills Blvd. & Carlton Oaks Drive 06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 10 | 170 | 672 | 290 | 210 | 15 | 665 | 363 | 240 | 20 | 634 | 90 |
| Future Volume (veh/h) | 10 | 170 | 672 | 290 | 210 | 15 | 665 | 363 | 240 | 20 | 634 | 90 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.96 | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 11 | 185 | 697 | 315 | 228 | 16 | 723 | 395 | 261 | 22 | 689 | 98 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 19 | 382 | 678 | 340 | 1295 | 90 | 798 | 860 | 561 | 32 | 735 | 322 |
| Arrive On Green | 0.01 | 0.20 | 0.20 | 0.19 | 0.38 | 0.38 | 0.23 | 0.42 | 0.42 | 0.02 | 0.21 | 0.21 |
| Sat Flow, veh/h | 1781 | 1870 | 1528 | 1781 | 3367 | 235 | 3456 | 2048 | 1336 | 1781 | 3554 | 1555 |
| Grp Volume(v), veh/h | 11 | 185 | 697 | 315 | 120 | 124 | 723 | 342 | 314 | 22 | 689 | 98 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1528 | 1781 | 1777 | 1824 | 1728 | 1777 | 1607 | 1781 | 1777 | 1555 |
| Q Serve(g_s), s | 0.7 | 9.4 | 22.0 | 18.7 | 4.8 | 4.9 | 21.9 | 14.9 | 15.2 | 1.3 | 20.6 | 5.7 |
| Cycle Q Clear(g_c), s | 0.7 | 9.4 | 22.0 | 18.7 | 4.8 | 4.9 | 21.9 | 14.9 | 15.2 | 1.3 | 20.6 | 5.7 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.13 | 1.00 | | 0.83 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 19 | 382 | 678 | 340 | 684 | 702 | 798 | 746 | 675 | 32 | 735 | 322 |
| V/C Ratio(X) | 0.59 | 0.48 | 1.03 | 0.93 | 0.17 | 0.18 | 0.91 | 0.46 | 0.47 | 0.69 | 0.94 | 0.30 |
| Avail Cap(c_a), veh/h | 66 | 382 | 678 | 340 | 684 | 702 | 869 | 746 | 675 | 93 | 735 | 322 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 53.1 | 37.9 | 30.7 | 42.8 | 21.9 | 21.9 | 40.3 | 22.5 | 22.5 | 52.6 | 42.1 | 36.2 |
| Incr Delay (d2), s/veh | 26.7 | 1.0 | 41.9 | 30.4 | 0.1 | 0.1 | 12.4 | 0.4 | 0.5 | 23.2 | 19.5 | 0.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.4 | 4.4 | 24.8 | 11.0 | 2.0 | 2.1 | 10.5 | 6.1 | 5.7 | 0.8 | 10.8 | 2.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 79.8 | 38.8 | 72.6 | 73.3 | 22.0 | 22.0 | 52.7 | 22.9 | 23.0 | 75.9 | 61.6 | 36.7 |
| LnGrp LOS | E | D | F | E | C | C | D | C | C | E | E | D |
| Approach Vol, veh/h | | 893 | | | 559 | | | 1379 | | | 809 | |
| Approach Delay, s/veh | | 65.7 | | | 50.9 | | | 38.5 | | | 59.0 | |
| Approach LOS | | E | | | D | | | D | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 6.4 | 49.8 | 25.1 | 26.5 | 29.4 | 26.8 | 5.6 | 46.0 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 5.6 | 43.8 | 20.6 | 22.0 | 27.1 | 22.3 | 4.0 | 38.6 |
| Max Q Clear Time (g_c+I1), s | 3.3 | 17.2 | 20.7 | 24.0 | 23.9 | 22.6 | 2.7 | 6.9 |
| Green Ext Time (p_c), s | 0.0 | 4.3 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 1.4 |

**Intersection Summary**

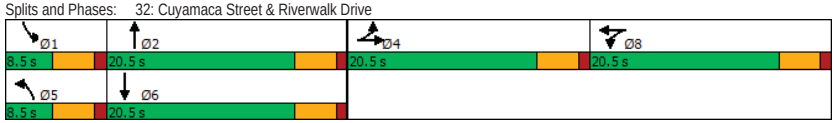
| | |
|---|---|
| HCM 6th Ctrl Delay | 51.6 |
| HCM 6th LOS | D |

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\No School Alt\11 2035+P AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 5 | 0 | 0 | 100 | 5 | 60 | 20 | 569 | 90 | 110 | 1245 | 5 |
| Future Volume (vph) | 5 | 0 | 0 | 100 | 5 | 60 | 20 | 569 | 90 | 110 | 1245 | 5 |
| Confl. Peds. (#/hr) | | | 17 | | | 2 | | | 1 | | | 7 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Split | | | Split | NA | | Prot | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | 20.5 | 20.5 | | 20.5 | 20.5 | | 8.5 | 20.5 | | 8.5 | 20.5 | |
| Total Split (s) | 20.5 | 20.5 | | 20.5 | 20.5 | | 8.5 | 20.5 | | 8.5 | 20.5 | |
| Total Split (%) | 29.3% | 29.3% | | 29.3% | 29.3% | | 12.1% | 29.3% | | 12.1% | 29.3% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 70 |
| Actuated Cycle Length: 45.7 |
| Natural Cycle: 90 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 32: Cuyamaca Street & Riverwalk Drive






Year 2035 + Proj AM (No School)
32: Cuyamaca Street & Riverwalk Drive
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 5 | 0 | 0 | 100 | 5 | 60 | 20 | 569 | 90 | 110 | 1245 | 5 |
| Future Volume (veh/h) | 5 | 0 | 0 | 100 | 5 | 60 | 20 | 569 | 90 | 110 | 1245 | 5 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.99 | 1.00 | | 1.00 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 5 | 0 | 0 | 109 | 5 | 65 | 22 | 618 | 98 | 120 | 1353 | 5 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 74 | 78 | 0 | 190 | 12 | 158 | 39 | 1004 | 159 | 152 | 1418 | 5 |
| Arrive On Green | 0.04 | 0.00 | 0.00 | 0.11 | 0.11 | 0.11 | 0.02 | 0.33 | 0.33 | 0.09 | 0.39 | 0.39 |
| Sat Flow, veh/h | 1781 | 1870 | 0 | 1781 | 114 | 1480 | 1781 | 3072 | 486 | 1781 | 3631 | 13 |
| Grp Volume(v), veh/h | 5 | 0 | 0 | 109 | 0 | 70 | 22 | 357 | 359 | 120 | 662 | 696 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 0 | 1781 | 0 | 1594 | 1781 | 1777 | 1782 | 1781 | 1777 | 1868 |
| Q Serve(g_s), s | 0.1 | 0.0 | 0.0 | 2.4 | 0.0 | 1.7 | 0.5 | 6.9 | 7.0 | 2.7 | 14.8 | 14.8 |
| Cycle Q Clear(g_c), s | 0.1 | 0.0 | 0.0 | 2.4 | 0.0 | 1.7 | 0.5 | 6.9 | 7.0 | 2.7 | 14.8 | 14.8 |
| Prop In Lane | 1.00 | | 0.00 | 1.00 | | 0.93 | 1.00 | | 0.27 | 1.00 | | 0.01 |
| Lane Grp Cap(c), veh/h | 74 | 78 | 0 | 190 | 0 | 170 | 39 | 580 | 582 | 152 | 694 | 730 |
| V/C Ratio(X) | 0.07 | 0.00 | 0.00 | 0.57 | 0.00 | 0.41 | 0.57 | 0.61 | 0.62 | 0.79 | 0.95 | 0.95 |
| Avail Cap(c_a), veh/h | 696 | 731 | 0 | 696 | 0 | 623 | 174 | 694 | 696 | 174 | 694 | 730 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 18.9 | 0.0 | 0.0 | 17.4 | 0.0 | 17.1 | 19.9 | 11.6 | 11.6 | 18.4 | 12.1 | 12.1 |
| Incr Delay (d2), s/veh | 0.4 | 0.0 | 0.0 | 2.7 | 0.0 | 1.6 | 12.6 | 1.2 | 1.2 | 18.8 | 23.4 | 22.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.6 | 0.3 | 2.2 | 2.2 | 1.7 | 8.5 | 8.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 19.2 | 0.0 | 0.0 | 20.1 | 0.0 | 18.7 | 32.5 | 12.8 | 12.8 | 37.2 | 35.5 | 34.8 |
| LnGrp LOS | B | A | A | C | A | B | C | B | B | D | D | C |
| Approach Vol, veh/h | | 5 | | | 179 | | | 738 | | | 1478 | |
| Approach Delay, s/veh | | 19.2 | | | 19.6 | | | 13.4 | | | 35.3 | |
| Approach LOS | | B | | | B | | | B | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 8.0 | 17.9 | | 6.2 | 5.4 | 20.5 | | 8.9 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 4.0 | 16.0 | | 16.0 | 4.0 | 16.0 | | 16.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 4.7 | 9.0 | | 2.1 | 2.5 | 16.8 | | 4.4 | | | | |
| Green Ext Time (p_c), s | 0.0 | 2.5 | | 0.0 | 0.0 | 0.0 | | 0.5 | | | | |

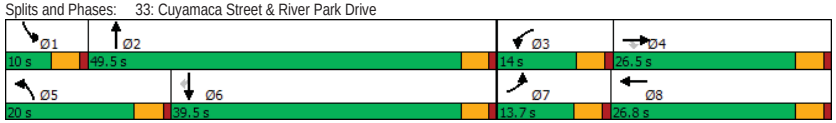
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 27.4 | |
| HCM 6th LOS | C | |

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\No School Alt\11 2035+P AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 66 | 30 | 110 | 80 | 35 | 30 | 140 | 688 | 90 | 20 | 1069 | 56 |
| Future Volume (vph) | 66 | 30 | 110 | 80 | 35 | 30 | 140 | 688 | 90 | 20 | 1069 | 56 |
| Confl. Peds. (#/hr) | | | 10 | | | 6 | | | 10 | | | 6 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | | | | 6 |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 26.5 | 26.5 | 8.5 | 26.5 | | 8.5 | 22.5 | | 8.5 | 26.5 | 26.5 |
| Total Split (s) | 13.7 | 26.5 | 26.5 | 14.0 | 26.8 | | 20.0 | 49.5 | | 10.0 | 39.5 | 39.5 |
| Total Split (%) | 13.7% | 26.5% | 26.5% | 14.0% | 26.8% | | 20.0% | 49.5% | | 10.0% | 39.5% | 39.5% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | | None | Min | | None | Min | Min |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 77.5 |
| Natural Cycle: 90 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 33: Cuyamaca Street & River Park Drive






Year 2035 + Proj AM (No School)
33: Cuyamaca Street & River Park Drive
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 66 | 30 | 110 | 80 | 35 | 30 | 140 | 688 | 90 | 20 | 1069 | 56 |
| Future Volume (veh/h) | 66 | 30 | 110 | 80 | 35 | 30 | 140 | 688 | 90 | 20 | 1069 | 56 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 72 | 33 | 120 | 87 | 38 | 33 | 152 | 748 | 98 | 22 | 1162 | 61 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 93 | 260 | 216 | 113 | 138 | 120 | 195 | 1602 | 210 | 36 | 1487 | 659 |
| Arrive On Green | 0.05 | 0.14 | 0.14 | 0.06 | 0.15 | 0.15 | 0.11 | 0.51 | 0.51 | 0.02 | 0.42 | 0.42 |
| Sat Flow, veh/h | 1781 | 1870 | 1551 | 1781 | 918 | 797 | 1781 | 3155 | 413 | 1781 | 3554 | 1574 |
| Grp Volume(v), veh/h | 72 | 33 | 120 | 87 | 0 | 71 | 152 | 421 | 425 | 22 | 1162 | 61 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1551 | 1781 | 0 | 1715 | 1781 | 1777 | 1791 | 1781 | 1777 | 1574 |
| Q Serve(g_s), s | 2.7 | 1.0 | 4.8 | 3.2 | 0.0 | 2.4 | 5.5 | 10.2 | 10.2 | 0.8 | 18.9 | 1.6 |
| Cycle Q Clear(g_c), s | 2.7 | 1.0 | 4.8 | 3.2 | 0.0 | 2.4 | 5.5 | 10.2 | 10.2 | 0.8 | 18.9 | 1.6 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.46 | 1.00 | | 0.23 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 93 | 260 | 216 | 113 | 0 | 258 | 195 | 902 | 910 | 36 | 1487 | 659 |
| V/C Ratio(X) | 0.78 | 0.13 | 0.56 | 0.77 | 0.00 | 0.28 | 0.78 | 0.47 | 0.47 | 0.62 | 0.78 | 0.09 |
| Avail Cap(c_a), veh/h | 245 | 616 | 511 | 253 | 0 | 573 | 413 | 1197 | 1207 | 147 | 1863 | 825 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 31.3 | 25.2 | 26.8 | 30.8 | 0.0 | 25.1 | 29.0 | 10.6 | 10.6 | 32.5 | 16.8 | 11.7 |
| Incr Delay (d2), s/veh | 13.0 | 0.2 | 2.2 | 10.6 | 0.0 | 0.6 | 6.6 | 0.4 | 0.4 | 15.9 | 1.7 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.4 | 0.5 | 1.8 | 1.7 | 0.0 | 1.0 | 2.6 | 3.4 | 3.4 | 0.5 | 7.0 | 0.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 44.2 | 25.4 | 29.0 | 41.4 | 0.0 | 25.7 | 35.6 | 11.0 | 11.0 | 48.4 | 18.5 | 11.8 |
| LnGrp LOS | D | C | C | D | A | C | D | B | B | D | B | B |
| Approach Vol, veh/h | | 225 | | | 158 | | | 998 | | | 1245 | |
| Approach Delay, s/veh | | 33.4 | | | 34.4 | | | 14.7 | | | 18.7 | |
| Approach LOS | | C | | | C | | | B | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.8 | 38.4 | 8.7 | 13.8 | 11.8 | 32.4 | 8.0 | 14.5 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 5.5 | 45.0 | 9.5 | 22.0 | 15.5 | 35.0 | 9.2 | 22.3 |
| Max Q Clear Time (g_c+I1), s | 2.8 | 12.2 | 5.2 | 6.8 | 7.5 | 20.9 | 4.7 | 4.4 |
| Green Ext Time (p_c), s | 0.0 | 5.9 | 0.1 | 0.4 | 0.2 | 7.1 | 0.0 | 0.3 |

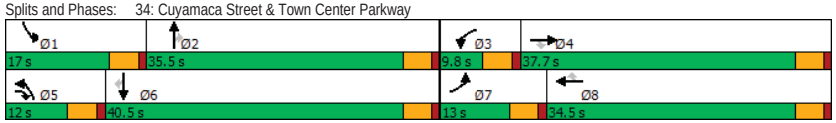
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 19.4 | |
| HCM 6th LOS | B | |

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\No School Alt\11 2035+P AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 181 | 60 | 90 | 60 | 100 | 181 | 115 | 461 | 75 | 151 | 707 | 306 |
| Future Volume (vph) | 181 | 60 | 90 | 60 | 100 | 181 | 115 | 461 | 75 | 151 | 707 | 306 |
| Confl. Peds. (#/hr) | | | 7 | | | 1 | | | 5 | | | 3 |
| Confl. Bikes (#/hr) | | | 1 | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 7 | 4 | 5 | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | 2 | | | 6 |
| Detector Phase | 7 | 4 | 5 | 3 | 8 | 8 | 5 | 2 | 2 | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 34.5 | 8.5 | 8.5 | 34.5 | 34.5 | 8.5 | 34.5 | 34.5 | 8.5 | 34.5 | 34.5 |
| Total Split (s) | 13.0 | 37.7 | 12.0 | 9.8 | 34.5 | 34.5 | 12.0 | 35.5 | 35.5 | 17.0 | 40.5 | 40.5 |
| Total Split (%) | 13.0% | 37.7% | 12.0% | 9.8% | 34.5% | 34.5% | 12.0% | 35.5% | 35.5% | 17.0% | 40.5% | 40.5% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lead | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | None | None | Min | Min | None | Min | Min |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 65 |
| Natural Cycle: 90 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 34: Cuyamaca Street & Town Center Parkway








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 181 | 60 | 90 | 60 | 100 | 181 | 115 | 461 | 75 | 151 | 707 | 306 |
| Future Volume (veh/h) | 181 | 60 | 90 | 60 | 100 | 181 | 115 | 461 | 75 | 151 | 707 | 306 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 1.00 | 1.00 | | 0.99 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 197 | 65 | 98 | 65 | 109 | 197 | 125 | 501 | 82 | 164 | 768 | 333 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 308 | 445 | 467 | 155 | 688 | 307 | 214 | 1458 | 449 | 210 | 1744 | 540 |
| Arrive On Green | 0.09 | 0.24 | 0.24 | 0.04 | 0.19 | 0.19 | 0.06 | 0.29 | 0.29 | 0.12 | 0.34 | 0.34 |
| Sat Flow, veh/h | 3456 | 1870 | 1551 | 3456 | 3554 | 1583 | 3456 | 5106 | 1571 | 1781 | 5106 | 1581 |
| Grp Volume(v), veh/h | 197 | 65 | 98 | 65 | 109 | 197 | 125 | 501 | 82 | 164 | 768 | 333 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1870 | 1551 | 1728 | 1777 | 1583 | 1728 | 1702 | 1571 | 1781 | 1702 | 1581 |
| Q Serve(g_s), s | 3.2 | 1.6 | 2.7 | 1.1 | 1.5 | 6.6 | 2.0 | 4.5 | 2.3 | 5.1 | 6.7 | 10.1 |
| Cycle Q Clear(g_c), s | 3.2 | 1.6 | 2.7 | 1.1 | 1.5 | 6.6 | 2.0 | 4.5 | 2.3 | 5.1 | 6.7 | 10.1 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 308 | 445 | 467 | 155 | 688 | 307 | 214 | 1458 | 449 | 210 | 1744 | 540 |
| V/C Ratio(X) | 0.64 | 0.15 | 0.21 | 0.42 | 0.16 | 0.64 | 0.58 | 0.34 | 0.18 | 0.78 | 0.44 | 0.62 |
| Avail Cap(c_a), veh/h | 511 | 1081 | 995 | 319 | 1856 | 827 | 451 | 2756 | 848 | 388 | 3201 | 991 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 25.3 | 17.3 | 15.0 | 26.7 | 19.3 | 21.3 | 26.2 | 16.3 | 15.5 | 24.6 | 14.6 | 15.8 |
| Incr Delay (d2), s/veh | 2.2 | 0.1 | 0.2 | 1.8 | 0.1 | 2.2 | 2.5 | 0.1 | 0.2 | 6.1 | 0.2 | 1.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.3 | 0.6 | 0.9 | 0.4 | 0.6 | 2.4 | 0.8 | 1.6 | 0.8 | 2.3 | 2.3 | 3.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 27.5 | 17.4 | 15.2 | 28.5 | 19.4 | 23.6 | 28.7 | 16.4 | 15.7 | 30.7 | 14.8 | 16.9 |
| LnGrp LOS | C | B | B | C | B | C | C | B | B | C | B | B |
| Approach Vol, veh/h | | 360 | | | 371 | | | 708 | | | 1265 | |
| Approach Delay, s/veh | | 22.3 | | | 23.2 | | | 18.5 | | | 17.4 | |
| Approach LOS | | C | | | C | | | B | | | B | |

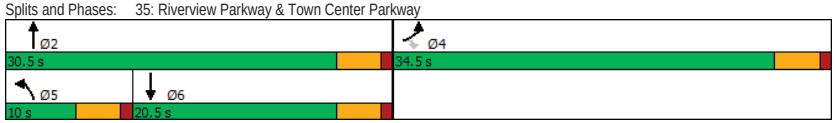
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 11.3 | 20.9 | 7.1 | 18.2 | 8.1 | 24.1 | 9.6 | 15.6 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 12.5 | 31.0 | 5.3 | 33.2 | 7.5 | 36.0 | 8.5 | 30.0 |
| Max Q Clear Time (g_c+I1), s | 7.1 | 6.5 | 3.1 | 4.7 | 4.0 | 12.1 | 5.2 | 8.6 |
| Green Ext Time (p_c), s | 0.2 | 3.7 | 0.0 | 0.7 | 0.1 | 6.8 | 0.2 | 1.3 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 19.2 |
| HCM 6th LOS | | B |

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 5 | 131 | 146 | 470 | 170 | 40 |
| Future Volume (vph) | 5 | 131 | 146 | 470 | 170 | 40 |
| Confl. Peds. (#/hr) | | 4 | | | | 1 |
| Confl. Bikes (#/hr) | | 2 | | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | Prot | NA | NA | |
| Protected Phases | 4 | | 5 | 2 | 6 | |
| Permitted Phases | | 4 | | | | |
| Detector Phase | 4 | 4 | 5 | 2 | 6 | |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Minimum Split (s) | 34.5 | 34.5 | 8.5 | 25.5 | 20.5 | |
| Total Split (s) | 34.5 | 34.5 | 10.0 | 30.5 | 20.5 | |
| Total Split (%) | 53.1% | 53.1% | 15.4% | 46.9% | 31.5% | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lead/Lag | | | Lead | | Lag | |
| Lead-Lag Optimize? | | | Yes | | Yes | |
| Recall Mode | None | None | None | Min | Min | |

| Intersection Summary |
|---|
| Cycle Length: 65 |
| Actuated Cycle Length: 38.2 |
| Natural Cycle: 65 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 35: Riverview Parkway & Town Center Parkway






Year 2035 + Proj AM (No School)
35: Riverview Parkway & Town Center Parkway
Fanita Ranch
06/06/2019

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 5 | 131 | 146 | 470 | 170 | 40 |
| Future Volume (veh/h) | 5 | 131 | 146 | 470 | 170 | 40 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 5 | 142 | 159 | 511 | 185 | 43 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 210 | 186 | 201 | 1756 | 536 | 121 |
| Arrive On Green | 0.12 | 0.12 | 0.11 | 0.49 | 0.19 | 0.19 |
| Sat Flow, veh/h | 1781 | 1585 | 1781 | 3647 | 2957 | 648 |
| Grp Volume(v), veh/h | 5 | 142 | 159 | 511 | 113 | 115 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 1781 | 1777 | 1777 | 1734 |
| Q Serve(g_s), s | 0.1 | 2.0 | 2.0 | 2.0 | 1.3 | 1.3 |
| Cycle Q Clear(g_c), s | 0.1 | 2.0 | 2.0 | 2.0 | 1.3 | 1.3 |
| Prop In Lane | 1.00 | 1.00 | 1.00 | | | 0.37 |
| Lane Grp Cap(c), veh/h | 210 | 186 | 201 | 1756 | 333 | 325 |
| V/C Ratio(X) | 0.02 | 0.76 | 0.79 | 0.29 | 0.34 | 0.35 |
| Avail Cap(c_a), veh/h | 2305 | 2051 | 423 | 3986 | 1226 | 1197 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 9.0 | 9.9 | 10.0 | 3.5 | 8.2 | 8.2 |
| Incr Delay (d2), s/veh | 0.0 | 6.3 | 6.9 | 0.1 | 0.6 | 0.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 2.0 | 0.9 | 0.1 | 0.3 | 0.4 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 9.1 | 16.2 | 16.9 | 3.6 | 8.8 | 8.9 |
| LnGrp LOS | A | B | B | A | A | A |
| Approach Vol, veh/h | 147 | | | 670 | 228 | |
| Approach Delay, s/veh | 16.0 | | | 6.7 | 8.8 | |
| Approach LOS | B | | | A | A | |

| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 16.0 | | 7.2 | 7.1 | 8.8 |
| Change Period (Y+Rc), s | | 4.5 | | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | | 26.0 | | 30.0 | 5.5 | 16.0 |
| Max Q Clear Time (g_c+I1), s | | 4.0 | | 4.0 | 4.0 | 3.3 |
| Green Ext Time (p_c), s | | 3.5 | | 0.4 | 0.1 | 1.0 |

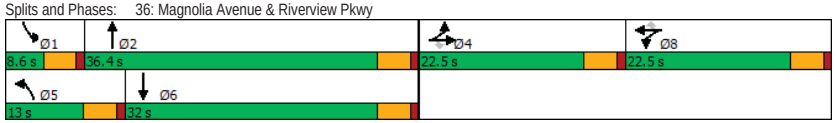
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 8.5 | |
| HCM 6th LOS | A | |

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\No School Alt\11 2035+P AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 5 | 0 | 30 | 70 | 0 | 20 | 220 | 1066 | 40 | 20 | 1438 | 10 |
| Future Volume (vph) | 5 | 0 | 30 | 70 | 0 | 20 | 220 | 1066 | 40 | 20 | 1438 | 10 |
| Confl. Peds. (#/hr) | | | 8 | | | | | | | | | 8 |
| Confl. Bikes (#/hr) | | | 1 | | | | | | 5 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Split | NA | Perm | Split | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | | | | |
| Detector Phase | 4 | 4 | 4 | 8 | 8 | 8 | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 8.5 | 22.5 | | 8.5 | 22.5 | |
| Total Split (s) | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 13.0 | 36.4 | | 8.6 | 32.0 | |
| Total Split (%) | 25.0% | 25.0% | 25.0% | 25.0% | 25.0% | 25.0% | 14.4% | 40.4% | | 9.6% | 35.6% | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | None | None | None | None | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 90 |
| Actuated Cycle Length: 62.3 |
| Natural Cycle: 130 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 36: Magnolia Avenue & Riverview Pkwy






Year 2035 + Proj AM (No School) Fanita Ranch
36: Magnolia Avenue & Riverview Pkwy 06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 5 | 0 | 30 | 70 | 0 | 20 | 220 | 1066 | 40 | 20 | 1438 | 10 |
| Future Volume (veh/h) | 5 | 0 | 30 | 70 | 0 | 20 | 220 | 1066 | 40 | 20 | 1438 | 10 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.95 | 1.00 | | 1.00 | 1.00 | | 0.98 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 5 | 0 | 33 | 76 | 0 | 22 | 239 | 1159 | 43 | 22 | 1563 | 11 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 87 | 0 | 73 | 115 | 0 | 102 | 249 | 1993 | 74 | 36 | 1633 | 11 |
| Arrive On Green | 0.05 | 0.00 | 0.05 | 0.06 | 0.00 | 0.06 | 0.14 | 0.57 | 0.57 | 0.02 | 0.45 | 0.45 |
| Sat Flow, veh/h | 1781 | 0 | 1504 | 1781 | 0 | 1585 | 1781 | 3491 | 129 | 1781 | 3616 | 25 |
| Grp Volume(v), veh/h | 5 | 0 | 33 | 76 | 0 | 22 | 239 | 590 | 612 | 22 | 768 | 806 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1504 | 1781 | 0 | 1585 | 1781 | 1777 | 1843 | 1781 | 1777 | 1865 |
| Q Serve(g_s), s | 0.2 | 0.0 | 1.3 | 2.5 | 0.0 | 0.8 | 8.1 | 13.0 | 13.0 | 0.7 | 25.4 | 25.4 |
| Cycle Q Clear(g_c), s | 0.2 | 0.0 | 1.3 | 2.5 | 0.0 | 0.8 | 8.1 | 13.0 | 13.0 | 0.7 | 25.4 | 25.4 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.07 | 1.00 | | 0.01 |
| Lane Grp Cap(c), veh/h | 87 | 0 | 73 | 115 | 0 | 102 | 249 | 1014 | 1052 | 36 | 802 | 842 |
| V/C Ratio(X) | 0.06 | 0.00 | 0.45 | 0.66 | 0.00 | 0.22 | 0.96 | 0.58 | 0.58 | 0.61 | 0.96 | 0.96 |
| Avail Cap(c_a), veh/h | 527 | 0 | 445 | 527 | 0 | 469 | 249 | 1014 | 1052 | 120 | 803 | 842 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 27.6 | 0.0 | 28.2 | 27.8 | 0.0 | 27.0 | 26.0 | 8.4 | 8.4 | 29.6 | 16.1 | 16.1 |
| Incr Delay (d2), s/veh | 0.3 | 0.0 | 4.3 | 6.4 | 0.0 | 1.0 | 46.1 | 0.8 | 0.8 | 15.1 | 21.8 | 21.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.1 | 0.0 | 0.5 | 1.2 | 0.0 | 0.3 | 6.3 | 3.7 | 3.8 | 0.4 | 12.6 | 13.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 27.9 | 0.0 | 32.4 | 34.2 | 0.0 | 28.1 | 72.1 | 9.2 | 9.2 | 44.7 | 37.9 | 37.4 |
| LnGrp LOS | C | A | C | C | A | C | E | A | A | D | D | D |
| Approach Vol, veh/h | | 38 | | | 98 | | | 1441 | | | 1596 | |
| Approach Delay, s/veh | | 31.8 | | | 32.9 | | | 19.7 | | | 37.8 | |
| Approach LOS | | C | | | C | | | B | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.7 | 39.2 | | 7.5 | 13.0 | 32.0 | | 8.4 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 4.1 | 31.9 | | 18.0 | 8.5 | 27.5 | | 18.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.7 | 15.0 | | 3.3 | 10.1 | 27.4 | | 4.5 | | | | |
| Green Ext Time (p_c), s | 0.0 | 7.1 | | 0.1 | 0.0 | 0.1 | | 0.3 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 29.3 | |
| HCM 6th LOS | C | |

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| Intersection | |
|---|---|
| Int Delay, s/veh | 176.3 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 0 | 20 | 0 | 196 | 460 | 631 | 0 | 0 | 408 | 670 |
| Future Vol, veh/h | 0 | 0 | 0 | 20 | 0 | 196 | 460 | 631 | 0 | 0 | 408 | 670 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 9 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | 190 | - | - | - | - | - |
| Veh in Median Storage, # | - | 2 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 0 | 22 | 0 | 213 | 500 | 686 | 0 | 0 | 443 | 728 |

| Major/Minor | Minor1 | | | Major1 | | | Major2 | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 2493 | 2857 | 686 | 1171 | 0 | - | - | - | 0 | |
| Stage 1 | 1686 | 1686 | - | - | - | - | - | - | - | |
| Stage 2 | 807 | 1171 | - | - | - | - | - | - | - | |
| Critical Hdwy | 6.42 | 6.52 | 6.22 | 4.12 | - | - | - | - | - | |
| Critical Hdwy Stg 1 | 5.42 | 5.52 | - | - | - | - | - | - | - | |
| Critical Hdwy Stg 2 | 5.42 | 5.52 | - | - | - | - | - | - | - | |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 2.218 | - | - | - | - | - | |
| Pot Cap-1 Maneuver | 32 | 17 | 447 | 596 | - | 0 | 0 | - | - | |
| Stage 1 | 165 | 150 | - | - | - | 0 | 0 | - | - | |
| Stage 2 | 439 | 267 | - | - | - | 0 | 0 | - | - | |
| Platoon blocked, % | | | | | - | | | - | - | |
| Mov Cap-1 Maneuver | ~ 5 | 0 | 447 | 596 | - | - | - | - | - | |
| Mov Cap-2 Maneuver | ~ 5 | 0 | - | - | - | - | - | - | - | |
| Stage 1 | 27 | 0 | - | - | - | - | - | - | - | |
| Stage 2 | 439 | 0 | - | - | - | - | - | - | - | |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | $ 1872.9 | 14.7 | 0 |
| HCM LOS | F | | |

| Minor Lane/Major Mvmt | NBL | NBTWBLn1 | SBT | SBR |
|---|---|---|---|---|
| Capacity (veh/h) | 596 | - 49 | - | - |
| HCM Lane V/C Ratio | 0.839 | - 4.791 | - | - |
| HCM Control Delay (s) | 34.7 | $ 1872.9 | - | - |
| HCM Lane LOS | D | - F | - | - |
| HCM 95th %tile Q(veh) | 9 | - 26.5 | - | - |

| Notes |
|---|
| ~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon |

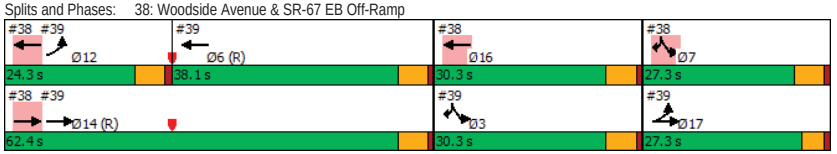




| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR | Ø3 | Ø6 | Ø12 | Ø16 | Ø17 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 320 | 180 | 0 | 550 | 140 | | | | | |
| Future Volume (vph) | 0 | 320 | 180 | 0 | 550 | 140 | | | | | |
| Confl. Peds. (#/hr) | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | | | |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | | | | | |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| Parking (#/hr) | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | | | | | | |
| Shared Lane Traffic (%) | | | | | | | | | | | |
| Turn Type | | NA | NA | | Prot | Prot | | | | | |
| Protected Phases | | 14 | 12 16 | | 7 | 7 | 3 | 6 | 12 | 16 | 17 |
| Permitted Phases | | | | | | | | | | | |
| Detector Phase | | 14 | 12 16 | | 7 | 7 | | | | | |
| Switch Phase | | | | | | | | | | | |
| Minimum Initial (s) | | 4.0 | | | 8.0 | 8.0 | 5.0 | 5.0 | 5.0 | 2.0 | 5.0 |
| Minimum Split (s) | | 20.0 | | | 27.3 | 27.3 | 30.3 | 29.3 | 24.3 | 20.0 | 9.2 |
| Total Split (s) | | 62.4 | | | 27.3 | 27.3 | 30.3 | 38.1 | 24.3 | 30.3 | 27.3 |
| Total Split (%) | | 52.0% | | | 22.8% | 22.8% | 25% | 32% | 20% | 25% | 23% |
| Yellow Time (s) | | 4.3 | | | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 3.2 |
| All-Red Time (s) | | 1.0 | | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | | 0.0 | | | 0.0 | 0.0 | | | | | |
| Total Lost Time (s) | | 5.3 | | | 5.3 | 5.3 | | | | | |
| Lead/Lag | | | | | | | | Lag | Lead | | |
| Lead-Lag Optimize? | | | | | | | | Yes | Yes | | |
| Recall Mode | | C-Max | | | Max | Max | None | C-Max | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 0 (0%), Referenced to phase 6:WBT and 14:EBT, Start of Green |
| Natural Cycle: 135 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 38: Woodside Avenue & SR-67 EB Off-Ramp



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 320 | 180 | 0 | 550 | 140 |
| Future Volume (vph) | 0 | 320 | 180 | 0 | 550 | 140 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 5.3 | 5.3 | | 5.3 | 5.3 |
| Lane Util. Factor | | 0.95 | 1.00 | | 0.97 | 1.00 |
| Frt | | 1.00 | 1.00 | | 1.00 | 0.85 |
| Flt Protected | | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | | 3539 | 1863 | | 3433 | 1583 |
| Flt Permitted | | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (perm) | | 3539 | 1863 | | 3433 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 348 | 196 | 0 | 598 | 152 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 44 |
| Lane Group Flow (vph) | 0 | 348 | 196 | 0 | 598 | 108 |
| Turn Type | | NA | NA | | Prot | Prot |
| Protected Phases | | 14 | 12 16 | | 7 | 7 |
| Permitted Phases | | | | | | |
| Actuated Green, G (s) | | 57.1 | 42.5 | | 22.0 | 22.0 |
| Effective Green, g (s) | | 57.1 | 42.5 | | 22.0 | 22.0 |
| Actuated g/C Ratio | | 0.48 | 0.35 | | 0.18 | 0.18 |
| Clearance Time (s) | | 5.3 | | | 5.3 | 5.3 |
| Vehicle Extension (s) | | 1.0 | | | 3.0 | 3.0 |
| Lane Grp Cap (vph) | | 1683 | 659 | | 629 | 290 |
| v/s Ratio Prot | | c0.10 | c0.11 | | c0.17 | 0.07 |
| v/s Ratio Perm | | | | | | |
| v/c Ratio | | 0.21 | 0.30 | | 0.95 | 0.37 |
| Uniform Delay, d1 | | 18.3 | 28.0 | | 48.5 | 42.9 |
| Progression Factor | | 1.00 | 1.20 | | 1.00 | 1.00 |
| Incremental Delay, d2 | | 0.3 | 0.1 | | 25.6 | 3.6 |
| Delay (s) | | 18.6 | 33.8 | | 74.1 | 46.6 |
| Level of Service | | B | C | | E | D |
| Approach Delay (s) | | 18.6 | 33.8 | | 68.5 | |
| Approach LOS | | B | C | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 49.8 | HCM 2000 Level of Service | D |
| HCM 2000 Volume to Capacity ratio | 0.42 | | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 21.2 |
| Intersection Capacity Utilization | 34.0% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

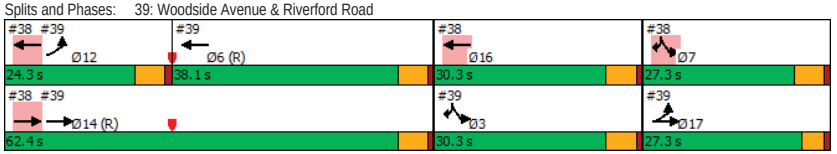




| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR | Ø7 | Ø12 | Ø14 | Ø16 | Ø17 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | |
| Traffic Volume (vph) | 520 | 350 | 130 | 571 | 328 | 50 | | | | | |
| Future Volume (vph) | 520 | 350 | 130 | 571 | 328 | 50 | | | | | |
| Confl. Peds. (#/hr) | | | | | | 1 | | | | | |
| Confl. Bikes (#/hr) | | | | 1 | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | | | |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | | | | | |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| Parking (#/hr) | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | | | | | | |
| Shared Lane Traffic (%) | | | | | | | | | | | |
| Turn Type | Prot | NA | NA | | Prot | Prot | | | | | |
| Protected Phases | 12 17 | 14 17 | 6 | | 3 | 3 | 7 | 12 | 14 | 16 | 17 |
| Permitted Phases | | | | | | | | | | | |
| Detector Phase | 12 17 | 14 17 | 6 | | 3 | 3 | | | | | |
| Switch Phase | | | | | | | | | | | |
| Minimum Initial (s) | | | 5.0 | | 5.0 | 5.0 | 8.0 | 5.0 | 4.0 | 2.0 | 5.0 |
| Minimum Split (s) | | | 29.3 | | 30.3 | 30.3 | 27.3 | 24.3 | 20.0 | 20.0 | 9.2 |
| Total Split (s) | | | 38.1 | | 30.3 | 30.3 | 27.3 | 24.3 | 62.4 | 30.3 | 27.3 |
| Total Split (%) | | | 31.8% | | 25.3% | 25.3% | 23% | 20% | 52% | 25% | 23% |
| Yellow Time (s) | | | 4.3 | | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 3.2 |
| All-Red Time (s) | | | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | | | 0.0 | | 0.0 | 0.0 | | | | | |
| Total Lost Time (s) | | | 5.3 | | 5.3 | 5.3 | | | | | |
| Lead/Lag | | | Lag | | | | | Lead | | | |
| Lead-Lag Optimize? | | | Yes | | | | | Yes | | | |
| Recall Mode | | | C-Max | | None | None | Max | None | C-Max | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 0 (0%), Referenced to phase 6:WBT and 14:EBT, Start of Green |
| Natural Cycle: 135 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 39: Woodside Avenue & Riverford Road



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 520 | 350 | 130 | 571 | 328 | 50 |
| Future Volume (vph) | 520 | 350 | 130 | 571 | 328 | 50 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.3 | 5.3 | 5.3 | | 5.3 | 5.3 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.98 | | 1.00 | 1.00 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.89 | | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | 1770 | 1863 | 1629 | | 1770 | 1583 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (perm) | 1770 | 1863 | 1629 | | 1770 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 565 | 380 | 141 | 621 | 357 | 54 |
| RTOR Reduction (vph) | 0 | 0 | 130 | 0 | 0 | 29 |
| Lane Group Flow (vph) | 565 | 380 | 632 | 0 | 357 | 26 |
| Confl. Peds. (#/hr) | | | | | | 1 |
| Confl. Bikes (#/hr) | | | | 1 | | |
| Turn Type | Prot | NA | NA | | Prot | Prot |
| Protected Phases | 12 17 | 14 17 | 6 | | 3 | 3 |
| Permitted Phases | | | | | | |
| Actuated Green, G (s) | 44.8 | 84.4 | 34.3 | | 25.0 | 25.0 |
| Effective Green, g (s) | 40.6 | 80.2 | 34.3 | | 25.0 | 25.0 |
| Actuated g/C Ratio | 0.34 | 0.67 | 0.29 | | 0.21 | 0.21 |
| Clearance Time (s) | | | 5.3 | | 5.3 | 5.3 |
| Vehicle Extension (s) | | | 3.0 | | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 598 | 1245 | 465 | | 368 | 329 |
| v/s Ratio Prot | c0.32 | 0.20 | c0.39 | | c0.20 | 0.02 |
| v/s Ratio Perm | | | | | | |
| v/c Ratio | 0.94 | 0.31 | 1.36 | | 0.97 | 0.08 |
| Uniform Delay, d1 | 38.6 | 8.3 | 42.9 | | 47.1 | 38.2 |
| Progression Factor | 0.27 | 0.08 | 1.00 | | 1.00 | 1.00 |
| Incremental Delay, d2 | 19.1 | 0.1 | 175.2 | | 38.9 | 0.1 |
| Delay (s) | 29.7 | 0.8 | 218.0 | | 86.0 | 38.3 |
| Level of Service | C | A | F | | F | D |
| Approach Delay (s) | | 18.1 | 218.0 | | 79.7 | |
| Approach LOS | | B | F | | E | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| HCM 2000 Control Delay | 102.0 | HCM 2000 Level of Service | F |
| HCM 2000 Volume to Capacity ratio | 1.10 | | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 21.2 |
| Intersection Capacity Utilization | 102.3% | ICU Level of Service | G |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

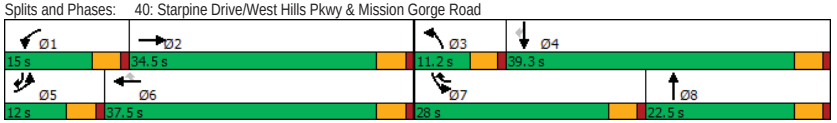




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 329 | 410 | 80 | 80 | 1090 | 1235 | 40 | 60 | 80 | 175 | 60 | 466 |
| Future Volume (vph) | 329 | 410 | 80 | 80 | 1090 | 1235 | 40 | 60 | 80 | 175 | 60 | 466 |
| Confl. Peds. (#/hr) | | | 3 | | | 1 | | | 1 | | | |
| Confl. Bikes (#/hr) | | | 2 | | | 6 | | | | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Prot | NA | | Prot | NA | pm+ov |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 5 |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 5 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 29.5 | | 8.5 | 29.5 | 8.5 | 8.5 | 22.5 | | 8.5 | 29.5 | 8.5 |
| Total Split (s) | 12.0 | 34.5 | | 15.0 | 37.5 | 28.0 | 11.2 | 22.5 | | 28.0 | 39.3 | 12.0 |
| Total Split (%) | 12.0% | 34.5% | | 15.0% | 37.5% | 28.0% | 11.2% | 22.5% | | 28.0% | 39.3% | 12.0% |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | Lead |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | Min | | None | Min | None | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 93.1 |
| Natural Cycle: 100 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 40: Starpine Drive/West Hills Pkwy & Mission Gorge Road



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 329 | 410 | 80 | 80 | 1090 | 1235 | 40 | 60 | 80 | 175 | 60 | 466 |
| Future Volume (veh/h) | 329 | 410 | 80 | 80 | 1090 | 1235 | 40 | 60 | 80 | 175 | 60 | 466 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 1.00 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 358 | 446 | 87 | 87 | 1185 | 1342 | 43 | 65 | 87 | 190 | 65 | 507 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 334 | 1356 | 262 | 113 | 1512 | 797 | 55 | 117 | 156 | 291 | 401 | 854 |
| Arrive On Green | 0.10 | 0.46 | 0.46 | 0.06 | 0.43 | 0.43 | 0.03 | 0.16 | 0.16 | 0.08 | 0.21 | 0.21 |
| Sat Flow, veh/h | 3456 | 2955 | 572 | 1781 | 3554 | 1560 | 1781 | 724 | 969 | 3456 | 1870 | 2724 |
| Grp Volume(v), veh/h | 358 | 267 | 266 | 87 | 1185 | 1342 | 43 | 0 | 152 | 190 | 65 | 507 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1750 | 1781 | 1777 | 1560 | 1781 | 0 | 1694 | 1728 | 1870 | 1362 |
| Q Serve(g_s), s | 7.5 | 7.4 | 7.5 | 3.7 | 22.3 | 33.0 | 1.9 | 0.0 | 6.4 | 4.1 | 2.2 | 12.2 |
| Cycle Q Clear(g_c), s | 7.5 | 7.4 | 7.5 | 3.7 | 22.3 | 33.0 | 1.9 | 0.0 | 6.4 | 4.1 | 2.2 | 12.2 |
| Prop In Lane | 1.00 | | 0.33 | 1.00 | | 1.00 | 1.00 | | 0.57 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 334 | 816 | 803 | 113 | 1512 | 797 | 55 | 0 | 273 | 291 | 401 | 854 |
| V/C Ratio(X) | 1.07 | 0.33 | 0.33 | 0.77 | 0.78 | 1.68 | 0.77 | 0.00 | 0.56 | 0.65 | 0.16 | 0.59 |
| Avail Cap(c_a), veh/h | 334 | 816 | 803 | 241 | 1512 | 797 | 154 | 0 | 393 | 1047 | 839 | 1492 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 35.0 | 13.4 | 13.4 | 35.8 | 19.2 | 19.1 | 37.3 | 0.0 | 30.0 | 34.4 | 24.8 | 22.6 |
| Incr Delay (d2), s/veh | 69.5 | 0.2 | 0.2 | 10.6 | 2.8 | 312.8 | 20.1 | 0.0 | 1.8 | 2.5 | 0.2 | 0.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 6.1 | 2.4 | 2.4 | 1.8 | 8.2 | 81.8 | 1.1 | 0.0 | 2.7 | 1.7 | 0.9 | 3.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 104.5 | 13.6 | 13.6 | 46.4 | 22.0 | 331.8 | 57.4 | 0.0 | 31.7 | 36.9 | 25.0 | 23.3 |
| LnGrp LOS | F | B | B | D | C | F | E | A | C | D | C | C |
| Approach Vol, veh/h | | 891 | | | 2614 | | | 195 | | | 762 | |
| Approach Delay, s/veh | | 50.1 | | | 181.9 | | | 37.4 | | | 26.8 | |
| Approach LOS | | D | | | F | | | D | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 9.4 | 40.1 | 6.9 | 21.1 | 12.0 | 37.5 | 11.0 | 17.0 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 10.5 | 30.0 | 6.7 | 34.8 | 7.5 | 33.0 | 23.5 | 18.0 |
| Max Q Clear Time (g_c+I1), s | 5.7 | 9.5 | 3.9 | 14.2 | 9.5 | 35.0 | 6.1 | 8.4 |
| Green Ext Time (p_c), s | 0.1 | 2.6 | 0.0 | 2.3 | 0.0 | 0.0 | 0.5 | 0.5 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 122.8 |
| HCM 6th LOS | F |

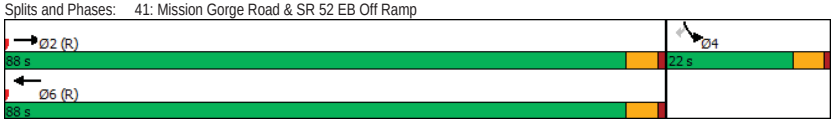




| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 940 | 1680 | 0 | 163 | 15 |
| Future Volume (vph) | 0 | 940 | 1680 | 0 | 163 | 15 |
| Confl. Peds. (#/hr) | | | | | | |
| Confl. Bikes (#/hr) | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | | NA | NA | | Prot | Perm |
| Protected Phases | | 2 | 6 | | 4 | |
| Permitted Phases | | | | | | 4 |
| Detector Phase | | 2 | 6 | | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | | 6.0 | 11.0 | | 10.0 | 10.0 |
| Minimum Split (s) | | 20.0 | 20.0 | | 20.0 | 20.0 |
| Total Split (s) | | 88.0 | 88.0 | | 22.0 | 22.0 |
| Total Split (%) | | 80.0% | 80.0% | | 20.0% | 20.0% |
| Yellow Time (s) | | 4.4 | 4.4 | | 4.1 | 4.1 |
| All-Red Time (s) | | 1.0 | 1.0 | | 1.0 | 1.0 |
| Lost Time Adjust (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | | 5.4 | 5.4 | | 5.1 | 5.1 |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | | C-Min | C-Min | | None | None |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 110 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green, Master Intersection |
| Natural Cycle: 60 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 41: Mission Gorge Road & SR 52 EB Off Ramp



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 940 | 1680 | 0 | 163 | 15 |
| Future Volume (veh/h) | 0 | 940 | 1680 | 0 | 163 | 15 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 0 | 1870 | 1870 | 0 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 1022 | 1826 | 0 | 177 | 16 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 0 | 2 | 2 | 0 | 2 | 2 |
| Cap, veh/h | 0 | 2892 | 2892 | 0 | 313 | 144 |
| Arrive On Green | 0.00 | 0.81 | 1.00 | 0.00 | 0.09 | 0.09 |
| Sat Flow, veh/h | 0 | 3741 | 3741 | 0 | 3456 | 1585 |
| Grp Volume(v), veh/h | 0 | 1022 | 1826 | 0 | 177 | 16 |
| Grp Sat Flow(s),veh/h/ln | 0 | 1777 | 1777 | 0 | 1728 | 1585 |
| Q Serve(g_s), s | 0.0 | 8.3 | 0.0 | 0.0 | 5.4 | 1.0 |
| Cycle Q Clear(g_c), s | 0.0 | 8.3 | 0.0 | 0.0 | 5.4 | 1.0 |
| Prop In Lane | 0.00 | | | 0.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 0 | 2892 | 2892 | 0 | 313 | 144 |
| V/C Ratio(X) | 0.00 | 0.35 | 0.63 | 0.00 | 0.56 | 0.11 |
| Avail Cap(c_a), veh/h | 0 | 2892 | 2892 | 0 | 531 | 244 |
| HCM Platoon Ratio | 1.00 | 1.00 | 2.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.00 | 1.00 | 0.52 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 0.0 | 2.7 | 0.0 | 0.0 | 47.9 | 45.9 |
| Incr Delay (d2), s/veh | 0.0 | 0.3 | 0.6 | 0.0 | 1.6 | 0.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 2.1 | 0.2 | 0.0 | 2.4 | 0.4 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 3.0 | 0.6 | 0.0 | 49.5 | 46.3 |
| LnGrp LOS | A | A | A | A | D | D |
| Approach Vol, veh/h | | 1022 | 1826 | | 193 | |
| Approach Delay, s/veh | | 3.0 | 0.6 | | 49.3 | |
| Approach LOS | | A | A | | D | |

| Timer - Assigned Phs | 2 | | 4 | | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 94.9 | | 15.1 | | 94.9 |
| Change Period (Y+Rc), s | 5.4 | | 5.1 | | 5.4 |
| Max Green Setting (Gmax), s | 82.6 | | 16.9 | | 82.6 |
| Max Q Clear Time (g_c+I1), s | 10.3 | | 7.4 | | 2.0 |
| Green Ext Time (p_c), s | 9.9 | | 0.4 | | 26.9 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 4.5 |
| HCM 6th LOS | A |

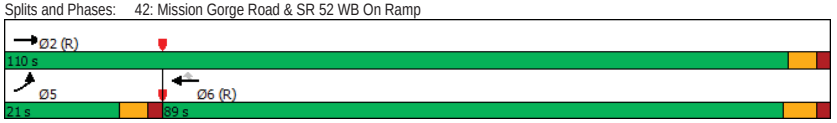




| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 125 | 953 | 1680 | 1001 | 0 | 0 |
| Future Volume (vph) | 125 | 953 | 1680 | 1001 | 0 | 0 |
| Confl. Peds. (#/hr) | | | | | | |
| Confl. Bikes (#/hr) | | | | 2 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | |
| Shared Lane Traffic (%) | | | | 19% | | |
| Turn Type | Prot | NA | NA | Perm | | |
| Protected Phases | 5 | 2 | 6 | | | |
| Permitted Phases | | | | 6 | | |
| Detector Phase | 5 | 2 | 6 | 6 | | |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 10.0 | 10.0 | | |
| Minimum Split (s) | 10.7 | 21.0 | 22.4 | 22.4 | | |
| Total Split (s) | 21.0 | 110.0 | 89.0 | 89.0 | | |
| Total Split (%) | 19.1% | 100.0% | 80.9% | 80.9% | | |
| Yellow Time (s) | 3.7 | 3.7 | 4.4 | 4.4 | | |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | | |
| Total Lost Time (s) | 5.7 | 5.7 | 6.4 | 6.4 | | |
| Lead/Lag | Lead | | Lag | Lag | | |
| Lead-Lag Optimize? | Yes | | Yes | Yes | | |
| Recall Mode | None | C-Min | C-Min | C-Min | | |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 110 |
| Offset: 32 (29%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 60 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 42: Mission Gorge Road & SR 52 WB On Ramp



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 125 | 953 | 1680 | 1001 | 0 | 0 |
| Future Volume (veh/h) | 125 | 953 | 1680 | 1001 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 0.98 | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Work Zone On Approach | | No | No | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | | |
| Adj Flow Rate, veh/h | 136 | 1036 | 2001 | 971 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | | |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | | |
| Cap, veh/h | 163 | 3347 | 2987 | 1239 | | |
| Arrive On Green | 0.18 | 1.00 | 1.00 | 1.00 | | |
| Sat Flow, veh/h | 1781 | 3647 | 3741 | 1552 | | |
| Grp Volume(v), veh/h | 136 | 1036 | 2001 | 971 | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1870 | 1552 | | |
| Q Serve(g_s), s | 8.1 | 0.0 | 0.0 | 0.0 | | |
| Cycle Q Clear(g_c), s | 8.1 | 0.0 | 0.0 | 0.0 | | |
| Prop In Lane | 1.00 | | | 1.00 | | |
| Lane Grp Cap(c), veh/h | 163 | 3347 | 2987 | 1239 | | |
| V/C Ratio(X) | 0.83 | 0.31 | 0.67 | 0.78 | | |
| Avail Cap(c_a), veh/h | 248 | 3370 | 2987 | 1239 | | |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 2.00 | | |
| Upstream Filter(I) | 0.93 | 0.93 | 0.59 | 0.59 | | |
| Uniform Delay (d), s/veh | 44.1 | 0.0 | 0.0 | 0.0 | | |
| Incr Delay (d2), s/veh | 12.9 | 0.2 | 0.7 | 3.0 | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | | |
| %ile BackOfQ(50%),veh/ln | 3.8 | 0.1 | 0.3 | 1.0 | | |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 57.0 | 0.2 | 0.7 | 3.0 | | |
| LnGrp LOS | E | A | A | A | | |
| Approach Vol, veh/h | | 1172 | 2972 | | | |
| Approach Delay, s/veh | | 6.8 | 1.5 | | | |
| Approach LOS | | A | A | | | |

| Timer - Assigned Phs | 2 | | | 5 | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 110.0 | | | 15.8 | 94.2 |
| Change Period (Y+Rc), s | * 6.4 | | | * 5.7 | 6.4 |
| Max Green Setting (Gmax), s | * 1E2 | | | * 15 | 82.6 |
| Max Q Clear Time (g_c+I1), s | 2.0 | | | 10.1 | 2.0 |
| Green Ext Time (p_c), s | 2.5 | | | 0.1 | 51.8 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 3.0 |
| HCM 6th LOS | A |

**Notes**

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

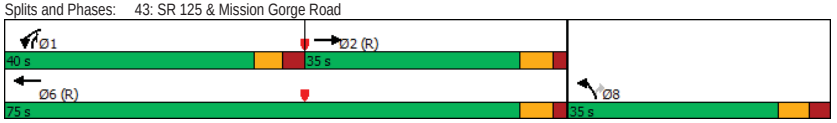




| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 703 | 320 | 1094 | 2041 | 690 | 957 |
| Future Volume (vph) | 703 | 320 | 1094 | 2041 | 690 | 957 |
| Confl. Peds. (#/hr) | | 11 | | | | |
| Confl. Bikes (#/hr) | | 3 | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | NA | | Prot | NA | Prot | pm+ov |
| Protected Phases | 2 | | 1 | 6 | 8 | 1 |
| Permitted Phases | | | | | | 8 |
| Detector Phase | 2 | | 1 | 6 | 8 | 1 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 11.0 | | 5.0 | 10.0 | 5.0 | 5.0 |
| Minimum Split (s) | 17.4 | | 11.7 | 20.0 | 20.0 | 11.7 |
| Total Split (s) | 35.0 | | 40.0 | 75.0 | 35.0 | 40.0 |
| Total Split (%) | 31.8% | | 36.4% | 68.2% | 31.8% | 36.4% |
| Yellow Time (s) | 4.4 | | 3.7 | 4.4 | 4.1 | 3.7 |
| All-Red Time (s) | 2.0 | | 3.0 | 2.0 | 3.0 | 3.0 |
| Lost Time Adjust (s) | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.4 | | 6.7 | 6.4 | 7.1 | 6.7 |
| Lead/Lag | Lag | | Lead | | | Lead |
| Lead-Lag Optimize? | Yes | | Yes | | | Yes |
| Recall Mode | C-Max | | None | C-Max | None | None |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 110 |
| Offset: 29 (26%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 100 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 43: SR 125 & Mission Gorge Road



| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 703 | 320 | 1094 | 2041 | 690 | 957 |
| Future Volume (veh/h) | 703 | 320 | 1094 | 2041 | 690 | 957 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | 0.96 | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 764 | 348 | 1189 | 2218 | 750 | 1040 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 885 | 394 | 1046 | 3184 | 876 | 1552 |
| Arrive On Green | 0.52 | 0.52 | 0.30 | 0.62 | 0.25 | 0.25 |
| Sat Flow, veh/h | 3572 | 1514 | 3456 | 5274 | 3456 | 2790 |
| Grp Volume(v), veh/h | 764 | 348 | 1189 | 2218 | 750 | 1040 |
| Grp Sat Flow(s),veh/h/ln | 1702 | 1514 | 1728 | 1702 | 1728 | 1395 |
| Q Serve(g_s), s | 21.5 | 22.5 | 33.3 | 31.8 | 22.8 | 27.9 |
| Cycle Q Clear(g_c), s | 21.5 | 22.5 | 33.3 | 31.8 | 22.8 | 27.9 |
| Prop In Lane | | 1.00 | 1.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 885 | 394 | 1046 | 3184 | 876 | 1552 |
| V/C Ratio(X) | 0.86 | 0.88 | 1.14 | 0.70 | 0.86 | 0.67 |
| Avail Cap(c_a), veh/h | 885 | 394 | 1046 | 3184 | 876 | 1552 |
| HCM Platoon Ratio | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.97 | 0.97 | 0.52 | 0.52 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 24.7 | 24.9 | 38.3 | 13.8 | 39.1 | 17.3 |
| Incr Delay (d2), s/veh | 10.6 | 23.4 | 68.2 | 0.7 | 8.3 | 1.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 6.9 | 7.7 | 23.4 | 10.8 | 10.5 | 9.1 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 35.3 | 48.3 | 106.5 | 14.4 | 47.5 | 18.4 |
| LnGrp LOS | D | D | F | B | D | B |
| Approach Vol, veh/h | 1112 | | | 3407 | 1790 | |
| Approach Delay, s/veh | 39.4 | | | 46.6 | 30.6 | |
| Approach LOS | D | | | D | C | |

| Timer - Assigned Phs | 1 | 2 | | | | 6 | 8 |
|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 40.0 | 35.0 | | | | 75.0 | 35.0 |
| Change Period (Y+Rc), s | * 6.7 | 6.4 | | | | 6.4 | 7.1 |
| Max Green Setting (Gmax), s | * 33 | 28.6 | | | | 68.6 | 27.9 |
| Max Q Clear Time (g_c+I1), s | 35.3 | 24.5 | | | | 33.8 | 29.9 |
| Green Ext Time (p_c), s | 0.0 | 2.5 | | | | 23.3 | 0.0 |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | | 40.8 |
| HCM 6th LOS | | | D |

**Notes**

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



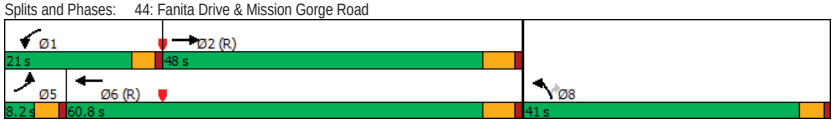


| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 10 | 1170 | 420 | 372 | 2050 | 0 | 870 | 0 | 404 | 0 | 0 | 0 |
| Future Volume (vph) | 10 | 1170 | 420 | 372 | 2050 | 0 | 870 | 0 | 404 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | | | 4 | | | | | | | | | |
| Confl. Bikes (#/hr) | | | 2 | | | | | | 2 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | | Perm | | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | | | | | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | | 8 | | | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 7.0 | | 7.0 | | | |
| Minimum Split (s) | 8.2 | 33.3 | | 8.2 | 20.0 | | 34.2 | | 34.2 | | | |
| Total Split (s) | 8.2 | 48.0 | | 21.0 | 60.8 | | 41.0 | | 41.0 | | | |
| Total Split (%) | 7.5% | 43.6% | | 19.1% | 55.3% | | 37.3% | | 37.3% | | | |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | | 3.2 | | 3.2 | | | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | | 1.0 | | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | | 0.0 | | | |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | | 4.2 | | 4.2 | | | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | | None | | | |

**Intersection Summary**

Cycle Length: 110
Actuated Cycle Length: 110
Offset: 52 (47%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 44: Fanita Drive & Mission Gorge Road



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 10 | 1170 | 420 | 372 | 2050 | 0 | 870 | 0 | 404 | 0 | 0 | 0 |
| Future Volume (veh/h) | 10 | 1170 | 420 | 372 | 2050 | 0 | 870 | 0 | 404 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 1.00 | 1.00 | | 1.00 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 0 | 1870 | 0 | 1870 | | | |
| Adj Flow Rate, veh/h | 11 | 1272 | 457 | 404 | 2228 | 0 | 946 | 0 | 439 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 0 | 2 | 0 | 2 | | | |
| Cap, veh/h | 18 | 1573 | 562 | 470 | 2825 | 0 | 1078 | 0 | 494 | | | |
| Arrive On Green | 0.00 | 0.14 | 0.14 | 0.04 | 0.18 | 0.00 | 0.31 | 0.00 | 0.31 | | | |
| Sat Flow, veh/h | 1781 | 3680 | 1316 | 3456 | 5274 | 0 | 3456 | 0 | 1585 | | | |
| Grp Volume(v), veh/h | 11 | 1176 | 553 | 404 | 2228 | 0 | 946 | 0 | 439 | | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1702 | 1592 | 1728 | 1702 | 0 | 1728 | 0 | 1585 | | | |
| Q Serve(g_s), s | 0.7 | 36.8 | 37.1 | 12.8 | 45.8 | 0.0 | 28.5 | 0.0 | 29.0 | | | |
| Cycle Q Clear(g_c), s | 0.7 | 36.8 | 37.1 | 12.8 | 45.8 | 0.0 | 28.5 | 0.0 | 29.0 | | | |
| Prop In Lane | 1.00 | | 0.83 | 1.00 | | 0.00 | 1.00 | | 1.00 | | | |
| Lane Grp Cap(c), veh/h | 18 | 1455 | 680 | 470 | 2825 | 0 | 1078 | 0 | 494 | | | |
| V/C Ratio(X) | 0.59 | 0.81 | 0.81 | 0.86 | 0.79 | 0.00 | 0.88 | 0.00 | 0.89 | | | |
| Avail Cap(c_a), veh/h | 65 | 1455 | 680 | 528 | 2825 | 0 | 1156 | 0 | 530 | | | |
| HCM Platoon Ratio | 0.33 | 0.33 | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 0.62 | 0.62 | 0.62 | 0.09 | 0.09 | 0.00 | 1.00 | 0.00 | 1.00 | | | |
| Uniform Delay (d), s/veh | 54.6 | 42.9 | 43.0 | 51.5 | 38.8 | 0.0 | 35.9 | 0.0 | 36.0 | | | |
| Incr Delay (d2), s/veh | 17.5 | 3.1 | 6.6 | 1.2 | 0.2 | 0.0 | 7.7 | 0.0 | 16.3 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ln | 0.4 | 17.3 | 16.9 | 6.0 | 20.8 | 0.0 | 12.7 | 0.0 | 13.0 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 72.1 | 46.0 | 49.6 | 52.6 | 39.0 | 0.0 | 43.6 | 0.0 | 52.3 | | | |
| LnGrp LOS | E | D | D | D | D | A | D | A | D | | | |
| Approach Vol, veh/h | | 1740 | | | 2632 | | | 1385 | | | | |
| Approach Delay, s/veh | | 47.3 | | | 41.1 | | | 46.3 | | | | |
| Approach LOS | | D | | | D | | | D | | | | |

| Timer - Assigned Phs | 1 | 2 | | | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 19.2 | 52.3 | | | 5.3 | 66.2 | | 38.5 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | | | * 4.2 | 5.3 | | 4.2 | | | | |
| Max Green Setting (Gmax), s | * 17 | 42.7 | | | * 4 | 55.5 | | 36.8 | | | | |
| Max Q Clear Time (g_c+I1), s | 14.8 | 39.1 | | | 2.7 | 47.8 | | 31.0 | | | | |
| Green Ext Time (p_c), s | 0.2 | 3.1 | | | 0.0 | 6.9 | | 3.3 | | | | |

| Intersection Summary | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HCM 6th Ctrl Delay | | | 44.2 | | | | | | | | | |
| HCM 6th LOS | | | D | | | | | | | | | |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

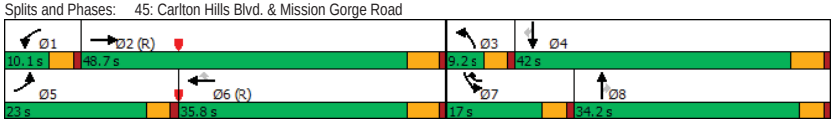




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 760 | 789 | 90 | 25 | 1377 | 428 | 40 | 40 | 10 | 436 | 80 | 1095 |
| Future Volume (vph) | 760 | 789 | 90 | 25 | 1377 | 428 | 40 | 40 | 10 | 436 | 80 | 1095 |
| Confl. Peds. (#/hr) | | | 13 | | | 3 | | | 5 | | | 5 |
| Confl. Bikes (#/hr) | | | 2 | | | 2 | | | 3 | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | 47% |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | 6 | | | 8 | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | 8 | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 23.3 | | 8.2 | 34.3 | 8.2 | 8.2 | 34.2 | 34.2 | 8.2 | 32.4 | 32.4 |
| Total Split (s) | 23.0 | 48.7 | | 10.1 | 35.8 | 17.0 | 9.2 | 34.2 | 34.2 | 17.0 | 42.0 | 42.0 |
| Total Split (%) | 20.9% | 44.3% | | 9.2% | 32.5% | 15.5% | 8.4% | 31.1% | 31.1% | 15.5% | 38.2% | 38.2% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | 3.2 | 3.2 | 3.2 | 3.2 | 3.2 | 4.4 | 4.4 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | 4.2 | 4.2 | 4.2 | 4.2 | 4.2 | 5.4 | 5.4 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | C-Min | | None | C-Min | None | None | None | None | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 110 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 145 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 45: Carlton Hills Blvd. & Mission Gorge Road



Year 2035 + Proj AM (No School) — Fanita Ranch
45: Carlton Hills Blvd. & Mission Gorge Road — 06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 760 | 789 | 90 | 25 | 1377 | 428 | 40 | 40 | 10 | 436 | 80 | 1095 |
| Future Volume (veh/h) | 760 | 789 | 90 | 25 | 1377 | 428 | 40 | 40 | 10 | 436 | 80 | 1095 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.96 | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 826 | 858 | 98 | 27 | 1497 | 465 | 43 | 43 | 11 | 474 | 0 | 1137 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 591 | 2048 | 233 | 36 | 1490 | 639 | 55 | 462 | 384 | 415 | 0 | 1035 |
| Arrive On Green | 0.06 | 0.15 | 0.15 | 0.01 | 0.10 | 0.10 | 0.03 | 0.25 | 0.25 | 0.12 | 0.00 | 0.33 |
| Sat Flow, veh/h | 3456 | 4631 | 526 | 1781 | 5106 | 1559 | 1781 | 1870 | 1552 | 3563 | 0 | 3110 |
| Grp Volume(v), veh/h | 826 | 629 | 327 | 27 | 1497 | 465 | 43 | 43 | 11 | 474 | 0 | 1137 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1702 | 1752 | 1781 | 1702 | 1559 | 1781 | 1870 | 1552 | 1781 | 0 | 1555 |
| Q Serve(g_s), s | 18.8 | 18.5 | 18.6 | 1.7 | 32.1 | 27.5 | 2.6 | 1.9 | 0.6 | 12.8 | 0.0 | 36.6 |
| Cycle Q Clear(g_c), s | 18.8 | 18.5 | 18.6 | 1.7 | 32.1 | 27.5 | 2.6 | 1.9 | 0.6 | 12.8 | 0.0 | 36.6 |
| Prop In Lane | 1.00 | | 0.30 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 591 | 1506 | 775 | 36 | 1490 | 639 | 55 | 462 | 384 | 415 | 0 | 1035 |
| V/C Ratio(X) | 1.40 | 0.42 | 0.42 | 0.74 | 1.00 | 0.73 | 0.78 | 0.09 | 0.03 | 1.14 | 0.00 | 1.10 |
| Avail Cap(c_a), veh/h | 591 | 1506 | 775 | 96 | 1490 | 639 | 81 | 510 | 423 | 415 | 0 | 1035 |
| HCM Platoon Ratio | 0.33 | 0.33 | 0.33 | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.50 | 0.50 | 0.50 | 0.88 | 0.88 | 0.88 | 1.00 | 1.00 | 1.00 | 0.19 | 0.00 | 0.19 |
| Uniform Delay (d), s/veh | 51.9 | 34.1 | 34.2 | 54.3 | 49.7 | 35.0 | 52.9 | 31.9 | 31.4 | 48.6 | 0.0 | 36.7 |
| Incr Delay (d2), s/veh | 184.5 | 0.4 | 0.8 | 9.3 | 22.9 | 6.3 | 24.9 | 0.0 | 0.0 | 70.5 | 0.0 | 47.9 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 23.8 | 8.5 | 8.9 | 0.8 | 17.7 | 12.5 | 1.6 | 0.9 | 0.2 | 9.7 | 0.0 | 20.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 236.4 | 34.5 | 35.0 | 63.6 | 72.6 | 41.2 | 77.9 | 31.9 | 31.4 | 119.1 | 0.0 | 84.6 |
| LnGrp LOS | F | C | C | E | F | D | E | C | C | F | A | F |
| Approach Vol, veh/h | | 1782 | | | 1989 | | | 97 | | | 1611 | |
| Approach Delay, s/veh | | 128.2 | | | 65.2 | | | 52.2 | | | 94.8 | |
| Approach LOS | | F | | | E | | | D | | | F | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 6.4 | 54.0 | 7.6 | 42.0 | 23.0 | 37.4 | 17.0 | 32.6 |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | * 4.2 | 5.4 | * 4.2 | 5.3 | * 4.2 | * 5.4 |
| Max Green Setting (Gmax), s | * 5.9 | 43.4 | * 5 | 36.6 | * 19 | 30.5 | * 13 | * 30 |
| Max Q Clear Time (g_c+I1), s | 3.7 | 20.6 | 4.6 | 38.6 | 20.8 | 34.1 | 14.8 | 3.9 |
| Green Ext Time (p_c), s | 0.0 | 7.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 94.1 |
| HCM 6th LOS | F |

Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

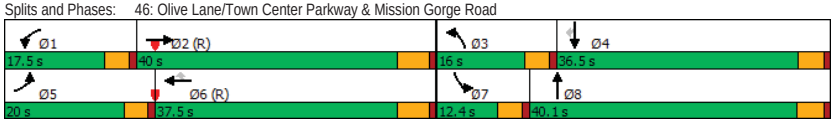


Year 2035 + Proj AM (No School) — Fanita Ranch
46: Olive Lane/Town Center Parkway & Mission Gorge Road — 06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 300 | 614 | 220 | 100 | 887 | 140 | 210 | 120 | 65 | 110 | 100 | 310 |
| Future Volume (vph) | 300 | 614 | 220 | 100 | 887 | 140 | 210 | 120 | 65 | 110 | 100 | 310 |
| Confl. Peds. (#/hr) | | | 5 | | | 8 | | | 11 | | | 3 |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | Perm | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | 10.0 | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 26.3 | | 8.2 | 36.3 | 36.3 | 8.2 | 34.6 | | 8.2 | 36.5 | 36.5 |
| Total Split (s) | 20.0 | 40.0 | | 17.5 | 37.5 | 37.5 | 16.0 | 40.1 | | 12.4 | 36.5 | 36.5 |
| Total Split (%) | 18.2% | 36.4% | | 15.9% | 34.1% | 34.1% | 14.5% | 36.5% | | 11.3% | 33.2% | 33.2% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | 4.3 | 3.2 | 3.6 | | 3.2 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | 5.3 | 4.2 | 4.6 | | 4.2 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | C-Min | | None | C-Min | C-Min | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 110 |
| Offset: 40 (36%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 90 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 46: Olive Lane/Town Center Parkway & Mission Gorge Road



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 300 | 614 | 220 | 100 | 887 | 140 | 210 | 120 | 65 | 110 | 100 | 310 |
| Future Volume (veh/h) | 300 | 614 | 220 | 100 | 887 | 140 | 210 | 120 | 65 | 110 | 100 | 310 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 326 | 667 | 239 | 109 | 964 | 152 | 228 | 130 | 71 | 120 | 109 | 337 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 388 | 1812 | 638 | 135 | 2302 | 711 | 290 | 247 | 135 | 177 | 349 | 518 |
| Arrive On Green | 0.15 | 0.65 | 0.65 | 0.08 | 0.45 | 0.45 | 0.08 | 0.22 | 0.22 | 0.05 | 0.19 | 0.19 |
| Sat Flow, veh/h | 3456 | 3720 | 1310 | 1781 | 5106 | 1577 | 3456 | 1125 | 614 | 3456 | 1870 | 2776 |
| Grp Volume(v), veh/h | 326 | 609 | 297 | 109 | 964 | 152 | 228 | 0 | 201 | 120 | 109 | 337 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1702 | 1627 | 1781 | 1702 | 1577 | 1728 | 0 | 1739 | 1728 | 1870 | 1388 |
| Q Serve(g_s), s | 10.1 | 9.1 | 9.3 | 6.6 | 14.1 | 6.4 | 7.1 | 0.0 | 11.2 | 3.8 | 5.5 | 12.4 |
| Cycle Q Clear(g_c), s | 10.1 | 9.1 | 9.3 | 6.6 | 14.1 | 6.4 | 7.1 | 0.0 | 11.2 | 3.8 | 5.5 | 12.4 |
| Prop In Lane | 1.00 | | 0.81 | 1.00 | | 1.00 | 1.00 | | 0.35 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 388 | 1658 | 792 | 135 | 2302 | 711 | 290 | 0 | 381 | 177 | 349 | 518 |
| V/C Ratio(X) | 0.84 | 0.37 | 0.37 | 0.81 | 0.42 | 0.21 | 0.79 | 0.00 | 0.53 | 0.68 | 0.31 | 0.65 |
| Avail Cap(c_a), veh/h | 496 | 1658 | 792 | 215 | 2302 | 711 | 371 | 0 | 561 | 258 | 544 | 808 |
| HCM Platoon Ratio | 1.33 | 1.33 | 1.33 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.78 | 0.78 | 0.78 | 0.70 | 0.70 | 0.70 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 45.8 | 11.5 | 11.6 | 50.0 | 20.4 | 18.4 | 49.4 | 0.0 | 37.9 | 51.3 | 38.6 | 41.4 |
| Incr Delay (d2), s/veh | 6.5 | 0.5 | 1.1 | 3.4 | 0.4 | 0.5 | 6.3 | 0.0 | 1.6 | 1.7 | 0.9 | 2.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 4.4 | 3.1 | 3.1 | 3.0 | 5.4 | 2.4 | 3.3 | 0.0 | 4.9 | 1.7 | 2.6 | 4.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 52.3 | 12.0 | 12.6 | 53.4 | 20.8 | 18.8 | 55.7 | 0.0 | 39.5 | 53.0 | 39.6 | 44.0 |
| LnGrp LOS | D | B | B | D | C | B | E | A | D | D | D | D |
| Approach Vol, veh/h | | 1232 | | | 1225 | | | 429 | | | 566 | |
| Approach Delay, s/veh | | 22.8 | | | 23.5 | | | 48.1 | | | 45.0 | |
| Approach LOS | | C | | | C | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 12.6 | 58.9 | 13.4 | 25.1 | 16.5 | 54.9 | 9.8 | 28.7 |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | * 4.2 | * 4.6 | * 4.2 | 5.3 | * 4.2 | 4.6 |
| Max Green Setting (Gmax), s | * 13 | 34.7 | * 12 | * 32 | * 16 | 32.2 | * 8.2 | 35.5 |
| Max Q Clear Time (g_c+I1), s | 8.6 | 11.3 | 9.1 | 14.4 | 12.1 | 16.1 | 5.8 | 13.2 |
| Green Ext Time (p_c), s | 0.0 | 7.0 | 0.1 | 3.4 | 0.2 | 8.6 | 0.0 | 1.6 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 29.8 |
| HCM 6th LOS | C |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

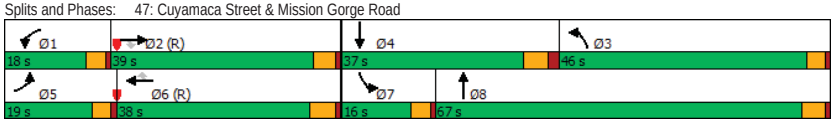




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 179 | 439 | 320 | 196 | 577 | 161 | 700 | 572 | 151 | 151 | 606 | 180 |
| Future Volume (vph) | 179 | 439 | 320 | 196 | 577 | 161 | 700 | 572 | 151 | 151 | 606 | 180 |
| Confl. Peds. (#/hr) | | | 11 | | | 14 | | | 19 | | | 16 |
| Confl. Bikes (#/hr) | | | 4 | | | | | | | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | 10.0 | 4.0 | 7.0 | | 4.0 | 15.0 | |
| Minimum Split (s) | 19.0 | 34.8 | 34.8 | 8.2 | 34.3 | 34.3 | 8.2 | 38.0 | | 8.2 | 37.0 | |
| Total Split (s) | 19.0 | 39.0 | 39.0 | 18.0 | 38.0 | 38.0 | 46.0 | 67.0 | | 16.0 | 37.0 | |
| Total Split (%) | 13.6% | 27.9% | 27.9% | 12.9% | 27.1% | 27.1% | 32.9% | 47.9% | | 11.4% | 26.4% | |
| Yellow Time (s) | 3.2 | 3.8 | 3.8 | 3.2 | 4.3 | 4.3 | 3.2 | 4.0 | | 3.2 | 4.0 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 2.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.2 | 4.8 | 4.8 | 4.2 | 5.3 | 5.3 | 4.2 | 5.0 | | 4.2 | 6.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lag | Lag | | Lead | Lead | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | C-Min | C-Min | None | C-Min | C-Min | None | None | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 140 |
| Actuated Cycle Length: 140 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green, Master Intersection |
| Natural Cycle: 120 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 47: Cuyamaca Street & Mission Gorge Road



Year 2035 + Proj AM (No School) — Fanita Ranch
47: Cuyamaca Street & Mission Gorge Road — 06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 179 | 439 | 320 | 196 | 577 | 161 | 700 | 572 | 151 | 151 | 606 | 180 |
| Future Volume (veh/h) | 179 | 439 | 320 | 196 | 577 | 161 | 700 | 572 | 151 | 151 | 606 | 180 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 0.96 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1683 | 1683 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 195 | 477 | 348 | 213 | 627 | 175 | 761 | 622 | 164 | 164 | 659 | 196 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 245 | 1658 | 502 | 262 | 1683 | 516 | 824 | 1010 | 266 | 213 | 834 | 243 |
| Arrive On Green | 0.07 | 0.32 | 0.32 | 0.08 | 0.33 | 0.33 | 0.24 | 0.40 | 0.40 | 0.06 | 0.21 | 0.21 |
| Sat Flow, veh/h | 3456 | 5106 | 1546 | 3456 | 5106 | 1565 | 3456 | 2496 | 657 | 3456 | 3886 | 1132 |
| Grp Volume(v), veh/h | 195 | 477 | 348 | 213 | 627 | 175 | 761 | 398 | 388 | 164 | 576 | 279 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1702 | 1546 | 1728 | 1702 | 1565 | 1728 | 1599 | 1554 | 1728 | 1702 | 1614 |
| Q Serve(g_s), s | 7.8 | 9.7 | 14.8 | 8.5 | 13.1 | 11.8 | 30.1 | 27.6 | 27.7 | 6.5 | 22.4 | 23.0 |
| Cycle Q Clear(g_c), s | 7.8 | 9.7 | 14.8 | 8.5 | 13.1 | 11.8 | 30.1 | 27.6 | 27.7 | 6.5 | 22.4 | 23.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.42 | 1.00 | | 0.70 |
| Lane Grp Cap(c), veh/h | 245 | 1658 | 502 | 262 | 1683 | 516 | 824 | 647 | 628 | 213 | 731 | 347 |
| V/C Ratio(X) | 0.80 | 0.29 | 0.69 | 0.81 | 0.37 | 0.34 | 0.92 | 0.62 | 0.62 | 0.77 | 0.79 | 0.81 |
| Avail Cap(c_a), veh/h | 365 | 1658 | 502 | 341 | 1683 | 516 | 1032 | 708 | 688 | 291 | 754 | 357 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.93 | 0.93 | 0.93 | 0.91 | 0.91 | 0.91 | 0.52 | 0.52 | 0.52 | 0.90 | 0.90 | 0.90 |
| Uniform Delay (d), s/veh | 64.0 | 35.2 | 11.9 | 63.7 | 35.9 | 35.4 | 52.1 | 33.1 | 33.1 | 64.7 | 51.9 | 52.2 |
| Incr Delay (d2), s/veh | 3.7 | 0.4 | 7.2 | 7.7 | 0.6 | 1.6 | 6.1 | 1.0 | 1.0 | 4.8 | 6.4 | 14.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 3.5 | 4.1 | 5.9 | 4.0 | 5.5 | 4.8 | 13.6 | 10.8 | 10.5 | 3.0 | 10.1 | 10.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 67.7 | 35.6 | 19.1 | 71.4 | 36.4 | 37.0 | 58.1 | 34.0 | 34.1 | 69.5 | 58.3 | 66.3 |
| LnGrp LOS | E | D | B | E | D | D | E | C | C | E | E | E |
| Approach Vol, veh/h | | 1020 | | | 1015 | | | 1547 | | | 1019 | |
| Approach Delay, s/veh | | 36.1 | | | 43.9 | | | 45.9 | | | 62.3 | |
| Approach LOS | | D | | | D | | | D | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 14.8 | 50.8 | 38.4 | 36.1 | 14.1 | 51.4 | 12.8 | 61.6 |
| Change Period (Y+Rc), s | * 4.2 | * 5.3 | 5.0 | * 6 | * 4.2 | 5.3 | * 4.2 | 5.0 |
| Max Green Setting (Gmax), s | * 14 | * 34 | 41.8 | * 31 | * 15 | 32.7 | * 12 | 62.0 |
| Max Q Clear Time (g_c+I1), s | 10.5 | 16.8 | 32.1 | 25.0 | 9.8 | 15.1 | 8.5 | 29.7 |
| Green Ext Time (p_c), s | 0.1 | 8.8 | 1.3 | 4.1 | 0.1 | 6.8 | 0.1 | 8.6 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 46.9 |
| HCM 6th LOS | D |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

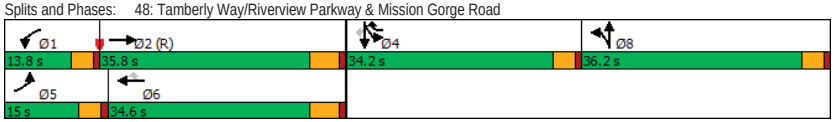


Year 2035 + Proj AM (No School) — Fanita Ranch
48: Tamberly Way/Riverview Parkway & Mission Gorge Road — 06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 206 | 477 | 55 | 55 | 798 | 255 | 50 | 100 | 50 | 130 | 20 | 76 |
| Future Volume (vph) | 206 | 477 | 55 | 55 | 798 | 255 | 50 | 100 | 50 | 130 | 20 | 76 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | 1 | | | 3 | | | | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | 43% | | |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Split | NA | | Split | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 4 | 8 | 8 | | 4 | 4 | |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 4 | 8 | 8 | | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | 7.0 | 4.0 | 4.0 | | 7.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 23.3 | | 8.2 | 34.3 | 34.2 | 36.2 | 36.2 | | 34.2 | 34.2 | 34.2 |
| Total Split (s) | 15.0 | 35.8 | | 13.8 | 34.6 | 34.2 | 36.2 | 36.2 | | 34.2 | 34.2 | 34.2 |
| Total Split (%) | 12.5% | 29.8% | | 11.5% | 28.8% | 28.5% | 30.2% | 30.2% | | 28.5% | 28.5% | 28.5% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | 3.2 | 3.2 | 3.2 | | 3.2 | 3.2 | 3.2 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | 4.2 | 4.2 | 4.2 | | 4.2 | 4.2 | 4.2 |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | Min | None | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 0 (0%), Referenced to phase 2:EBT, Start of Green |
| Natural Cycle: 125 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 48: Tamberly Way/Riverview Parkway & Mission Gorge Road



Year 2035 + Proj AM (No School) — Fanita Ranch

## 48: Tamberly Way/Riverview Parkway & Mission Gorge Road

06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 206 | 477 | 55 | 55 | 798 | 255 | 50 | 100 | 50 | 130 | 20 | 76 |
| Future Volume (veh/h) | 206 | 477 | 55 | 55 | 798 | 255 | 50 | 100 | 50 | 130 | 20 | 76 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.99 | 1.00 | | 1.00 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 224 | 518 | 60 | 60 | 867 | 277 | 54 | 109 | 54 | 157 | 0 | 83 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 160 | 2891 | 330 | 77 | 2945 | 1016 | 200 | 132 | 66 | 257 | 0 | 113 |
| Arrive On Green | 0.09 | 0.62 | 0.62 | 0.04 | 0.58 | 0.58 | 0.11 | 0.11 | 0.11 | 0.07 | 0.00 | 0.07 |
| Sat Flow, veh/h | 1781 | 4637 | 529 | 1781 | 5106 | 1564 | 1781 | 1180 | 585 | 3563 | 0 | 1561 |
| Grp Volume(v), veh/h | 224 | 378 | 200 | 60 | 867 | 277 | 54 | 0 | 163 | 157 | 0 | 83 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1702 | 1762 | 1781 | 1702 | 1564 | 1781 | 0 | 1765 | 1781 | 0 | 1561 |
| Q Serve(g_s), s | 10.8 | 5.6 | 5.8 | 4.0 | 10.4 | 9.1 | 3.3 | 0.0 | 10.8 | 5.1 | 0.0 | 6.3 |
| Cycle Q Clear(g_c), s | 10.8 | 5.6 | 5.8 | 4.0 | 10.4 | 9.1 | 3.3 | 0.0 | 10.8 | 5.1 | 0.0 | 6.3 |
| Prop In Lane | 1.00 | | 0.30 | 1.00 | | 1.00 | 1.00 | | 0.33 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 160 | 2122 | 1098 | 77 | 2945 | 1016 | 200 | 0 | 198 | 257 | 0 | 113 |
| V/C Ratio(X) | 1.40 | 0.18 | 0.18 | 0.78 | 0.29 | 0.27 | 0.27 | 0.00 | 0.82 | 0.61 | 0.00 | 0.74 |
| Avail Cap(c_a), veh/h | 160 | 2122 | 1098 | 143 | 2945 | 1016 | 475 | 0 | 471 | 891 | 0 | 390 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.93 | 0.93 | 0.93 | 0.95 | 0.95 | 0.95 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 54.6 | 9.6 | 9.6 | 56.8 | 13.0 | 9.0 | 48.8 | 0.0 | 52.1 | 54.0 | 0.0 | 54.6 |
| Incr Delay (d2), s/veh | 210.0 | 0.2 | 0.3 | 5.9 | 0.1 | 0.2 | 0.3 | 0.0 | 3.3 | 0.9 | 0.0 | 3.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 14.1 | 2.0 | 2.2 | 1.9 | 3.8 | 3.7 | 1.5 | 0.0 | 5.0 | 2.3 | 0.0 | 2.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 264.6 | 9.7 | 9.9 | 62.7 | 13.0 | 9.2 | 49.1 | 0.0 | 55.4 | 54.9 | 0.0 | 58.0 |
| LnGrp LOS | F | A | A | E | B | A | D | A | E | D | A | E |
| Approach Vol, veh/h | | 802 | | | 1204 | | | 217 | | | 240 | |
| Approach Delay, s/veh | | 81.0 | | | 14.6 | | | 53.8 | | | 56.0 | |
| Approach LOS | | F | | | B | | | D | | | E | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 9.4 | 80.1 | | 12.9 | 15.0 | 74.5 | | 17.6 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | | * 4.2 | * 4.2 | 5.3 | | 4.2 | | | | |
| Max Green Setting (Gmax), s | * 9.6 | 30.5 | | * 30 | * 11 | 29.3 | | 32.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 6.0 | 7.8 | | 8.3 | 12.8 | 12.4 | | 12.8 | | | | |
| Green Ext Time (p_c), s | 0.0 | 6.1 | | 0.4 | 0.0 | 9.3 | | 0.6 | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 43.7 | |
| HCM 6th LOS | | D | |

**Notes**

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Year 2035 + Proj AM (No School) — Fanita Ranch

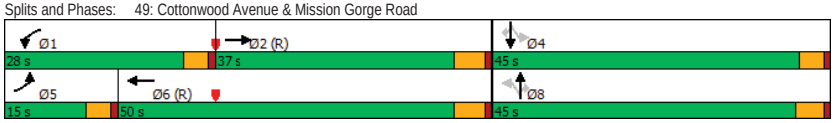
## 49: Cottonwood Avenue & Mission Gorge Road

06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 35 | 457 | 125 | 130 | 968 | 55 | 120 | 65 | 125 | 30 | 15 | 50 |
| Future Volume (vph) | 35 | 457 | 125 | 130 | 968 | 55 | 120 | 65 | 125 | 30 | 15 | 50 |
| Confl. Peds. (#/hr) | | | 6 | | | 19 | | | 1 | | | 4 |
| Confl. Bikes (#/hr) | | | 2 | | | 1 | | | | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Perm | NA | Perm | Perm | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | 8 | 4 | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | 8 | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 4.0 | 4.0 | 4.0 | 7.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 23.3 | | 8.2 | 24.3 | | 33.8 | 33.8 | 33.8 | 32.2 | 32.2 | 32.2 |
| Total Split (s) | 15.0 | 37.0 | | 28.0 | 50.0 | | 45.0 | 45.0 | 45.0 | 45.0 | 45.0 | 45.0 |
| Total Split (%) | 13.6% | 33.6% | | 25.5% | 45.5% | | 40.9% | 40.9% | 40.9% | 40.9% | 40.9% | 40.9% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | | 3.8 | 3.8 | 3.8 | 3.2 | 3.2 | 3.2 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | | | 4.8 | 4.8 | | 4.2 | 4.2 |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | None | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 110 |
| Offset: 21 (19%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 70 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 49: Cottonwood Avenue & Mission Gorge Road



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 35 | 457 | 125 | 130 | 968 | 55 | 120 | 65 | 125 | 30 | 15 | 50 |
| Future Volume (veh/h) | 35 | 457 | 125 | 130 | 968 | 55 | 120 | 65 | 125 | 30 | 15 | 50 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.96 | 1.00 | | 1.00 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 38 | 497 | 136 | 141 | 1052 | 60 | 130 | 71 | 136 | 33 | 16 | 54 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 48 | 1615 | 427 | 168 | 2326 | 133 | 54 | 19 | 587 | 55 | 16 | 578 |
| Arrive On Green | 0.03 | 0.40 | 0.40 | 0.19 | 0.94 | 0.94 | 0.37 | 0.37 | 0.37 | 0.37 | 0.37 | 0.37 |
| Sat Flow, veh/h | 1781 | 3991 | 1056 | 1781 | 4929 | 281 | 0 | 50 | 1584 | 0 | 44 | 1557 |
| Grp Volume(v), veh/h | 38 | 421 | 212 | 141 | 726 | 386 | 201 | 0 | 136 | 49 | 0 | 54 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1702 | 1643 | 1781 | 1702 | 1806 | 50 | 0 | 1584 | 44 | 0 | 1557 |
| Q Serve(g_s), s | 2.3 | 9.3 | 9.7 | 8.4 | 2.3 | 2.3 | 0.0 | 0.0 | 6.5 | 0.0 | 0.0 | 2.5 |
| Cycle Q Clear(g_c), s | 2.3 | 9.3 | 9.7 | 8.4 | 2.3 | 2.3 | 40.8 | 0.0 | 6.5 | 40.8 | 0.0 | 2.5 |
| Prop In Lane | 1.00 | | 0.64 | 1.00 | | 0.16 | 0.65 | | 1.00 | 0.67 | | 1.00 |
| Lane Grp Cap(c), veh/h | 48 | 1378 | 665 | 168 | 1607 | 852 | 72 | 0 | 587 | 71 | 0 | 578 |
| V/C Ratio(X) | 0.79 | 0.31 | 0.32 | 0.84 | 0.45 | 0.45 | 2.77 | 0.00 | 0.23 | 0.69 | 0.00 | 0.09 |
| Avail Cap(c_a), veh/h | 175 | 1378 | 665 | 385 | 1607 | 852 | 72 | 0 | 587 | 71 | 0 | 578 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.98 | 0.98 | 0.98 | 0.50 | 0.50 | 0.50 | 0.98 | 0.00 | 0.98 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 53.2 | 22.2 | 22.4 | 43.8 | 1.7 | 1.7 | 44.7 | 0.0 | 23.8 | 41.4 | 0.0 | 22.5 |
| Incr Delay (d2), s/veh | 9.8 | 0.6 | 1.2 | 2.2 | 0.5 | 0.9 | 834.5 | 0.0 | 0.1 | 20.6 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.2 | 3.7 | 3.8 | 3.4 | 0.6 | 0.7 | 18.8 | 0.0 | 2.5 | 1.8 | 0.0 | 0.9 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 63.0 | 22.8 | 23.6 | 46.0 | 2.2 | 2.6 | 879.2 | 0.0 | 23.9 | 62.1 | 0.0 | 22.6 |
| LnGrp LOS | E | C | C | D | A | A | F | A | C | E | A | C |
| Approach Vol, veh/h | | 671 | | | 1253 | | | 337 | | | 103 | |
| Approach Delay, s/veh | | 25.3 | | | 7.2 | | | 534.0 | | | 41.4 | |
| Approach LOS | | C | | | A | | | F | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 14.6 | 49.8 | | 45.6 | 7.2 | 57.2 | | 45.6 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | | * 4.8 | * 4.2 | 5.3 | | * 4.8 | | | | |
| Max Green Setting (Gmax), s | * 24 | 31.7 | | * 41 | * 11 | 44.7 | | * 40 | | | | |
| Max Q Clear Time (g_c+I1), s | 10.4 | 11.7 | | 42.8 | 4.3 | 4.3 | | 42.8 | | | | |
| Green Ext Time (p_c), s | 0.1 | 3.2 | | 0.0 | 0.0 | 13.4 | | 0.0 | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 88.9 | |
| HCM 6th LOS | | F | |

**Notes**

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

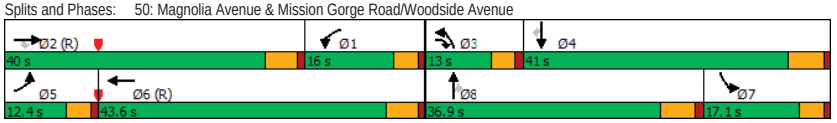




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 162 | 220 | 180 | 430 | 630 | 301 | 270 | 813 | 430 | 341 | 1234 | 313 |
| Future Volume (vph) | 162 | 220 | 180 | 430 | 630 | 301 | 270 | 813 | 430 | 341 | 1234 | 313 |
| Confl. Peds. (#/hr) | | | 6 | | | 11 | | | 19 | | | 6 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | | | | 8 | | | 4 |
| Detector Phase | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | 8 | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 4.0 | 4.0 | 10.0 | | 4.0 | 7.0 | 7.0 | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 38.3 | 8.2 | 8.2 | 35.3 | | 8.2 | 34.7 | 34.7 | 8.2 | 35.7 | 35.7 |
| Total Split (s) | 12.4 | 40.0 | 13.0 | 16.0 | 43.6 | | 13.0 | 36.9 | 36.9 | 17.1 | 41.0 | 41.0 |
| Total Split (%) | 11.3% | 36.4% | 11.8% | 14.5% | 39.6% | | 11.8% | 33.5% | 33.5% | 15.5% | 37.3% | 37.3% |
| Yellow Time (s) | 3.2 | 4.3 | 3.2 | 3.2 | 4.3 | | 3.2 | 4.7 | 4.7 | 3.2 | 4.7 | 4.7 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | 4.2 | 4.2 | 5.3 | | 4.2 | 5.7 | 5.7 | 4.2 | 5.7 | 5.7 |
| Lead/Lag | Lead | Lead | Lead | Lag | Lag | | Lead | Lead | Lead | Lag | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | C-Min | None | None | C-Min | | None | None | None | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 110 |
| Actuated Cycle Length: 110 |
| Offset: 20.4 (19%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 135 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 50: Magnolia Avenue & Mission Gorge Road/Woodside Avenue



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 162 | 220 | 180 | 430 | 630 | 301 | 270 | 813 | 430 | 341 | 1234 | 313 |
| Future Volume (veh/h) | 162 | 220 | 180 | 430 | 630 | 301 | 270 | 813 | 430 | 341 | 1234 | 313 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 176 | 239 | 196 | 467 | 685 | 294 | 293 | 884 | 420 | 371 | 1341 | 311 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 237 | 540 | 365 | 860 | 826 | 354 | 276 | 1002 | 438 | 405 | 1183 | 525 |
| Arrive On Green | 0.02 | 0.05 | 0.05 | 0.25 | 0.34 | 0.34 | 0.16 | 0.56 | 0.56 | 0.12 | 0.33 | 0.33 |
| Sat Flow, veh/h | 3456 | 3554 | 1566 | 3456 | 2413 | 1036 | 3456 | 3554 | 1553 | 3456 | 3554 | 1576 |
| Grp Volume(v), veh/h | 176 | 239 | 196 | 467 | 504 | 475 | 293 | 884 | 420 | 371 | 1341 | 311 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1566 | 1728 | 1777 | 1672 | 1728 | 1777 | 1553 | 1728 | 1777 | 1576 |
| Q Serve(g_s), s | 5.6 | 7.2 | 6.2 | 12.9 | 28.7 | 28.7 | 8.8 | 23.8 | 28.3 | 11.7 | 36.6 | 18.0 |
| Cycle Q Clear(g_c), s | 5.6 | 7.2 | 6.2 | 12.9 | 28.7 | 28.7 | 8.8 | 23.8 | 28.3 | 11.7 | 36.6 | 18.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.62 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 237 | 540 | 365 | 860 | 608 | 572 | 276 | 1002 | 438 | 405 | 1183 | 525 |
| V/C Ratio(X) | 0.74 | 0.44 | 0.54 | 0.54 | 0.83 | 0.83 | 1.06 | 0.88 | 0.96 | 0.92 | 1.13 | 0.59 |
| Avail Cap(c_a), veh/h | 258 | 1121 | 621 | 860 | 619 | 582 | 276 | 1008 | 440 | 405 | 1183 | 525 |
| HCM Platoon Ratio | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.98 | 0.98 | 0.98 | 1.00 | 1.00 | 1.00 | 0.88 | 0.88 | 0.88 | 0.32 | 0.32 | 0.32 |
| Uniform Delay (d), s/veh | 52.8 | 47.7 | 16.8 | 35.9 | 33.2 | 33.2 | 46.2 | 22.4 | 23.4 | 48.0 | 36.7 | 30.5 |
| Incr Delay (d2), s/veh | 8.3 | 2.6 | 5.5 | 0.4 | 12.4 | 13.1 | 67.4 | 8.5 | 30.2 | 10.2 | 64.2 | 0.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.7 | 3.5 | 3.2 | 5.3 | 13.9 | 13.2 | 5.9 | 7.0 | 9.3 | 5.4 | 25.4 | 6.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 61.1 | 50.3 | 22.2 | 36.3 | 45.6 | 46.3 | 113.6 | 30.9 | 53.6 | 58.3 | 100.9 | 31.2 |
| LnGrp LOS | E | D | C | D | D | D | F | C | D | E | F | C |
| Approach Vol, veh/h | | 611 | | | 1446 | | | 1597 | | | 2023 | |
| Approach Delay, s/veh | | 44.4 | | | 42.8 | | | 52.1 | | | 82.3 | |
| Approach LOS | | D | | | D | | | D | | | F | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 32.7 | 22.0 | 13.0 | 42.3 | 11.8 | 42.9 | 18.6 | 36.7 |
| Change Period (Y+Rc), s | 5.3 | * 5.3 | * 4.2 | 5.7 | * 4.2 | 5.3 | 5.7 | * 5.7 |
| Max Green Setting (Gmax), s | 11.8 | * 35 | * 8.8 | 35.3 | * 8.2 | 38.3 | 12.9 | * 31 |
| Max Q Clear Time (g_c+I1), s | 14.9 | 9.2 | 10.8 | 38.6 | 7.6 | 30.7 | 13.7 | 30.3 |
| Green Ext Time (p_c), s | 0.0 | 2.6 | 0.0 | 0.0 | 0.0 | 4.9 | 0.0 | 0.7 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 59.7 |
| HCM 6th LOS | E |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 39.6 |
| Intersection LOS | E |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 10 | 150 | 360 | 10 | 0 | 320 | 0 | 0 | 10 | 591 | 40 |
| Future Vol, veh/h | 0 | 10 | 150 | 360 | 10 | 0 | 320 | 0 | 0 | 10 | 591 | 40 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 11 | 163 | 391 | 11 | 0 | 348 | 0 | 0 | 11 | 642 | 43 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 2 | 0 |

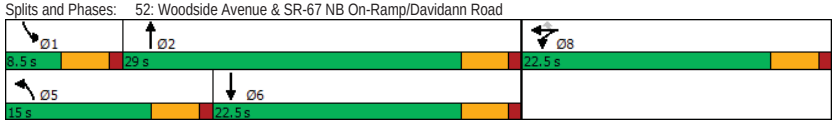
| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay | 17.3 | 50.2 | 47.7 | 35.1 |
| HCM LOS | C | F | E | E |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 97% | 3% | 0% |
| Vol Thru, % | 0% | 100% | 6% | 3% | 97% | 88% |
| Vol Right, % | 0% | 0% | 94% | 0% | 0% | 12% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 320 | 0 | 160 | 370 | 306 | 336 |
| LT Vol | 320 | 0 | 0 | 360 | 10 | 0 |
| Through Vol | 0 | 0 | 10 | 10 | 296 | 296 |
| RT Vol | 0 | 0 | 150 | 0 | 0 | 40 |
| Lane Flow Rate | 348 | 0 | 174 | 402 | 332 | 365 |
| Geometry Grp | 7 | 7 | 2 | 2 | 7 | 7 |
| Degree of Util (X) | 0.864 | 0 | 0.408 | 0.9 | 0.752 | 0.816 |
| Departure Headway (Hd) | 8.947 | 8.427 | 8.444 | 8.06 | 8.154 | 8.051 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 403 | 0 | 424 | 450 | 442 | 449 |
| Service Time | 6.71 | 6.189 | 6.524 | 6.117 | 5.925 | 5.822 |
| HCM Lane V/C Ratio | 0.864 | 0 | 0.41 | 0.893 | 0.751 | 0.813 |
| HCM Control Delay | 47.7 | 11.2 | 17.3 | 50.2 | 31.9 | 38 |
| HCM Lane LOS | E | N | C | F | D | E |
| HCM 95th-tile Q | 8.5 | 0 | 1.9 | 9.8 | 6.2 | 7.6 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 0 | 50 | 5 | 5 | 216 | 210 | 20 | 5 | 300 | 5 |
| Future Volume (vph) | 0 | 0 | 0 | 50 | 5 | 5 | 216 | 210 | 20 | 5 | 300 | 5 |
| Confl. Peds. (#/hr) | | | | | | | | | 1 | | | |
| Confl. Bikes (#/hr) | | | | | | 2 | | | 2 | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | | | | Split | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | | | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | 8 | | | | | | |
| Detector Phase | | | | 8 | 8 | 8 | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | | | | 22.5 | 22.5 | 22.5 | 8.5 | 22.5 | | 8.5 | 22.5 | |
| Total Split (s) | | | | 22.5 | 22.5 | 22.5 | 15.0 | 29.0 | | 8.5 | 22.5 | |
| Total Split (%) | | | | 37.5% | 37.5% | 37.5% | 25.0% | 48.3% | | 14.2% | 37.5% | |
| Yellow Time (s) | | | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | | | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | | | | | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | | | | | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | | | | None | None | None | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 41.9 |
| Natural Cycle: 60 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 52: Woodside Avenue & SR-67 NB On-Ramp/Davidann Road








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 50 | 5 | 5 | 216 | 210 | 20 | 5 | 300 | 5 |
| Future Volume (veh/h) | 0 | 0 | 0 | 50 | 5 | 5 | 216 | 210 | 20 | 5 | 300 | 5 |
| Initial Q (Qb), veh | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | | | 1.00 | | 0.97 | 1.00 | | 0.98 | 1.00 | | 0.97 |
| Parking Bus, Adj | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | | | | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | | | | 54 | 5 | 5 | 235 | 228 | 22 | 5 | 326 | 5 |
| Peak Hour Factor | | | | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | | | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | | | | 92 | 9 | 87 | 311 | 754 | 73 | 10 | 517 | 8 |
| Arrive On Green | | | | 0.06 | 0.06 | 0.06 | 0.17 | 0.45 | 0.45 | 0.01 | 0.28 | 0.28 |
| Sat Flow, veh/h | | | | 1637 | 152 | 1545 | 1781 | 1675 | 162 | 1781 | 1836 | 28 |
| Grp Volume(v), veh/h | | | | 59 | 0 | 5 | 235 | 0 | 250 | 5 | 0 | 331 |
| Grp Sat Flow(s),veh/h/ln | | | | 1789 | 0 | 1545 | 1781 | 0 | 1837 | 1781 | 0 | 1864 |
| Q Serve(g_s), s | | | | 0.9 | 0.0 | 0.1 | 3.5 | 0.0 | 2.4 | 0.1 | 0.0 | 4.3 |
| Cycle Q Clear(g_c), s | | | | 0.9 | 0.0 | 0.1 | 3.5 | 0.0 | 2.4 | 0.1 | 0.0 | 4.3 |
| Prop In Lane | | | | 0.92 | | 1.00 | 1.00 | | 0.09 | 1.00 | | 0.02 |
| Lane Grp Cap(c), veh/h | | | | 100 | 0 | 87 | 311 | 0 | 827 | 10 | 0 | 525 |
| V/C Ratio(X) | | | | 0.59 | 0.00 | 0.06 | 0.76 | 0.00 | 0.30 | 0.52 | 0.00 | 0.63 |
| Avail Cap(c_a), veh/h | | | | 1164 | 0 | 1006 | 676 | 0 | 1627 | 258 | 0 | 1213 |
| HCM Platoon Ratio | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | | | | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | | | | 12.7 | 0.0 | 12.4 | 10.9 | 0.0 | 4.8 | 13.7 | 0.0 | 8.7 |
| Incr Delay (d2), s/veh | | | | 5.4 | 0.0 | 0.3 | 3.8 | 0.0 | 0.2 | 36.5 | 0.0 | 1.3 |
| Initial Q Delay(d3),s/veh | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | | 0.4 | 0.0 | 0.0 | 1.3 | 0.0 | 0.4 | 0.1 | 0.0 | 1.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | 18.1 | 0.0 | 12.6 | 14.6 | 0.0 | 5.0 | 50.2 | 0.0 | 9.9 |
| LnGrp LOS | | | | B | A | B | B | A | A | D | A | A |
| Approach Vol, veh/h | | | | | 64 | | | 485 | | | 336 | |
| Approach Delay, s/veh | | | | | 17.7 | | | 9.7 | | | 10.5 | |
| Approach LOS | | | | | B | | | A | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 5 | 6 | | 8 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 4.7 | 17.0 | | 9.3 | 12.3 | | 6.1 | | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | | | | | |
| Max Green Setting (Gmax), s | 4.0 | 24.5 | | 10.5 | 18.0 | | 18.0 | | | | | |
| Max Q Clear Time (g_c+I1), s | 2.1 | 4.4 | | 5.5 | 6.3 | | 2.9 | | | | | |
| Green Ext Time (p_c), s | 0.0 | 1.4 | | 0.3 | 1.5 | | 0.2 | | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 10.6 | |
| HCM 6th LOS | B | |

| Intersection | |
|---|---|
| Int Delay, s/veh | 16.1 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 110 | 583 | 641 | 0 | 0 | 797 |
| Future Vol, veh/h | 110 | 583 | 641 | 0 | 0 | 797 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | 300 | - | - | - | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 120 | 634 | 697 | 0 | 0 | 866 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 1130 | 349 | 0 | - | - | - |
| Stage 1 | 697 | - | - | - | - | - |
| Stage 2 | 433 | - | - | - | - | - |
| Critical Hdwy | 6.84 | 6.9 | - | - | - | - |
| Critical Hdwy Stg 1 | 5.84 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.84 | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 3.32 | - | - | - | - |
| Pot Cap-1 Maneuver | 197 | 650 | - | 0 | 0 | - |
| Stage 1 | 455 | - | - | 0 | 0 | - |
| Stage 2 | 621 | - | - | 0 | 0 | - |
| Platoon blocked, % | | | - | | | - |
| Mov Cap-1 Maneuver | 197 | 650 | - | - | - | - |
| Mov Cap-2 Maneuver | 326 | - | - | - | - | - |
| Stage 1 | 455 | - | - | - | - | - |
| Stage 2 | 621 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 49.4 | 0 | 0 |
| HCM LOS | E | | |

| Minor Lane/Major Mvmt | NBT | WBLn1 | WBLn2 | SBT |
|---|---|---|---|---|
| Capacity (veh/h) | - | 326 | 650 | - |
| HCM Lane V/C Ratio | - | 0.367 | 0.975 | - |
| HCM Control Delay (s) | - | 22.3 | 54.5 | - |
| HCM Lane LOS | - | C | F | - |
| HCM 95th %tile Q(veh) | - | 1.6 | 14.4 | - |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 671 | 230 | 471 | 446 |
| Future Volume (Veh/h) | 0 | 0 | 671 | 230 | 471 | 446 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 0 | 729 | 250 | 512 | 485 |
| Pedestrians | 2 | | | | | |
| Lane Width (ft) | 0.0 | | | | | |
| Walking Speed (ft/s) | 4.0 | | | | | |
| Percent Blockage | 0 | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | 769 | | | 1029 |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 2122 | 492 | | | 981 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 2122 | 492 | | | 981 | |
| tC, single (s) | 6.8 | 6.9 | | | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 100 | 100 | | | 27 | |
| cM capacity (veh/h) | 12 | 523 | | | 699 | |

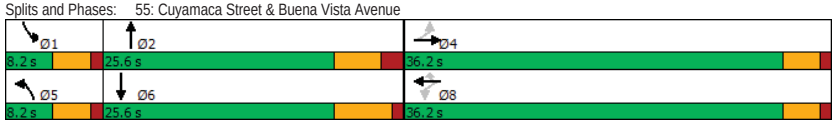
| Direction, Lane # | NB 1 | NB 2 | SB 1 | SB 2 | SB 3 |
|---|---|---|---|---|---|
| Volume Total | 486 | 493 | 512 | 242 | 242 |
| Volume Left | 0 | 0 | 512 | 0 | 0 |
| Volume Right | 0 | 250 | 0 | 0 | 0 |
| cSH | 1700 | 1700 | 699 | 1700 | 1700 |
| Volume to Capacity | 0.29 | 0.29 | 0.73 | 0.14 | 0.14 |
| Queue Length 95th (ft) | 0 | 0 | 161 | 0 | 0 |
| Control Delay (s) | 0.0 | 0.0 | 22.9 | 0.0 | 0.0 |
| Lane LOS | | | C | | |
| Approach Delay (s) | 0.0 | | 11.7 | | |
| Approach LOS | | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 5.9 | | |
| Intersection Capacity Utilization | 60.5% | ICU Level of Service | B |
| Analysis Period (min) | 15 | | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 10 | 10 | 15 | 210 | 5 | 70 | 55 | 1371 | 180 | 70 | 1165 | 30 |
| Future Volume (vph) | 10 | 10 | 15 | 210 | 5 | 70 | 55 | 1371 | 180 | 70 | 1165 | 30 |
| Confl. Peds. (#/hr) | | | 3 | | | 7 | | | 5 | | | 2 |
| Confl. Bikes (#/hr) | | | 1 | | | 4 | | | 3 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Perm | NA | | Perm | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | 8 | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | 8 | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 10.0 | | 4.0 | 10.0 | |
| Minimum Split (s) | 36.2 | 36.2 | | 34.2 | 34.2 | 34.2 | 8.2 | 24.0 | | 8.2 | 24.0 | |
| Total Split (s) | 36.2 | 36.2 | | 36.2 | 36.2 | 36.2 | 8.2 | 25.6 | | 8.2 | 25.6 | |
| Total Split (%) | 51.7% | 51.7% | | 51.7% | 51.7% | 51.7% | 11.7% | 36.6% | | 11.7% | 36.6% | |
| Yellow Time (s) | 3.2 | 3.2 | | 3.2 | 3.2 | 3.2 | 3.2 | 4.0 | | 3.2 | 4.9 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 2.0 | | 1.0 | 1.1 | |
| Lost Time Adjust (s) | | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | | 4.2 | | | 4.2 | 4.2 | 4.2 | 6.0 | | 4.2 | 6.0 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | None | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 70 |
| Actuated Cycle Length: 54.3 |
| Natural Cycle: 80 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 55: Cuyamaca Street & Buena Vista Avenue






Year 2035 + Proj AM (No School) Fanita Ranch
55: Cuyamaca Street & Buena Vista Avenue 06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 10 | 10 | 15 | 210 | 5 | 70 | 55 | 1371 | 180 | 70 | 1165 | 30 |
| Future Volume (veh/h) | 10 | 10 | 15 | 210 | 5 | 70 | 55 | 1371 | 180 | 70 | 1165 | 30 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 11 | 11 | 16 | 228 | 5 | 76 | 60 | 1490 | 196 | 76 | 1266 | 33 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 98 | 101 | 89 | 393 | 7 | 604 | 74 | 1461 | 192 | 96 | 1705 | 44 |
| Arrive On Green | 0.39 | 0.39 | 0.39 | 0.39 | 0.39 | 0.39 | 0.04 | 0.32 | 0.32 | 0.05 | 0.33 | 0.33 |
| Sat Flow, veh/h | 55 | 259 | 228 | 710 | 19 | 1554 | 1781 | 4547 | 597 | 1781 | 5117 | 133 |
| Grp Volume(v), veh/h | 38 | 0 | 0 | 233 | 0 | 76 | 60 | 1115 | 571 | 76 | 842 | 457 |
| Grp Sat Flow(s),veh/h/ln | 542 | 0 | 0 | 729 | 0 | 1554 | 1781 | 1702 | 1740 | 1781 | 1702 | 1846 |
| Q Serve(g_s), s | 0.4 | 0.0 | 0.0 | 0.2 | 0.0 | 1.9 | 2.0 | 19.6 | 19.6 | 2.6 | 13.4 | 13.4 |
| Cycle Q Clear(g_c), s | 21.2 | 0.0 | 0.0 | 21.1 | 0.0 | 1.9 | 2.0 | 19.6 | 19.6 | 2.6 | 13.4 | 13.4 |
| Prop In Lane | 0.29 | | 0.42 | 0.98 | | 1.00 | 1.00 | | 0.34 | 1.00 | | 0.07 |
| Lane Grp Cap(c), veh/h | 287 | 0 | 0 | 400 | 0 | 604 | 74 | 1094 | 559 | 96 | 1135 | 615 |
| V/C Ratio(X) | 0.13 | 0.00 | 0.00 | 0.58 | 0.00 | 0.13 | 0.81 | 1.02 | 1.02 | 0.79 | 0.74 | 0.74 |
| Avail Cap(c_a), veh/h | 498 | 0 | 0 | 589 | 0 | 815 | 117 | 1094 | 559 | 117 | 1135 | 615 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 13.8 | 0.0 | 0.0 | 17.9 | 0.0 | 12.0 | 29.0 | 20.7 | 20.7 | 28.5 | 18.0 | 18.0 |
| Incr Delay (d2), s/veh | 0.1 | 0.0 | 0.0 | 0.5 | 0.0 | 0.0 | 9.5 | 32.1 | 43.4 | 21.1 | 2.9 | 5.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.3 | 0.0 | 0.0 | 2.8 | 0.0 | 0.6 | 1.0 | 11.6 | 13.7 | 1.6 | 5.0 | 5.9 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 13.9 | 0.0 | 0.0 | 18.4 | 0.0 | 12.0 | 38.5 | 52.8 | 64.1 | 49.6 | 20.9 | 23.3 |
| LnGrp LOS | B | A | A | B | A | B | D | F | F | D | C | C |
| Approach Vol, veh/h | | 38 | | | 309 | | | 1746 | | | 1375 | |
| Approach Delay, s/veh | | 13.9 | | | 16.8 | | | 56.0 | | | 23.3 | |
| Approach LOS | | B | | | B | | | E | | | C | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.5 | 25.6 | | 28.2 | 6.8 | 26.3 | | 28.2 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 6.0 | | * 4.2 | * 4.2 | * 6 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | * 4 | 19.6 | | * 32 | * 4 | * 20 | | * 32 | | | | |
| Max Q Clear Time (g_c+I1), s | 4.6 | 21.6 | | 23.2 | 4.0 | 15.4 | | 23.1 | | | | |
| Green Ext Time (p_c), s | 0.0 | 0.0 | | 0.0 | 0.0 | 3.3 | | 0.7 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 39.1 | |
| HCM 6th LOS | D | |

Notes

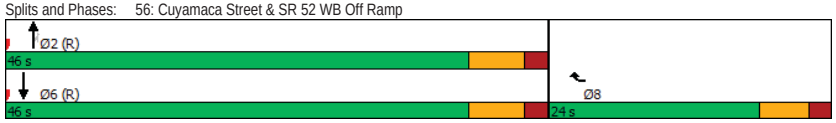
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\No School Alt\11 2035+P AM.syn

| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 898 | 928 | 215 | 0 | 1505 |
| Future Volume (vph) | 0 | 898 | 928 | 215 | 0 | 1505 |
| Confl. Peds. (#/hr) | | | | 9 | | |
| Confl. Bikes (#/hr) | | | | 3 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | 0% | | | 0% |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | | Prot | NA | Perm | | NA |
| Protected Phases | | 8 | 2 | | | 6 |
| Permitted Phases | | | | 2 | | |
| Detector Phase | | 8 | 2 | 2 | | 6 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | | 5.0 | 14.0 | 14.0 | | 14.0 |
| Minimum Split (s) | | 20.0 | 45.8 | 45.8 | | 45.8 |
| Total Split (s) | | 24.0 | 46.0 | 46.0 | | 46.0 |
| Total Split (%) | | 34.3% | 65.7% | 65.7% | | 65.7% |
| Yellow Time (s) | | 4.1 | 4.8 | 4.8 | | 4.8 |
| All-Red Time (s) | | 2.0 | 2.0 | 2.0 | | 2.0 |
| Lost Time Adjust (s) | | 0.0 | 0.0 | 0.0 | | 0.0 |
| Total Lost Time (s) | | 6.1 | 6.8 | 6.8 | | 6.8 |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | | None | C-Max | C-Max | | C-Max |

| Intersection Summary |
|---|
| Cycle Length: 70 |
| Actuated Cycle Length: 70 |
| Offset: 22 (31%), Referenced to phase 2:NBT and 6:SBT, Start of Green |
| Natural Cycle: 80 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 56: Cuyamaca Street & SR 52 WB Off Ramp






Year 2035 + Proj AM (No School)
56: Cuyamaca Street & SR 52 WB Off Ramp
Fanita Ranch
06/06/2019

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 898 | 928 | 215 | 0 | 1505 |
| Future Volume (veh/h) | 0 | 898 | 928 | 215 | 0 | 1505 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | | 0.97 | 1.00 | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | No | | | No |
| Adj Sat Flow, veh/h/ln | 0 | 1870 | 1870 | 1870 | 0 | 1870 |
| Adj Flow Rate, veh/h | 0 | 976 | 1009 | 234 | 0 | 1636 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 0 | 2 | 2 | 2 | 0 | 2 |
| Cap, veh/h | 0 | 0 | 4610 | 1394 | 0 | 4610 |
| Arrive On Green | 0.00 | 0.00 | 0.30 | 0.30 | 0.00 | 0.90 |
| Sat Flow, veh/h | 0 | | 5274 | 1544 | 0 | 5443 |
| Grp Volume(v), veh/h | 0.0 | | 1009 | 234 | 0 | 1636 |
| Grp Sat Flow(s),veh/h/ln | | | 1702 | 1544 | 0 | 1702 |
| Q Serve(g_s), s | | | 10.4 | 7.8 | 0.0 | 3.2 |
| Cycle Q Clear(g_c), s | | | 10.4 | 7.8 | 0.0 | 3.2 |
| Prop In Lane | | | | 1.00 | 0.00 | |
| Lane Grp Cap(c), veh/h | | | 4610 | 1394 | 0 | 4610 |
| V/C Ratio(X) | | | 0.22 | 0.17 | 0.00 | 0.35 |
| Avail Cap(c_a), veh/h | | | 4610 | 1394 | 0 | 4610 |
| HCM Platoon Ratio | | | 0.33 | 0.33 | 1.00 | 1.00 |
| Upstream Filter(I) | | | 1.00 | 1.00 | 0.00 | 0.79 |
| Uniform Delay (d), s/veh | | | 6.0 | 5.1 | 0.0 | 0.5 |
| Incr Delay (d2), s/veh | | | 0.1 | 0.3 | 0.0 | 0.2 |
| Initial Q Delay(d3),s/veh | | | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | 0.0 | 0.1 | 0.0 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | | | 6.1 | 5.4 | 0.0 | 0.7 |
| LnGrp LOS | | | A | A | A | A |
| Approach Vol, veh/h | | | 1243 | | | 1636 |
| Approach Delay, s/veh | | | 6.0 | | | 0.7 |
| Approach LOS | | | A | | | A |

| Timer - Assigned Phs | 2 | | | | | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 70.0 | | | | | 70.0 |
| Change Period (Y+Rc), s | 6.8 | | | | | 6.8 |
| Max Green Setting (Gmax), s | 39.2 | | | | | 39.2 |
| Max Q Clear Time (g_c+I1), s | 12.4 | | | | | 5.2 |
| Green Ext Time (p_c), s | 8.9 | | | | | 15.9 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 3.0 |
| HCM 6th LOS | A |

Fanita Ranch
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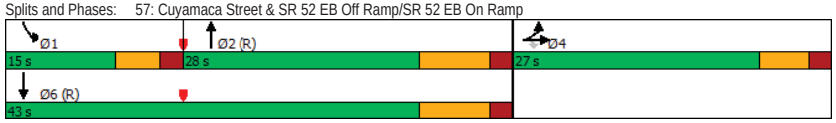
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 403 | 5 | 490 | 0 | 0 | 0 | 0 | 785 | 160 | 331 | 793 | 0 |
| Future Volume (vph) | 403 | 5 | 490 | 0 | 0 | 0 | 0 | 785 | 160 | 331 | 793 | 0 |
| Confl. Peds. (#/hr) | | | | | | | | | 5 | | | 24 |
| Confl. Bikes (#/hr) | | | | | | | | | 2 | | | 9 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | 49% | | | | | | | | | | | |
| Turn Type | Split | NA | Perm | | | | | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | | | | | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | | | | |
| Detector Phase | 4 | 4 | 4 | | | | | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | | | | | 11.0 | | 5.0 | 12.0 | |
| Minimum Split (s) | 22.1 | 22.1 | 22.1 | | | | | 27.0 | | 10.7 | 32.0 | |
| Total Split (s) | 27.0 | 27.0 | 27.0 | | | | | 28.0 | | 15.0 | 43.0 | |
| Total Split (%) | 38.6% | 38.6% | 38.6% | | | | | 40.0% | | 21.4% | 61.4% | |
| Yellow Time (s) | 4.1 | 4.1 | 4.1 | | | | | 6.0 | | 3.7 | 6.0 | |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | | | | | 2.0 | | 2.0 | 2.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | | | | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 6.1 | 6.1 | 6.1 | | | | | 8.0 | | 5.7 | 8.0 | |
| Lead/Lag | | | | | | | | Lag | | Lead | | |
| Lead-Lag Optimize? | | | | | | | | Yes | | Yes | | |
| Recall Mode | None | None | None | | | | | C-Min | | None | C-Min | |

**Intersection Summary**

Cycle Length: 70
Actuated Cycle Length: 70
Offset: 10 (14%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 57: Cuyamaca Street & SR 52 EB Off Ramp/SR 52 EB On Ramp






Year 2035 + Proj AM (No School) Fanita Ranch
57: Cuyamaca Street & SR 52 EB Off Ramp/SR 52 EB On Ramp 06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 403 | 5 | 490 | 0 | 0 | 0 | 0 | 785 | 160 | 331 | 793 | 0 |
| Future Volume (veh/h) | 403 | 5 | 490 | 0 | 0 | 0 | 0 | 785 | 160 | 331 | 793 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | | | | 1.00 | | 0.98 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | | | | 0 | 1870 | 1870 | 1870 | 1870 | 0 |
| Adj Flow Rate, veh/h | 442 | 0 | 533 | | | | 0 | 853 | 174 | 360 | 862 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | | | | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | | | | 0 | 2 | 2 | 2 | 2 | 0 |
| Cap, veh/h | 1064 | 0 | 473 | | | | 0 | 1216 | 247 | 455 | 1777 | 0 |
| Arrive On Green | 0.30 | 0.00 | 0.30 | | | | 0.00 | 0.57 | 0.57 | 0.04 | 0.16 | 0.00 |
| Sat Flow, veh/h | 3563 | 0 | 1585 | | | | 0 | 4409 | 859 | 3456 | 3647 | 0 |
| Grp Volume(v), veh/h | 442 | 0 | 533 | | | | 0 | 684 | 343 | 360 | 862 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1585 | | | | 0 | 1702 | 1696 | 1728 | 1777 | 0 |
| Q Serve(g_s), s | 7.0 | 0.0 | 20.9 | | | | 0.0 | 10.0 | 10.2 | 7.2 | 15.4 | 0.0 |
| Cycle Q Clear(g_c), s | 7.0 | 0.0 | 20.9 | | | | 0.0 | 10.0 | 10.2 | 7.2 | 15.4 | 0.0 |
| Prop In Lane | 1.00 | | 1.00 | | | | 0.00 | | 0.51 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 1064 | 0 | 473 | | | | 0 | 976 | 487 | 455 | 1777 | 0 |
| V/C Ratio(X) | 0.42 | 0.00 | 1.13 | | | | 0.00 | 0.70 | 0.71 | 0.79 | 0.49 | 0.00 |
| Avail Cap(c_a), veh/h | 1064 | 0 | 473 | | | | 0 | 976 | 487 | 459 | 1777 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | | | | 1.00 | 2.00 | 2.00 | 0.33 | 0.33 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | | | | 0.00 | 0.88 | 0.88 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | 19.7 | 0.0 | 24.5 | | | | 0.0 | 12.8 | 12.8 | 32.5 | 21.0 | 0.0 |
| Incr Delay (d2), s/veh | 0.3 | 0.0 | 80.7 | | | | 0.0 | 3.7 | 7.4 | 8.3 | 1.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.7 | 0.0 | 17.9 | | | | 0.0 | 3.0 | 3.5 | 3.6 | 7.4 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 19.9 | 0.0 | 105.3 | | | | 0.0 | 16.5 | 20.2 | 40.8 | 22.0 | 0.0 |
| LnGrp LOS | B | A | F | | | | A | B | C | D | C | A |
| Approach Vol, veh/h | | 975 | | | | | | 1027 | | | 1222 | |
| Approach Delay, s/veh | | 66.6 | | | | | | 17.7 | | | 27.5 | |
| Approach LOS | | E | | | | | | B | | | C | |

| Timer - Assigned Phs | 1 | 2 | 4 | 6 |
|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 14.9 | 28.1 | 27.0 | 43.0 |
| Change Period (Y+Rc), s | * 5.7 | 8.0 | 6.1 | 8.0 |
| Max Green Setting (Gmax), s | * 9.3 | 20.0 | 20.9 | 35.0 |
| Max Q Clear Time (g_c+I1), s | 9.2 | 12.2 | 22.9 | 17.4 |
| Green Ext Time (p_c), s | 0.0 | 3.9 | 0.0 | 5.6 |

**Intersection Summary**

| | |
|---|---|
| HCM 6th Ctrl Delay | 36.2 |
| HCM 6th LOS | D |

**Notes**

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Fanita Ranch
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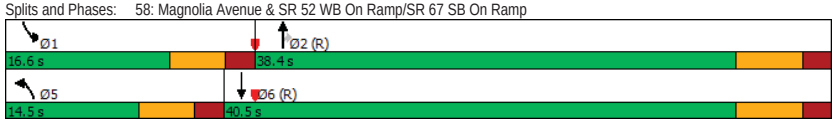
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 445 | 1268 | 250 | 643 | 651 | 370 |
| Future Volume (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 445 | 1268 | 250 | 643 | 651 | 370 |
| Confl. Peds. (#/hr) | | | | | | | | | 5 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | | | | | | | Prot | NA | Perm | Prot | NA | |
| Protected Phases | | | | | | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | | | 2 | | | |
| Detector Phase | | | | | | | 5 | 2 | 2 | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | | | | | | 5.0 | 6.0 | 6.0 | 5.0 | 7.0 | |
| Minimum Split (s) | | | | | | | 10.7 | 38.4 | 38.4 | 10.7 | 39.4 | |
| Total Split (s) | | | | | | | 14.5 | 38.4 | 38.4 | 16.6 | 40.5 | |
| Total Split (%) | | | | | | | 26.4% | 69.8% | 69.8% | 30.2% | 73.6% | |
| Yellow Time (s) | | | | | | | 3.7 | 4.4 | 4.4 | 3.7 | 4.4 | |
| All-Red Time (s) | | | | | | | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | |
| Lost Time Adjust (s) | | | | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | | | | | | | 5.7 | 6.4 | 6.4 | 5.7 | 6.4 | |
| Lead/Lag | | | | | | | Lead | Lag | Lag | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | Yes | Yes | Yes | |
| Recall Mode | | | | | | | None | C-Max | C-Max | None | C-Max | |

| Intersection Summary |
|---|
| Cycle Length: 55 |
| Actuated Cycle Length: 55 |
| Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green |
| Natural Cycle: 60 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 58: Magnolia Avenue & SR 52 WB On Ramp/SR 67 SB On Ramp








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 0 | 0 | 0 | 445 | 1268 | 250 | 643 | 651 | 370 |
| Future Volume (veh/h) | 0 | 0 | 0 | 0 | 0 | 0 | 445 | 1268 | 250 | 643 | 651 | 370 |
| Initial Q (Qb), veh | | | | | | | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | | | | | | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | | | | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | | | | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | | | | | | | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | | | | | | | 484 | 1378 | 272 | 699 | 708 | 402 |
| Peak Hour Factor | | | | | | | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | | | | | | | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | | | | | | | 553 | 2971 | 899 | 685 | 1343 | 761 |
| Arrive On Green | | | | | | | 0.32 | 1.00 | 1.00 | 0.26 | 0.82 | 0.82 |
| Sat Flow, veh/h | | | | | | | 3456 | 5106 | 1546 | 3456 | 2166 | 1227 |
| Grp Volume(v), veh/h | | | | | | | 484 | 1378 | 272 | 699 | 581 | 529 |
| Grp Sat Flow(s),veh/h/ln | | | | | | | 1728 | 1702 | 1546 | 1728 | 1777 | 1616 |
| Q Serve(g_s), s | | | | | | | 7.3 | 0.0 | 0.0 | 10.9 | 5.6 | 5.6 |
| Cycle Q Clear(g_c), s | | | | | | | 7.3 | 0.0 | 0.0 | 10.9 | 5.6 | 5.6 |
| Prop In Lane | | | | | | | 1.00 | | 1.00 | 1.00 | | 0.76 |
| Lane Grp Cap(c), veh/h | | | | | | | 553 | 2971 | 899 | 685 | 1102 | 1002 |
| V/C Ratio(X) | | | | | | | 0.88 | 0.46 | 0.30 | 1.02 | 0.53 | 0.53 |
| Avail Cap(c_a), veh/h | | | | | | | 553 | 2971 | 899 | 685 | 1102 | 1002 |
| HCM Platoon Ratio | | | | | | | 2.00 | 2.00 | 2.00 | 1.33 | 1.33 | 1.33 |
| Upstream Filter(I) | | | | | | | 0.32 | 0.32 | 0.32 | 0.20 | 0.20 | 0.20 |
| Uniform Delay (d), s/veh | | | | | | | 18.2 | 0.0 | 0.0 | 20.3 | 2.3 | 2.3 |
| Incr Delay (d2), s/veh | | | | | | | 5.2 | 0.2 | 0.3 | 20.9 | 0.4 | 0.4 |
| Initial Q Delay(d3),s/veh | | | | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | | | | | 2.6 | 0.0 | 0.1 | 5.3 | 0.8 | 0.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | | | | 23.3 | 0.2 | 0.3 | 41.1 | 2.7 | 2.7 |
| LnGrp LOS | | | | | | | C | A | A | F | A | A |
| Approach Vol, veh/h | | | | | | | | 2134 | | | 1809 | |
| Approach Delay, s/veh | | | | | | | | 5.4 | | | 17.5 | |
| Approach LOS | | | | | | | | A | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 5 | 6 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 16.6 | 38.4 | | 14.5 | 40.5 | | | | | | | |
| Change Period (Y+Rc), s | * 5.7 | 6.4 | | * 5.7 | 6.4 | | | | | | | |
| Max Green Setting (Gmax), s | * 11 | 32.0 | | * 8.8 | 34.1 | | | | | | | |
| Max Q Clear Time (g_c+I1), s | 12.9 | 2.0 | | 9.3 | 7.6 | | | | | | | |
| Green Ext Time (p_c), s | 0.0 | 14.0 | | 0.0 | 7.8 | | | | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 11.0 | |
| HCM 6th LOS | B | |

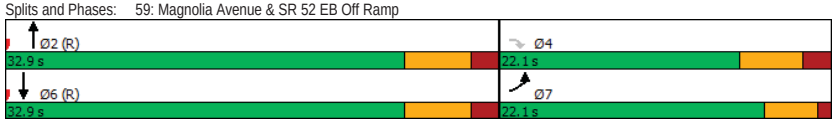
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 300 | 260 | 0 | 1638 | 641 | 0 |
| Future Volume (vph) | 300 | 260 | 0 | 1638 | 641 | 0 |
| Confl. Peds. (#/hr) | | | | | | |
| Confl. Bikes (#/hr) | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | | NA | NA | |
| Protected Phases | 7 | | | 2 | 6 | |
| Permitted Phases | | 4 | | | | |
| Detector Phase | 7 | 4 | | 2 | 6 | |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 5.0 | | 5.0 | 5.0 | |
| Minimum Split (s) | 8.5 | 22.1 | | 22.4 | 27.4 | |
| Total Split (s) | 22.1 | 22.1 | | 32.9 | 32.9 | |
| Total Split (%) | 40.2% | 40.2% | | 59.8% | 59.8% | |
| Yellow Time (s) | 3.5 | 4.1 | | 4.4 | 4.4 | |
| All-Red Time (s) | 1.0 | 2.0 | | 2.0 | 2.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 6.1 | | 6.4 | 6.4 | |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | None | None | | C-Max | C-Max | |

| Intersection Summary |
|---|
| Cycle Length: 55 |
| Actuated Cycle Length: 55 |
| Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green |
| Natural Cycle: 65 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 59: Magnolia Avenue & SR 52 EB Off Ramp






Year 2035 + Proj AM (No School)
59: Magnolia Avenue & SR 52 EB Off Ramp
Fanita Ranch
06/06/2019

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 300 | 260 | 0 | 1638 | 641 | 0 |
| Future Volume (veh/h) | 300 | 260 | 0 | 1638 | 641 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 0 | 1870 | 1870 | 0 |
| Adj Flow Rate, veh/h | 326 | 283 | 0 | 1780 | 697 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 0 | 2 | 2 | 0 |
| Cap, veh/h | 410 | 365 | 0 | 2031 | 2031 | 0 |
| Arrive On Green | 0.23 | 0.23 | 0.00 | 0.57 | 1.00 | 0.00 |
| Sat Flow, veh/h | 1781 | 1585 | 0 | 3741 | 3741 | 0 |
| Grp Volume(v), veh/h | 326 | 283 | 0 | 1780 | 697 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 0 | 1777 | 1777 | 0 |
| Q Serve(g_s), s | 9.5 | 9.2 | 0.0 | 23.7 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 9.5 | 9.2 | 0.0 | 23.7 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | 1.00 | 0.00 | | | 0.00 |
| Lane Grp Cap(c), veh/h | 410 | 365 | 0 | 2031 | 2031 | 0 |
| V/C Ratio(X) | 0.79 | 0.77 | 0.00 | 0.88 | 0.34 | 0.00 |
| Avail Cap(c_a), veh/h | 570 | 507 | 0 | 2031 | 2031 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 2.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.39 | 0.83 | 0.00 |
| Uniform Delay (d), s/veh | 19.9 | 19.8 | 0.0 | 10.1 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 5.3 | 5.0 | 0.0 | 2.4 | 0.4 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 4.1 | 3.6 | 0.0 | 6.0 | 0.1 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 25.2 | 24.8 | 0.0 | 12.5 | 0.4 | 0.0 |
| LnGrp LOS | C | C | A | B | A | A |
| Approach Vol, veh/h | 609 | | | 1780 | 697 | |
| Approach Delay, s/veh | 25.0 | | | 12.5 | 0.4 | |
| Approach LOS | C | | | B | A | |

| Timer - Assigned Phs | | 2 | | 4 | | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 37.8 | | 17.2 | | 37.8 |
| Change Period (Y+Rc), s | | 6.4 | | 4.5 | | 6.4 |
| Max Green Setting (Gmax), s | | 26.5 | | 17.6 | | 26.5 |
| Max Q Clear Time (g_c+I1), s | | 25.7 | | 11.5 | | 2.0 |
| Green Ext Time (p_c), s | | 0.7 | | 1.2 | | 4.5 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 12.2 | |
| HCM 6th LOS | B | |

Fanita Ranch
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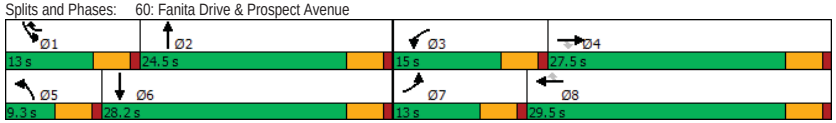
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 215 | 150 | 60 | 100 | 170 | 420 | 75 | 331 | 95 | 220 | 166 | 110 |
| Future Volume (vph) | 215 | 150 | 60 | 100 | 170 | 420 | 75 | 331 | 95 | 220 | 166 | 110 |
| Confl. Peds. (#/hr) | | | 5 | | | 3 | | | 4 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | 1 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | pm+ov | Prot | NA | | Prot | NA | |
| Protected Phases | 7 | 4 | | 3 | 8 | 1 | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | | | | |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | 1 | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | 8.5 | 24.5 | 24.5 | 8.5 | 29.5 | 8.5 | 8.5 | 22.5 | | 8.5 | 24.5 | |
| Total Split (s) | 13.0 | 27.5 | 27.5 | 15.0 | 29.5 | 13.0 | 9.3 | 24.5 | | 13.0 | 28.2 | |
| Total Split (%) | 16.3% | 34.4% | 34.4% | 18.8% | 36.9% | 16.3% | 11.6% | 30.6% | | 16.3% | 35.3% | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | None | None | None | None | None | Min | | None | Min | |

**Intersection Summary**

Cycle Length: 80
Actuated Cycle Length: 68.9
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 60: Fanita Drive & Prospect Avenue






Year 2035 + Proj AM (No School)
60: Fanita Drive & Prospect Avenue
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 215 | 150 | 60 | 100 | 170 | 420 | 75 | 331 | 95 | 220 | 166 | 110 |
| Future Volume (veh/h) | 215 | 150 | 60 | 100 | 170 | 420 | 75 | 331 | 95 | 220 | 166 | 110 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 234 | 163 | 65 | 109 | 185 | 457 | 82 | 360 | 103 | 239 | 180 | 120 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 195 | 602 | 508 | 140 | 544 | 627 | 105 | 358 | 102 | 195 | 644 | 406 |
| Arrive On Green | 0.11 | 0.32 | 0.32 | 0.08 | 0.29 | 0.29 | 0.06 | 0.26 | 0.26 | 0.11 | 0.31 | 0.31 |
| Sat Flow, veh/h | 1781 | 1870 | 1578 | 1781 | 1870 | 1560 | 1781 | 1388 | 397 | 1781 | 2087 | 1318 |
| Grp Volume(v), veh/h | 234 | 163 | 65 | 109 | 185 | 457 | 82 | 0 | 463 | 239 | 152 | 148 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1578 | 1781 | 1870 | 1560 | 1781 | 0 | 1785 | 1781 | 1777 | 1628 |
| Q Serve(g_s), s | 8.5 | 5.0 | 2.3 | 4.7 | 6.0 | 19.3 | 3.5 | 0.0 | 20.0 | 8.5 | 5.0 | 5.4 |
| Cycle Q Clear(g_c), s | 8.5 | 5.0 | 2.3 | 4.7 | 6.0 | 19.3 | 3.5 | 0.0 | 20.0 | 8.5 | 5.0 | 5.4 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.22 | 1.00 | | 0.81 |
| Lane Grp Cap(c), veh/h | 195 | 602 | 508 | 140 | 544 | 627 | 105 | 0 | 460 | 195 | 548 | 502 |
| V/C Ratio(X) | 1.20 | 0.27 | 0.13 | 0.78 | 0.34 | 0.73 | 0.78 | 0.00 | 1.01 | 1.22 | 0.28 | 0.30 |
| Avail Cap(c_a), veh/h | 195 | 602 | 508 | 241 | 603 | 677 | 110 | 0 | 460 | 195 | 548 | 502 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 34.5 | 19.5 | 18.6 | 35.1 | 21.6 | 19.7 | 36.0 | 0.0 | 28.8 | 34.5 | 20.3 | 20.4 |
| Incr Delay (d2), s/veh | 128.2 | 0.2 | 0.1 | 9.0 | 0.4 | 3.7 | 28.2 | 0.0 | 43.4 | 137.8 | 0.3 | 0.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 10.5 | 2.1 | 0.8 | 2.3 | 2.6 | 7.0 | 2.3 | 0.0 | 13.4 | 10.9 | 2.0 | 1.9 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 162.7 | 19.8 | 18.7 | 44.1 | 22.0 | 23.4 | 64.2 | 0.0 | 72.2 | 172.3 | 20.5 | 20.7 |
| LnGrp LOS | F | B | B | D | C | C | E | A | F | F | C | C |
| Approach Vol, veh/h | | 462 | | | 751 | | | 545 | | | 539 | |
| Approach Delay, s/veh | | 92.0 | | | 26.0 | | | 71.0 | | | 87.9 | |
| Approach LOS | | F | | | C | | | E | | | F | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 13.0 | 24.5 | 10.6 | 29.5 | 9.1 | 28.4 | 13.0 | 27.1 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 8.5 | 20.0 | 10.5 | 23.0 | 4.8 | 23.7 | 8.5 | 25.0 |
| Max Q Clear Time (g_c+I1), s | 10.5 | 22.0 | 6.7 | 7.0 | 5.5 | 7.4 | 10.5 | 21.3 |
| Green Ext Time (p_c), s | 0.0 | 0.0 | 0.1 | 0.9 | 0.0 | 1.4 | 0.0 | 1.1 |

**Intersection Summary**

| | | |
|---|---|---|
| HCM 6th Ctrl Delay | 64.5 | |
| HCM 6th LOS | E | |

Fanita Ranch
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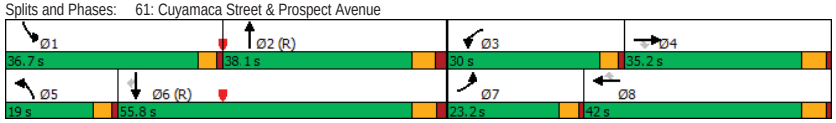
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 125 | 165 | 115 | 180 | 165 | 310 | 85 | 585 | 80 | 245 | 963 | 185 |
| Future Volume (vph) | 125 | 165 | 115 | 180 | 165 | 310 | 85 | 585 | 80 | 245 | 963 | 185 |
| Confl. Peds. (#/hr) | | | 20 | | | 8 | | | 8 | | | 4 |
| Confl. Bikes (#/hr) | | | 1 | | | 4 | | | 4 | | | 7 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | | | | 6 |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | 8 | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 7.0 | 7.0 | 4.0 | 7.0 | 7.0 | 4.0 | 10.0 | | 4.0 | 10.0 | 10.0 |
| Minimum Split (s) | 8.2 | 35.2 | 35.2 | 8.2 | 36.2 | 36.2 | 8.2 | 33.0 | | 8.2 | 31.0 | 31.0 |
| Total Split (s) | 23.2 | 35.2 | 35.2 | 30.0 | 42.0 | 42.0 | 19.0 | 38.1 | | 36.7 | 55.8 | 55.8 |
| Total Split (%) | 16.6% | 25.1% | 25.1% | 21.4% | 30.0% | 30.0% | 13.6% | 27.2% | | 26.2% | 39.9% | 39.9% |
| Yellow Time (s) | 3.2 | 4.2 | 4.2 | 3.2 | 4.2 | 4.2 | 3.2 | 4.0 | | 3.2 | 4.1 | 4.1 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 2.0 | | 1.0 | 1.9 | 1.9 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.2 | 5.2 | 4.2 | 5.2 | 5.2 | 4.2 | 6.0 | | 4.2 | 6.0 | 6.0 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | None | None | C-Min | | None | C-Min | C-Min |

| Intersection Summary |
|---|
| Cycle Length: 140 |
| Actuated Cycle Length: 140 |
| Offset: 26 (19%), Referenced to phase 2:NBT and 6:SBT, Start of Green |
| Natural Cycle: 100 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 61: Cuyamaca Street & Prospect Avenue






Year 2035 + Proj AM (No School)
61: Cuyamaca Street & Prospect Avenue
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 125 | 165 | 115 | 180 | 165 | 310 | 85 | 585 | 80 | 245 | 963 | 185 |
| Future Volume (veh/h) | 125 | 165 | 115 | 180 | 165 | 310 | 85 | 585 | 80 | 245 | 963 | 185 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.96 | 1.00 | | 0.97 | 1.00 | | 0.97 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 136 | 179 | 125 | 196 | 179 | 337 | 92 | 636 | 87 | 266 | 1047 | 201 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 160 | 374 | 303 | 220 | 831 | 361 | 114 | 1701 | 229 | 286 | 1680 | 736 |
| Arrive On Green | 0.09 | 0.20 | 0.20 | 0.12 | 0.23 | 0.23 | 0.06 | 0.38 | 0.38 | 0.32 | 0.95 | 0.95 |
| Sat Flow, veh/h | 1781 | 1870 | 1518 | 1781 | 3554 | 1544 | 1781 | 4528 | 611 | 1781 | 3554 | 1557 |
| Grp Volume(v), veh/h | 136 | 179 | 125 | 196 | 179 | 337 | 92 | 476 | 247 | 266 | 1047 | 201 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1518 | 1781 | 1777 | 1544 | 1781 | 1702 | 1735 | 1781 | 1777 | 1557 |
| Q Serve(g_s), s | 10.5 | 11.9 | 10.1 | 15.2 | 5.7 | 29.9 | 7.1 | 14.2 | 14.5 | 20.2 | 5.5 | 1.3 |
| Cycle Q Clear(g_c), s | 10.5 | 11.9 | 10.1 | 15.2 | 5.7 | 29.9 | 7.1 | 14.2 | 14.5 | 20.2 | 5.5 | 1.3 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.35 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 160 | 374 | 303 | 220 | 831 | 361 | 114 | 1279 | 652 | 286 | 1680 | 736 |
| V/C Ratio(X) | 0.85 | 0.48 | 0.41 | 0.89 | 0.22 | 0.93 | 0.81 | 0.37 | 0.38 | 0.93 | 0.62 | 0.27 |
| Avail Cap(c_a), veh/h | 242 | 401 | 325 | 328 | 934 | 406 | 188 | 1279 | 652 | 414 | 1680 | 736 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 2.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 0.80 | 0.80 | 0.80 | 1.00 | 1.00 | 1.00 | 0.71 | 0.71 | 0.71 |
| Uniform Delay (d), s/veh | 62.8 | 49.6 | 48.8 | 60.4 | 43.3 | 52.6 | 64.7 | 31.7 | 31.8 | 46.7 | 2.2 | 2.1 |
| Incr Delay (d2), s/veh | 10.8 | 1.0 | 1.0 | 11.1 | 0.1 | 22.5 | 5.1 | 0.8 | 1.7 | 14.0 | 1.2 | 0.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 5.2 | 5.7 | 3.9 | 7.5 | 2.5 | 13.8 | 3.4 | 6.0 | 6.4 | 8.7 | 1.3 | 0.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 73.6 | 50.6 | 49.8 | 71.5 | 43.3 | 75.0 | 69.8 | 32.6 | 33.5 | 60.7 | 3.4 | 2.7 |
| LnGrp LOS | E | D | D | E | D | E | E | C | C | E | A | A |
| Approach Vol, veh/h | | 440 | | | 712 | | | 815 | | | 1514 | |
| Approach Delay, s/veh | | 57.5 | | | 66.1 | | | 37.0 | | | 13.4 | |
| Approach LOS | | E | | | E | | | D | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 26.7 | 58.6 | 21.5 | 33.2 | 13.1 | 72.2 | 16.8 | 37.9 |
| Change Period (Y+Rc), s | * 4.2 | 6.0 | * 4.2 | 5.2 | * 4.2 | * 6 | * 4.2 | 5.2 |
| Max Green Setting (Gmax), s | * 33 | 32.1 | * 26 | 30.0 | * 15 | * 50 | * 19 | 36.8 |
| Max Q Clear Time (g_c+I1), s | 22.2 | 16.5 | 17.2 | 13.9 | 9.1 | 7.5 | 12.5 | 31.9 |
| Green Ext Time (p_c), s | 0.3 | 5.6 | 0.2 | 1.3 | 0.0 | 15.6 | 0.1 | 0.8 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 35.3 |
| HCM 6th LOS | D |

Notes

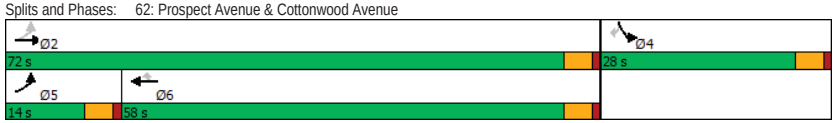
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\No School Alt\11 2035+P AM.syn

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 100 | 190 | 450 | 180 | 110 | 200 |
| Future Volume (vph) | 100 | 190 | 450 | 180 | 110 | 200 |
| Confl. Peds. (#/hr) | | | | 3 | | 6 |
| Confl. Bikes (#/hr) | | | | 1 | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | pm+pt | NA | NA | Perm | Prot | Perm |
| Protected Phases | 5 | 2 | 6 | | 4 | |
| Permitted Phases | 2 | | | 6 | | 4 |
| Detector Phase | 5 | 2 | 6 | 6 | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 |
| Total Split (s) | 14.0 | 72.0 | 58.0 | 58.0 | 28.0 | 28.0 |
| Total Split (%) | 14.0% | 72.0% | 58.0% | 58.0% | 28.0% | 28.0% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | | Lag | Lag | | |
| Lead-Lag Optimize? | Yes | | Yes | Yes | | |
| Recall Mode | None | Min | Min | Min | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 51.4 |
| Natural Cycle: 60 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 62: Prospect Avenue & Cottonwood Avenue






Year 2035 + Proj AM (No School)
62: Prospect Avenue & Cottonwood Avenue
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 100 | 190 | 450 | 180 | 110 | 200 |
| Future Volume (veh/h) | 100 | 190 | 450 | 180 | 110 | 200 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 0.98 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 109 | 207 | 489 | 196 | 120 | 217 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 435 | 1062 | 710 | 587 | 354 | 315 |
| Arrive On Green | 0.07 | 0.57 | 0.38 | 0.38 | 0.20 | 0.20 |
| Sat Flow, veh/h | 1781 | 1870 | 1870 | 1546 | 1781 | 1585 |
| Grp Volume(v), veh/h | 109 | 207 | 489 | 196 | 120 | 217 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1870 | 1546 | 1781 | 1585 |
| Q Serve(g_s), s | 1.2 | 2.1 | 8.5 | 3.5 | 2.2 | 4.9 |
| Cycle Q Clear(g_c), s | 1.2 | 2.1 | 8.5 | 3.5 | 2.2 | 4.9 |
| Prop In Lane | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 435 | 1062 | 710 | 587 | 354 | 315 |
| V/C Ratio(X) | 0.25 | 0.19 | 0.69 | 0.33 | 0.34 | 0.69 |
| Avail Cap(c_a), veh/h | 747 | 3276 | 2596 | 2145 | 1086 | 966 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 6.7 | 4.0 | 10.0 | 8.5 | 13.3 | 14.3 |
| Incr Delay (d2), s/veh | 0.3 | 0.1 | 1.2 | 0.3 | 0.6 | 2.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.3 | 0.4 | 2.6 | 0.8 | 0.8 | 0.2 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 7.0 | 4.1 | 11.2 | 8.8 | 13.8 | 17.0 |
| LnGrp LOS | A | A | B | A | B | B |
| Approach Vol, veh/h | | 316 | 685 | | 337 | |
| Approach Delay, s/veh | | 5.1 | 10.6 | | 15.9 | |
| Approach LOS | | A | B | | B | |

| Timer - Assigned Phs | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 26.4 | | 12.2 | 7.3 | 19.1 |
| Change Period (Y+Rc), s | 4.5 | | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 67.5 | | 23.5 | 9.5 | 53.5 |
| Max Q Clear Time (g_c+I1), s | 4.1 | | 6.9 | 3.2 | 10.5 |
| Green Ext Time (p_c), s | 1.2 | | 1.0 | 0.1 | 4.1 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 10.6 | |
| HCM 6th LOS | B | |

Fanita Ranch
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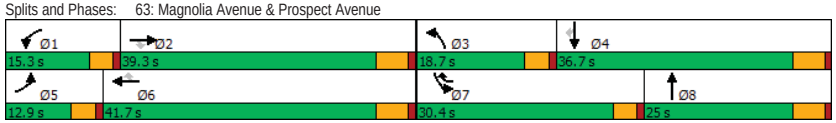
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 125 | 100 | 70 | 150 | 420 | 1225 | 130 | 453 | 90 | 360 | 391 | 145 |
| Future Volume (vph) | 125 | 100 | 70 | 150 | 420 | 1225 | 130 | 453 | 90 | 360 | 391 | 145 |
| Confl. Peds. (#/hr) | | | 1 | | | 1 | | | 2 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | pm+ov | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | 4.0 | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 39.3 | 39.3 | 8.2 | 37.4 | 8.2 | 8.2 | 23.2 | | 8.2 | 36.2 | 36.2 |
| Total Split (s) | 12.9 | 39.3 | 39.3 | 15.3 | 41.7 | 30.4 | 18.7 | 25.0 | | 30.4 | 36.7 | 36.7 |
| Total Split (%) | 11.7% | 35.7% | 35.7% | 13.9% | 37.9% | 27.6% | 17.0% | 22.7% | | 27.6% | 33.4% | 33.4% |
| Yellow Time (s) | 3.2 | 4.3 | 4.3 | 3.2 | 4.4 | 3.2 | 3.2 | 4.2 | | 3.2 | 4.2 | 4.2 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | 5.3 | 4.2 | 5.4 | 4.2 | 4.2 | 5.2 | | 4.2 | 5.2 | 5.2 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | Min | Min | None | Min | None | None | None | | None | None | None |

**Intersection Summary**

Cycle Length: 110
Actuated Cycle Length: 91.6
Natural Cycle: 95
Control Type: Actuated-Uncoordinated

Splits and Phases: 63: Magnolia Avenue & Prospect Avenue








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 125 | 100 | 70 | 150 | 420 | 1225 | 130 | 453 | 90 | 360 | 391 | 145 |
| Future Volume (veh/h) | 125 | 100 | 70 | 150 | 420 | 1225 | 130 | 453 | 90 | 360 | 391 | 145 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.98 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 136 | 109 | 76 | 163 | 457 | 1332 | 141 | 492 | 98 | 391 | 425 | 158 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 206 | 644 | 545 | 196 | 1402 | 1501 | 175 | 575 | 114 | 498 | 857 | 377 |
| Arrive On Green | 0.06 | 0.34 | 0.34 | 0.11 | 0.39 | 0.39 | 0.10 | 0.20 | 0.20 | 0.14 | 0.24 | 0.24 |
| Sat Flow, veh/h | 3456 | 1870 | 1584 | 1781 | 3554 | 2786 | 1781 | 2947 | 584 | 3456 | 3554 | 1563 |
| Grp Volume(v), veh/h | 136 | 109 | 76 | 163 | 457 | 1332 | 141 | 295 | 295 | 391 | 425 | 158 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1870 | 1584 | 1781 | 1777 | 1393 | 1781 | 1777 | 1754 | 1728 | 1777 | 1563 |
| Q Serve(g_s), s | 3.5 | 3.7 | 3.0 | 8.2 | 8.2 | 36.3 | 7.1 | 14.8 | 14.9 | 10.0 | 9.5 | 7.8 |
| Cycle Q Clear(g_c), s | 3.5 | 3.7 | 3.0 | 8.2 | 8.2 | 36.3 | 7.1 | 14.8 | 14.9 | 10.0 | 9.5 | 7.8 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.33 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 206 | 644 | 545 | 196 | 1402 | 1501 | 175 | 347 | 342 | 498 | 857 | 377 |
| V/C Ratio(X) | 0.66 | 0.17 | 0.14 | 0.83 | 0.33 | 0.89 | 0.81 | 0.85 | 0.86 | 0.79 | 0.50 | 0.42 |
| Avail Cap(c_a), veh/h | 327 | 691 | 585 | 215 | 1402 | 1501 | 281 | 382 | 378 | 984 | 1217 | 535 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 42.3 | 21.0 | 20.8 | 40.1 | 19.3 | 18.8 | 40.6 | 35.7 | 35.8 | 38.0 | 30.1 | 29.5 |
| Incr Delay (d2), s/veh | 3.6 | 0.1 | 0.1 | 21.9 | 0.1 | 6.8 | 8.6 | 15.6 | 16.7 | 2.8 | 0.4 | 0.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.6 | 1.6 | 1.1 | 4.8 | 3.3 | 12.8 | 3.5 | 7.8 | 7.9 | 4.4 | 4.0 | 3.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 45.9 | 21.1 | 20.9 | 61.9 | 19.5 | 25.6 | 49.2 | 51.3 | 52.5 | 40.8 | 30.5 | 30.2 |
| LnGrp LOS | D | C | C | E | B | C | D | D | D | D | C | C |
| Approach Vol, veh/h | | 321 | | | 1952 | | | 731 | | | 974 | |
| Approach Delay, s/veh | | 31.6 | | | 27.2 | | | 51.4 | | | 34.6 | |
| Approach LOS | | C | | | C | | | D | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 14.3 | 37.1 | 13.2 | 27.4 | 9.7 | 41.7 | 17.4 | 23.2 |
| Change Period (Y+Rc), s | * 4.2 | * 5.4 | * 4.2 | 5.2 | * 4.2 | 5.4 | * 4.2 | 5.2 |
| Max Green Setting (Gmax), s | * 11 | * 34 | * 15 | 31.5 | * 8.7 | 36.3 | * 26 | 19.8 |
| Max Q Clear Time (g_c+I1), s | 10.2 | 5.7 | 9.1 | 11.5 | 5.5 | 38.3 | 12.0 | 16.9 |
| Green Ext Time (p_c), s | 0.0 | 0.8 | 0.2 | 3.3 | 0.1 | 0.0 | 1.2 | 1.0 |

**Intersection Summary**

| | | |
|---|---|---|
| HCM 6th Ctrl Delay | 33.8 | |
| HCM 6th LOS | C | |

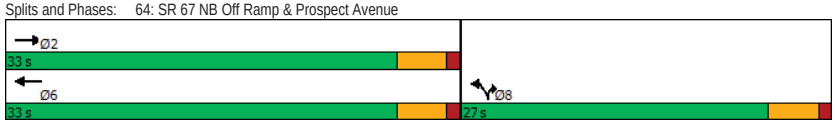
**Notes**

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 510 | 0 | 0 | 1010 | 795 | 50 |
| Future Volume (vph) | 510 | 0 | 0 | 1010 | 795 | 50 |
| Confl. Peds. (#/hr) | | | | | | |
| Confl. Bikes (#/hr) | | 1 | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | NA | | | NA | Prot | Prot |
| Protected Phases | 2 | | | 6 | 8 | 8 |
| Permitted Phases | | | | | | |
| Detector Phase | 2 | | | 6 | 8 | 8 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 5.0 | | | 10.0 | 5.0 | 5.0 |
| Minimum Split (s) | 20.6 | | | 20.6 | 20.6 | 20.6 |
| Total Split (s) | 33.0 | | | 33.0 | 27.0 | 27.0 |
| Total Split (%) | 55.0% | | | 55.0% | 45.0% | 45.0% |
| Yellow Time (s) | 3.6 | | | 3.6 | 3.6 | 3.6 |
| All-Red Time (s) | 1.0 | | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.6 | | | 4.6 | 4.6 | 4.6 |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | Min | | | Min | None | None |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 48.9 |
| Natural Cycle: 45 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 64: SR 67 NB Off Ramp & Prospect Avenue






Year 2035 + Proj AM (No School)
64: SR 67 NB Off Ramp & Prospect Avenue
Fanita Ranch
06/06/2019

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 510 | 0 | 0 | 1010 | 795 | 50 |
| Future Volume (veh/h) | 510 | 0 | 0 | 1010 | 795 | 50 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | 1.00 | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 0 | 0 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 554 | 0 | 0 | 1098 | 864 | 54 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 0 | 0 | 2 | 2 | 2 |
| Cap, veh/h | 1638 | 0 | 0 | 1638 | 1094 | 502 |
| Arrive On Green | 0.46 | 0.00 | 0.00 | 0.46 | 0.32 | 0.32 |
| Sat Flow, veh/h | 3741 | 0 | 0 | 3741 | 3456 | 1585 |
| Grp Volume(v), veh/h | 554 | 0 | 0 | 1098 | 864 | 54 |
| Grp Sat Flow(s),veh/h/ln | 1777 | 0 | 0 | 1777 | 1728 | 1585 |
| Q Serve(g_s), s | 4.1 | 0.0 | 0.0 | 10.0 | 9.4 | 1.0 |
| Cycle Q Clear(g_c), s | 4.1 | 0.0 | 0.0 | 10.0 | 9.4 | 1.0 |
| Prop In Lane | | 0.00 | 0.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 1638 | 0 | 0 | 1638 | 1094 | 502 |
| V/C Ratio(X) | 0.34 | 0.00 | 0.00 | 0.67 | 0.79 | 0.11 |
| Avail Cap(c_a), veh/h | 2441 | 0 | 0 | 2441 | 1872 | 859 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 7.1 | 0.0 | 0.0 | 8.7 | 12.9 | 10.0 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 0.0 | 0.5 | 0.5 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.0 | 0.0 | 0.0 | 2.5 | 2.9 | 0.3 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 7.2 | 0.0 | 0.0 | 9.2 | 13.4 | 10.0 |
| LnGrp LOS | A | A | A | A | B | B |
| Approach Vol, veh/h | 554 | | | 1098 | 918 | |
| Approach Delay, s/veh | 7.2 | | | 9.2 | 13.2 | |
| Approach LOS | A | | | A | B | |

| Timer - Assigned Phs | 2 | | | 6 | 8 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 23.7 | | | 23.7 | 17.7 |
| Change Period (Y+Rc), s | 4.6 | | | 4.6 | 4.6 |
| Max Green Setting (Gmax), s | 28.4 | | | 28.4 | 22.4 |
| Max Q Clear Time (g_c+I1), s | 6.1 | | | 12.0 | 11.4 |
| Green Ext Time (p_c), s | 2.4 | | | 7.1 | 1.7 |

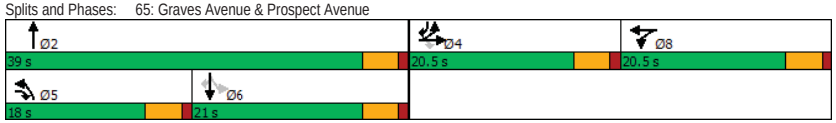
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 10.2 | |
| HCM 6th LOS | B | |

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\No School Alt\11 2035+P AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 190 | 20 | 390 | 5 | 10 | 5 | 640 | 30 | 10 | 5 | 80 | 380 |
| Future Volume (vph) | 190 | 20 | 390 | 5 | 10 | 5 | 640 | 30 | 10 | 5 | 80 | 380 |
| Confl. Peds. (#/hr) | | | 1 | | | 1 | | | 12 | | | |
| Confl. Bikes (#/hr) | | | 3 | | | | | | 1 | | | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | 45% | | | | | | | | | | | |
| Turn Type | Split | NA | pm+ov | Split | NA | | Prot | NA | | Perm | NA | pm+ov |
| Protected Phases | 4 | 4 | 5 | 8 | 8 | | 5 | 2 | | | 6 | 4 |
| Permitted Phases | | | 4 | | | | | | | 6 | | 6 |
| Detector Phase | 4 | 4 | 5 | 8 | 8 | | 5 | 2 | | 6 | 6 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 20.5 | 20.5 | 8.5 | 20.5 | 20.5 | | 8.5 | 20.5 | | 20.5 | 20.5 | 20.5 |
| Total Split (s) | 20.5 | 20.5 | 18.0 | 20.5 | 20.5 | | 18.0 | 39.0 | | 21.0 | 21.0 | 20.5 |
| Total Split (%) | 25.6% | 25.6% | 22.5% | 25.6% | 25.6% | | 22.5% | 48.8% | | 26.3% | 26.3% | 25.6% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | | | 4.5 | 4.5 |
| Lead/Lag | | | Lead | | | | Lead | | | Lag | Lag | |
| Lead-Lag Optimize? | | | Yes | | | | Yes | | | Yes | Yes | |
| Recall Mode | None | None | None | None | None | | None | Min | | Min | Min | None |

| Intersection Summary |
|---|
| Cycle Length: 80 |
| Actuated Cycle Length: 50.4 |
| Natural Cycle: 80 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 65: Graves Avenue & Prospect Avenue








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 190 | 20 | 390 | 5 | 10 | 5 | 640 | 30 | 10 | 5 | 80 | 380 |
| Future Volume (veh/h) | 190 | 20 | 390 | 5 | 10 | 5 | 640 | 30 | 10 | 5 | 80 | 380 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 1.00 | 1.00 | | 0.97 | 0.98 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 223 | 0 | 424 | 5 | 11 | 5 | 696 | 33 | 11 | 5 | 87 | 413 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 865 | 0 | 716 | 39 | 26 | 12 | 745 | 692 | 231 | 67 | 426 | 748 |
| Arrive On Green | 0.24 | 0.00 | 0.24 | 0.02 | 0.02 | 0.02 | 0.22 | 0.52 | 0.52 | 0.23 | 0.23 | 0.23 |
| Sat Flow, veh/h | 3563 | 0 | 1543 | 1781 | 1215 | 552 | 3456 | 1330 | 443 | 28 | 1831 | 1561 |
| Grp Volume(v), veh/h | 223 | 0 | 424 | 5 | 0 | 16 | 696 | 0 | 44 | 92 | 0 | 413 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1543 | 1781 | 0 | 1768 | 1728 | 0 | 1773 | 1859 | 0 | 1561 |
| Q Serve(g_s), s | 3.2 | 0.0 | 12.9 | 0.2 | 0.0 | 0.6 | 12.4 | 0.0 | 0.8 | 0.0 | 0.0 | 11.8 |
| Cycle Q Clear(g_c), s | 3.2 | 0.0 | 12.9 | 0.2 | 0.0 | 0.6 | 12.4 | 0.0 | 0.8 | 2.5 | 0.0 | 11.8 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.31 | 1.00 | | 0.25 | 0.05 | | 1.00 |
| Lane Grp Cap(c), veh/h | 865 | 0 | 716 | 39 | 0 | 38 | 745 | 0 | 922 | 493 | 0 | 748 |
| V/C Ratio(X) | 0.26 | 0.00 | 0.59 | 0.13 | 0.00 | 0.42 | 0.93 | 0.00 | 0.05 | 0.19 | 0.00 | 0.55 |
| Avail Cap(c_a), veh/h | 910 | 0 | 736 | 455 | 0 | 451 | 745 | 0 | 976 | 549 | 0 | 796 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 19.2 | 0.0 | 12.7 | 30.1 | 0.0 | 30.3 | 24.1 | 0.0 | 7.4 | 19.4 | 0.0 | 11.7 |
| Incr Delay (d2), s/veh | 0.2 | 0.0 | 1.2 | 1.5 | 0.0 | 7.1 | 18.9 | 0.0 | 0.0 | 0.2 | 0.0 | 0.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.2 | 0.0 | 4.1 | 0.1 | 0.0 | 0.3 | 6.6 | 0.0 | 0.3 | 1.0 | 0.0 | 6.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 19.3 | 0.0 | 13.9 | 31.6 | 0.0 | 37.4 | 43.1 | 0.0 | 7.4 | 19.6 | 0.0 | 12.4 |
| LnGrp LOS | B | A | B | C | A | D | D | A | A | B | A | B |
| Approach Vol, veh/h | | 647 | | | 21 | | | 740 | | | 505 | |
| Approach Delay, s/veh | | 15.8 | | | 36.0 | | | 40.9 | | | 13.7 | |
| Approach LOS | | B | | | D | | | D | | | B | |

| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 37.1 | | 19.7 | 18.0 | 19.1 | | 5.9 | | | | |
| Change Period (Y+Rc), s | | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | | 34.5 | | 16.0 | 13.5 | 16.5 | | 16.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 2.8 | | 14.9 | 14.4 | 13.8 | | 2.6 | | | | |
| Green Ext Time (p_c), s | | 0.2 | | 0.4 | 0.0 | 0.6 | | 0.0 | | | | |

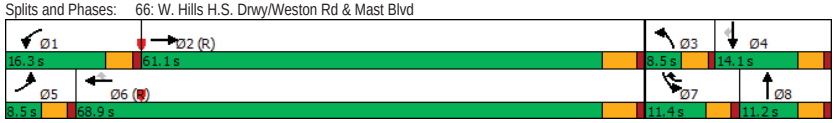
| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 25.2 |
| HCM 6th LOS | C |

| Notes |
|---|
| User approved volume balancing among the lanes for turning movement. |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 50 | 599 | 50 | 90 | 2213 | 25 | 20 | 5 | 80 | 100 | 10 | 180 |
| Future Volume (vph) | 50 | 599 | 50 | 90 | 2213 | 25 | 20 | 5 | 80 | 100 | 10 | 180 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | 4.0 | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.5 | 22.5 | | 8.5 | 27.3 | 8.5 | 8.5 | 11.2 | | 8.5 | 11.2 | 11.2 |
| Total Split (s) | 8.5 | 61.1 | | 16.3 | 68.9 | 11.4 | 8.5 | 11.2 | | 11.4 | 14.1 | 14.1 |
| Total Split (%) | 8.5% | 61.1% | | 16.3% | 68.9% | 11.4% | 8.5% | 11.2% | | 11.4% | 14.1% | 14.1% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | 3.2 | 3.2 | 3.2 | | 3.2 | 3.2 | 3.2 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | 4.2 | 4.2 | 4.2 | | 4.2 | 4.2 | 4.2 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | C-Min | | None | C-Min | None | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 84 (84%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 120 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 66: W. Hills H.S. Drwy/Weston Rd & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 50 | 599 | 50 | 90 | 2213 | 25 | 20 | 5 | 80 | 100 | 10 | 180 |
| Future Volume (veh/h) | 50 | 599 | 50 | 90 | 2213 | 25 | 20 | 5 | 80 | 100 | 10 | 180 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 54 | 651 | 54 | 98 | 2405 | 27 | 22 | 5 | 87 | 109 | 11 | 196 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 69 | 2023 | 168 | 125 | 2276 | 1129 | 33 | 6 | 106 | 128 | 231 | 196 |
| Arrive On Green | 0.08 | 1.00 | 1.00 | 0.07 | 0.64 | 0.64 | 0.02 | 0.07 | 0.07 | 0.07 | 0.12 | 0.12 |
| Sat Flow, veh/h | 1781 | 3322 | 275 | 1781 | 3554 | 1585 | 1781 | 87 | 1511 | 1781 | 1870 | 1585 |
| Grp Volume(v), veh/h | 54 | 348 | 357 | 98 | 2405 | 27 | 22 | 0 | 92 | 109 | 11 | 196 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1821 | 1781 | 1777 | 1585 | 1781 | 0 | 1598 | 1781 | 1870 | 1585 |
| Q Serve(g_s), s | 3.0 | 0.0 | 0.0 | 5.4 | 64.0 | 0.5 | 1.2 | 0.0 | 5.7 | 6.0 | 0.5 | 12.4 |
| Cycle Q Clear(g_c), s | 3.0 | 0.0 | 0.0 | 5.4 | 64.0 | 0.5 | 1.2 | 0.0 | 5.7 | 6.0 | 0.5 | 12.4 |
| Prop In Lane | 1.00 | | 0.15 | 1.00 | | 1.00 | 1.00 | | 0.95 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 69 | 1082 | 1109 | 125 | 2276 | 1129 | 33 | 0 | 112 | 128 | 231 | 196 |
| V/C Ratio(X) | 0.78 | 0.32 | 0.32 | 0.79 | 1.06 | 0.02 | 0.68 | 0.00 | 0.82 | 0.85 | 0.05 | 1.00 |
| Avail Cap(c_a), veh/h | 77 | 1082 | 1109 | 216 | 2276 | 1129 | 77 | 0 | 112 | 128 | 231 | 196 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.96 | 0.96 | 0.96 | 0.60 | 0.60 | 0.60 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 45.7 | 0.0 | 0.0 | 45.8 | 18.0 | 4.2 | 48.8 | 0.0 | 45.9 | 45.9 | 38.6 | 43.8 |
| Incr Delay (d2), s/veh | 35.8 | 0.8 | 0.7 | 6.5 | 32.5 | 0.0 | 21.6 | 0.0 | 36.8 | 38.6 | 0.1 | 64.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.9 | 0.2 | 0.2 | 2.6 | 31.4 | 0.1 | 0.7 | 0.0 | 3.4 | 4.0 | 0.2 | 8.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 81.5 | 0.8 | 0.7 | 52.2 | 50.5 | 4.2 | 70.4 | 0.0 | 82.7 | 84.5 | 38.7 | 107.9 |
| LnGrp LOS | F | A | A | D | F | A | E | A | F | F | D | F |
| Approach Vol, veh/h | | 759 | | | 2530 | | | 114 | | | 316 | |
| Approach Delay, s/veh | | 6.5 | | | 50.1 | | | 80.3 | | | 97.5 | |
| Approach LOS | | A | | | D | | | F | | | F | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 11.2 | 66.2 | 6.0 | 16.6 | 8.1 | 69.3 | 11.4 | 11.2 |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | * 4.2 | * 4.2 | * 4.2 | 5.3 | * 4.2 | * 4.2 |
| Max Green Setting (Gmax), s | * 12 | 55.8 | * 4.3 | * 9.9 | * 4.3 | 63.6 | * 7.2 | * 7 |
| Max Q Clear Time (g_c+I1), s | 7.4 | 2.0 | 3.2 | 14.4 | 5.0 | 66.0 | 8.0 | 7.7 |
| Green Ext Time (p_c), s | 0.1 | 4.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 46.1 | |
| HCM 6th LOS | D | |

| Notes |
|---|
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. |

| Intersection | |
|---|---|
| Int Delay, s/veh | 2.4 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 100 | 10 | 573 | 220 | 10 | 276 |
| Future Vol, veh/h | 100 | 10 | 573 | 220 | 10 | 276 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | 150 | 50 | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 109 | 11 | 623 | 239 | 11 | 300 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 945 | 623 | 0 | 0 | 862 | 0 |
| Stage 1 | 623 | - | - | - | - | - |
| Stage 2 | 322 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | - | - | 4.12 | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | - | - | 2.218 | - |
| Pot Cap-1 Maneuver | 291 | 486 | - | - | 780 | - |
| Stage 1 | 535 | - | - | - | - | - |
| Stage 2 | 735 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 287 | 486 | - | - | 780 | - |
| Mov Cap-2 Maneuver | 287 | - | - | - | - | - |
| Stage 1 | 528 | - | - | - | - | - |
| Stage 2 | 735 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 24.9 | 0 | 0.3 |
| HCM LOS | C | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | SBL | SBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 298 | 780 | - |
| HCM Lane V/C Ratio | - | - | 0.401 | 0.014 | - |
| HCM Control Delay (s) | - | - | 24.9 | 9.7 | - |
| HCM Lane LOS | - | - | C | A | - |
| HCM 95th %tile Q(veh) | - | - | 1.9 | 0 | - |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 13 |
| Intersection LOS | B |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 5 | 5 | 40 | 20 | 10 | 5 | 100 | 419 | 35 | 0 | 209 | 5 |
| Future Vol, veh/h | 5 | 5 | 40 | 20 | 10 | 5 | 100 | 419 | 35 | 0 | 209 | 5 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 5 | 5 | 43 | 22 | 11 | 5 | 109 | 455 | 38 | 0 | 227 | 5 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 3 | 3 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 3 | 3 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 3 | 3 | 1 | 1 |
| HCM Control Delay | 9.3 | 10 | 14.4 | 10.8 |
| HCM LOS | A | A | B | B |

| Lane | NBLn1 | NBLn2 | NBLn3 | EBLn1 | WBLn1 | SBLn1 | SBLn2 | SBLn3 |
|---|---|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 10% | 57% | 0% | 0% | 0% |
| Vol Thru, % | 0% | 100% | 0% | 10% | 29% | 100% | 100% | 0% |
| Vol Right, % | 0% | 0% | 100% | 80% | 14% | 0% | 0% | 100% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 100 | 419 | 35 | 50 | 35 | 0 | 209 | 5 |
| LT Vol | 100 | 0 | 0 | 5 | 20 | 0 | 0 | 0 |
| Through Vol | 0 | 419 | 0 | 5 | 10 | 0 | 209 | 0 |
| RT Vol | 0 | 0 | 35 | 40 | 5 | 0 | 0 | 5 |
| Lane Flow Rate | 109 | 455 | 38 | 54 | 38 | 0 | 227 | 5 |
| Geometry Grp | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| Degree of Util (X) | 0.167 | 0.635 | 0.046 | 0.09 | 0.07 | 0 | 0.339 | 0.007 |
| Departure Headway (Hd) | 5.525 | 5.022 | 4.319 | 5.936 | 6.658 | 5.367 | 5.367 | 4.663 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 648 | 715 | 825 | 598 | 534 | 0 | 666 | 762 |
| Service Time | 3.274 | 2.771 | 2.067 | 3.724 | 4.453 | 3.131 | 3.131 | 2.427 |
| HCM Lane V/C Ratio | 0.168 | 0.636 | 0.046 | 0.09 | 0.071 | 0 | 0.341 | 0.007 |
| HCM Control Delay | 9.4 | 16.2 | 7.3 | 9.3 | 10 | 8.1 | 10.9 | 7.5 |
| HCM Lane LOS | A | C | A | A | A | N | B | A |
| HCM 95th-tile Q | 0.6 | 4.6 | 0.1 | 0.3 | 0.2 | 0 | 1.5 | 0 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 5.7 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 5 | 5 | 20 | 63 | 5 | 5 | 25 | 800 | 103 | 5 | 383 | 5 |
| Future Vol, veh/h | 5 | 5 | 20 | 63 | 5 | 5 | 25 | 800 | 103 | 5 | 383 | 5 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 5 | 5 | 22 | 68 | 5 | 5 | 27 | 870 | 112 | 5 | 416 | 5 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 1414 | 1466 | 419 | 1423 | 1412 | 927 | 421 | 0 | 0 | 983 | 0 | 0 |
| Stage 1 | 429 | 429 | - | 981 | 981 | - | - | - | - | - | - | - |
| Stage 2 | 985 | 1037 | - | 442 | 431 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | 4.12 | - | - | 4.12 | - | - |
| Critical Hdwy Stg 1 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | 2.218 | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 115 | 128 | 634 | 114 | 138 | 325 | 1138 | - | - | 703 | - | - |
| Stage 1 | 604 | 584 | - | 300 | 328 | - | - | - | - | - | - | - |
| Stage 2 | 299 | 308 | - | 594 | 583 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 104 | 120 | 634 | 101 | 129 | 325 | 1138 | - | - | 702 | - | - |
| Mov Cap-2 Maneuver | 104 | 120 | - | 101 | 129 | - | - | - | - | - | - | - |
| Stage 1 | 571 | 579 | - | 284 | 310 | - | - | - | - | - | - | - |
| Stage 2 | 273 | 291 | - | 563 | 578 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 21.8 | 99.4 | 0.2 | 0.1 |
| HCM LOS | C | F | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1138 | - | - | 247 | 108 | 702 | - | - |
| HCM Lane V/C Ratio | 0.024 | - | - | 0.132 | 0.735 | 0.008 | - | - |
| HCM Control Delay (s) | 8.2 | 0 | - | 21.8 | 99.4 | 10.2 | 0 | - |
| HCM Lane LOS | A | A | - | C | F | B | A | - |
| HCM 95th %tile Q(veh) | 0.1 | - | - | 0.4 | 4 | 0 | - | - |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 202.9 |
| Intersection LOS | F |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 0 | 5 | 10 | 115 | 5 | 15 | 10 | 758 | 240 | 5 | 356 | 5 |
| Future Vol, veh/h | 0 | 5 | 10 | 115 | 5 | 15 | 10 | 758 | 240 | 5 | 356 | 5 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 5 | 11 | 125 | 5 | 16 | 11 | 824 | 261 | 5 | 387 | 5 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |

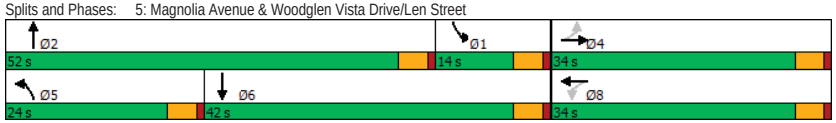
| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay | 11.2 | 13.7 | 297.8 | 19.2 |
| HCM LOS | B | B | F | C |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 85% | 100% | 0% |
| Vol Thru, % | 0% | 76% | 33% | 4% | 0% | 99% |
| Vol Right, % | 0% | 24% | 67% | 11% | 0% | 1% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 10 | 998 | 15 | 135 | 5 | 361 |
| LT Vol | 10 | 0 | 0 | 115 | 5 | 0 |
| Through Vol | 0 | 758 | 5 | 5 | 0 | 356 |
| RT Vol | 0 | 240 | 10 | 15 | 0 | 5 |
| Lane Flow Rate | 11 | 1085 | 16 | 147 | 5 | 392 |
| Geometry Grp | 7 | 7 | 2 | 2 | 7 | 7 |
| Degree of Util (X) | 0.018 | 1.62 | 0.03 | 0.273 | 0.009 | 0.63 |
| Departure Headway (Hd) | 6.051 | 5.376 | 7.955 | 7.791 | 6.88 | 6.36 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 588 | 673 | 453 | 464 | 523 | 573 |
| Service Time | 3.819 | 3.142 | 5.955 | 5.791 | 4.58 | 4.06 |
| HCM Lane V/C Ratio | 0.019 | 1.612 | 0.035 | 0.317 | 0.01 | 0.684 |
| HCM Control Delay | 8.9 | 300.7 | 11.2 | 13.7 | 9.6 | 19.3 |
| HCM Lane LOS | A | F | B | B | A | C |
| HCM 95th-tile Q | 0.1 | 58.2 | 0.1 | 1.1 | 0 | 4.4 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 15 | 35 | 85 | 35 | 10 | 10 | 85 | 779 | 45 | 5 | 439 | 10 |
| Future Volume (vph) | 15 | 35 | 85 | 35 | 10 | 10 | 85 | 779 | 45 | 5 | 439 | 10 |
| Confl. Peds. (#/hr) | 4 | | 6 | 6 | | 4 | 8 | | | | | 8 |
| Confl. Bikes (#/hr) | | | 5 | | | 4 | | | 4 | | | 5 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Perm | NA | | Perm | NA | | Prot | NA | | Prot | NA | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 26.5 | 26.5 | | 26.5 | 26.5 | | 11.5 | 22.5 | | 11.5 | 22.5 | |
| Total Split (s) | 34.0 | 34.0 | | 34.0 | 34.0 | | 24.0 | 52.0 | | 14.0 | 42.0 | |
| Total Split (%) | 34.0% | 34.0% | | 34.0% | 34.0% | | 24.0% | 52.0% | | 14.0% | 42.0% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | | | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lead | | Lag | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 43.1 |
| Natural Cycle: 65 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 5: Magnolia Avenue & Woodglen Vista Drive/Len Street








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 15 | 35 | 85 | 35 | 10 | 10 | 85 | 779 | 45 | 5 | 439 | 10 |
| Future Volume (veh/h) | 15 | 35 | 85 | 35 | 10 | 10 | 85 | 779 | 45 | 5 | 439 | 10 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 0.99 | | 0.97 | 0.99 | | 0.97 | 1.00 | | 0.97 | 1.00 | | 0.96 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 16 | 38 | 92 | 38 | 11 | 11 | 92 | 847 | 49 | 5 | 477 | 11 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 496 | 93 | 224 | 272 | 77 | 42 | 208 | 1441 | 83 | 17 | 1120 | 26 |
| Arrive On Green | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.12 | 0.42 | 0.42 | 0.01 | 0.32 | 0.32 |
| Sat Flow, veh/h | 1379 | 475 | 1151 | 562 | 397 | 215 | 1781 | 3407 | 197 | 1781 | 3547 | 82 |
| Grp Volume(v), veh/h | 16 | 0 | 130 | 60 | 0 | 0 | 92 | 442 | 454 | 5 | 239 | 249 |
| Grp Sat Flow(s),veh/h/ln | 1379 | 0 | 1626 | 1174 | 0 | 0 | 1781 | 1777 | 1827 | 1781 | 1777 | 1852 |
| Q Serve(g_s), s | 0.0 | 0.0 | 2.5 | 0.1 | 0.0 | 0.0 | 1.7 | 6.9 | 6.9 | 0.1 | 3.8 | 3.9 |
| Cycle Q Clear(g_c), s | 0.3 | 0.0 | 2.5 | 2.6 | 0.0 | 0.0 | 1.7 | 6.9 | 6.9 | 0.1 | 3.8 | 3.9 |
| Prop In Lane | 1.00 | | 0.71 | 0.63 | | 0.18 | 1.00 | | 0.11 | 1.00 | | 0.04 |
| Lane Grp Cap(c), veh/h | 496 | 0 | 317 | 391 | 0 | 0 | 208 | 752 | 773 | 17 | 561 | 585 |
| V/C Ratio(X) | 0.03 | 0.00 | 0.41 | 0.15 | 0.00 | 0.00 | 0.44 | 0.59 | 0.59 | 0.30 | 0.43 | 0.43 |
| Avail Cap(c_a), veh/h | 1349 | 0 | 1323 | 1248 | 0 | 0 | 958 | 2329 | 2394 | 467 | 1838 | 1916 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 11.8 | 0.0 | 12.8 | 12.2 | 0.0 | 0.0 | 14.9 | 8.0 | 8.0 | 17.8 | 9.8 | 9.8 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 0.8 | 0.2 | 0.0 | 0.0 | 1.5 | 0.7 | 0.7 | 9.4 | 0.5 | 0.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.1 | 0.0 | 0.8 | 0.4 | 0.0 | 0.0 | 0.6 | 1.6 | 1.6 | 0.1 | 1.0 | 1.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 11.9 | 0.0 | 13.6 | 12.4 | 0.0 | 0.0 | 16.4 | 8.8 | 8.7 | 27.2 | 10.3 | 10.3 |
| LnGrp LOS | B | A | B | B | A | A | B | A | A | C | B | B |
| Approach Vol, veh/h | | 146 | | | 60 | | | 988 | | | 493 | |
| Approach Delay, s/veh | | 13.4 | | | 12.4 | | | 9.5 | | | 10.5 | |
| Approach LOS | | B | | | B | | | A | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 4.8 | 19.8 | | 11.6 | 8.7 | 15.9 | | 11.6 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 9.5 | 47.5 | | 29.5 | 19.5 | 37.5 | | 29.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.1 | 8.9 | | 4.5 | 3.7 | 5.9 | | 4.6 | | | | |
| Green Ext Time (p_c), s | 0.0 | 6.2 | | 0.8 | 0.2 | 2.8 | | 0.3 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 10.2 | |
| HCM 6th LOS | B | |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 66.6 |
| Intersection LOS | F |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 5 | 5 | 5 | 105 | 10 | 5 | 15 | 993 | 110 | 5 | 481 | 0 |
| Future Vol, veh/h | 5 | 5 | 5 | 105 | 10 | 5 | 15 | 993 | 110 | 5 | 481 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 5 | 5 | 5 | 114 | 11 | 5 | 16 | 1079 | 120 | 5 | 523 | 0 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay | 12.1 | 14.2 | 398.4 | 33.5 |
| HCM LOS | B | B | F | D |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 33% | 88% | 100% | 0% |
| Vol Thru, % | 0% | 90% | 33% | 8% | 0% | 100% |
| Vol Right, % | 0% | 10% | 33% | 4% | 0% | 0% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 15 | 1103 | 15 | 120 | 5 | 481 |
| LT Vol | 15 | 0 | 5 | 105 | 5 | 0 |
| Through Vol | 0 | 993 | 5 | 10 | 0 | 481 |
| RT Vol | 0 | 110 | 5 | 5 | 0 | 0 |
| Lane Flow Rate | 16 | 1199 | 16 | 130 | 5 | 523 |
| Geometry Grp | 7 | 7 | 2 | 2 | 7 | 7 |
| Degree of Util (X) | 0.028 | 1.852 | 0.033 | 0.253 | 0.009 | 0.833 |
| Departure Headway (Hd) | 6.138 | 5.562 | 8.838 | 8.366 | 7.01 | 6.499 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 578 | 659 | 408 | 432 | 514 | 559 |
| Service Time | 3.928 | 3.351 | 6.838 | 6.366 | 4.71 | 4.199 |
| HCM Lane V/C Ratio | 0.028 | 1.819 | 0.039 | 0.301 | 0.01 | 0.936 |
| HCM Control Delay | 9.1 | 403.7 | 12.1 | 14.2 | 9.8 | 33.7 |
| HCM Lane LOS | A | F | B | B | A | D |
| HCM 95th-tile Q | 0.1 | 73.8 | 0.1 | 1 | 0 | 8.6 |

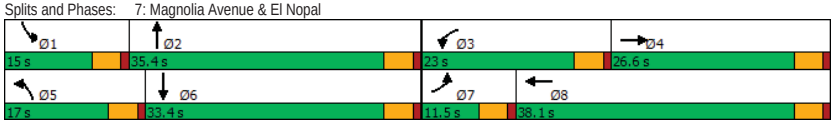




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 10 | 75 | 65 | 210 | 110 | 241 | 95 | 663 | 205 | 143 | 466 | 10 |
| Future Volume (vph) | 10 | 75 | 65 | 210 | 110 | 241 | 95 | 663 | 205 | 143 | 466 | 10 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | 1 | | | 1 | | | 3 | | | 5 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | | Prot | NA | |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 11.5 | 26.5 | | 11.5 | 25.5 | | 11.5 | 22.5 | | 11.5 | 22.5 | |
| Total Split (s) | 11.5 | 26.6 | | 23.0 | 38.1 | | 17.0 | 35.4 | | 15.0 | 33.4 | |
| Total Split (%) | 11.5% | 26.6% | | 23.0% | 38.1% | | 17.0% | 35.4% | | 15.0% | 33.4% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 83.8 |
| Natural Cycle: 90 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 7: Magnolia Avenue & El Nopal



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 10 | 75 | 65 | 210 | 110 | 241 | 95 | 663 | 205 | 143 | 466 | 10 |
| Future Volume (veh/h) | 10 | 75 | 65 | 210 | 110 | 241 | 95 | 663 | 205 | 143 | 466 | 10 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 11 | 82 | 71 | 228 | 120 | 262 | 103 | 721 | 223 | 155 | 507 | 11 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 34 | 131 | 113 | 278 | 145 | 316 | 153 | 898 | 278 | 194 | 1283 | 28 |
| Arrive On Green | 0.02 | 0.14 | 0.14 | 0.16 | 0.28 | 0.28 | 0.09 | 0.34 | 0.34 | 0.11 | 0.36 | 0.36 |
| Sat Flow, veh/h | 1781 | 919 | 796 | 1781 | 518 | 1131 | 1781 | 2655 | 821 | 1781 | 3554 | 77 |
| Grp Volume(v), veh/h | 11 | 0 | 153 | 228 | 0 | 382 | 103 | 482 | 462 | 155 | 253 | 265 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1714 | 1781 | 0 | 1649 | 1781 | 1777 | 1699 | 1781 | 1777 | 1854 |
| Q Serve(g_s), s | 0.4 | 0.0 | 5.9 | 8.8 | 0.0 | 15.4 | 4.0 | 17.5 | 17.5 | 6.0 | 7.5 | 7.5 |
| Cycle Q Clear(g_c), s | 0.4 | 0.0 | 5.9 | 8.8 | 0.0 | 15.4 | 4.0 | 17.5 | 17.5 | 6.0 | 7.5 | 7.5 |
| Prop In Lane | 1.00 | | 0.46 | 1.00 | | 0.69 | 1.00 | | 0.48 | 1.00 | | 0.04 |
| Lane Grp Cap(c), veh/h | 34 | 0 | 244 | 278 | 0 | 461 | 153 | 601 | 574 | 194 | 642 | 670 |
| V/C Ratio(X) | 0.32 | 0.00 | 0.63 | 0.82 | 0.00 | 0.83 | 0.67 | 0.80 | 0.80 | 0.80 | 0.39 | 0.40 |
| Avail Cap(c_a), veh/h | 176 | 0 | 535 | 466 | 0 | 783 | 315 | 776 | 742 | 264 | 726 | 757 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 34.2 | 0.0 | 28.6 | 28.9 | 0.0 | 23.9 | 31.4 | 21.3 | 21.3 | 30.8 | 16.8 | 16.8 |
| Incr Delay (d2), s/veh | 5.3 | 0.0 | 2.6 | 6.0 | 0.0 | 3.9 | 5.1 | 4.7 | 4.9 | 11.5 | 0.4 | 0.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.2 | 0.0 | 2.6 | 4.1 | 0.0 | 6.2 | 1.8 | 7.2 | 6.9 | 3.0 | 2.8 | 2.9 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 39.5 | 0.0 | 31.2 | 34.9 | 0.0 | 27.8 | 36.4 | 26.0 | 26.2 | 42.2 | 17.2 | 17.2 |
| LnGrp LOS | D | A | C | C | A | C | D | C | C | D | B | B |
| Approach Vol, veh/h | | 164 | | | 610 | | | 1047 | | | 673 | |
| Approach Delay, s/veh | | 31.7 | | | 30.4 | | | 27.1 | | | 23.0 | |
| Approach LOS | | C | | | C | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 12.2 | 28.4 | 15.5 | 14.6 | 10.6 | 30.1 | 5.9 | 24.3 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 10.5 | 30.9 | 18.5 | 22.1 | 12.5 | 28.9 | 7.0 | 33.6 |
| Max Q Clear Time (g_c+I1), s | 8.0 | 19.5 | 10.8 | 7.9 | 6.0 | 9.5 | 2.4 | 17.4 |
| Green Ext Time (p_c), s | 0.1 | 4.5 | 0.4 | 0.7 | 0.1 | 2.7 | 0.0 | 2.4 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 27.1 |
| HCM 6th LOS | C |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 46.8 |
| Intersection LOS | E |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 333 | 25 | 170 | 466 | 10 | 220 |
| Future Vol, veh/h | 333 | 25 | 170 | 466 | 10 | 220 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 362 | 27 | 185 | 507 | 11 | 239 |
| Number of Lanes | 1 | 1 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB |
|---|---|---|---|
| Opposing Approach | WB | EB | |
| Opposing Lanes | 1 | 2 | 0 |
| Conflicting Approach Left | | NB | EB |
| Conflicting Lanes Left | 0 | 1 | 2 |
| Conflicting Approach Right | NB | | WB |
| Conflicting Lanes Right | 1 | 0 | 1 |
| HCM Control Delay | 17.7 | 75.2 | 13.5 |
| HCM LOS | C | F | B |

| Lane | NBLn1 | EBLn1 | EBLn2 | WBLn1 |
|---|---|---|---|---|
| Vol Left, % | 4% | 0% | 0% | 27% |
| Vol Thru, % | 0% | 100% | 0% | 73% |
| Vol Right, % | 96% | 0% | 100% | 0% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 230 | 333 | 25 | 636 |
| LT Vol | 10 | 0 | 0 | 170 |
| Through Vol | 0 | 333 | 0 | 466 |
| RT Vol | 220 | 0 | 25 | 0 |
| Lane Flow Rate | 250 | 362 | 27 | 691 |
| Geometry Grp | 2 | 7 | 7 | 5 |
| Degree of Util (X) | 0.417 | 0.613 | 0.041 | 1.06 |
| Departure Headway (Hd) | 6.191 | 6.254 | 5.541 | 5.522 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 585 | 583 | 650 | 657 |
| Service Time | 4.191 | 3.954 | 3.241 | 3.551 |
| HCM Lane V/C Ratio | 0.427 | 0.621 | 0.042 | 1.052 |
| HCM Control Delay | 13.5 | 18.4 | 8.5 | 75.2 |
| HCM Lane LOS | B | C | A | F |
| HCM 95th-tile Q | 2 | 4.1 | 0.1 | 18.7 |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 161.9 |
| Intersection LOS | F |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 53 | 79 | 892 | 93 | 35 | 452 |
| Future Vol, veh/h | 53 | 79 | 892 | 93 | 35 | 452 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 58 | 86 | 970 | 101 | 38 | 491 |
| Number of Lanes | 1 | 0 | 1 | 0 | 0 | 1 |

| Approach | WB | NB | SB |
|---|---|---|---|
| Opposing Approach | | SB | NB |
| Opposing Lanes | 0 | 1 | 1 |
| Conflicting Approach Left | NB | | WB |
| Conflicting Lanes Left | 1 | 0 | 1 |
| Conflicting Approach Right | SB | WB | |
| Conflicting Lanes Right | 1 | 1 | 0 |
| HCM Control Delay | 12.8 | 248.9 | 26.5 |
| HCM LOS | B | F | D |

| Lane | NBLn1 | WBLn1 | SBLn1 |
|---|---|---|---|
| Vol Left, % | 0% | 40% | 7% |
| Vol Thru, % | 91% | 0% | 93% |
| Vol Right, % | 9% | 60% | 0% |
| Sign Control | Stop | Stop | Stop |
| Traffic Vol by Lane | 985 | 132 | 487 |
| LT Vol | 0 | 53 | 35 |
| Through Vol | 892 | 0 | 452 |
| RT Vol | 93 | 79 | 0 |
| Lane Flow Rate | 1071 | 143 | 529 |
| Geometry Grp | 1 | 1 | 1 |
| Degree of Util (X) | 1.503 | 0.257 | 0.78 |
| Departure Headway (Hd) | 5.053 | 7.304 | 5.872 |
| Convergence, Y/N | Yes | Yes | Yes |
| Cap | 717 | 495 | 619 |
| Service Time | 3.119 | 5.304 | 3.872 |
| HCM Lane V/C Ratio | 1.494 | 0.289 | 0.855 |
| HCM Control Delay | 248.9 | 12.8 | 26.5 |
| HCM Lane LOS | F | B | D |
| HCM 95th-tile Q | 51.9 | 1 | 7.4 |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 10.5 |
| Intersection LOS | B |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 5 | 15 | 193 | 15 | 10 | 5 | 217 | 63 | 25 | 5 | 42 | 5 |
| Future Vol, veh/h | 5 | 15 | 193 | 15 | 10 | 5 | 217 | 63 | 25 | 5 | 42 | 5 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 5 | 16 | 210 | 16 | 11 | 5 | 236 | 68 | 27 | 5 | 46 | 5 |
| Number of Lanes | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 2 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 2 | 2 | 3 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 3 | 2 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 3 | 2 | 1 | 2 |
| HCM Control Delay | 9.8 | 9.5 | 11.2 | 9.3 |
| HCM LOS | A | A | B | A |

| Lane | NBLn1 | NBLn2 | NBLn3 | EBLn1 | EBLn2 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 25% | 0% | 50% | 100% | 0% |
| Vol Thru, % | 0% | 100% | 46% | 75% | 0% | 33% | 0% | 89% |
| Vol Right, % | 0% | 0% | 54% | 0% | 100% | 17% | 0% | 11% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 217 | 42 | 46 | 20 | 193 | 30 | 5 | 47 |
| LT Vol | 217 | 0 | 0 | 5 | 0 | 15 | 5 | 0 |
| Through Vol | 0 | 42 | 21 | 15 | 0 | 10 | 0 | 42 |
| RT Vol | 0 | 0 | 25 | 0 | 193 | 5 | 0 | 5 |
| Lane Flow Rate | 236 | 46 | 50 | 22 | 210 | 33 | 5 | 51 |
| Geometry Grp | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| Degree of Util (X) | 0.387 | 0.068 | 0.07 | 0.035 | 0.293 | 0.058 | 0.01 | 0.086 |
| Departure Headway (Hd) | 5.901 | 5.398 | 5.015 | 5.854 | 5.027 | 6.355 | 6.615 | 6.034 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 604 | 656 | 706 | 608 | 709 | 567 | 544 | 597 |
| Service Time | 3.694 | 3.191 | 2.808 | 3.629 | 2.802 | 4.059 | 4.317 | 3.736 |
| HCM Lane V/C Ratio | 0.391 | 0.07 | 0.071 | 0.036 | 0.296 | 0.058 | 0.009 | 0.085 |
| HCM Control Delay | 12.4 | 8.6 | 8.2 | 8.8 | 9.9 | 9.5 | 9.4 | 9.3 |
| HCM Lane LOS | B | A | A | A | A | A | A | A |
| HCM 95th-tile Q | 1.8 | 0.2 | 0.2 | 0.1 | 1.2 | 0.2 | 0 | 0.3 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 5.1 |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 10 | 35 | 40 | 35 | 0 | 15 |
| Future Vol, veh/h | 10 | 35 | 40 | 35 | 0 | 15 |
| Conflicting Peds, #/hr | 4 | 1 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | 150 | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 11 | 38 | 43 | 38 | 0 | 16 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 136 | 9 | 16 | 0 | - | 0 |
| Stage 1 | 8 | - | - | - | - | - |
| Stage 2 | 128 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | 4.12 | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | 2.218 | - | - | - |
| Pot Cap-1 Maneuver | 857 | 1073 | 1602 | - | - | - |
| Stage 1 | 1015 | - | - | - | - | - |
| Stage 2 | 898 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 834 | 1072 | 1602 | - | - | - |
| Mov Cap-2 Maneuver | 834 | - | - | - | - | - |
| Stage 1 | 988 | - | - | - | - | - |
| Stage 2 | 898 | - | - | - | - | - |

| Approach | EB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 8.8 | 3.9 | 0 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|---|---|---|---|---|---|
| Capacity (veh/h) | 1602 | - | 1008 | - | - |
| HCM Lane V/C Ratio | 0.027 | - | 0.049 | - | - |
| HCM Control Delay (s) | 7.3 | - | 8.8 | - | - |
| HCM Lane LOS | A | - | A | - | - |
| HCM 95th %tile Q(veh) | 0.1 | - | 0.2 | - | - |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 277.7 |
| Intersection LOS | F |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 10 | 60 | 5 | 5 | 10 | 1118 | 65 | 5 | 566 | 5 |
| Future Vol, veh/h | 0 | 0 | 10 | 60 | 5 | 5 | 10 | 1118 | 65 | 5 | 566 | 5 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 11 | 65 | 5 | 5 | 11 | 1215 | 71 | 5 | 615 | 5 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 3 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 3 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 3 | 2 | 1 | 1 |
| HCM Control Delay | 11.6 | 14 | 380.1 | 102.4 |
| HCM LOS | B | B | F | F |

| Lane | NBLn1 | NBLn2 | NBLn3 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 0% | 86% | 100% | 0% |
| Vol Thru, % | 0% | 100% | 0% | 0% | 7% | 0% | 99% |
| Vol Right, % | 0% | 0% | 100% | 100% | 7% | 0% | 1% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 10 | 1118 | 65 | 10 | 70 | 5 | 571 |
| LT Vol | 10 | 0 | 0 | 0 | 60 | 5 | 0 |
| Through Vol | 0 | 1118 | 0 | 0 | 5 | 0 | 566 |
| RT Vol | 0 | 0 | 65 | 10 | 5 | 0 | 5 |
| Lane Flow Rate | 11 | 1215 | 71 | 11 | 76 | 5 | 621 |
| Geometry Grp | 7 | 7 | 7 | 7 | 7 | 8 | 8 |
| Degree of Util (X) | 0.018 | 1.855 | 0.094 | 0.022 | 0.17 | 0.011 | 1.113 |
| Departure Headway (Hd) | 6.175 | 5.669 | 4.96 | 8.668 | 9.359 | 8.269 | 7.757 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 583 | 656 | 727 | 415 | 386 | 435 | 472 |
| Service Time | 3.875 | 3.369 | 2.66 | 6.368 | 7.059 | 5.969 | 5.457 |
| HCM Lane V/C Ratio | 0.019 | 1.852 | 0.098 | 0.027 | 0.197 | 0.011 | 1.316 |
| HCM Control Delay | 9 | 405 | 8.2 | 11.6 | 14 | 11.1 | 103.2 |
| HCM Lane LOS | A | F | A | B | B | B | F |
| HCM 95th-tile Q | 0.1 | 73.9 | 0.3 | 0.1 | 0.6 | 0 | 17.6 |

| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 100 | 20 | 1024 | 165 | 30 | 806 |
| Future Volume (vph) | 100 | 20 | 1024 | 165 | 30 | 806 |
| Confl. Peds. (#/hr) | | 8 | | 6 | | |
| Confl. Bikes (#/hr) | | | | 5 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | 0% | | | 0% |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | NA | | Prot | NA |
| Protected Phases | 8 | | 2 | | 1 | 6 |
| Permitted Phases | | 8 | | | | |
| Detector Phase | 8 | 8 | 2 | | 1 | 6 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | | 8.5 | 20.5 |
| Total Split (s) | 22.6 | 22.6 | 28.8 | | 8.6 | 37.4 |
| Total Split (%) | 37.7% | 37.7% | 48.0% | | 14.3% | 62.3% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Lead/Lag | | | Lag | | Lead | |
| Lead-Lag Optimize? | | | Yes | | Yes | |
| Recall Mode | None | None | Min | | None | Min |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 49.2 |
| Natural Cycle: 60 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 13: Magnolia Avenue & 2nd Street

Year 2035 + Proj PM (No School)
13: Magnolia Avenue & 2nd Street
Fanita Ranch
06/06/2019

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 100 | 20 | 1024 | 165 | 30 | 806 |
| Future Volume (veh/h) | 100 | 20 | 1024 | 165 | 30 | 806 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | | 0.97 | 1.00 | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | No | | | No |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 109 | 22 | 1113 | 179 | 33 | 876 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 159 | 141 | 1560 | 250 | 55 | 2363 |
| Arrive On Green | 0.09 | 0.09 | 0.51 | 0.51 | 0.03 | 0.67 |
| Sat Flow, veh/h | 1781 | 1585 | 3146 | 489 | 1781 | 3647 |
| Grp Volume(v), veh/h | 109 | 22 | 646 | 646 | 33 | 876 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 1777 | 1765 | 1781 | 1777 |
| Q Serve(g_s), s | 2.2 | 0.5 | 10.2 | 10.3 | 0.7 | 4.0 |
| Cycle Q Clear(g_c), s | 2.2 | 0.5 | 10.2 | 10.3 | 0.7 | 4.0 |
| Prop In Lane | 1.00 | 1.00 | | 0.28 | 1.00 | |
| Lane Grp Cap(c), veh/h | 159 | 141 | 908 | 902 | 55 | 2363 |
| V/C Ratio(X) | 0.69 | 0.16 | 0.71 | 0.72 | 0.59 | 0.37 |
| Avail Cap(c_a), veh/h | 880 | 783 | 1179 | 1171 | 199 | 3192 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 16.2 | 15.4 | 6.9 | 6.9 | 17.5 | 2.7 |
| Incr Delay (d2), s/veh | 5.2 | 0.5 | 1.4 | 1.5 | 9.8 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.0 | 0.2 | 2.0 | 2.0 | 0.4 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 21.3 | 15.9 | 8.3 | 8.4 | 27.3 | 2.8 |
| LnGrp LOS | C | B | A | A | C | A |
| Approach Vol, veh/h | 131 | | 1292 | | | 909 |
| Approach Delay, s/veh | 20.4 | | 8.3 | | | 3.7 |
| Approach LOS | C | | A | | | A |

| Timer - Assigned Phs | 1 | 2 | | | 6 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.6 | 23.2 | | | 28.9 | 7.8 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 4.1 | 24.3 | | | 32.9 | 18.1 |
| Max Q Clear Time (g_c+I1), s | 2.7 | 12.3 | | | 6.0 | 4.2 |
| Green Ext Time (p_c), s | 0.0 | 6.4 | | | 6.4 | 0.3 |

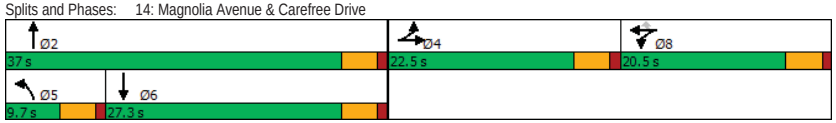
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 7.2 | |
| HCM 6th LOS | A | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 26 | 0 | 70 | 5 | 0 | 0 | 80 | 1162 | 0 | 0 | 883 | 18 |
| Future Volume (vph) | 26 | 0 | 70 | 5 | 0 | 0 | 80 | 1162 | 0 | 0 | 883 | 18 |
| Confl. Peds. (#/hr) | | | 22 | | | | | | 8 | | | 12 |
| Confl. Bikes (#/hr) | | | 4 | | | | | | | | | 6 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | 50% | | | | | | | | |
| Turn Type | Split | NA | | Split | NA | Perm | Prot | NA | | | NA | |
| Protected Phases | 4 | 4 | | 8 | 8 | | 5 | 2 | | | 6 | |
| Permitted Phases | | | | | | 8 | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | 8 | 5 | 2 | | | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | | 4.0 | |
| Minimum Split (s) | 22.5 | 22.5 | | 20.5 | 20.5 | 20.5 | 8.5 | 22.5 | | | 22.5 | |
| Total Split (s) | 22.5 | 22.5 | | 20.5 | 20.5 | 20.5 | 9.7 | 37.0 | | | 27.3 | |
| Total Split (%) | 28.1% | 28.1% | | 25.6% | 25.6% | 25.6% | 12.1% | 46.3% | | | 34.1% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | 0.0 | |
| Total Lost Time (s) | | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | | 4.5 | |
| Lead/Lag | | | | | | | Lead | | | | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | | | | Yes | |
| Recall Mode | None | None | | None | None | None | None | Min | | | Min | |

**Intersection Summary**

Cycle Length: 80
Actuated Cycle Length: 49.2
Natural Cycle: 80
Control Type: Semi Act-Uncoord

Splits and Phases: 14: Magnolia Avenue & Carefree Drive








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 26 | 0 | 70 | 5 | 0 | 0 | 80 | 1162 | 0 | 0 | 883 | 18 |
| Future Volume (veh/h) | 26 | 0 | 70 | 5 | 0 | 0 | 80 | 1162 | 0 | 0 | 883 | 18 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.93 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.96 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 0 | 0 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 28 | 0 | 76 | 5 | 0 | 0 | 87 | 1263 | 0 | 0 | 960 | 20 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 0 | 0 | 2 | 2 |
| Cap, veh/h | 53 | 0 | 143 | 19 | 0 | 9 | 109 | 1955 | 0 | 0 | 1362 | 28 |
| Arrive On Green | 0.13 | 0.00 | 0.13 | 0.01 | 0.00 | 0.00 | 0.06 | 0.55 | 0.00 | 0.00 | 0.38 | 0.38 |
| Sat Flow, veh/h | 416 | 0 | 1130 | 3563 | 0 | 1585 | 1781 | 3647 | 0 | 0 | 3650 | 74 |
| Grp Volume(v), veh/h | 104 | 0 | 0 | 5 | 0 | 0 | 87 | 1263 | 0 | 0 | 480 | 500 |
| Grp Sat Flow(s),veh/h/ln | 1547 | 0 | 0 | 1781 | 0 | 1585 | 1781 | 1777 | 0 | 0 | 1777 | 1853 |
| Q Serve(g_s), s | 2.7 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 2.0 | 10.5 | 0.0 | 0.0 | 9.7 | 9.7 |
| Cycle Q Clear(g_c), s | 2.7 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 2.0 | 10.5 | 0.0 | 0.0 | 9.7 | 9.7 |
| Prop In Lane | 0.27 | | 0.73 | 1.00 | | 1.00 | 1.00 | | 0.00 | 0.00 | | 0.04 |
| Lane Grp Cap(c), veh/h | 196 | 0 | 0 | 19 | 0 | 9 | 109 | 1955 | 0 | 0 | 680 | 710 |
| V/C Ratio(X) | 0.53 | 0.00 | 0.00 | 0.26 | 0.00 | 0.00 | 0.80 | 0.65 | 0.00 | 0.00 | 0.71 | 0.71 |
| Avail Cap(c_a), veh/h | 655 | 0 | 0 | 1342 | 0 | 597 | 218 | 2719 | 0 | 0 | 954 | 995 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 17.4 | 0.0 | 0.0 | 21.0 | 0.0 | 0.0 | 19.7 | 6.7 | 0.0 | 0.0 | 11.1 | 11.1 |
| Incr Delay (d2), s/veh | 2.2 | 0.0 | 0.0 | 7.0 | 0.0 | 0.0 | 12.2 | 0.4 | 0.0 | 0.0 | 1.4 | 1.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.1 | 2.0 | 0.0 | 0.0 | 2.9 | 3.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 19.6 | 0.0 | 0.0 | 28.0 | 0.0 | 0.0 | 31.9 | 7.0 | 0.0 | 0.0 | 12.5 | 12.4 |
| LnGrp LOS | B | A | A | C | A | A | C | A | A | A | B | B |
| Approach Vol, veh/h | | 104 | | | 5 | | | 1350 | | | 980 | |
| Approach Delay, s/veh | | 19.6 | | | 28.0 | | | 8.6 | | | 12.4 | |
| Approach LOS | | B | | | C | | | A | | | B | |

| Timer - Assigned Phs | 2 | 4 | 5 | 6 | 8 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 27.9 | 9.9 | 7.1 | 20.8 | 4.7 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 32.5 | 18.0 | 5.2 | 22.8 | 16.0 |
| Max Q Clear Time (g_c+I1), s | 12.5 | 4.7 | 4.0 | 11.7 | 2.1 |
| Green Ext Time (p_c), s | 8.9 | 0.4 | 0.0 | 4.4 | 0.0 |

**Intersection Summary**

| | |
|---|---|
| HCM 6th Ctrl Delay | 10.7 |
| HCM 6th LOS | B |

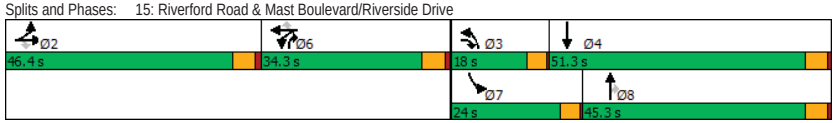
**Notes**

User approved volume balancing among the lanes for turning movement.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 30 | 20 | 80 | 660 | 90 | 413 | 160 | 363 | 590 | 266 | 267 | 50 |
| Future Volume (vph) | 30 | 20 | 80 | 660 | 90 | 413 | 160 | 363 | 590 | 266 | 267 | 50 |
| Confl. Peds. (#/hr) | | | | | | | | | 4 | | | |
| Confl. Bikes (#/hr) | | | 3 | | | 1 | | | 3 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Split | NA | pm+ov | Split | NA | Perm | Prot | NA | pm+ov | Prot | NA | |
| Protected Phases | 2 | 2 | 3 | 6 | 6 | | 3 | 8 | 6 | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | 8 | | | |
| Detector Phase | 2 | 2 | 3 | 6 | 6 | 6 | 3 | 8 | 6 | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 6.0 | 6.0 | 5.0 | 4.0 | 4.0 | 4.0 | 5.0 | 6.0 | 4.0 | 4.0 | 6.0 | |
| Minimum Split (s) | 45.3 | 45.3 | 9.1 | 34.3 | 34.3 | 34.3 | 9.1 | 45.3 | 34.3 | 8.6 | 49.9 | |
| Total Split (s) | 46.4 | 46.4 | 18.0 | 34.3 | 34.3 | 34.3 | 18.0 | 45.3 | 34.3 | 24.0 | 51.3 | |
| Total Split (%) | 30.9% | 30.9% | 12.0% | 22.9% | 22.9% | 22.9% | 12.0% | 30.2% | 22.9% | 16.0% | 34.2% | |
| Yellow Time (s) | 4.3 | 4.3 | 3.6 | 4.3 | 4.3 | 4.3 | 3.6 | 3.9 | 4.3 | 3.6 | 3.9 | |
| All-Red Time (s) | 1.0 | 1.0 | 0.5 | 1.0 | 1.0 | 1.0 | 0.5 | 1.0 | 1.0 | 0.5 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 5.3 | 5.3 | 4.1 | 5.3 | 5.3 | 5.3 | 4.1 | 4.9 | 5.3 | 4.1 | 4.9 | |
| Lead/Lag | | | Lead | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | Yes | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | None | None | None | None | None | Min | None | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 150 |
| Actuated Cycle Length: 107.8 |
| Natural Cycle: 150 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 15: Riverford Road & Mast Boulevard/Riverside Drive








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 30 | 20 | 80 | 660 | 90 | 413 | 160 | 363 | 590 | 266 | 267 | 50 |
| Future Volume (veh/h) | 30 | 20 | 80 | 660 | 90 | 413 | 160 | 363 | 590 | 266 | 267 | 50 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.96 | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 33 | 22 | 87 | 717 | 98 | 449 | 174 | 395 | 641 | 289 | 290 | 54 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 95 | 190 | 461 | 903 | 929 | 405 | 203 | 619 | 930 | 316 | 604 | 112 |
| Arrive On Green | 0.05 | 0.05 | 0.05 | 0.26 | 0.26 | 0.26 | 0.11 | 0.33 | 0.33 | 0.18 | 0.39 | 0.39 |
| Sat Flow, veh/h | 1781 | 3554 | 2677 | 3456 | 3554 | 1551 | 1781 | 1870 | 1557 | 1781 | 1530 | 285 |
| Grp Volume(v), veh/h | 33 | 22 | 87 | 717 | 98 | 449 | 174 | 395 | 641 | 289 | 0 | 344 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1338 | 1728 | 1777 | 1551 | 1781 | 1870 | 1557 | 1781 | 0 | 1815 |
| Q Serve(g_s), s | 2.0 | 0.7 | 3.1 | 21.5 | 2.3 | 29.0 | 10.6 | 19.9 | 31.6 | 17.7 | 0.0 | 15.7 |
| Cycle Q Clear(g_c), s | 2.0 | 0.7 | 3.1 | 21.5 | 2.3 | 29.0 | 10.6 | 19.9 | 31.6 | 17.7 | 0.0 | 15.7 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.16 |
| Lane Grp Cap(c), veh/h | 95 | 190 | 461 | 903 | 929 | 405 | 203 | 619 | 930 | 316 | 0 | 716 |
| V/C Ratio(X) | 0.35 | 0.12 | 0.19 | 0.79 | 0.11 | 1.11 | 0.86 | 0.64 | 0.69 | 0.91 | 0.00 | 0.48 |
| Avail Cap(c_a), veh/h | 660 | 1316 | 1309 | 903 | 929 | 405 | 223 | 681 | 981 | 319 | 0 | 759 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 50.6 | 50.0 | 39.8 | 38.2 | 31.1 | 41.0 | 48.3 | 31.5 | 15.7 | 44.8 | 0.0 | 25.1 |
| Incr Delay (d2), s/veh | 2.2 | 0.3 | 0.2 | 4.9 | 0.0 | 77.1 | 25.1 | 1.7 | 1.9 | 29.3 | 0.0 | 0.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.9 | 0.3 | 1.0 | 9.4 | 1.0 | 19.6 | 6.1 | 9.2 | 18.4 | 10.3 | 0.0 | 6.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 52.8 | 50.3 | 40.0 | 43.1 | 31.2 | 118.0 | 73.4 | 33.2 | 17.6 | 74.1 | 0.0 | 25.6 |
| LnGrp LOS | D | D | D | D | C | F | E | C | B | E | A | C |
| Approach Vol, veh/h | | 142 | | | 1264 | | | 1210 | | | 633 | |
| Approach Delay, s/veh | | 44.5 | | | 68.8 | | | 30.7 | | | 47.7 | |
| Approach LOS | | D | | | E | | | C | | | D | |

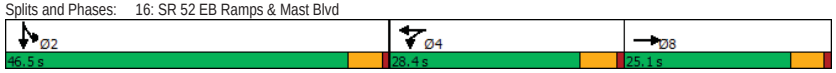
| Timer - Assigned Phs | 2 | 3 | 4 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 11.2 | 16.7 | 48.7 | 34.3 | 23.8 | 41.6 |
| Change Period (Y+Rc), s | 5.3 | 4.1 | 4.9 | 5.3 | 4.1 | 4.9 |
| Max Green Setting (Gmax), s | 41.1 | 13.9 | 46.4 | 29.0 | 19.9 | 40.4 |
| Max Q Clear Time (g_c+I1), s | 5.1 | 12.6 | 17.7 | 31.0 | 19.7 | 33.6 |
| Green Ext Time (p_c), s | 0.5 | 0.1 | 2.2 | 0.0 | 0.0 | 2.9 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 49.5 |
| HCM 6th LOS | D |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 25 | 25 | 325 | 30 | 0 | 0 | 0 | 0 | 1756 | 5 | 10 |
| Future Volume (vph) | 0 | 25 | 25 | 325 | 30 | 0 | 0 | 0 | 0 | 1756 | 5 | 10 |
| Confl. Peds. (#/hr) | | | 5 | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | 50% | | |
| Turn Type | | NA | | Split | NA | | | | | Split | NA | |
| Protected Phases | | 8 | | 4 | 4 | | | | | 2 | 2 | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | | 8 | | 4 | 4 | | | | | 2 | 2 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | 7.0 | | 8.0 | 8.0 | | | | | 5.0 | 5.0 | |
| Minimum Split (s) | | 25.1 | | 28.4 | 28.4 | | | | | 32.3 | 32.3 | |
| Total Split (s) | | 25.1 | | 28.4 | 28.4 | | | | | 46.5 | 46.5 | |
| Total Split (%) | | 25.1% | | 28.4% | 28.4% | | | | | 46.5% | 46.5% | |
| Yellow Time (s) | | 4.1 | | 4.4 | 4.4 | | | | | 4.1 | 4.1 | |
| All-Red Time (s) | | 1.0 | | 1.0 | 1.0 | | | | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | | 0.0 | 0.0 | | | | | 0.0 | 0.0 | |
| Total Lost Time (s) | | 5.1 | | 5.4 | 5.4 | | | | | 5.1 | 5.1 | |
| Lead/Lag | | | | | | | | | | | | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Recall Mode | | None | | None | None | | | | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 85.1 |
| Natural Cycle: 150 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 16: SR 52 EB Ramps & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 25 | 25 | 325 | 30 | 0 | 0 | 0 | 0 | 1756 | 5 | 10 |
| Future Volume (veh/h) | 0 | 25 | 25 | 325 | 30 | 0 | 0 | 0 | 0 | 1756 | 5 | 10 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | | | | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 1.00 | | | | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | | | | No | |
| Adj Sat Flow, veh/h/ln | 0 | 1870 | 1870 | 1870 | 1870 | 0 | | | | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 27 | 27 | 353 | 33 | 0 | | | | 1923 | 0 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 0 | 2 | 2 | 2 | 2 | 0 | | | | 2 | 2 | 2 |
| Cap, veh/h | 0 | 61 | 61 | 400 | 420 | 0 | | | | 1823 | 957 | 0 |
| Arrive On Green | 0.00 | 0.07 | 0.07 | 0.22 | 0.22 | 0.00 | | | | 0.51 | 0.00 | 0.00 |
| Sat Flow, veh/h | 0 | 850 | 850 | 1781 | 1870 | 0 | | | | 3563 | 1870 | 0 |
| Grp Volume(v), veh/h | 0 | 0 | 54 | 353 | 33 | 0 | | | | 1923 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 0 | 0 | 1700 | 1781 | 1870 | 0 | | | | 1781 | 1870 | 0 |
| Q Serve(g_s), s | 0.0 | 0.0 | 2.5 | 15.5 | 1.1 | 0.0 | | | | 41.4 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 0.0 | 0.0 | 2.5 | 15.5 | 1.1 | 0.0 | | | | 41.4 | 0.0 | 0.0 |
| Prop In Lane | 0.00 | | 0.50 | 1.00 | | 0.00 | | | | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 0 | 0 | 121 | 400 | 420 | 0 | | | | 1823 | 957 | 0 |
| V/C Ratio(X) | 0.00 | 0.00 | 0.45 | 0.88 | 0.08 | 0.00 | | | | 1.05 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 0 | 0 | 420 | 506 | 532 | 0 | | | | 1823 | 957 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.00 | | | | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 0.0 | 0.0 | 36.0 | 30.4 | 24.8 | 0.0 | | | | 19.8 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 1.0 | 14.1 | 0.1 | 0.0 | | | | 37.3 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.0 | 1.0 | 7.9 | 0.5 | 0.0 | | | | 24.6 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 0.0 | 37.0 | 44.5 | 24.9 | 0.0 | | | | 57.0 | 0.0 | 0.0 |
| LnGrp LOS | A | A | D | D | C | A | | | | F | A | A |
| Approach Vol, veh/h | | 54 | | | 386 | | | | | | 1923 | |
| Approach Delay, s/veh | | 37.0 | | | 42.8 | | | | | | 57.0 | |
| Approach LOS | | D | | | D | | | | | | E | |

| Timer - Assigned Phs | | 2 | | 4 | | | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 46.5 | | 23.5 | | | | 10.9 | | | | |
| Change Period (Y+Rc), s | | 5.1 | | 5.4 | | | | 5.1 | | | | |
| Max Green Setting (Gmax), s | | 41.4 | | 23.0 | | | | 20.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 43.4 | | 17.5 | | | | 4.5 | | | | |
| Green Ext Time (p_c), s | | 0.0 | | 0.6 | | | | 0.1 | | | | |

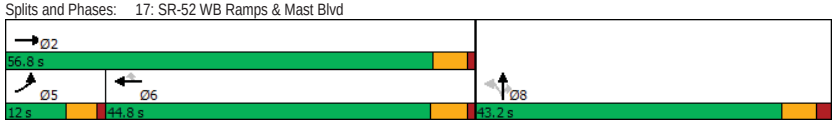
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 54.2 | |
| HCM 6th LOS | D | |

| Notes |
|---|
| User approved volume balancing among the lanes for turning movement. |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 25 | 1756 | 0 | 0 | 355 | 738 | 0 | 5 | 640 | 0 | 0 | 0 |
| Future Volume (vph) | 25 | 1756 | 0 | 0 | 355 | 738 | 0 | 5 | 640 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | | | 6 | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | 4 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | 30% | | | 50% | | | |
| Turn Type | Prot | NA | | | NA | Perm | | NA | Perm | | | |
| Protected Phases | 5 | 2 | | | 6 | | | 8 | | | | |
| Permitted Phases | | | | | | 6 | 8 | | 8 | | | |
| Detector Phase | 5 | 2 | | | 6 | 6 | 8 | 8 | 8 | | | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 10.0 | | | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | | | |
| Minimum Split (s) | 11.7 | 38.6 | | | 28.4 | 28.4 | 43.1 | 43.1 | 43.1 | | | |
| Total Split (s) | 12.0 | 56.8 | | | 44.8 | 44.8 | 43.2 | 43.2 | 43.2 | | | |
| Total Split (%) | 12.0% | 56.8% | | | 44.8% | 44.8% | 43.2% | 43.2% | 43.2% | | | |
| Yellow Time (s) | 3.7 | 4.1 | | | 4.4 | 4.4 | 4.1 | 4.1 | 4.1 | | | |
| All-Red Time (s) | 1.0 | 1.0 | | | 1.0 | 1.0 | 2.0 | 2.0 | 2.0 | | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | 0.0 | | | |
| Total Lost Time (s) | 4.7 | 5.1 | | | 5.4 | 5.4 | | 6.1 | 6.1 | | | |
| Lead/Lag | Lead | | | | Lag | Lag | | | | | | |
| Lead-Lag Optimize? | Yes | | | | Yes | Yes | | | | | | |
| Recall Mode | None | Min | | | Min | Min | None | None | None | | | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 88.6 |
| Natural Cycle: 105 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 17: SR-52 WB Ramps & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 25 | 1756 | 0 | 0 | 355 | 738 | 0 | 5 | 640 | 0 | 0 | 0 |
| Future Volume (veh/h) | 25 | 1756 | 0 | 0 | 355 | 738 | 0 | 5 | 640 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.99 | 1.00 | | 1.00 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.99 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 0 | 0 | 1870 | 1945 | 1870 | 1870 | 1870 | | | |
| Adj Flow Rate, veh/h | 27 | 1909 | 0 | 0 | 698 | 594 | 0 | 0 | 699 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | |
| Percent Heavy Veh, % | 2 | 2 | 0 | 0 | 2 | 2 | 2 | 2 | 2 | | | |
| Cap, veh/h | 70 | 2146 | 0 | 0 | 948 | 824 | 0 | 472 | 809 | | | |
| Arrive On Green | 0.04 | 0.60 | 0.00 | 0.00 | 0.51 | 0.51 | 0.00 | 0.00 | 0.26 | | | |
| Sat Flow, veh/h | 1781 | 3647 | 0 | 0 | 1870 | 1626 | 0 | 1848 | 3170 | | | |
| Grp Volume(v), veh/h | 27 | 1909 | 0 | 0 | 698 | 594 | 0 | 0 | 699 | | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 0 | 0 | 1870 | 1626 | 0 | 1848 | 1585 | | | |
| Q Serve(g_s), s | 1.2 | 37.5 | 0.0 | 0.0 | 23.9 | 23.2 | 0.0 | 0.0 | 17.2 | | | |
| Cycle Q Clear(g_c), s | 1.2 | 37.5 | 0.0 | 0.0 | 23.9 | 23.2 | 0.0 | 0.0 | 17.2 | | | |
| Prop In Lane | 1.00 | | 0.00 | 0.00 | | 1.00 | 0.00 | | 1.00 | | | |
| Lane Grp Cap(c), veh/h | 70 | 2146 | 0 | 0 | 948 | 824 | 0 | 472 | 809 | | | |
| V/C Ratio(X) | 0.39 | 0.89 | 0.00 | 0.00 | 0.74 | 0.72 | 0.00 | 0.00 | 0.86 | | | |
| Avail Cap(c_a), veh/h | 159 | 2253 | 0 | 0 | 948 | 824 | 0 | 841 | 1442 | | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | | | |
| Uniform Delay (d), s/veh | 38.2 | 13.8 | 0.0 | 0.0 | 15.8 | 15.6 | 0.0 | 0.0 | 29.0 | | | |
| Incr Delay (d2), s/veh | 1.3 | 4.7 | 0.0 | 0.0 | 3.0 | 3.1 | 0.0 | 0.0 | 1.1 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ln | 0.5 | 13.5 | 0.0 | 0.0 | 9.8 | 8.3 | 0.0 | 0.0 | 6.4 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 39.5 | 18.5 | 0.0 | 0.0 | 18.9 | 18.7 | 0.0 | 0.0 | 30.1 | | | |
| LnGrp LOS | D | B | A | A | B | B | A | A | C | | | |
| Approach Vol, veh/h | | 1936 | | | 1292 | | | 699 | | | | |
| Approach Delay, s/veh | | 18.8 | | | 18.8 | | | 30.1 | | | | |
| Approach LOS | | B | | | B | | | C | | | | |

| Timer - Assigned Phs | 2 | | | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 54.6 | | | 7.9 | 46.7 | | 26.9 | | | | |
| Change Period (Y+Rc), s | * 5.4 | | | * 4.7 | 5.4 | | 6.1 | | | | |
| Max Green Setting (Gmax), s | * 52 | | | * 7.3 | 39.4 | | 37.1 | | | | |
| Max Q Clear Time (g_c+I1), s | 39.5 | | | 3.2 | 25.9 | | 19.2 | | | | |
| Green Ext Time (p_c), s | 9.7 | | | 0.0 | 6.0 | | 1.6 | | | | |

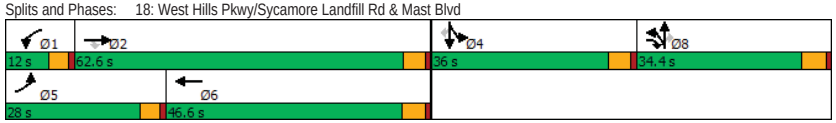
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 20.8 | |
| HCM 6th LOS | C | |

| Notes |
|---|
| User approved volume balancing among the lanes for turning movement. |
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 150 | 1726 | 520 | 216 | 703 | 80 | 280 | 45 | 513 | 75 | 10 | 110 |
| Future Volume (vph) | 150 | 1726 | 520 | 216 | 703 | 80 | 280 | 45 | 513 | 75 | 10 | 110 |
| Confl. Peds. (#/hr) | | | 12 | | | | | | | | | 4 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | 42% | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | | Split | NA | Perm | Split | NA | Perm |
| Protected Phases | 5 | 2 | 8 | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Permitted Phases | | | 2 | | | | | | 8 | | | 4 |
| Detector Phase | 5 | 2 | 8 | 1 | 6 | | 8 | 8 | 8 | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 10.0 | 10.0 | 4.0 | 10.0 | | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| Minimum Split (s) | 20.0 | 34.9 | 33.4 | 8.4 | 35.2 | | 33.4 | 33.4 | 33.4 | 34.9 | 34.9 | 34.9 |
| Total Split (s) | 28.0 | 62.6 | 34.4 | 12.0 | 46.6 | | 34.4 | 34.4 | 34.4 | 36.0 | 36.0 | 36.0 |
| Total Split (%) | 19.3% | 43.2% | 23.7% | 8.3% | 32.1% | | 23.7% | 23.7% | 23.7% | 24.8% | 24.8% | 24.8% |
| Yellow Time (s) | 3.4 | 3.9 | 4.4 | 3.4 | 4.2 | | 4.4 | 4.4 | 4.4 | 3.9 | 3.9 | 3.9 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.4 | 4.9 | 5.4 | 4.4 | 5.2 | | 5.4 | 5.4 | 5.4 | | 4.9 | 4.9 |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | Min | None | None | Min | | None | None | None | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 145 |
| Actuated Cycle Length: 128.2 |
| Natural Cycle: 145 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 18: West Hills Pkwy/Sycamore Landfill Rd & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 150 | 1726 | 520 | 216 | 703 | 80 | 280 | 45 | 513 | 75 | 10 | 110 |
| Future Volume (veh/h) | 150 | 1726 | 520 | 216 | 703 | 80 | 280 | 45 | 513 | 75 | 10 | 110 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 163 | 1876 | 565 | 235 | 764 | 87 | 339 | 0 | 511 | 82 | 11 | 120 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 190 | 1607 | 1071 | 206 | 1302 | 148 | 810 | 0 | 360 | 166 | 22 | 164 |
| Arrive On Green | 0.11 | 0.45 | 0.45 | 0.06 | 0.41 | 0.41 | 0.23 | 0.00 | 0.23 | 0.10 | 0.10 | 0.10 |
| Sat Flow, veh/h | 1781 | 3554 | 1572 | 3456 | 3215 | 366 | 3563 | 0 | 1585 | 1579 | 212 | 1567 |
| Grp Volume(v), veh/h | 163 | 1876 | 565 | 235 | 422 | 429 | 339 | 0 | 511 | 93 | 0 | 120 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1572 | 1728 | 1777 | 1804 | 1781 | 0 | 1585 | 1791 | 0 | 1567 |
| Q Serve(g_s), s | 11.5 | 57.7 | 22.9 | 7.6 | 23.6 | 23.7 | 10.4 | 0.0 | 29.0 | 6.3 | 0.0 | 9.5 |
| Cycle Q Clear(g_c), s | 11.5 | 57.7 | 22.9 | 7.6 | 23.6 | 23.7 | 10.4 | 0.0 | 29.0 | 6.3 | 0.0 | 9.5 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.20 | 1.00 | | 1.00 | 0.88 | | 1.00 |
| Lane Grp Cap(c), veh/h | 190 | 1607 | 1071 | 206 | 720 | 731 | 810 | 0 | 360 | 188 | 0 | 164 |
| V/C Ratio(X) | 0.86 | 1.17 | 0.53 | 1.14 | 0.59 | 0.59 | 0.42 | 0.00 | 1.42 | 0.49 | 0.00 | 0.73 |
| Avail Cap(c_a), veh/h | 329 | 1607 | 1071 | 206 | 720 | 731 | 810 | 0 | 360 | 437 | 0 | 382 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 56.0 | 34.9 | 10.2 | 60.0 | 29.6 | 29.6 | 42.1 | 0.0 | 49.3 | 53.9 | 0.0 | 55.3 |
| Incr Delay (d2), s/veh | 4.3 | 82.4 | 0.6 | 106.1 | 1.9 | 1.9 | 0.5 | 0.0 | 203.9 | 2.0 | 0.0 | 6.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 5.3 | 42.0 | 14.3 | 6.3 | 10.2 | 10.4 | 4.5 | 0.0 | 31.5 | 2.9 | 0.0 | 3.9 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 60.3 | 117.4 | 10.8 | 166.1 | 31.6 | 31.5 | 42.6 | 0.0 | 253.2 | 55.9 | 0.0 | 61.4 |
| LnGrp LOS | E | F | B | F | C | C | D | A | F | E | A | E |
| Approach Vol, veh/h | | 2604 | | | 1086 | | | 850 | | | 213 | |
| Approach Delay, s/veh | | 90.7 | | | 60.7 | | | 169.2 | | | 59.0 | |
| Approach LOS | | F | | | E | | | F | | | E | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 12.0 | 62.9 | | 18.3 | 18.0 | 56.9 | | 34.4 | | | | |
| Change Period (Y+Rc), s | 4.4 | * 5.2 | | 4.9 | 4.4 | 5.2 | | 5.4 | | | | |
| Max Green Setting (Gmax), s | 7.6 | * 58 | | 31.1 | 23.6 | 41.4 | | 29.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 9.6 | 59.7 | | 11.5 | 13.5 | 25.7 | | 31.0 | | | | |
| Green Ext Time (p_c), s | 0.0 | 0.0 | | 0.7 | 0.1 | 7.8 | | 0.0 | | | | |

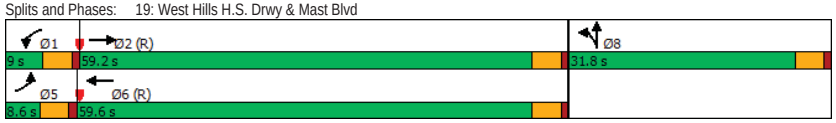
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 96.4 | |
| HCM 6th LOS | F | |

| Notes |
|---|
| User approved volume balancing among the lanes for turning movement. |
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 10 | 1929 | 25 | 50 | 759 | 0 | 50 | 0 | 120 | 0 | 0 | 0 |
| Future Volume (vph) | 10 | 1929 | 25 | 50 | 759 | 0 | 50 | 0 | 120 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | 4 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Split | NA | | | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | 8 | | | | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | | | | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | | | | |
| Minimum Split (s) | 8.5 | 22.5 | | 8.5 | 20.5 | | 31.5 | 31.5 | | | | |
| Total Split (s) | 8.6 | 59.2 | | 9.0 | 59.6 | | 31.8 | 31.8 | | | | |
| Total Split (%) | 8.6% | 59.2% | | 9.0% | 59.6% | | 31.8% | 31.8% | | | | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | | | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | | |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | | 4.5 | | | | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | | | | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 110 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 19: West Hills H.S. Drwy & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 10 | 1929 | 25 | 50 | 759 | 0 | 50 | 0 | 120 | 0 | 0 | 0 |
| Future Volume (veh/h) | 10 | 1929 | 25 | 50 | 759 | 0 | 50 | 0 | 120 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 0 | 1900 | 1870 | 1900 | | | |
| Adj Flow Rate, veh/h | 11 | 2097 | 27 | 54 | 825 | 0 | 54 | 0 | 130 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 0 | 0 | 2 | 0 | | | |
| Cap, veh/h | 19 | 2476 | 32 | 69 | 2549 | 0 | 66 | 0 | 159 | | | |
| Arrive On Green | 0.01 | 0.69 | 0.69 | 0.08 | 1.00 | 0.00 | 0.14 | 0.00 | 0.14 | | | |
| Sat Flow, veh/h | 1781 | 3593 | 46 | 1781 | 3647 | 0 | 481 | 0 | 1157 | | | |
| Grp Volume(v), veh/h | 11 | 1035 | 1089 | 54 | 825 | 0 | 184 | 0 | 0 | | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1862 | 1781 | 1777 | 0 | 1638 | 0 | 0 | | | |
| Q Serve(g_s), s | 0.6 | 43.3 | 43.8 | 3.0 | 0.0 | 0.0 | 10.9 | 0.0 | 0.0 | | | |
| Cycle Q Clear(g_c), s | 0.6 | 43.3 | 43.8 | 3.0 | 0.0 | 0.0 | 10.9 | 0.0 | 0.0 | | | |
| Prop In Lane | 1.00 | | 0.02 | 1.00 | | 0.00 | 0.29 | | 0.71 | | | |
| Lane Grp Cap(c), veh/h | 19 | 1225 | 1283 | 69 | 2549 | 0 | 224 | 0 | 0 | | | |
| V/C Ratio(X) | 0.59 | 0.84 | 0.85 | 0.78 | 0.32 | 0.00 | 0.82 | 0.00 | 0.00 | | | |
| Avail Cap(c_a), veh/h | 73 | 1225 | 1283 | 80 | 2549 | 0 | 447 | 0 | 0 | | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 0.09 | 0.09 | 0.09 | 0.90 | 0.90 | 0.00 | 1.00 | 0.00 | 0.00 | | | |
| Uniform Delay (d), s/veh | 49.3 | 11.6 | 11.6 | 45.7 | 0.0 | 0.0 | 41.9 | 0.0 | 0.0 | | | |
| Incr Delay (d2), s/veh | 2.6 | 0.7 | 0.7 | 31.5 | 0.3 | 0.0 | 7.2 | 0.0 | 0.0 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ln | 0.3 | 13.4 | 14.1 | 1.8 | 0.1 | 0.0 | 4.8 | 0.0 | 0.0 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 51.9 | 12.3 | 12.3 | 77.2 | 0.3 | 0.0 | 49.2 | 0.0 | 0.0 | | | |
| LnGrp LOS | D | B | B | E | A | A | D | A | A | | | |
| Approach Vol, veh/h | | 2135 | | | 879 | | | 184 | | | | |
| Approach Delay, s/veh | | 12.5 | | | 5.0 | | | 49.2 | | | | |
| Approach LOS | | B | | | A | | | D | | | | |

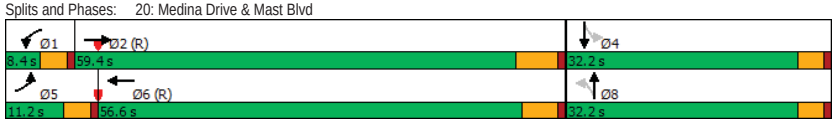
| Timer - Assigned Phs | 1 | 2 | | | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 8.4 | 73.4 | | | 5.6 | 76.2 | | 18.2 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 4.5 | 54.7 | | | 4.1 | 55.1 | | 27.3 | | | | |
| Max Q Clear Time (g_c+I1), s | 5.0 | 45.8 | | | 2.6 | 2.0 | | 12.9 | | | | |
| Green Ext Time (p_c), s | 0.0 | 7.7 | | | 0.0 | 6.5 | | 0.9 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 12.6 | |
| HCM 6th LOS | B | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 40 | 1759 | 40 | 10 | 769 | 30 | 15 | 5 | 20 | 20 | 5 | 30 |
| Future Volume (vph) | 40 | 1759 | 40 | 10 | 769 | 30 | 15 | 5 | 20 | 20 | 5 | 30 |
| Confl. Peds. (#/hr) | | | 2 | | | | | | 2 | | | |
| Confl. Bikes (#/hr) | | | 2 | | | 5 | | | 2 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Perm | NA | | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | | 4 | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 22.0 | | 8.2 | 22.0 | | 32.2 | 32.2 | | 32.2 | 32.2 | |
| Total Split (s) | 11.2 | 59.4 | | 8.4 | 56.6 | | 32.2 | 32.2 | | 32.2 | 32.2 | |
| Total Split (%) | 11.2% | 59.4% | | 8.4% | 56.6% | | 32.2% | 32.2% | | 32.2% | 32.2% | |
| Yellow Time (s) | 3.2 | 5.1 | | 3.2 | 4.3 | | 3.2 | 3.2 | | 3.2 | 3.2 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | 0.0 | |
| Total Lost Time (s) | 4.2 | 6.1 | | 4.2 | 5.3 | | | 4.2 | | | 4.2 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 100 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 20: Medina Drive & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 40 | 1759 | 40 | 10 | 769 | 30 | 15 | 5 | 20 | 20 | 5 | 30 |
| Future Volume (veh/h) | 40 | 1759 | 40 | 10 | 769 | 30 | 15 | 5 | 20 | 20 | 5 | 30 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.97 | 0.99 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 43 | 1912 | 43 | 11 | 836 | 33 | 16 | 5 | 22 | 22 | 5 | 33 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 55 | 2743 | 61 | 19 | 2619 | 103 | 78 | 28 | 60 | 80 | 21 | 63 |
| Arrive On Green | 0.06 | 1.00 | 1.00 | 0.02 | 1.00 | 1.00 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 |
| Sat Flow, veh/h | 1781 | 3551 | 80 | 1781 | 3481 | 137 | 401 | 388 | 827 | 425 | 291 | 875 |
| Grp Volume(v), veh/h | 43 | 952 | 1003 | 11 | 427 | 442 | 43 | 0 | 0 | 60 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1854 | 1781 | 1777 | 1842 | 1616 | 0 | 0 | 1591 | 0 | 0 |
| Q Serve(g_s), s | 2.4 | 0.0 | 0.0 | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 2.4 | 0.0 | 0.0 | 0.6 | 0.0 | 0.0 | 2.4 | 0.0 | 0.0 | 3.5 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | | 0.04 | 1.00 | | 0.07 | 0.37 | | 0.51 | 0.37 | | 0.55 |
| Lane Grp Cap(c), veh/h | 55 | 1373 | 1432 | 19 | 1337 | 1386 | 166 | 0 | 0 | 164 | 0 | 0 |
| V/C Ratio(X) | 0.79 | 0.69 | 0.70 | 0.59 | 0.32 | 0.32 | 0.26 | 0.00 | 0.00 | 0.37 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 125 | 1373 | 1432 | 75 | 1337 | 1386 | 478 | 0 | 0 | 480 | 0 | 0 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.26 | 0.26 | 0.26 | 0.95 | 0.95 | 0.95 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 46.6 | 0.0 | 0.0 | 48.7 | 0.0 | 0.0 | 44.2 | 0.0 | 0.0 | 44.6 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 6.5 | 0.8 | 0.8 | 9.8 | 0.6 | 0.6 | 0.3 | 0.0 | 0.0 | 0.5 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.1 | 0.3 | 0.3 | 0.3 | 0.2 | 0.2 | 1.0 | 0.0 | 0.0 | 1.5 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 53.1 | 0.8 | 0.8 | 58.6 | 0.6 | 0.6 | 44.5 | 0.0 | 0.0 | 45.1 | 0.0 | 0.0 |
| LnGrp LOS | D | A | A | E | A | A | D | A | A | D | A | A |
| Approach Vol, veh/h | | 1998 | | | 880 | | | 43 | | | 60 | |
| Approach Delay, s/veh | | 1.9 | | | 1.3 | | | 44.5 | | | 45.1 | |
| Approach LOS | | A | | | A | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.3 | 83.3 | | 11.4 | 7.3 | 81.3 | | 11.4 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 6.1 | | * 4.2 | * 4.2 | * 6.1 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | * 4.2 | 53.3 | | * 28 | * 7 | * 51 | | * 28 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.6 | 2.0 | | 5.5 | 4.4 | 2.0 | | 4.4 | | | | |
| Green Ext Time (p_c), s | 0.0 | 39.2 | | 0.2 | 0.0 | 10.9 | | 0.1 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 3.2 | |
| HCM 6th LOS | A | |

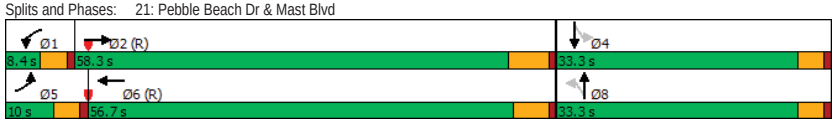
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 20 | 1729 | 20 | 10 | 749 | 70 | 20 | 5 | 15 | 80 | 0 | 30 |
| Future Volume (vph) | 20 | 1729 | 20 | 10 | 749 | 70 | 20 | 5 | 15 | 80 | 0 | 30 |
| Confl. Peds. (#/hr) | | | 9 | | | | | | 1 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Perm | NA | | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | | 4 | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 23.9 | | 8.2 | 23.3 | | 33.2 | 33.2 | | 32.2 | 32.2 | |
| Total Split (s) | 10.0 | 58.3 | | 8.4 | 56.7 | | 33.3 | 33.3 | | 33.3 | 33.3 | |
| Total Split (%) | 10.0% | 58.3% | | 8.4% | 56.7% | | 33.3% | 33.3% | | 33.3% | 33.3% | |
| Yellow Time (s) | 3.2 | 4.9 | | 3.2 | 4.3 | | 3.2 | 3.2 | | 3.2 | 3.2 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | | | 0.0 | |
| Total Lost Time (s) | 4.2 | 5.9 | | 4.2 | 5.3 | | | 4.2 | | | 4.2 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Max | | None | C-Max | | None | None | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 100 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 21: Pebble Beach Dr & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 20 | 1729 | 20 | 10 | 749 | 70 | 20 | 5 | 15 | 80 | 0 | 30 |
| Future Volume (veh/h) | 20 | 1729 | 20 | 10 | 749 | 70 | 20 | 5 | 15 | 80 | 0 | 30 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 22 | 1879 | 22 | 11 | 814 | 76 | 22 | 5 | 16 | 87 | 0 | 33 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 33 | 2681 | 31 | 19 | 2423 | 226 | 123 | 36 | 62 | 170 | 3 | 42 |
| Arrive On Green | 0.04 | 1.00 | 1.00 | 0.02 | 1.00 | 1.00 | 0.10 | 0.10 | 0.10 | 0.10 | 0.00 | 0.10 |
| Sat Flow, veh/h | 1781 | 3597 | 42 | 1781 | 3285 | 307 | 682 | 357 | 616 | 1068 | 33 | 418 |
| Grp Volume(v), veh/h | 22 | 926 | 975 | 11 | 440 | 450 | 43 | 0 | 0 | 120 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1862 | 1781 | 1777 | 1815 | 1655 | 0 | 0 | 1518 | 0 | 0 |
| Q Serve(g_s), s | 1.2 | 0.0 | 0.0 | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 5.3 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 1.2 | 0.0 | 0.0 | 0.6 | 0.0 | 0.0 | 2.3 | 0.0 | 0.0 | 7.6 | 0.0 | 0.0 |
| Prop In Lane | 1.00 | | 0.02 | 1.00 | | 0.17 | 0.51 | | 0.37 | 0.72 | | 0.27 |
| Lane Grp Cap(c), veh/h | 33 | 1324 | 1388 | 19 | 1311 | 1339 | 222 | 0 | 0 | 216 | 0 | 0 |
| V/C Ratio(X) | 0.68 | 0.70 | 0.70 | 0.59 | 0.34 | 0.34 | 0.19 | 0.00 | 0.00 | 0.56 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 103 | 1324 | 1388 | 75 | 1311 | 1339 | 505 | 0 | 0 | 488 | 0 | 0 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.66 | 0.66 | 0.66 | 0.67 | 0.67 | 0.67 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 47.9 | 0.0 | 0.0 | 48.7 | 0.0 | 0.0 | 41.4 | 0.0 | 0.0 | 43.6 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 5.8 | 2.1 | 2.0 | 7.0 | 0.5 | 0.5 | 0.2 | 0.0 | 0.0 | 0.8 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.6 | 0.8 | 0.8 | 0.3 | 0.2 | 0.2 | 1.0 | 0.0 | 0.0 | 2.9 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 53.7 | 2.1 | 2.0 | 55.8 | 0.5 | 0.5 | 41.6 | 0.0 | 0.0 | 44.5 | 0.0 | 0.0 |
| LnGrp LOS | D | A | A | E | A | A | D | A | A | D | A | A |
| Approach Vol, veh/h | | 1923 | | | 901 | | | 43 | | | 120 | |
| Approach Delay, s/veh | | 2.6 | | | 1.1 | | | 41.6 | | | 44.5 | |
| Approach LOS | | A | | | A | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.3 | 80.4 | | 14.3 | 6.0 | 79.7 | | 14.3 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 5.9 | | * 4.2 | * 4.2 | * 5.9 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | * 4.2 | 52.4 | | * 29 | * 5.8 | * 51 | | * 29 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.6 | 2.0 | | 9.6 | 3.2 | 2.0 | | 4.3 | | | | |
| Green Ext Time (p_c), s | 0.0 | 40.6 | | 0.4 | 0.0 | 15.7 | | 0.1 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 4.4 | |
| HCM 6th LOS | A | |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

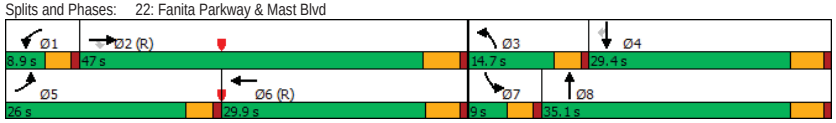
Year 2035 + Proj PM (No School) — Fanita Ranch
22: Fanita Parkway & Mast Blvd — 06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 646 | 1123 | 70 | 40 | 506 | 113 | 80 | 276 | 50 | 97 | 153 | 313 |
| Future Volume (vph) | 646 | 1123 | 70 | 40 | 506 | 113 | 80 | 276 | 50 | 97 | 153 | 313 |
| Confl. Peds. (#/hr) | | | 12 | | | 1 | | | 3 | | | 5 |
| Confl. Bikes (#/hr) | | | | | | 5 | | | 1 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | | | | | | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 27.5 | 27.5 | 8.2 | 28.1 | | 8.2 | 35.1 | | 8.2 | 28.1 | 28.1 |
| Total Split (s) | 26.0 | 47.0 | 47.0 | 8.9 | 29.9 | | 14.7 | 35.1 | | 9.0 | 29.4 | 29.4 |
| Total Split (%) | 26.0% | 47.0% | 47.0% | 8.9% | 29.9% | | 14.7% | 35.1% | | 9.0% | 29.4% | 29.4% |
| Yellow Time (s) | 3.2 | 4.5 | 4.5 | 3.2 | 4.1 | | 3.2 | 4.1 | | 3.2 | 4.1 | 4.1 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.5 | 5.5 | 4.2 | 5.1 | | 4.2 | 5.1 | | 4.2 | 5.1 | 5.1 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | C-Max | C-Max | None | C-Max | | None | None | | None | None | None |

**Intersection Summary**

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 14.1 (14%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 140
Control Type: Actuated-Coordinated

Splits and Phases: 22: Fanita Parkway & Mast Blvd




Timings
N:\2462\Analysis\Intersections\Synchro\No School Alt\12 2035+P PM.syn

Year 2035 + Proj PM (No School) — Fanita Ranch
22: Fanita Parkway & Mast Blvd — 06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 646 | 1123 | 70 | 40 | 506 | 113 | 80 | 276 | 50 | 97 | 153 | 313 |
| Future Volume (veh/h) | 646 | 1123 | 70 | 40 | 506 | 113 | 80 | 276 | 50 | 97 | 153 | 313 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.97 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 702 | 1221 | 76 | 43 | 550 | 123 | 87 | 300 | 54 | 105 | 166 | 340 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 388 | 1702 | 750 | 55 | 838 | 187 | 111 | 388 | 70 | 86 | 445 | 370 |
| Arrive On Green | 0.29 | 0.64 | 0.64 | 0.01 | 0.10 | 0.10 | 0.06 | 0.25 | 0.25 | 0.05 | 0.24 | 0.24 |
| Sat Flow, veh/h | 1781 | 3554 | 1565 | 1781 | 2871 | 639 | 1781 | 1538 | 277 | 1781 | 1870 | 1555 |
| Grp Volume(v), veh/h | 702 | 1221 | 76 | 43 | 339 | 334 | 87 | 0 | 354 | 105 | 166 | 340 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1565 | 1781 | 1777 | 1734 | 1781 | 0 | 1815 | 1781 | 1870 | 1555 |
| Q Serve(g_s), s | 21.8 | 23.0 | 1.9 | 2.4 | 18.4 | 18.6 | 4.8 | 0.0 | 18.1 | 4.8 | 7.4 | 21.3 |
| Cycle Q Clear(g_c), s | 21.8 | 23.0 | 1.9 | 2.4 | 18.4 | 18.6 | 4.8 | 0.0 | 18.1 | 4.8 | 7.4 | 21.3 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.37 | 1.00 | | 0.15 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 388 | 1702 | 750 | 55 | 518 | 506 | 111 | 0 | 458 | 86 | 445 | 370 |
| V/C Ratio(X) | 1.81 | 0.72 | 0.10 | 0.79 | 0.65 | 0.66 | 0.78 | 0.00 | 0.77 | 1.23 | 0.37 | 0.92 |
| Avail Cap(c_a), veh/h | 388 | 1702 | 750 | 84 | 518 | 506 | 187 | 0 | 545 | 86 | 454 | 378 |
| HCM Platoon Ratio | 1.33 | 1.33 | 1.33 | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.64 | 0.64 | 0.64 | 0.67 | 0.67 | 0.67 | 0.96 | 0.00 | 0.96 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 35.5 | 13.6 | 9.8 | 49.2 | 40.3 | 40.4 | 46.2 | 0.0 | 34.7 | 47.6 | 31.9 | 37.2 |
| Incr Delay (d2), s/veh | 370.0 | 1.7 | 0.2 | 13.0 | 4.3 | 4.5 | 8.3 | 0.0 | 10.0 | 170.8 | 1.7 | 29.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 48.3 | 6.7 | 0.6 | 1.3 | 9.3 | 9.2 | 2.3 | 0.0 | 8.9 | 6.1 | 3.5 | 10.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 405.5 | 15.3 | 10.0 | 62.2 | 44.6 | 44.9 | 54.5 | 0.0 | 44.7 | 218.4 | 33.6 | 66.2 |
| LnGrp LOS | F | B | A | E | D | D | D | A | D | F | C | E |
| Approach Vol, veh/h | | 1999 | | | 716 | | | 441 | | | 611 | |
| Approach Delay, s/veh | | 152.1 | | | 45.8 | | | 46.6 | | | 83.5 | |
| Approach LOS | | F | | | D | | | D | | | F | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.3 | 53.4 | 10.4 | 28.9 | 26.0 | 34.7 | 9.0 | 30.3 |
| Change Period (Y+Rc), s | * 4.2 | 5.5 | * 4.2 | 5.1 | * 4.2 | * 5.5 | * 4.2 | 5.1 |
| Max Green Setting (Gmax), s | * 4.7 | 41.5 | * 11 | 24.3 | * 22 | * 25 | * 4.8 | 30.0 |
| Max Q Clear Time (g_c+I1), s | 4.4 | 25.0 | 6.8 | 23.3 | 23.8 | 20.6 | 6.8 | 20.1 |
| Green Ext Time (p_c), s | 0.0 | 13.2 | 0.0 | 0.5 | 0.0 | 2.7 | 0.0 | 2.9 |

**Intersection Summary**

| | |
|---|---|
| HCM 6th Ctrl Delay | 108.4 |
| HCM 6th LOS | F |

**Notes**

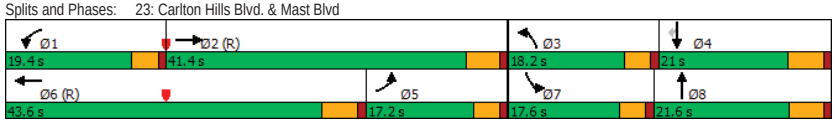
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
N:\2462\Analysis\Intersections\Synchro\No School Alt\12 2035+P PM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 105 | 1003 | 237 | 240 | 471 | 225 | 233 | 347 | 240 | 200 | 223 | 50 |
| Future Volume (vph) | 105 | 1003 | 237 | 240 | 471 | 225 | 233 | 347 | 240 | 200 | 223 | 50 |
| Confl. Peds. (#/hr) | | | 3 | | | 7 | | | 11 | | | 8 |
| Confl. Bikes (#/hr) | | | 4 | | | 2 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 33.1 | | 8.2 | 32.4 | | 8.2 | 21.0 | | 8.2 | 21.0 | 21.0 |
| Total Split (s) | 17.2 | 41.4 | | 19.4 | 43.6 | | 18.2 | 21.6 | | 17.6 | 21.0 | 21.0 |
| Total Split (%) | 17.2% | 41.4% | | 19.4% | 43.6% | | 18.2% | 21.6% | | 17.6% | 21.0% | 21.0% |
| Yellow Time (s) | 3.2 | 4.1 | | 3.2 | 4.4 | | 3.2 | 4.2 | | 3.2 | 4.4 | 4.4 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.1 | | 4.2 | 5.4 | | 4.2 | 5.2 | | 4.2 | 5.4 | 5.4 |
| Lead/Lag | Lag | Lag | | Lead | Lead | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | C-Min | | None | C-Min | | None | Min | | None | Min | Min |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 50 (50%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 110 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 23: Carlton Hills Blvd. & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 105 | 1003 | 237 | 240 | 471 | 225 | 233 | 347 | 240 | 200 | 223 | 50 |
| Future Volume (veh/h) | 105 | 1003 | 237 | 240 | 471 | 225 | 233 | 347 | 240 | 200 | 223 | 50 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 114 | 1090 | 232 | 261 | 512 | 245 | 253 | 377 | 209 | 217 | 242 | 54 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 442 | 1148 | 243 | 271 | 664 | 316 | 249 | 361 | 197 | 239 | 561 | 247 |
| Arrive On Green | 0.50 | 0.79 | 0.79 | 0.30 | 0.57 | 0.57 | 0.14 | 0.16 | 0.16 | 0.13 | 0.16 | 0.16 |
| Sat Flow, veh/h | 1781 | 2908 | 616 | 1781 | 2317 | 1104 | 1781 | 2202 | 1200 | 1781 | 3554 | 1561 |
| Grp Volume(v), veh/h | 114 | 664 | 658 | 261 | 392 | 365 | 253 | 303 | 283 | 217 | 242 | 54 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1747 | 1781 | 1777 | 1644 | 1781 | 1777 | 1625 | 1781 | 1777 | 1561 |
| Q Serve(g_s), s | 3.7 | 31.1 | 32.2 | 14.4 | 16.8 | 17.0 | 14.0 | 16.4 | 16.4 | 12.0 | 6.2 | 1.9 |
| Cycle Q Clear(g_c), s | 3.7 | 31.1 | 32.2 | 14.4 | 16.8 | 17.0 | 14.0 | 16.4 | 16.4 | 12.0 | 6.2 | 1.9 |
| Prop In Lane | 1.00 | | 0.35 | 1.00 | | 0.67 | 1.00 | | 0.74 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 442 | 701 | 690 | 271 | 509 | 471 | 249 | 291 | 267 | 239 | 561 | 247 |
| V/C Ratio(X) | 0.26 | 0.95 | 0.95 | 0.96 | 0.77 | 0.77 | 1.01 | 1.04 | 1.06 | 0.91 | 0.43 | 0.22 |
| Avail Cap(c_a), veh/h | 442 | 701 | 690 | 271 | 679 | 628 | 249 | 291 | 267 | 239 | 561 | 247 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.58 | 0.58 | 0.58 | 0.93 | 0.93 | 0.93 | 0.54 | 0.54 | 0.54 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 19.9 | 9.6 | 9.8 | 34.5 | 18.8 | 18.8 | 43.0 | 41.8 | 41.8 | 42.7 | 38.0 | 14.2 |
| Incr Delay (d2), s/veh | 0.1 | 15.8 | 17.2 | 42.6 | 10.0 | 11.0 | 45.6 | 49.5 | 57.9 | 34.2 | 2.2 | 1.9 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.4 | 6.7 | 6.8 | 8.1 | 5.9 | 5.6 | 9.2 | 11.0 | 10.7 | 7.4 | 2.8 | 1.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 19.9 | 25.5 | 27.0 | 77.1 | 28.8 | 29.8 | 88.6 | 91.3 | 99.7 | 76.9 | 40.3 | 16.0 |
| LnGrp LOS | B | C | C | E | C | C | F | F | F | E | D | B |
| Approach Vol, veh/h | | 1436 | | | 1018 | | | 839 | | | 513 | |
| Approach Delay, s/veh | | 25.7 | | | 41.6 | | | 93.3 | | | 53.2 | |
| Approach LOS | | C | | | D | | | F | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 19.4 | 44.6 | 18.2 | 21.2 | 29.9 | 34.1 | 17.6 | 21.8 |
| Change Period (Y+Rc), s | * 4.2 | 5.1 | * 4.2 | 5.4 | 5.1 | * 5.4 | * 4.2 | * 5.4 |
| Max Green Setting (Gmax), s | * 15 | 36.3 | * 14 | 15.6 | 13.0 | * 38 | * 13 | * 16 |
| Max Q Clear Time (g_c+I1), s | 16.4 | 34.2 | 16.0 | 8.2 | 5.7 | 19.0 | 14.0 | 18.4 |
| Green Ext Time (p_c), s | 0.0 | 1.9 | 0.0 | 2.0 | 0.1 | 9.6 | 0.0 | 0.0 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 48.6 | |
| HCM 6th LOS | D | |

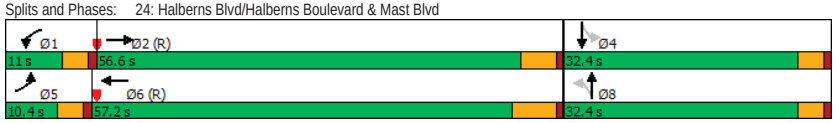
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 30 | 1493 | 80 | 70 | 766 | 60 | 50 | 90 | 230 | 60 | 60 | 20 |
| Future Volume (vph) | 30 | 1493 | 80 | 70 | 766 | 60 | 50 | 90 | 230 | 60 | 60 | 20 |
| Confl. Peds. (#/hr) | | | 1 | | | 5 | | | 1 | | | 2 |
| Confl. Bikes (#/hr) | | | 1 | | | 1 | | | 1 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Perm | NA | | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | | 4 | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 29.2 | | 8.2 | 28.3 | | 32.2 | 32.2 | | 32.2 | 32.2 | |
| Total Split (s) | 10.4 | 56.6 | | 11.0 | 57.2 | | 32.4 | 32.4 | | 32.4 | 32.4 | |
| Total Split (%) | 10.4% | 56.6% | | 11.0% | 57.2% | | 32.4% | 32.4% | | 32.4% | 32.4% | |
| Yellow Time (s) | 3.2 | 4.2 | | 3.2 | 5.3 | | 3.2 | 3.2 | | 3.2 | 3.2 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.2 | 5.2 | | 4.2 | 6.3 | | 4.2 | 4.2 | | 4.2 | 4.2 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Max | | None | C-Max | | None | None | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 90 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 24: Halberns Blvd/Halberns Boulevard & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 30 | 1493 | 80 | 70 | 766 | 60 | 50 | 90 | 230 | 60 | 60 | 20 |
| Future Volume (veh/h) | 30 | 1493 | 80 | 70 | 766 | 60 | 50 | 90 | 230 | 60 | 60 | 20 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.97 | 1.00 | | 0.99 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 33 | 1623 | 87 | 76 | 833 | 65 | 54 | 98 | 250 | 65 | 65 | 22 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 43 | 1787 | 95 | 98 | 1840 | 144 | 386 | 128 | 326 | 157 | 370 | 125 |
| Arrive On Green | 0.02 | 0.35 | 0.35 | 0.02 | 0.18 | 0.18 | 0.28 | 0.28 | 0.28 | 0.28 | 0.28 | 0.28 |
| Sat Flow, veh/h | 1781 | 3429 | 183 | 1781 | 3332 | 260 | 1308 | 462 | 1177 | 1032 | 1336 | 452 |
| Grp Volume(v), veh/h | 33 | 837 | 873 | 76 | 444 | 454 | 54 | 0 | 348 | 65 | 0 | 87 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1835 | 1781 | 1777 | 1816 | 1308 | 0 | 1639 | 1032 | 0 | 1788 |
| Q Serve(g_s), s | 1.8 | 44.8 | 45.5 | 4.2 | 22.3 | 22.3 | 3.3 | 0.0 | 19.5 | 6.2 | 0.0 | 3.7 |
| Cycle Q Clear(g_c), s | 1.8 | 44.8 | 45.5 | 4.2 | 22.3 | 22.3 | 7.0 | 0.0 | 19.5 | 25.7 | 0.0 | 3.7 |
| Prop In Lane | 1.00 | | 0.10 | 1.00 | | 0.14 | 1.00 | | 0.72 | 1.00 | | 0.25 |
| Lane Grp Cap(c), veh/h | 43 | 926 | 956 | 98 | 981 | 1002 | 386 | 0 | 454 | 157 | 0 | 495 |
| V/C Ratio(X) | 0.77 | 0.90 | 0.91 | 0.78 | 0.45 | 0.45 | 0.14 | 0.00 | 0.77 | 0.41 | 0.00 | 0.18 |
| Avail Cap(c_a), veh/h | 110 | 926 | 956 | 121 | 981 | 1002 | 392 | 0 | 462 | 162 | 0 | 504 |
| HCM Platoon Ratio | 0.67 | 0.67 | 0.67 | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.09 | 0.09 | 0.09 | 0.58 | 0.58 | 0.58 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 48.9 | 30.2 | 30.4 | 48.5 | 27.4 | 27.4 | 30.1 | 0.0 | 33.2 | 45.0 | 0.0 | 27.5 |
| Incr Delay (d2), s/veh | 1.0 | 1.6 | 1.7 | 10.5 | 0.9 | 0.9 | 0.1 | 0.0 | 6.7 | 0.7 | 0.0 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.8 | 19.8 | 20.8 | 2.2 | 10.7 | 10.9 | 1.0 | 0.0 | 8.3 | 1.6 | 0.0 | 1.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 49.9 | 31.7 | 32.1 | 59.0 | 28.3 | 28.3 | 30.2 | 0.0 | 39.9 | 45.6 | 0.0 | 27.5 |
| LnGrp LOS | D | C | C | E | C | C | C | A | D | D | A | C |
| Approach Vol, veh/h | | 1743 | | | 974 | | | 402 | | | 152 | |
| Approach Delay, s/veh | | 32.3 | | | 30.7 | | | 38.6 | | | 35.3 | |
| Approach LOS | | C | | | C | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 9.7 | 58.4 | | 31.9 | 6.6 | 61.5 | | 31.9 | | | | |
| Change Period (Y+Rc), s | * 4.2 | * 6.3 | | * 4.2 | * 4.2 | 6.3 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | * 6.8 | * 51 | | * 28 | * 6.2 | 50.9 | | * 28 | | | | |
| Max Q Clear Time (g_c+I1), s | 6.2 | 47.5 | | 27.7 | 3.8 | 24.3 | | 21.5 | | | | |
| Green Ext Time (p_c), s | 0.0 | 3.7 | | 0.0 | 0.0 | 11.8 | | 0.9 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 32.7 | |
| HCM 6th LOS | C | |

Notes

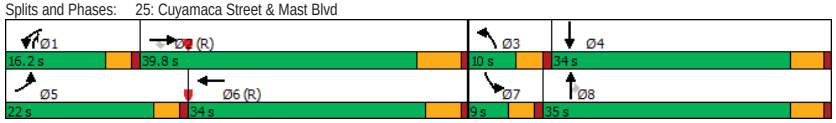
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 603 | 910 | 310 | 353 | 385 | 100 | 275 | 660 | 542 | 110 | 375 | 241 |
| Future Volume (vph) | 603 | 910 | 310 | 353 | 385 | 100 | 275 | 660 | 542 | 110 | 375 | 241 |
| Confl. Peds. (#/hr) | | | 11 | | | 3 | | | | | | 3 |
| Confl. Bikes (#/hr) | | | 2 | | | 2 | | | | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | | Prot | NA | pm+ov | Prot | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | 1 | 7 | 4 | |
| Permitted Phases | | | 2 | | | | | | 8 | | | |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | | 3 | 8 | 1 | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | | 4.0 | 7.0 | 4.0 | 4.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 34.3 | 34.3 | 8.2 | 32.3 | | 8.2 | 33.1 | 8.2 | 8.2 | 34.0 | |
| Total Split (s) | 22.0 | 39.8 | 39.8 | 16.2 | 34.0 | | 10.0 | 35.0 | 16.2 | 9.0 | 34.0 | |
| Total Split (%) | 22.0% | 39.8% | 39.8% | 16.2% | 34.0% | | 10.0% | 35.0% | 16.2% | 9.0% | 34.0% | |
| Yellow Time (s) | 3.2 | 5.3 | 5.3 | 3.2 | 4.3 | | 3.2 | 4.1 | 3.2 | 3.2 | 4.0 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.2 | 6.3 | 6.3 | 4.2 | 5.3 | | 4.2 | 5.1 | 4.2 | 4.2 | 5.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | |
| Recall Mode | None | C-Min | C-Min | None | C-Min | | None | None | None | None | None | |

**Intersection Summary**

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 21 (21%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 135
Control Type: Actuated-Coordinated

Splits and Phases: 25: Cuyamaca Street & Mast Blvd






Year 2035 + Proj PM (No School)
25: Cuyamaca Street & Mast Blvd
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 603 | 910 | 310 | 353 | 385 | 100 | 275 | 660 | 542 | 110 | 375 | 241 |
| Future Volume (veh/h) | 603 | 910 | 310 | 353 | 385 | 100 | 275 | 660 | 542 | 110 | 375 | 241 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 1.00 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 655 | 989 | 337 | 384 | 418 | 109 | 299 | 717 | 589 | 120 | 408 | 262 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 317 | 1190 | 519 | 415 | 771 | 199 | 200 | 1063 | 664 | 86 | 599 | 380 |
| Arrive On Green | 0.06 | 0.11 | 0.11 | 0.12 | 0.28 | 0.28 | 0.06 | 0.30 | 0.30 | 0.05 | 0.29 | 0.29 |
| Sat Flow, veh/h | 1781 | 3554 | 1549 | 3456 | 2785 | 719 | 3456 | 3554 | 1585 | 1781 | 2071 | 1315 |
| Grp Volume(v), veh/h | 655 | 989 | 337 | 384 | 265 | 262 | 299 | 717 | 589 | 120 | 349 | 321 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1549 | 1728 | 1777 | 1727 | 1728 | 1777 | 1585 | 1781 | 1777 | 1609 |
| Q Serve(g_s), s | 17.8 | 27.3 | 20.9 | 11.0 | 12.7 | 12.9 | 5.8 | 17.7 | 29.9 | 4.8 | 17.4 | 17.7 |
| Cycle Q Clear(g_c), s | 17.8 | 27.3 | 20.9 | 11.0 | 12.7 | 12.9 | 5.8 | 17.7 | 29.9 | 4.8 | 17.4 | 17.7 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.42 | 1.00 | | 1.00 | 1.00 | | 0.82 |
| Lane Grp Cap(c), veh/h | 317 | 1190 | 519 | 415 | 492 | 478 | 200 | 1063 | 664 | 86 | 514 | 465 |
| V/C Ratio(X) | 2.07 | 0.83 | 0.65 | 0.93 | 0.54 | 0.55 | 1.49 | 0.67 | 0.89 | 1.40 | 0.68 | 0.69 |
| Avail Cap(c_a), veh/h | 317 | 1190 | 519 | 415 | 510 | 496 | 200 | 1063 | 664 | 86 | 515 | 467 |
| HCM Platoon Ratio | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.51 | 0.51 | 0.51 | 0.96 | 0.96 | 0.96 | 0.14 | 0.14 | 0.14 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 47.1 | 41.7 | 38.8 | 43.6 | 30.7 | 30.8 | 47.1 | 30.8 | 26.9 | 47.6 | 31.5 | 31.6 |
| Incr Delay (d2), s/veh | 485.2 | 3.6 | 3.2 | 25.5 | 4.0 | 4.3 | 225.1 | 0.3 | 2.4 | 237.5 | 4.2 | 4.9 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 51.2 | 13.4 | 9.1 | 6.0 | 5.8 | 5.7 | 8.7 | 7.4 | 12.6 | 7.7 | 7.8 | 7.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 532.2 | 45.3 | 42.1 | 69.1 | 34.7 | 35.1 | 272.2 | 31.1 | 29.3 | 285.1 | 35.6 | 36.5 |
| LnGrp LOS | F | D | D | E | C | D | F | C | C | F | D | D |
| Approach Vol, veh/h | | 1981 | | | 911 | | | 1605 | | | 790 | |
| Approach Delay, s/veh | | 205.7 | | | 49.3 | | | 75.3 | | | 73.9 | |
| Approach LOS | | F | | | D | | | E | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 16.2 | 39.8 | 10.0 | 34.0 | 22.0 | 34.0 | 9.0 | 35.0 |
| Change Period (Y+Rc), s | * 4.2 | 6.3 | * 4.2 | * 5.1 | * 4.2 | * 6.3 | * 4.2 | 5.1 |
| Max Green Setting (Gmax), s | * 12 | 33.5 | * 5.8 | * 29 | * 18 | * 29 | * 4.8 | 29.9 |
| Max Q Clear Time (g_c+I1), s | 13.0 | 29.3 | 7.8 | 19.7 | 19.8 | 14.9 | 6.8 | 31.9 |
| Green Ext Time (p_c), s | 0.0 | 3.2 | 0.0 | 3.9 | 0.0 | 3.2 | 0.0 | 0.0 |

**Intersection Summary**

| | | |
|---|---|---|
| HCM 6th Ctrl Delay | 119.5 | |
| HCM 6th LOS | F | |

**Notes**

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 1057 | 50 | 140 | 783 | 20 | 150 |
| Future Volume (vph) | 1057 | 50 | 140 | 783 | 20 | 150 |
| Confl. Peds. (#/hr) | | 12 | | | | 20 |
| Confl. Bikes (#/hr) | | 4 | | | | 8 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | NA | | Prot | NA | Prot | Perm |
| Protected Phases | 2 | | 1 | 6 | 8 | |
| Permitted Phases | | | | | | 8 |
| Detector Phase | 2 | | 1 | 6 | 8 | 8 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 22.5 | | 8.5 | 20.5 | 22.5 | 22.5 |
| Total Split (s) | 54.0 | | 22.0 | 76.0 | 24.0 | 24.0 |
| Total Split (%) | 54.0% | | 22.0% | 76.0% | 24.0% | 24.0% |
| Yellow Time (s) | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lag | | Lead | | | |
| Lead-Lag Optimize? | Yes | | Yes | | | |
| Recall Mode | Min | | None | Min | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 66.4 |
| Natural Cycle: 65 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 26: Park Center Drive & Mast Blvd

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 1057 | 50 | 140 | 783 | 20 | 150 |
| Future Volume (veh/h) | 1057 | 50 | 140 | 783 | 20 | 150 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | 0.96 | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 1149 | 54 | 152 | 851 | 22 | 163 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 1667 | 78 | 201 | 2435 | 243 | 216 |
| Arrive On Green | 0.48 | 0.48 | 0.11 | 0.69 | 0.14 | 0.14 |
| Sat Flow, veh/h | 3543 | 162 | 1781 | 3647 | 1781 | 1585 |
| Grp Volume(v), veh/h | 592 | 611 | 152 | 851 | 22 | 163 |
| Grp Sat Flow(s),veh/h/ln | 1777 | 1834 | 1781 | 1777 | 1781 | 1585 |
| Q Serve(g_s), s | 13.0 | 13.0 | 4.2 | 5.0 | 0.5 | 5.0 |
| Cycle Q Clear(g_c), s | 13.0 | 13.0 | 4.2 | 5.0 | 0.5 | 5.0 |
| Prop In Lane | | 0.09 | 1.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 859 | 886 | 201 | 2435 | 243 | 216 |
| V/C Ratio(X) | 0.69 | 0.69 | 0.76 | 0.35 | 0.09 | 0.75 |
| Avail Cap(c_a), veh/h | 1746 | 1802 | 619 | 5043 | 689 | 614 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 10.1 | 10.1 | 21.7 | 3.3 | 19.0 | 20.9 |
| Incr Delay (d2), s/veh | 1.0 | 1.0 | 5.8 | 0.1 | 0.2 | 5.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 3.7 | 3.8 | 1.8 | 0.6 | 0.2 | 2.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 11.1 | 11.1 | 27.4 | 3.4 | 19.2 | 26.2 |
| LnGrp LOS | B | B | C | A | B | C |
| Approach Vol, veh/h | 1203 | | | 1003 | 185 | |
| Approach Delay, s/veh | 11.1 | | | 7.0 | 25.4 | |
| Approach LOS | B | | | A | C | |

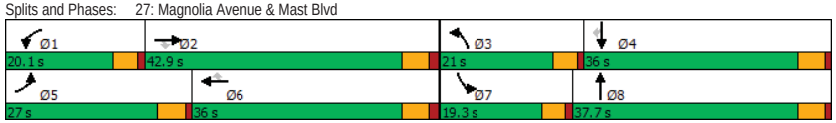
| Timer - Assigned Phs | 1 | 2 | | | 6 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 10.2 | 28.8 | | | 39.0 | 11.4 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 17.5 | 49.5 | | | 71.5 | 19.5 |
| Max Q Clear Time (g_c+I1), s | 6.2 | 15.0 | | | 7.0 | 7.0 |
| Green Ext Time (p_c), s | 0.3 | 9.3 | | | 6.8 | 0.4 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 10.5 | |
| HCM 6th LOS | B | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 537 | 335 | 260 | 110 | 150 | 40 | 390 | 740 | 170 | 150 | 565 | 408 |
| Future Volume (vph) | 537 | 335 | 260 | 110 | 150 | 40 | 390 | 740 | 170 | 150 | 565 | 408 |
| Confl. Peds. (#/hr) | | | 14 | | | 20 | | | 3 | | | 24 |
| Confl. Bikes (#/hr) | | | 1 | | | 4 | | | 2 | | | 6 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 11.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 9.0 | | 7.0 | 9.0 | 9.0 |
| Minimum Split (s) | 16.0 | 34.5 | 34.5 | 11.5 | 34.5 | 34.5 | 11.5 | 35.0 | | 11.5 | 36.0 | 36.0 |
| Total Split (s) | 27.0 | 42.9 | 42.9 | 20.1 | 36.0 | 36.0 | 21.0 | 37.7 | | 19.3 | 36.0 | 36.0 |
| Total Split (%) | 22.5% | 35.8% | 35.8% | 16.8% | 30.0% | 30.0% | 17.5% | 31.4% | | 16.1% | 30.0% | 30.0% |
| Yellow Time (s) | 4.0 | 4.0 | 4.0 | 3.5 | 4.0 | 4.0 | 3.5 | 4.0 | | 3.5 | 4.0 | 4.0 |
| All-Red Time (s) | 1.0 | 1.5 | 1.5 | 1.0 | 1.5 | 1.5 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 5.0 | 5.5 | 5.5 | 4.5 | 5.5 | 5.5 | 4.5 | 5.0 | | 4.5 | 5.0 | 5.0 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | Min | Min | None | Min | Min | None | Min | | None | Min | Min |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 100.3 |
| Natural Cycle: 110 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 27: Magnolia Avenue & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 537 | 335 | 260 | 110 | 150 | 40 | 390 | 740 | 170 | 150 | 565 | 408 |
| Future Volume (veh/h) | 537 | 335 | 260 | 110 | 150 | 40 | 390 | 740 | 170 | 150 | 565 | 408 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.95 | 1.00 | | 0.98 | 1.00 | | 0.96 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 584 | 364 | 283 | 120 | 163 | 43 | 424 | 804 | 185 | 163 | 614 | 443 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 670 | 963 | 418 | 149 | 555 | 234 | 492 | 975 | 224 | 195 | 1094 | 469 |
| Arrive On Green | 0.19 | 0.27 | 0.27 | 0.08 | 0.16 | 0.16 | 0.14 | 0.34 | 0.34 | 0.11 | 0.31 | 0.31 |
| Sat Flow, veh/h | 3456 | 3554 | 1541 | 1781 | 3554 | 1498 | 3456 | 2859 | 658 | 1781 | 3554 | 1523 |
| Grp Volume(v), veh/h | 584 | 364 | 283 | 120 | 163 | 43 | 424 | 500 | 489 | 163 | 614 | 443 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1541 | 1781 | 1777 | 1498 | 1728 | 1777 | 1739 | 1781 | 1777 | 1523 |
| Q Serve(g_s), s | 16.4 | 8.3 | 16.4 | 6.6 | 4.1 | 2.5 | 12.0 | 25.8 | 25.8 | 9.0 | 14.5 | 28.4 |
| Cycle Q Clear(g_c), s | 16.4 | 8.3 | 16.4 | 6.6 | 4.1 | 2.5 | 12.0 | 25.8 | 25.8 | 9.0 | 14.5 | 28.4 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.38 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 670 | 963 | 418 | 149 | 555 | 234 | 492 | 606 | 593 | 195 | 1094 | 469 |
| V/C Ratio(X) | 0.87 | 0.38 | 0.68 | 0.80 | 0.29 | 0.18 | 0.86 | 0.82 | 0.82 | 0.84 | 0.56 | 0.94 |
| Avail Cap(c_a), veh/h | 759 | 1327 | 575 | 277 | 1082 | 456 | 569 | 606 | 593 | 263 | 1100 | 471 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 39.2 | 29.6 | 32.6 | 45.1 | 37.4 | 36.7 | 42.0 | 30.2 | 30.2 | 43.7 | 29.0 | 33.8 |
| Incr Delay (d2), s/veh | 10.3 | 0.3 | 2.3 | 3.8 | 0.4 | 0.5 | 10.3 | 9.1 | 9.2 | 12.3 | 0.6 | 27.9 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 7.7 | 3.5 | 6.1 | 3.0 | 1.8 | 0.9 | 5.7 | 11.9 | 11.7 | 4.5 | 6.0 | 13.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 49.4 | 29.9 | 34.9 | 48.9 | 37.7 | 37.2 | 52.3 | 39.3 | 39.5 | 56.0 | 29.6 | 61.7 |
| LnGrp LOS | D | C | C | D | D | D | D | D | D | E | C | E |
| Approach Vol, veh/h | | 1231 | | | 326 | | | 1413 | | | 1220 | |
| Approach Delay, s/veh | | 40.3 | | | 41.8 | | | 43.3 | | | 44.8 | |
| Approach LOS | | D | | | D | | | D | | | D | |

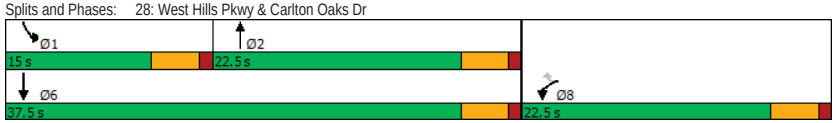
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 12.9 | 32.7 | 18.8 | 35.8 | 24.4 | 21.1 | 15.4 | 39.2 |
| Change Period (Y+Rc), s | 4.5 | 5.5 | 4.5 | 5.0 | 5.0 | 5.5 | 4.5 | 5.0 |
| Max Green Setting (Gmax), s | 15.6 | 37.4 | 16.5 | 31.0 | 22.0 | 30.5 | 14.8 | 32.7 |
| Max Q Clear Time (g_c+I1), s | 8.6 | 18.4 | 14.0 | 30.4 | 18.4 | 6.1 | 11.0 | 27.8 |
| Green Ext Time (p_c), s | 0.1 | 3.8 | 0.3 | 0.3 | 1.0 | 1.3 | 0.1 | 2.5 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 42.7 |
| HCM 6th LOS | | D |

| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 102 | 150 | 603 | 218 | 300 | 596 |
| Future Volume (vph) | 102 | 150 | 603 | 218 | 300 | 596 |
| Confl. Peds. (#/hr) | | | | 1 | | |
| Confl. Bikes (#/hr) | | 1 | | 5 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | 0% | | | 0% |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | NA | | Prot | NA |
| Protected Phases | 8 | | 2 | | 1 | 6 |
| Permitted Phases | | 8 | | | | |
| Detector Phase | 8 | 8 | 2 | | 1 | 6 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | | 8.5 | 20.5 |
| Total Split (s) | 22.5 | 22.5 | 22.5 | | 15.0 | 37.5 |
| Total Split (%) | 37.5% | 37.5% | 37.5% | | 25.0% | 62.5% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Lead/Lag | | | Lag | | Lead | |
| Lead-Lag Optimize? | | | Yes | | Yes | |
| Recall Mode | None | None | Min | | None | Min |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 48.6 |
| Natural Cycle: 65 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 28: West Hills Pkwy & Carlton Oaks Dr








| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 102 | 150 | 603 | 218 | 300 | 596 |
| Future Volume (veh/h) | 102 | 150 | 603 | 218 | 300 | 596 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | | 0.97 | 1.00 | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | No | | | No |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 111 | 163 | 655 | 237 | 326 | 648 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 212 | 332 | 867 | 314 | 392 | 2375 |
| Arrive On Green | 0.12 | 0.12 | 0.34 | 0.34 | 0.22 | 0.67 |
| Sat Flow, veh/h | 1781 | 2790 | 2629 | 917 | 1781 | 3647 |
| Grp Volume(v), veh/h | 111 | 163 | 459 | 433 | 326 | 648 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1395 | 1777 | 1675 | 1781 | 1777 |
| Q Serve(g_s), s | 2.5 | 2.3 | 9.7 | 9.7 | 7.4 | 3.1 |
| Cycle Q Clear(g_c), s | 2.5 | 2.3 | 9.7 | 9.7 | 7.4 | 3.1 |
| Prop In Lane | 1.00 | 1.00 | | 0.55 | 1.00 | |
| Lane Grp Cap(c), veh/h | 212 | 332 | 608 | 573 | 392 | 2375 |
| V/C Ratio(X) | 0.52 | 0.49 | 0.76 | 0.76 | 0.83 | 0.27 |
| Avail Cap(c_a), veh/h | 758 | 1187 | 756 | 713 | 442 | 2771 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 17.5 | 17.4 | 12.4 | 12.4 | 15.8 | 2.8 |
| Incr Delay (d2), s/veh | 2.0 | 1.1 | 3.4 | 3.6 | 11.6 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.0 | 0.7 | 3.2 | 3.0 | 3.5 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 19.5 | 18.6 | 15.8 | 16.0 | 27.3 | 2.9 |
| LnGrp LOS | B | B | B | B | C | A |
| Approach Vol, veh/h | 274 | | 892 | | | 974 |
| Approach Delay, s/veh | 18.9 | | 15.9 | | | 11.1 |
| Approach LOS | B | | B | | | B |

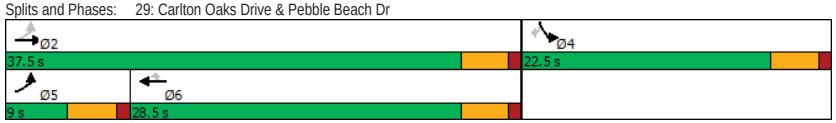
| Timer - Assigned Phs | 1 | 2 | | | 6 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 13.8 | 19.0 | | | 32.8 | 9.5 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 10.5 | 18.0 | | | 33.0 | 18.0 |
| Max Q Clear Time (g_c+I1), s | 9.4 | 11.7 | | | 5.1 | 4.5 |
| Green Ext Time (p_c), s | 0.1 | 2.7 | | | 4.3 | 0.8 |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 14.1 | |
| HCM 6th LOS | | B | |

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 10 | 413 | 367 | 40 | 30 | 10 |
| Future Volume (vph) | 10 | 413 | 367 | 40 | 30 | 10 |
| Confl. Peds. (#/hr) | | | | 8 | | |
| Confl. Bikes (#/hr) | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | pm+pt | NA | NA | Perm | Prot | Perm |
| Protected Phases | 5 | 2 | 6 | | 4 | |
| Permitted Phases | 2 | | | 6 | | 4 |
| Detector Phase | 5 | 2 | 6 | 6 | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 |
| Total Split (s) | 9.0 | 37.5 | 28.5 | 28.5 | 22.5 | 22.5 |
| Total Split (%) | 15.0% | 62.5% | 47.5% | 47.5% | 37.5% | 37.5% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | | Lag | Lag | | |
| Lead-Lag Optimize? | Yes | | Yes | Yes | | |
| Recall Mode | None | Min | Min | Min | None | None |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 37.1 |
| Natural Cycle: 55 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 29: Carlton Oaks Drive & Pebble Beach Dr








| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 10 | 413 | 367 | 40 | 30 | 10 |
| Future Volume (veh/h) | 10 | 413 | 367 | 40 | 30 | 10 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 0.99 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 11 | 449 | 399 | 43 | 33 | 11 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 516 | 1074 | 693 | 581 | 76 | 67 |
| Arrive On Green | 0.01 | 0.57 | 0.37 | 0.37 | 0.04 | 0.04 |
| Sat Flow, veh/h | 1781 | 1870 | 1870 | 1568 | 1781 | 1585 |
| Grp Volume(v), veh/h | 11 | 449 | 399 | 43 | 33 | 11 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1870 | 1568 | 1781 | 1585 |
| Q Serve(g_s), s | 0.1 | 3.2 | 4.0 | 0.4 | 0.4 | 0.2 |
| Cycle Q Clear(g_c), s | 0.1 | 3.2 | 4.0 | 0.4 | 0.4 | 0.2 |
| Prop In Lane | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 516 | 1074 | 693 | 581 | 76 | 67 |
| V/C Ratio(X) | 0.02 | 0.42 | 0.58 | 0.07 | 0.44 | 0.16 |
| Avail Cap(c_a), veh/h | 837 | 2630 | 1912 | 1603 | 1366 | 1216 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 4.1 | 2.8 | 5.9 | 4.8 | 11.0 | 10.8 |
| Incr Delay (d2), s/veh | 0.0 | 0.3 | 0.8 | 0.1 | 3.9 | 1.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.1 | 0.8 | 0.1 | 0.2 | 0.2 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 4.1 | 3.1 | 6.7 | 4.8 | 14.9 | 12.0 |
| LnGrp LOS | A | A | A | A | B | B |
| Approach Vol, veh/h | | 460 | 442 | | 44 | |
| Approach Delay, s/veh | | 3.1 | 6.5 | | 14.1 | |
| Approach LOS | | A | A | | B | |

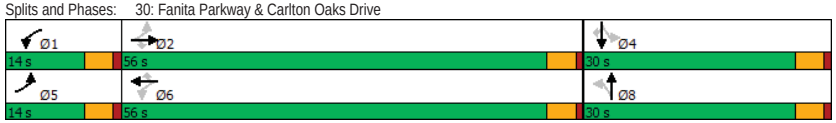
| Timer - Assigned Phs | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 18.0 | | 5.5 | 4.8 | 13.2 |
| Change Period (Y+Rc), s | 4.5 | | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 33.0 | | 18.0 | 4.5 | 24.0 |
| Max Q Clear Time (g_c+I1), s | 5.2 | | 2.4 | 2.1 | 6.0 |
| Green Ext Time (p_c), s | 2.9 | | 0.1 | 0.0 | 2.4 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 5.2 | |
| HCM 6th LOS | A | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 78 | 370 | 5 | 10 | 350 | 278 | 5 | 0 | 10 | 191 | 5 | 47 |
| Future Volume (vph) | 78 | 370 | 5 | 10 | 350 | 278 | 5 | 0 | 10 | 191 | 5 | 47 |
| Confl. Peds. (#/hr) | | | 7 | | | 9 | | | 9 | | | 7 |
| Confl. Bikes (#/hr) | | | 3 | | | 1 | | | 1 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | pm+pt | NA | Perm | pm+pt | NA | Perm | Perm | NA | | Perm | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | 2 | | 2 | 6 | | 6 | 8 | | | 4 | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 8 | 8 | | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | | 7.0 | 7.0 | 7.0 |
| Minimum Split (s) | 11.5 | 26.5 | 26.5 | 11.5 | 20.5 | 20.5 | 22.5 | 22.5 | | 22.5 | 22.5 | 22.5 |
| Total Split (s) | 14.0 | 56.0 | 56.0 | 14.0 | 56.0 | 56.0 | 30.0 | 30.0 | | 30.0 | 30.0 | 30.0 |
| Total Split (%) | 14.0% | 56.0% | 56.0% | 14.0% | 56.0% | 56.0% | 30.0% | 30.0% | | 30.0% | 30.0% | 30.0% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | | | | | | |
| Recall Mode | None | Min | Min | None | Min | Min | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 53.3 |
| Natural Cycle: 65 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 30: Fanita Parkway & Carlton Oaks Drive








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 78 | 370 | 5 | 10 | 350 | 278 | 5 | 0 | 10 | 191 | 5 | 47 |
| Future Volume (veh/h) | 78 | 370 | 5 | 10 | 350 | 278 | 5 | 0 | 10 | 191 | 5 | 47 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 0.99 | | 0.97 | 0.99 | | 0.96 | 0.98 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 85 | 402 | 5 | 11 | 380 | 302 | 5 | 0 | 11 | 208 | 5 | 51 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 492 | 765 | 628 | 464 | 600 | 490 | 181 | 46 | 229 | 492 | 410 | 342 |
| Arrive On Green | 0.11 | 0.41 | 0.41 | 0.02 | 0.32 | 0.32 | 0.22 | 0.00 | 0.22 | 0.22 | 0.22 | 0.22 |
| Sat Flow, veh/h | 1781 | 1870 | 1536 | 1781 | 1870 | 1530 | 266 | 209 | 1045 | 1376 | 1870 | 1560 |
| Grp Volume(v), veh/h | 85 | 402 | 5 | 11 | 380 | 302 | 16 | 0 | 0 | 208 | 5 | 51 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1536 | 1781 | 1870 | 1530 | 1520 | 0 | 0 | 1376 | 1870 | 1560 |
| Q Serve(g_s), s | 1.1 | 6.2 | 0.1 | 0.2 | 6.7 | 6.4 | 0.0 | 0.0 | 0.0 | 4.9 | 0.1 | 1.0 |
| Cycle Q Clear(g_c), s | 1.1 | 6.2 | 0.1 | 0.2 | 6.7 | 6.4 | 0.3 | 0.0 | 0.0 | 5.2 | 0.1 | 1.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 0.31 | | 0.69 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 492 | 765 | 628 | 464 | 600 | 490 | 457 | 0 | 0 | 492 | 410 | 342 |
| V/C Ratio(X) | 0.17 | 0.53 | 0.01 | 0.02 | 0.63 | 0.62 | 0.04 | 0.00 | 0.00 | 0.42 | 0.01 | 0.15 |
| Avail Cap(c_a), veh/h | 739 | 2507 | 2058 | 868 | 2507 | 2050 | 1102 | 0 | 0 | 1103 | 1241 | 1035 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 6.9 | 8.5 | 6.7 | 8.5 | 11.1 | 11.1 | 11.8 | 0.0 | 0.0 | 13.7 | 11.7 | 12.1 |
| Incr Delay (d2), s/veh | 0.2 | 0.6 | 0.0 | 0.0 | 1.1 | 1.3 | 0.0 | 0.0 | 0.0 | 0.6 | 0.0 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.3 | 1.8 | 0.0 | 0.0 | 2.2 | 1.7 | 0.1 | 0.0 | 0.0 | 1.4 | 0.0 | 0.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 7.0 | 9.1 | 6.7 | 8.5 | 12.2 | 12.3 | 11.9 | 0.0 | 0.0 | 14.3 | 11.7 | 12.3 |
| LnGrp LOS | A | A | A | A | B | B | B | A | A | B | B | B |
| Approach Vol, veh/h | | 492 | | | 693 | | | 16 | | | 264 | |
| Approach Delay, s/veh | | 8.7 | | | 12.2 | | | 11.9 | | | 13.9 | |
| Approach LOS | | A | | | B | | | B | | | B | |

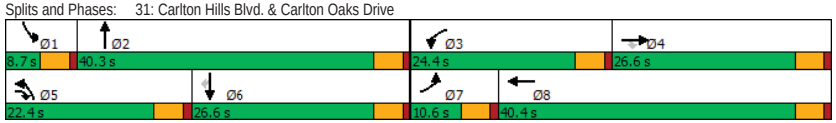
| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.3 | 20.2 | | 12.9 | 8.7 | 16.8 | | 12.9 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 9.5 | 51.5 | | 25.5 | 9.5 | 51.5 | | 25.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.2 | 8.2 | | 7.2 | 3.1 | 8.7 | | 2.3 | | | | |
| Green Ext Time (p_c), s | 0.0 | 2.6 | | 0.7 | 0.1 | 3.7 | | 0.0 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 11.3 | |
| HCM 6th LOS | B | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 30 | 250 | 386 | 250 | 120 | 20 | 588 | 695 | 320 | 30 | 400 | 20 |
| Future Volume (vph) | 30 | 250 | 386 | 250 | 120 | 20 | 588 | 695 | 320 | 30 | 400 | 20 |
| Confl. Peds. (#/hr) | | | 9 | | | 1 | | | 6 | | | 4 |
| Confl. Bikes (#/hr) | | | 5 | | | 3 | | | 1 | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 7 | 4 | 5 | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | | | | 6 |
| Detector Phase | 7 | 4 | 5 | 3 | 8 | | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 26.5 | 8.5 | 8.5 | 26.5 | | 8.5 | 22.5 | | 8.5 | 22.5 | 22.5 |
| Total Split (s) | 10.6 | 26.6 | 22.4 | 24.4 | 40.4 | | 22.4 | 40.3 | | 8.7 | 26.6 | 26.6 |
| Total Split (%) | 10.6% | 26.6% | 22.4% | 24.4% | 40.4% | | 22.4% | 40.3% | | 8.7% | 26.6% | 26.6% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | | None | Min | | None | Min | Min |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 89.5 |
| Natural Cycle: 90 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 31: Carlton Hills Blvd. & Carlton Oaks Drive








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 30 | 250 | 386 | 250 | 120 | 20 | 588 | 695 | 320 | 30 | 400 | 20 |
| Future Volume (veh/h) | 30 | 250 | 386 | 250 | 120 | 20 | 588 | 695 | 320 | 30 | 400 | 20 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 33 | 272 | 420 | 272 | 130 | 22 | 639 | 755 | 348 | 33 | 435 | 22 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 44 | 445 | 680 | 311 | 1180 | 195 | 683 | 855 | 394 | 44 | 680 | 297 |
| Arrive On Green | 0.02 | 0.24 | 0.24 | 0.17 | 0.39 | 0.39 | 0.20 | 0.36 | 0.36 | 0.02 | 0.19 | 0.19 |
| Sat Flow, veh/h | 1781 | 1870 | 1541 | 1781 | 3044 | 504 | 3456 | 2349 | 1081 | 1781 | 3554 | 1553 |
| Grp Volume(v), veh/h | 33 | 272 | 420 | 272 | 75 | 77 | 639 | 571 | 532 | 33 | 435 | 22 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1541 | 1781 | 1777 | 1771 | 1728 | 1777 | 1653 | 1781 | 1777 | 1553 |
| Q Serve(g_s), s | 1.7 | 11.8 | 19.2 | 13.5 | 2.4 | 2.5 | 16.5 | 27.3 | 27.4 | 1.7 | 10.2 | 1.1 |
| Cycle Q Clear(g_c), s | 1.7 | 11.8 | 19.2 | 13.5 | 2.4 | 2.5 | 16.5 | 27.3 | 27.4 | 1.7 | 10.2 | 1.1 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.28 | 1.00 | | 0.65 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 44 | 445 | 680 | 311 | 689 | 686 | 683 | 647 | 602 | 44 | 680 | 297 |
| V/C Ratio(X) | 0.74 | 0.61 | 0.62 | 0.88 | 0.11 | 0.11 | 0.94 | 0.88 | 0.88 | 0.74 | 0.64 | 0.07 |
| Avail Cap(c_a), veh/h | 120 | 456 | 689 | 391 | 704 | 701 | 683 | 702 | 653 | 83 | 867 | 379 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 43.9 | 30.8 | 19.8 | 36.5 | 17.7 | 17.8 | 35.8 | 27.0 | 27.0 | 43.9 | 33.8 | 30.1 |
| Incr Delay (d2), s/veh | 21.5 | 2.3 | 1.6 | 16.5 | 0.1 | 0.1 | 20.4 | 12.0 | 13.0 | 21.5 | 1.0 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.0 | 5.5 | 6.8 | 7.2 | 1.0 | 1.0 | 8.6 | 13.0 | 12.3 | 1.0 | 4.4 | 0.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 65.4 | 33.1 | 21.5 | 53.0 | 17.8 | 17.8 | 56.2 | 39.0 | 40.0 | 65.4 | 34.8 | 30.2 |
| LnGrp LOS | E | C | C | D | B | B | E | D | D | E | C | C |
| Approach Vol, veh/h | | 725 | | | 424 | | | 1742 | | | 490 | |
| Approach Delay, s/veh | | 27.8 | | | 40.4 | | | 45.6 | | | 36.6 | |
| Approach LOS | | C | | | D | | | D | | | D | |

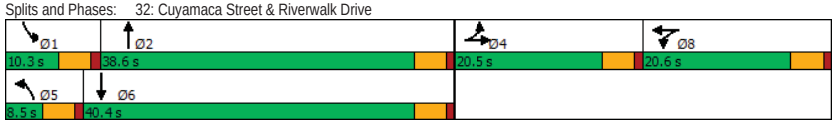
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 6.8 | 37.5 | 20.3 | 26.1 | 22.4 | 21.8 | 6.8 | 39.6 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 4.2 | 35.8 | 19.9 | 22.1 | 17.9 | 22.1 | 6.1 | 35.9 |
| Max Q Clear Time (g_c+I1), s | 3.7 | 29.4 | 15.5 | 21.2 | 18.5 | 12.2 | 3.7 | 4.5 |
| Green Ext Time (p_c), s | 0.0 | 3.6 | 0.3 | 0.4 | 0.0 | 2.0 | 0.0 | 0.9 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 39.8 |
| HCM 6th LOS | D |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 20 | 10 | 20 | 130 | 0 | 40 | 15 | 1357 | 200 | 90 | 1093 | 5 |
| Future Volume (vph) | 20 | 10 | 20 | 130 | 0 | 40 | 15 | 1357 | 200 | 90 | 1093 | 5 |
| Confl. Peds. (#/hr) | | | 7 | | | 5 | | | 15 | | | 5 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | 3 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Split | NA | | Split | NA | | Prot | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | 20.5 | 20.5 | | 20.5 | 20.5 | | 8.5 | 20.5 | | 8.5 | 20.5 | |
| Total Split (s) | 20.5 | 20.5 | | 20.6 | 20.6 | | 8.5 | 38.6 | | 10.3 | 40.4 | |
| Total Split (%) | 22.8% | 22.8% | | 22.9% | 22.9% | | 9.4% | 42.9% | | 11.4% | 44.9% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 90 |
| Actuated Cycle Length: 76.3 |
| Natural Cycle: 110 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 32: Cuyamaca Street & Riverwalk Drive








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 20 | 10 | 20 | 130 | 0 | 40 | 15 | 1357 | 200 | 90 | 1093 | 5 |
| Future Volume (veh/h) | 20 | 10 | 20 | 130 | 0 | 40 | 15 | 1357 | 200 | 90 | 1093 | 5 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.96 | 1.00 | | 0.97 | 1.00 | | 0.96 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 22 | 11 | 22 | 141 | 0 | 43 | 16 | 1475 | 217 | 98 | 1188 | 5 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 91 | 28 | 55 | 203 | 0 | 175 | 27 | 1551 | 224 | 125 | 2017 | 8 |
| Arrive On Green | 0.05 | 0.05 | 0.05 | 0.11 | 0.00 | 0.11 | 0.02 | 0.50 | 0.50 | 0.07 | 0.56 | 0.56 |
| Sat Flow, veh/h | 1781 | 543 | 1085 | 1781 | 0 | 1543 | 1781 | 3098 | 448 | 1781 | 3629 | 15 |
| Grp Volume(v), veh/h | 22 | 0 | 33 | 141 | 0 | 43 | 16 | 835 | 857 | 98 | 582 | 611 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1628 | 1781 | 0 | 1543 | 1781 | 1777 | 1769 | 1781 | 1777 | 1868 |
| Q Serve(g_s), s | 0.8 | 0.0 | 1.3 | 5.2 | 0.0 | 1.7 | 0.6 | 30.2 | 31.9 | 3.7 | 14.7 | 14.7 |
| Cycle Q Clear(g_c), s | 0.8 | 0.0 | 1.3 | 5.2 | 0.0 | 1.7 | 0.6 | 30.2 | 31.9 | 3.7 | 14.7 | 14.7 |
| Prop In Lane | 1.00 | | 0.67 | 1.00 | | 1.00 | 1.00 | | 0.25 | 1.00 | | 0.01 |
| Lane Grp Cap(c), veh/h | 91 | 0 | 83 | 203 | 0 | 175 | 27 | 889 | 886 | 125 | 987 | 1038 |
| V/C Ratio(X) | 0.24 | 0.00 | 0.40 | 0.70 | 0.00 | 0.25 | 0.59 | 0.94 | 0.97 | 0.78 | 0.59 | 0.59 |
| Avail Cap(c_a), veh/h | 419 | 0 | 382 | 421 | 0 | 365 | 105 | 890 | 886 | 152 | 987 | 1038 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 31.1 | 0.0 | 31.3 | 29.0 | 0.0 | 27.5 | 33.3 | 16.0 | 16.5 | 31.1 | 10.0 | 10.0 |
| Incr Delay (d2), s/veh | 1.4 | 0.0 | 3.1 | 4.3 | 0.0 | 0.7 | 18.3 | 17.3 | 22.5 | 19.1 | 0.9 | 0.9 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.4 | 0.0 | 0.6 | 2.4 | 0.0 | 0.6 | 0.4 | 14.3 | 16.1 | 2.2 | 4.8 | 5.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 32.4 | 0.0 | 34.4 | 33.3 | 0.0 | 28.2 | 51.6 | 33.3 | 39.0 | 50.2 | 10.9 | 10.9 |
| LnGrp LOS | C | A | C | C | A | C | D | C | D | D | B | B |
| Approach Vol, veh/h | | 55 | | | 184 | | | 1708 | | | 1291 | |
| Approach Delay, s/veh | | 33.6 | | | 32.1 | | | 36.3 | | | 13.9 | |
| Approach LOS | | C | | | C | | | D | | | B | |

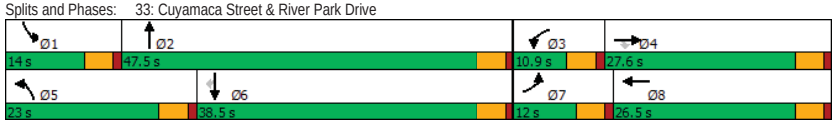
| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 9.3 | 38.6 | | 8.0 | 5.5 | 42.3 | | 12.2 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 5.8 | 34.1 | | 16.0 | 4.0 | 35.9 | | 16.1 | | | | |
| Max Q Clear Time (g_c+I1), s | 5.7 | 33.9 | | 3.3 | 2.6 | 16.7 | | 7.2 | | | | |
| Green Ext Time (p_c), s | 0.0 | 0.2 | | 0.1 | 0.0 | 7.8 | | 0.4 | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 27.1 | |
| HCM 6th LOS | | C | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 107 | 25 | 110 | 60 | 15 | 40 | 260 | 1360 | 90 | 100 | 1070 | 63 |
| Future Volume (vph) | 107 | 25 | 110 | 60 | 15 | 40 | 260 | 1360 | 90 | 100 | 1070 | 63 |
| Confl. Peds. (#/hr) | | | 3 | | | 5 | | | 6 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | | | | 6 |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 26.5 | 26.5 | 8.5 | 26.5 | | 8.5 | 22.5 | | 8.5 | 26.5 | 26.5 |
| Total Split (s) | 12.0 | 27.6 | 27.6 | 10.9 | 26.5 | | 23.0 | 47.5 | | 14.0 | 38.5 | 38.5 |
| Total Split (%) | 12.0% | 27.6% | 27.6% | 10.9% | 26.5% | | 23.0% | 47.5% | | 14.0% | 38.5% | 38.5% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | | None | Min | | None | Min | Min |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 82.7 |
| Natural Cycle: 100 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 33: Cuyamaca Street & River Park Drive








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 107 | 25 | 110 | 60 | 15 | 40 | 260 | 1360 | 90 | 100 | 1070 | 63 |
| Future Volume (veh/h) | 107 | 25 | 110 | 60 | 15 | 40 | 260 | 1360 | 90 | 100 | 1070 | 63 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 116 | 27 | 120 | 65 | 16 | 43 | 283 | 1478 | 98 | 109 | 1163 | 68 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 147 | 224 | 189 | 83 | 37 | 100 | 330 | 1742 | 115 | 140 | 1454 | 647 |
| Arrive On Green | 0.08 | 0.12 | 0.12 | 0.05 | 0.08 | 0.08 | 0.18 | 0.52 | 0.52 | 0.08 | 0.41 | 0.41 |
| Sat Flow, veh/h | 1781 | 1870 | 1573 | 1781 | 442 | 1189 | 1781 | 3377 | 223 | 1781 | 3554 | 1581 |
| Grp Volume(v), veh/h | 116 | 27 | 120 | 65 | 0 | 59 | 283 | 774 | 802 | 109 | 1163 | 68 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1573 | 1781 | 0 | 1631 | 1781 | 1777 | 1823 | 1781 | 1777 | 1581 |
| Q Serve(g_s), s | 4.8 | 1.0 | 5.5 | 2.7 | 0.0 | 2.6 | 11.6 | 28.1 | 28.6 | 4.5 | 21.6 | 2.0 |
| Cycle Q Clear(g_c), s | 4.8 | 1.0 | 5.5 | 2.7 | 0.0 | 2.6 | 11.6 | 28.1 | 28.6 | 4.5 | 21.6 | 2.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.73 | 1.00 | | 0.12 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 147 | 224 | 189 | 83 | 0 | 137 | 330 | 916 | 940 | 140 | 1454 | 647 |
| V/C Ratio(X) | 0.79 | 0.12 | 0.64 | 0.78 | 0.00 | 0.43 | 0.86 | 0.84 | 0.85 | 0.78 | 0.80 | 0.11 |
| Avail Cap(c_a), veh/h | 178 | 574 | 483 | 151 | 0 | 477 | 438 | 1015 | 1042 | 225 | 1606 | 714 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 33.9 | 29.6 | 31.6 | 35.5 | 0.0 | 32.8 | 29.7 | 15.6 | 15.8 | 34.0 | 19.5 | 13.7 |
| Incr Delay (d2), s/veh | 17.5 | 0.2 | 3.5 | 14.5 | 0.0 | 2.1 | 12.4 | 6.2 | 6.5 | 9.0 | 2.7 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.7 | 0.4 | 2.2 | 1.5 | 0.0 | 1.1 | 5.8 | 11.2 | 11.7 | 2.2 | 8.5 | 0.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 51.4 | 29.8 | 35.1 | 50.0 | 0.0 | 34.9 | 42.1 | 21.8 | 22.2 | 43.1 | 22.2 | 13.8 |
| LnGrp LOS | D | C | D | D | A | C | D | C | C | D | C | B |
| Approach Vol, veh/h | | 263 | | | 124 | | | 1859 | | | 1340 | |
| Approach Delay, s/veh | | 41.7 | | | 42.8 | | | 25.1 | | | 23.5 | |
| Approach LOS | | D | | | D | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 10.4 | 43.3 | 8.0 | 13.5 | 18.4 | 35.3 | 10.7 | 10.8 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 9.5 | 43.0 | 6.4 | 23.1 | 18.5 | 34.0 | 7.5 | 22.0 |
| Max Q Clear Time (g_c+I1), s | 6.5 | 30.6 | 4.7 | 7.5 | 13.6 | 23.6 | 6.8 | 4.6 |
| Green Ext Time (p_c), s | 0.1 | 8.2 | 0.0 | 0.4 | 0.4 | 5.8 | 0.0 | 0.2 |

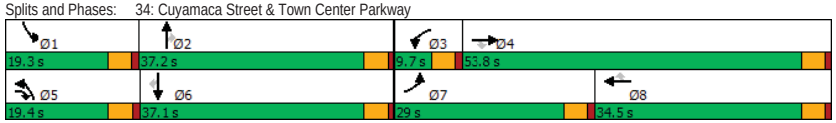
| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 26.3 |
| HCM 6th LOS | C |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 672 | 120 | 235 | 50 | 115 | 227 | 380 | 1286 | 140 | 208 | 1014 | 393 |
| Future Volume (vph) | 672 | 120 | 235 | 50 | 115 | 227 | 380 | 1286 | 140 | 208 | 1014 | 393 |
| Confl. Peds. (#/hr) | | | 12 | | | 9 | | | 17 | | | 4 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | 2 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 7 | 4 | 5 | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | 2 | | | 6 |
| Detector Phase | 7 | 4 | 5 | 3 | 8 | 8 | 5 | 2 | 2 | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 34.5 | 8.5 | 8.5 | 34.5 | 34.5 | 8.5 | 34.5 | 34.5 | 8.5 | 34.5 | 34.5 |
| Total Split (s) | 29.0 | 53.8 | 19.4 | 9.7 | 34.5 | 34.5 | 19.4 | 37.2 | 37.2 | 19.3 | 37.1 | 37.1 |
| Total Split (%) | 24.2% | 44.8% | 16.2% | 8.1% | 28.8% | 28.8% | 16.2% | 31.0% | 31.0% | 16.1% | 30.9% | 30.9% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lead | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | None | None | Min | Min | None | Min | Min |

**Intersection Summary**

Cycle Length: 120
Actuated Cycle Length: 102.6
Natural Cycle: 130
Control Type: Actuated-Uncoordinated

Splits and Phases: 34: Cuyamaca Street & Town Center Parkway








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 672 | 120 | 235 | 50 | 115 | 227 | 380 | 1286 | 140 | 208 | 1014 | 393 |
| Future Volume (veh/h) | 672 | 120 | 235 | 50 | 115 | 227 | 380 | 1286 | 140 | 208 | 1014 | 393 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.97 | 1.00 | | 0.95 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 730 | 130 | 255 | 54 | 125 | 247 | 413 | 1398 | 152 | 226 | 1102 | 427 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 749 | 734 | 825 | 100 | 727 | 316 | 455 | 1475 | 434 | 233 | 1470 | 449 |
| Arrive On Green | 0.22 | 0.39 | 0.39 | 0.03 | 0.20 | 0.20 | 0.13 | 0.29 | 0.29 | 0.13 | 0.29 | 0.29 |
| Sat Flow, veh/h | 3456 | 1870 | 1571 | 3456 | 3554 | 1544 | 3456 | 5106 | 1504 | 1781 | 5106 | 1558 |
| Grp Volume(v), veh/h | 730 | 130 | 255 | 54 | 125 | 247 | 413 | 1398 | 152 | 226 | 1102 | 427 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1870 | 1571 | 1728 | 1777 | 1544 | 1728 | 1702 | 1504 | 1781 | 1702 | 1558 |
| Q Serve(g_s), s | 23.7 | 5.1 | 10.4 | 1.7 | 3.3 | 17.1 | 13.3 | 30.3 | 9.0 | 14.3 | 22.2 | 30.4 |
| Cycle Q Clear(g_c), s | 23.7 | 5.1 | 10.4 | 1.7 | 3.3 | 17.1 | 13.3 | 30.3 | 9.0 | 14.3 | 22.2 | 30.4 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 749 | 734 | 825 | 100 | 727 | 316 | 455 | 1475 | 434 | 233 | 1470 | 449 |
| V/C Ratio(X) | 0.97 | 0.18 | 0.31 | 0.54 | 0.17 | 0.78 | 0.91 | 0.95 | 0.35 | 0.97 | 0.75 | 0.95 |
| Avail Cap(c_a), veh/h | 749 | 815 | 894 | 159 | 943 | 410 | 455 | 1477 | 435 | 233 | 1472 | 449 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 44.0 | 22.4 | 15.3 | 54.2 | 37.1 | 42.6 | 48.4 | 39.4 | 31.8 | 48.9 | 36.6 | 39.5 |
| Incr Delay (d2), s/veh | 26.7 | 0.1 | 0.2 | 4.5 | 0.1 | 7.2 | 21.7 | 13.1 | 0.5 | 50.1 | 2.2 | 30.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 12.8 | 2.3 | 3.7 | 0.8 | 1.4 | 7.1 | 7.0 | 14.1 | 3.3 | 9.5 | 9.3 | 15.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 70.7 | 22.6 | 15.5 | 58.7 | 37.2 | 49.8 | 70.1 | 52.5 | 32.3 | 99.1 | 38.7 | 69.9 |
| LnGrp LOS | E | C | B | E | D | D | E | D | C | F | D | E |
| Approach Vol, veh/h | | 1115 | | | 426 | | | 1963 | | | 1755 | |
| Approach Delay, s/veh | | 52.5 | | | 47.2 | | | 54.6 | | | 54.1 | |
| Approach LOS | | D | | | D | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 19.3 | 37.2 | 7.8 | 48.9 | 19.4 | 37.1 | 29.0 | 27.6 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 14.8 | 32.7 | 5.2 | 49.3 | 14.9 | 32.6 | 24.5 | 30.0 |
| Max Q Clear Time (g_c+I1), s | 16.3 | 32.3 | 3.7 | 12.4 | 15.3 | 32.4 | 25.7 | 19.1 |
| Green Ext Time (p_c), s | 0.0 | 0.3 | 0.0 | 1.7 | 0.0 | 0.2 | 0.0 | 1.2 |

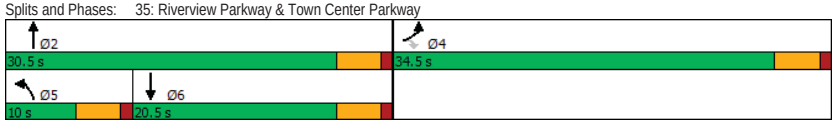
**Intersection Summary**

| | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 53.4 |
| HCM 6th LOS | | D |

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 20 | 237 | 203 | 240 | 140 | 10 |
| Future Volume (vph) | 20 | 237 | 203 | 240 | 140 | 10 |
| Confl. Peds. (#/hr) | | | | | | |
| Confl. Bikes (#/hr) | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | Prot | NA | NA | |
| Protected Phases | 4 | | 5 | 2 | 6 | |
| Permitted Phases | | 4 | | | | |
| Detector Phase | 4 | 4 | 5 | 2 | 6 | |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Minimum Split (s) | 34.5 | 34.5 | 8.5 | 25.5 | 20.5 | |
| Total Split (s) | 34.5 | 34.5 | 10.0 | 30.5 | 20.5 | |
| Total Split (%) | 53.1% | 53.1% | 15.4% | 46.9% | 31.5% | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lead/Lag | | | Lead | | Lag | |
| Lead-Lag Optimize? | | | Yes | | Yes | |
| Recall Mode | None | None | None | Min | Min | |

| Intersection Summary |
|---|
| Cycle Length: 65 |
| Actuated Cycle Length: 37.1 |
| Natural Cycle: 70 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 35: Riverview Parkway & Town Center Parkway








| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 20 | 237 | 203 | 240 | 140 | 10 |
| Future Volume (veh/h) | 20 | 237 | 203 | 240 | 140 | 10 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 22 | 258 | 221 | 261 | 152 | 11 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 402 | 357 | 279 | 1623 | 475 | 34 |
| Arrive On Green | 0.23 | 0.23 | 0.16 | 0.46 | 0.14 | 0.14 |
| Sat Flow, veh/h | 1781 | 1585 | 1781 | 3647 | 3456 | 241 |
| Grp Volume(v), veh/h | 22 | 258 | 221 | 261 | 80 | 83 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 1781 | 1777 | 1777 | 1827 |
| Q Serve(g_s), s | 0.3 | 4.3 | 3.4 | 1.2 | 1.1 | 1.2 |
| Cycle Q Clear(g_c), s | 0.3 | 4.3 | 3.4 | 1.2 | 1.1 | 1.2 |
| Prop In Lane | 1.00 | 1.00 | 1.00 | | | 0.13 |
| Lane Grp Cap(c), veh/h | 402 | 357 | 279 | 1623 | 251 | 258 |
| V/C Ratio(X) | 0.05 | 0.72 | 0.79 | 0.16 | 0.32 | 0.32 |
| Avail Cap(c_a), veh/h | 1886 | 1678 | 346 | 3261 | 1003 | 1032 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 8.6 | 10.1 | 11.5 | 4.5 | 10.9 | 10.9 |
| Incr Delay (d2), s/veh | 0.1 | 2.8 | 9.6 | 0.0 | 0.7 | 0.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.1 | 0.3 | 1.7 | 0.2 | 0.4 | 0.4 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 8.7 | 12.9 | 21.1 | 4.6 | 11.7 | 11.7 |
| LnGrp LOS | A | B | C | A | B | B |
| Approach Vol, veh/h | 280 | | | 482 | 163 | |
| Approach Delay, s/veh | 12.6 | | | 12.1 | 11.7 | |
| Approach LOS | B | | | B | B | |

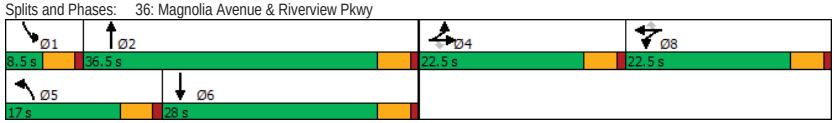
| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 17.4 | | 10.9 | 8.9 | 8.5 |
| Change Period (Y+Rc), s | | 4.5 | | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | | 26.0 | | 30.0 | 5.5 | 16.0 |
| Max Q Clear Time (g_c+I1), s | | 3.2 | | 6.3 | 5.4 | 3.2 |
| Green Ext Time (p_c), s | | 1.6 | | 0.9 | 0.0 | 0.6 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 12.2 | |
| HCM 6th LOS | B | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 5 | 0 | 130 | 90 | 0 | 20 | 270 | 1410 | 90 | 20 | 880 | 30 |
| Future Volume (vph) | 5 | 0 | 130 | 90 | 0 | 20 | 270 | 1410 | 90 | 20 | 880 | 30 |
| Confl. Peds. (#/hr) | | | 8 | | | | | | | | | 1 |
| Confl. Bikes (#/hr) | | | | | | 6 | | | 4 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Split | NA | Perm | Split | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | | | | |
| Detector Phase | 4 | 4 | 4 | 8 | 8 | 8 | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 8.5 | 22.5 | | 8.5 | 22.5 | |
| Total Split (s) | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 17.0 | 36.5 | | 8.5 | 28.0 | |
| Total Split (%) | 25.0% | 25.0% | 25.0% | 25.0% | 25.0% | 25.0% | 18.9% | 40.6% | | 9.4% | 31.1% | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | None | None | None | None | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 90 |
| Actuated Cycle Length: 65.3 |
| Natural Cycle: 110 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 36: Magnolia Avenue & Riverview Pkwy






Year 2035 + Proj PM (No School) Fanita Ranch
36: Magnolia Avenue & Riverview Pkwy 06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 5 | 0 | 130 | 90 | 0 | 20 | 270 | 1410 | 90 | 20 | 880 | 30 |
| Future Volume (veh/h) | 5 | 0 | 130 | 90 | 0 | 20 | 270 | 1410 | 90 | 20 | 880 | 30 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 5 | 0 | 141 | 98 | 0 | 22 | 293 | 1533 | 98 | 22 | 957 | 33 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 224 | 0 | 195 | 143 | 0 | 123 | 338 | 1675 | 106 | 36 | 1137 | 39 |
| Arrive On Green | 0.13 | 0.00 | 0.13 | 0.08 | 0.00 | 0.08 | 0.19 | 0.49 | 0.49 | 0.02 | 0.32 | 0.32 |
| Sat Flow, veh/h | 1781 | 0 | 1555 | 1781 | 0 | 1540 | 1781 | 3387 | 215 | 1781 | 3501 | 121 |
| Grp Volume(v), veh/h | 5 | 0 | 141 | 98 | 0 | 22 | 293 | 800 | 831 | 22 | 486 | 504 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1555 | 1781 | 0 | 1540 | 1781 | 1777 | 1826 | 1781 | 1777 | 1845 |
| Q Serve(g_s), s | 0.2 | 0.0 | 5.6 | 3.4 | 0.0 | 0.9 | 10.3 | 26.6 | 27.2 | 0.8 | 16.3 | 16.3 |
| Cycle Q Clear(g_c), s | 0.2 | 0.0 | 5.6 | 3.4 | 0.0 | 0.9 | 10.3 | 26.6 | 27.2 | 0.8 | 16.3 | 16.3 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.12 | 1.00 | | 0.07 |
| Lane Grp Cap(c), veh/h | 224 | 0 | 195 | 143 | 0 | 123 | 338 | 878 | 903 | 36 | 577 | 599 |
| V/C Ratio(X) | 0.02 | 0.00 | 0.72 | 0.69 | 0.00 | 0.18 | 0.87 | 0.91 | 0.92 | 0.61 | 0.84 | 0.84 |
| Avail Cap(c_a), veh/h | 498 | 0 | 435 | 498 | 0 | 431 | 346 | 884 | 908 | 111 | 649 | 674 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 24.7 | 0.0 | 27.1 | 28.8 | 0.0 | 27.6 | 25.3 | 15.0 | 15.1 | 31.3 | 20.2 | 20.2 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 5.0 | 5.8 | 0.0 | 0.7 | 19.7 | 13.3 | 14.3 | 15.6 | 8.9 | 8.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.1 | 0.0 | 2.2 | 1.6 | 0.0 | 0.3 | 5.8 | 11.5 | 12.3 | 0.5 | 7.1 | 7.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 24.7 | 0.0 | 32.0 | 34.6 | 0.0 | 28.3 | 45.0 | 28.3 | 29.4 | 46.9 | 29.1 | 28.8 |
| LnGrp LOS | C | A | C | C | A | C | D | C | C | D | C | C |
| Approach Vol, veh/h | | 146 | | | 120 | | | 1924 | | | 1012 | |
| Approach Delay, s/veh | | 31.8 | | | 33.4 | | | 31.3 | | | 29.4 | |
| Approach LOS | | C | | | C | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.8 | 36.3 | | 12.6 | 16.7 | 25.4 | | 9.7 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 4.0 | 32.0 | | 18.0 | 12.5 | 23.5 | | 18.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.8 | 29.2 | | 7.6 | 12.3 | 18.3 | | 5.4 | | | | |
| Green Ext Time (p_c), s | 0.0 | 2.3 | | 0.3 | 0.0 | 2.5 | | 0.4 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 30.8 | |
| HCM 6th LOS | C | |

| Intersection | |
|---|---|
| Int Delay, s/veh | 33.2 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 0 | 20 | 0 | 146 | 300 | 867 | 0 | 0 | 307 | 800 |
| Future Vol, veh/h | 0 | 0 | 0 | 20 | 0 | 146 | 300 | 867 | 0 | 0 | 307 | 800 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| Sign Control | Free | Free | Free | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | 190 | - | - | - | - | - |
| Veh in Median Storage, # | - | 2 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 0 | 22 | 0 | 159 | 326 | 942 | 0 | 0 | 334 | 870 |

| Major/Minor | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 2363 | 2798 | 942 | 1204 | 0 | - | - | - | 0 |
| Stage 1 | 1594 | 1594 | - | - | - | - | - | - | - |
| Stage 2 | 769 | 1204 | - | - | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.52 | 6.22 | 4.12 | - | - | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 2.218 | - | - | - | - | - |
| Pot Cap-1 Maneuver | 39 | 18 | 319 | 580 | - | 0 | 0 | - | - |
| Stage 1 | 183 | 166 | - | - | - | 0 | 0 | - | - |
| Stage 2 | 457 | 257 | - | - | - | 0 | 0 | - | - |
| Platoon blocked, % | | | | | - | | | - | - |
| Mov Cap-1 Maneuver | ~ 17 | 0 | 319 | 580 | - | - | - | - | - |
| Mov Cap-2 Maneuver | ~ 17 | 0 | - | - | - | - | - | - | - |
| Stage 1 | 80 | 0 | - | - | - | - | - | - | - |
| Stage 2 | 457 | 0 | - | - | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | $ 454.2 | 4.9 | 0 |
| HCM LOS | F | | |

| Minor Lane/Major Mvmt | NBL | NBT | WBLn1 | SBT | SBR |
|---|---|---|---|---|---|
| Capacity (veh/h) | 580 | - | 102 | - | - |
| HCM Lane V/C Ratio | 0.562 | - | 1.769 | - | - |
| HCM Control Delay (s) | 18.9 | - | $ 454.2 | - | - |
| HCM Lane LOS | C | - | F | - | - |
| HCM 95th %tile Q(veh) | 3.5 | - | 14.5 | - | - |

| Notes |
|---|
| ~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon |

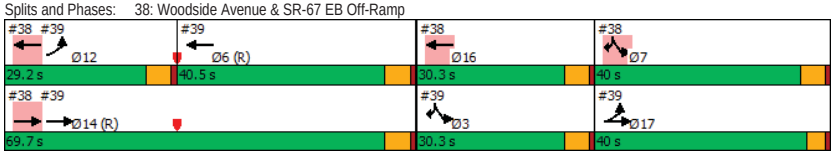




| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR | Ø3 | Ø6 | Ø12 | Ø16 | Ø17 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 650 | 150 | 0 | 820 | 130 | | | | | |
| Future Volume (vph) | 0 | 650 | 150 | 0 | 820 | 130 | | | | | |
| Confl. Peds. (#/hr) | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | | | |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | | | | | |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| Parking (#/hr) | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | | | | | | |
| Shared Lane Traffic (%) | | | | | | | | | | | |
| Turn Type | | NA | NA | | Prot | Prot | | | | | |
| Protected Phases | | 14 | 12 16 | | 7 | 7 | 3 | 6 | 12 | 16 | 17 |
| Permitted Phases | | | | | | | | | | | |
| Detector Phase | | 14 | 12 16 | | 7 | 7 | | | | | |
| Switch Phase | | | | | | | | | | | |
| Minimum Initial (s) | | 4.0 | | | 8.0 | 8.0 | 5.0 | 5.0 | 5.0 | 2.0 | 5.0 |
| Minimum Split (s) | | 20.0 | | | 27.3 | 27.3 | 30.3 | 29.3 | 24.3 | 20.0 | 9.2 |
| Total Split (s) | | 69.7 | | | 40.0 | 40.0 | 30.3 | 40.5 | 29.2 | 30.3 | 40.0 |
| Total Split (%) | | 49.8% | | | 28.6% | 28.6% | 22% | 29% | 21% | 22% | 29% |
| Yellow Time (s) | | 4.3 | | | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 3.2 |
| All-Red Time (s) | | 1.0 | | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | | 0.0 | | | 0.0 | 0.0 | | | | | |
| Total Lost Time (s) | | 5.3 | | | 5.3 | 5.3 | | | | | |
| Lead/Lag | | | | | | | | Lag | Lead | | |
| Lead-Lag Optimize? | | | | | | | | Yes | Yes | | |
| Recall Mode | | C-Max | | | Max | Max | None | C-Max | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 140 |
| Actuated Cycle Length: 140 |
| Offset: 0 (0%), Referenced to phase 6:WBT and 14:EBT, Start of Green |
| Natural Cycle: 145 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 38: Woodside Avenue & SR-67 EB Off-Ramp



Year 2035 + Proj PM (No School) — Fanita Ranch
38: Woodside Avenue & SR-67 EB Off-Ramp — 06/06/2019

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 650 | 150 | 0 | 820 | 130 |
| Future Volume (vph) | 0 | 650 | 150 | 0 | 820 | 130 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 5.3 | 5.3 | | 5.3 | 5.3 |
| Lane Util. Factor | | 0.95 | 1.00 | | 0.97 | 1.00 |
| Frt | | 1.00 | 1.00 | | 1.00 | 0.85 |
| Flt Protected | | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | | 3539 | 1863 | | 3433 | 1583 |
| Flt Permitted | | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (perm) | | 3539 | 1863 | | 3433 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 0 | 707 | 163 | 0 | 891 | 141 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 24 |
| Lane Group Flow (vph) | 0 | 707 | 163 | 0 | 891 | 117 |
| Turn Type | | NA | NA | | Prot | Prot |
| Protected Phases | | 14 | 12 16 | | 7 | 7 |
| Permitted Phases | | | | | | |
| Actuated Green, G (s) | | 64.4 | 47.2 | | 36.4 | 36.4 |
| Effective Green, g (s) | | 64.4 | 47.2 | | 36.4 | 36.4 |
| Actuated g/C Ratio | | 0.46 | 0.34 | | 0.26 | 0.26 |
| Clearance Time (s) | | 5.3 | | | 5.3 | 5.3 |
| Vehicle Extension (s) | | 1.0 | | | 3.0 | 3.0 |
| Lane Grp Cap (vph) | | 1627 | 628 | | 892 | 411 |
| v/s Ratio Prot | | c0.20 | c0.09 | | c0.26 | 0.07 |
| v/s Ratio Perm | | | | | | |
| v/c Ratio | | 0.43 | 0.26 | | 1.00 | 0.29 |
| Uniform Delay, d1 | | 25.5 | 33.7 | | 51.8 | 41.4 |
| Progression Factor | | 1.00 | 1.15 | | 1.00 | 1.00 |
| Incremental Delay, d2 | | 0.8 | 0.1 | | 29.9 | 1.7 |
| Delay (s) | | 26.4 | 39.0 | | 81.6 | 43.1 |
| Level of Service | | C | D | | F | D |
| Approach Delay (s) | | 26.4 | 39.0 | | 76.4 | |
| Approach LOS | | C | D | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 54.6 | HCM 2000 Level of Service | D |
| HCM 2000 Volume to Capacity ratio | 0.59 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 21.2 |
| Intersection Capacity Utilization | 50.2% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

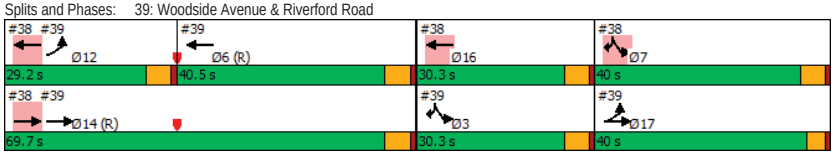


Year 2035 + Proj PM (No School) — Fanita Ranch
39: Woodside Avenue & Riverford Road — 06/06/2019

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR | Ø7 | Ø12 | Ø14 | Ø16 | Ø17 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | |
| Traffic Volume (vph) | 730 | 740 | 110 | 377 | 237 | 40 | | | | | |
| Future Volume (vph) | 730 | 740 | 110 | 377 | 237 | 40 | | | | | |
| Confl. Peds. (#/hr) | | | | | | 2 | | | | | |
| Confl. Bikes (#/hr) | | | | 2 | | 1 | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | | | |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | | | | | |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| Parking (#/hr) | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | | | | | | |
| Shared Lane Traffic (%) | | | | | | | | | | | |
| Turn Type | Prot | NA | NA | | Prot | Prot | | | | | |
| Protected Phases | 12 17 | 14 17 | 6 | | 3 | 3 | 7 | 12 | 14 | 16 | 17 |
| Permitted Phases | | | | | | | | | | | |
| Detector Phase | 12 17 | 14 17 | 6 | | 3 | 3 | | | | | |
| Switch Phase | | | | | | | | | | | |
| Minimum Initial (s) | | | 5.0 | | 5.0 | 5.0 | 8.0 | 5.0 | 4.0 | 2.0 | 5.0 |
| Minimum Split (s) | | | 29.3 | | 30.3 | 30.3 | 27.3 | 24.3 | 20.0 | 20.0 | 9.2 |
| Total Split (s) | | | 40.5 | | 30.3 | 30.3 | 40.0 | 29.2 | 69.7 | 30.3 | 40.0 |
| Total Split (%) | | | 28.9% | | 21.6% | 21.6% | 29% | 21% | 50% | 22% | 29% |
| Yellow Time (s) | | | 4.3 | | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 3.2 |
| All-Red Time (s) | | | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | | | 0.0 | | 0.0 | 0.0 | | | | | |
| Total Lost Time (s) | | | 5.3 | | 5.3 | 5.3 | | | | | |
| Lead/Lag | | | Lag | | | | | Lead | | | |
| Lead-Lag Optimize? | | | Yes | | | | | Yes | | | |
| Recall Mode | | | C-Max | | None | None | Max | None | C-Max | None | None |

| Intersection Summary |
|---|
| Cycle Length: 140 |
| Actuated Cycle Length: 140 |
| Offset: 0 (0%), Referenced to phase 6:WBT and 14:EBT, Start of Green |
| Natural Cycle: 145 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 39: Woodside Avenue & Riverford Road



Year 2035 + Proj PM (No School) — Fanita Ranch
39: Woodside Avenue & Riverford Road — 06/06/2019

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 730 | 740 | 110 | 377 | 237 | 40 |
| Future Volume (vph) | 730 | 740 | 110 | 377 | 237 | 40 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.3 | 5.3 | 5.3 | | 5.3 | 5.3 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.98 | | 1.00 | 1.00 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.90 | | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | 1770 | 1863 | 1639 | | 1770 | 1583 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (perm) | 1770 | 1863 | 1639 | | 1770 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 793 | 804 | 120 | 410 | 258 | 43 |
| RTOR Reduction (vph) | 0 | 0 | 88 | 0 | 0 | 27 |
| Lane Group Flow (vph) | 793 | 804 | 442 | 0 | 258 | 16 |
| Confl. Peds. (#/hr) | | | | | | 2 |
| Confl. Bikes (#/hr) | | | | 2 | | 1 |
| Turn Type | Prot | NA | NA | | Prot | Prot |
| Protected Phases | 12 17 | 14 17 | 6 | | 3 | 3 |
| Permitted Phases | | | | | | |
| Actuated Green, G (s) | 65.6 | 106.1 | 35.2 | | 23.3 | 23.3 |
| Effective Green, g (s) | 61.4 | 101.9 | 35.2 | | 23.3 | 23.3 |
| Actuated g/C Ratio | 0.44 | 0.73 | 0.25 | | 0.17 | 0.17 |
| Clearance Time (s) | | | 5.3 | | 5.3 | 5.3 |
| Vehicle Extension (s) | | | 3.0 | | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 776 | 1355 | 412 | | 294 | 263 |
| v/s Ratio Prot | c0.45 | 0.43 | c0.27 | | c0.15 | 0.01 |
| v/s Ratio Perm | | | | | | |
| v/c Ratio | 1.02 | 0.59 | 1.07 | | 0.88 | 0.06 |
| Uniform Delay, d1 | 39.3 | 9.1 | 52.4 | | 57.0 | 49.1 |
| Progression Factor | 0.36 | 0.16 | 1.00 | | 1.00 | 1.00 |
| Incremental Delay, d2 | 31.6 | 0.5 | 65.5 | | 24.2 | 0.1 |
| Delay (s) | 45.7 | 1.9 | 117.9 | | 81.1 | 49.2 |
| Level of Service | D | A | F | | F | D |
| Approach Delay (s) | | 23.7 | 117.9 | | 76.6 | |
| Approach LOS | | C | F | | E | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| HCM 2000 Control Delay | 50.8 | HCM 2000 Level of Service | D | |
| HCM 2000 Volume to Capacity ratio | 1.02 | | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 21.2 | |
| Intersection Capacity Utilization | 96.3% | ICU Level of Service | F | |
| Analysis Period (min) | 15 | | | |

c Critical Lane Group

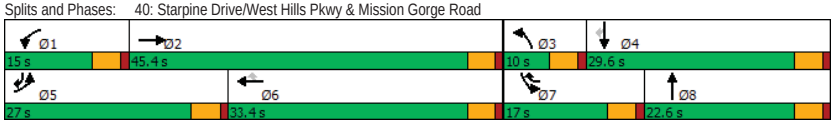


Year 2035 + Proj PM (No School) — Fanita Ranch
40: Starpine Drive/West Hills Pkwy & Mission Gorge Road — 06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 636 | 880 | 85 | 85 | 485 | 280 | 30 | 40 | 60 | 260 | 60 | 403 |
| Future Volume (vph) | 636 | 880 | 85 | 85 | 485 | 280 | 30 | 40 | 60 | 260 | 60 | 403 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | 1 |
| Confl. Bikes (#/hr) | | | 5 | | | 6 | | | | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Prot | NA | | Prot | NA | pm+ov |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 5 |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 5 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 29.5 | | 8.5 | 29.5 | 8.5 | 8.5 | 22.5 | | 8.5 | 29.5 | 8.5 |
| Total Split (s) | 27.0 | 45.4 | | 15.0 | 33.4 | 17.0 | 10.0 | 22.6 | | 17.0 | 29.6 | 27.0 |
| Total Split (%) | 27.0% | 45.4% | | 15.0% | 33.4% | 17.0% | 10.0% | 22.6% | | 17.0% | 29.6% | 27.0% |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | Lead |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | Min | | None | Min | None | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 75.5 |
| Natural Cycle: 90 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 40: Starpine Drive/West Hills Pkwy & Mission Gorge Road



Year 2035 + Proj PM (No School) — Fanita Ranch
40: Starpine Drive/West Hills Pkwy & Mission Gorge Road — 06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 636 | 880 | 85 | 85 | 485 | 280 | 30 | 40 | 60 | 260 | 60 | 403 |
| Future Volume (veh/h) | 636 | 880 | 85 | 85 | 485 | 280 | 30 | 40 | 60 | 260 | 60 | 403 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 1.00 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 691 | 957 | 92 | 92 | 527 | 304 | 33 | 43 | 65 | 283 | 65 | 438 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 856 | 1400 | 135 | 119 | 880 | 571 | 50 | 68 | 103 | 404 | 356 | 1205 |
| Arrive On Green | 0.25 | 0.43 | 0.43 | 0.07 | 0.25 | 0.25 | 0.03 | 0.10 | 0.10 | 0.12 | 0.19 | 0.19 |
| Sat Flow, veh/h | 3456 | 3267 | 314 | 1781 | 3554 | 1557 | 1781 | 672 | 1016 | 3456 | 1870 | 2705 |
| Grp Volume(v), veh/h | 691 | 520 | 529 | 92 | 527 | 304 | 33 | 0 | 108 | 283 | 65 | 438 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1805 | 1781 | 1777 | 1557 | 1781 | 0 | 1688 | 1728 | 1870 | 1353 |
| Q Serve(g_s), s | 11.8 | 14.9 | 14.9 | 3.2 | 8.2 | 9.7 | 1.2 | 0.0 | 3.9 | 4.9 | 1.8 | 6.8 |
| Cycle Q Clear(g_c), s | 11.8 | 14.9 | 14.9 | 3.2 | 8.2 | 9.7 | 1.2 | 0.0 | 3.9 | 4.9 | 1.8 | 6.8 |
| Prop In Lane | 1.00 | | 0.17 | 1.00 | | 1.00 | 1.00 | | 0.60 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 856 | 761 | 773 | 119 | 880 | 571 | 50 | 0 | 170 | 404 | 356 | 1205 |
| V/C Ratio(X) | 0.81 | 0.68 | 0.68 | 0.77 | 0.60 | 0.53 | 0.66 | 0.00 | 0.63 | 0.70 | 0.18 | 0.36 |
| Avail Cap(c_a), veh/h | 1238 | 1157 | 1175 | 298 | 1636 | 902 | 156 | 0 | 486 | 688 | 748 | 1772 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 22.2 | 14.5 | 14.5 | 28.8 | 20.9 | 15.7 | 30.2 | 0.0 | 27.1 | 26.7 | 21.3 | 11.8 |
| Incr Delay (d2), s/veh | 2.6 | 1.1 | 1.1 | 10.0 | 0.7 | 0.8 | 14.2 | 0.0 | 3.9 | 2.2 | 0.2 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 4.3 | 4.6 | 4.7 | 1.5 | 3.0 | 3.2 | 0.7 | 0.0 | 1.7 | 2.0 | 0.7 | 1.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 24.8 | 15.6 | 15.6 | 38.8 | 21.5 | 16.5 | 44.4 | 0.0 | 31.0 | 28.9 | 21.6 | 12.0 |
| LnGrp LOS | C | B | B | D | C | B | D | A | C | C | C | B |
| Approach Vol, veh/h | | 1740 | | | 923 | | | 141 | | | 786 | |
| Approach Delay, s/veh | | 19.3 | | | 21.6 | | | 34.1 | | | 18.9 | |
| Approach LOS | | B | | | C | | | C | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 8.7 | 31.4 | 6.3 | 16.4 | 20.1 | 20.0 | 11.8 | 10.8 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 10.5 | 40.9 | 5.5 | 25.1 | 22.5 | 28.9 | 12.5 | 18.1 |
| Max Q Clear Time (g_c+I1), s | 5.2 | 16.9 | 3.2 | 8.8 | 13.8 | 11.7 | 6.9 | 5.9 |
| Green Ext Time (p_c), s | 0.1 | 6.2 | 0.0 | 1.9 | 1.8 | 3.9 | 0.5 | 0.4 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 20.4 |
| HCM 6th LOS | C |

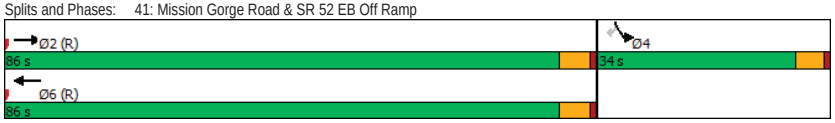


Year 2035 + Proj PM (No School) — Fanita Ranch
41: Mission Gorge Road & SR 52 EB Off Ramp — 06/06/2019

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 1195 | 815 | 0 | 358 | 65 |
| Future Volume (vph) | 0 | 1195 | 815 | 0 | 358 | 65 |
| Confl. Peds. (#/hr) | | | | | | |
| Confl. Bikes (#/hr) | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | | NA | NA | | Prot | Perm |
| Protected Phases | | 2 | 6 | | 4 | |
| Permitted Phases | | | | | | 4 |
| Detector Phase | | 2 | 6 | | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | | 6.0 | 11.0 | | 10.0 | 10.0 |
| Minimum Split (s) | | 20.0 | 20.0 | | 20.0 | 20.0 |
| Total Split (s) | | 86.0 | 86.0 | | 34.0 | 34.0 |
| Total Split (%) | | 71.7% | 71.7% | | 28.3% | 28.3% |
| Yellow Time (s) | | 4.4 | 4.4 | | 4.1 | 4.1 |
| All-Red Time (s) | | 1.0 | 1.0 | | 1.0 | 1.0 |
| Lost Time Adjust (s) | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | | 5.4 | 5.4 | | 5.1 | 5.1 |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | | C-Min | C-Min | | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green, Master Intersection |
| Natural Cycle: 45 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 41: Mission Gorge Road & SR 52 EB Off Ramp



| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 1195 | 815 | 0 | 358 | 65 |
| Future Volume (veh/h) | 0 | 1195 | 815 | 0 | 358 | 65 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 0 | 1870 | 1870 | 0 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 1299 | 886 | 0 | 389 | 71 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 0 | 2 | 2 | 0 | 2 | 2 |
| Cap, veh/h | 0 | 2753 | 2753 | 0 | 476 | 218 |
| Arrive On Green | 0.00 | 0.77 | 1.00 | 0.00 | 0.14 | 0.14 |
| Sat Flow, veh/h | 0 | 3741 | 3741 | 0 | 3456 | 1585 |
| Grp Volume(v), veh/h | 0 | 1299 | 886 | 0 | 389 | 71 |
| Grp Sat Flow(s),veh/h/ln | 0 | 1777 | 1777 | 0 | 1728 | 1585 |
| Q Serve(g_s), s | 0.0 | 15.6 | 0.0 | 0.0 | 13.1 | 4.9 |
| Cycle Q Clear(g_c), s | 0.0 | 15.6 | 0.0 | 0.0 | 13.1 | 4.9 |
| Prop In Lane | 0.00 | | | 0.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 0 | 2753 | 2753 | 0 | 476 | 218 |
| V/C Ratio(X) | 0.00 | 0.47 | 0.32 | 0.00 | 0.82 | 0.33 |
| Avail Cap(c_a), veh/h | 0 | 2753 | 2753 | 0 | 832 | 382 |
| HCM Platoon Ratio | 1.00 | 1.00 | 2.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.00 | 1.00 | 0.93 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 0.0 | 4.8 | 0.0 | 0.0 | 50.3 | 46.7 |
| Incr Delay (d2), s/veh | 0.0 | 0.6 | 0.3 | 0.0 | 3.5 | 0.9 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 5.0 | 0.1 | 0.0 | 5.9 | 2.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 5.4 | 0.3 | 0.0 | 53.8 | 47.5 |
| LnGrp LOS | A | A | A | A | D | D |
| Approach Vol, veh/h | | 1299 | 886 | | 460 | |
| Approach Delay, s/veh | | 5.4 | 0.3 | | 52.8 | |
| Approach LOS | | A | A | | D | |

| Timer - Assigned Phs | 2 | | 4 | | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 98.4 | | 21.6 | | 98.4 |
| Change Period (Y+Rc), s | 5.4 | | 5.1 | | 5.4 |
| Max Green Setting (Gmax), s | 80.6 | | 28.9 | | 80.6 |
| Max Q Clear Time (g_c+I1), s | 17.6 | | 15.1 | | 2.0 |
| Green Ext Time (p_c), s | 14.7 | | 1.4 | | 7.2 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 11.9 |
| HCM 6th LOS | | B |

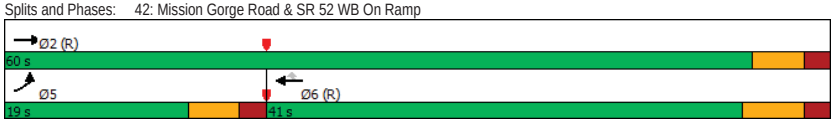




| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 100 | 1453 | 815 | 257 | 0 | 0 |
| Future Volume (vph) | 100 | 1453 | 815 | 257 | 0 | 0 |
| Confl. Peds. (#/hr) | | | | | | |
| Confl. Bikes (#/hr) | | | | 1 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | |
| Shared Lane Traffic (%) | | | | 10% | | |
| Turn Type | Prot | NA | NA | Perm | | |
| Protected Phases | 5 | 2 | 6 | | | |
| Permitted Phases | | | | 6 | | |
| Detector Phase | 5 | 2 | 6 | 6 | | |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 10.0 | 10.0 | | |
| Minimum Split (s) | 10.7 | 21.0 | 22.4 | 22.4 | | |
| Total Split (s) | 19.0 | 60.0 | 41.0 | 41.0 | | |
| Total Split (%) | 31.7% | 100.0% | 68.3% | 68.3% | | |
| Yellow Time (s) | 3.7 | 3.7 | 4.4 | 4.4 | | |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | 2.0 | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | | |
| Total Lost Time (s) | 5.7 | 5.7 | 6.4 | 6.4 | | |
| Lead/Lag | Lead | | Lag | Lag | | |
| Lead-Lag Optimize? | Yes | | Yes | Yes | | |
| Recall Mode | None | C-Min | C-Min | C-Min | | |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 60 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 40 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 42: Mission Gorge Road & SR 52 WB On Ramp



Year 2035 + Proj PM (No School) — Fanita Ranch
42: Mission Gorge Road & SR 52 WB On Ramp — 06/06/2019

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 100 | 1453 | 815 | 257 | 0 | 0 |
| Future Volume (veh/h) | 100 | 1453 | 815 | 257 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 0.98 | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Work Zone On Approach | | No | No | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | | |
| Adj Flow Rate, veh/h | 109 | 1579 | 886 | 279 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | | |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | | |
| Cap, veh/h | 141 | 3175 | 2691 | 1117 | | |
| Arrive On Green | 0.16 | 1.00 | 0.96 | 0.96 | | |
| Sat Flow, veh/h | 1781 | 3647 | 3741 | 1553 | | |
| Grp Volume(v), veh/h | 109 | 1579 | 886 | 279 | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1870 | 1553 | | |
| Q Serve(g_s), s | 3.5 | 0.0 | 0.9 | 0.6 | | |
| Cycle Q Clear(g_c), s | 3.5 | 0.0 | 0.9 | 0.6 | | |
| Prop In Lane | 1.00 | | | 1.00 | | |
| Lane Grp Cap(c), veh/h | 141 | 3175 | 2691 | 1117 | | |
| V/C Ratio(X) | 0.78 | 0.50 | 0.33 | 0.25 | | |
| Avail Cap(c_a), veh/h | 395 | 3216 | 2691 | 1117 | | |
| HCM Platoon Ratio | 2.00 | 2.00 | 1.33 | 1.33 | | |
| Upstream Filter(I) | 0.83 | 0.83 | 0.96 | 0.96 | | |
| Uniform Delay (d), s/veh | 24.8 | 0.0 | 0.4 | 0.4 | | |
| Incr Delay (d2), s/veh | 7.4 | 0.5 | 0.3 | 0.5 | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | | |
| %ile BackOfQ(50%),veh/ln | 1.6 | 0.2 | 0.2 | 0.2 | | |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 32.1 | 0.5 | 0.7 | 0.9 | | |
| LnGrp LOS | C | A | A | A | | |
| Approach Vol, veh/h | | 1688 | 1165 | | | |
| Approach Delay, s/veh | | 2.5 | 0.7 | | | |
| Approach LOS | | A | A | | | |

| Timer - Assigned Phs | | 2 | | | 5 | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 60.0 | | | 10.4 | 49.6 |
| Change Period (Y+Rc), s | | * 6.4 | | | * 5.7 | 6.4 |
| Max Green Setting (Gmax), s | | * 54 | | | * 13 | 34.6 |
| Max Q Clear Time (g_c+I1), s | | 2.0 | | | 5.5 | 2.9 |
| Green Ext Time (p_c), s | | 4.6 | | | 0.1 | 8.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 1.8 |
| HCM 6th LOS | A |

**Notes**

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

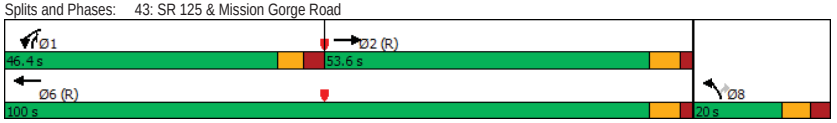


Year 2035 + Proj PM (No School) — Fanita Ranch
43: SR 125 & Mission Gorge Road — 06/06/2019

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 1203 | 250 | 936 | 1027 | 180 | 1253 |
| Future Volume (vph) | 1203 | 250 | 936 | 1027 | 180 | 1253 |
| Confl. Peds. (#/hr) | | 5 | | | | |
| Confl. Bikes (#/hr) | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | NA | | Prot | NA | Prot | pm+ov |
| Protected Phases | 2 | | 1 | 6 | 8 | 1 |
| Permitted Phases | | | | | | 8 |
| Detector Phase | 2 | | 1 | 6 | 8 | 1 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 11.0 | | 5.0 | 10.0 | 5.0 | 5.0 |
| Minimum Split (s) | 17.4 | | 11.7 | 20.0 | 20.0 | 11.7 |
| Total Split (s) | 53.6 | | 46.4 | 100.0 | 20.0 | 46.4 |
| Total Split (%) | 44.7% | | 38.7% | 83.3% | 16.7% | 38.7% |
| Yellow Time (s) | 4.4 | | 3.7 | 4.4 | 4.1 | 3.7 |
| All-Red Time (s) | 2.0 | | 3.0 | 2.0 | 3.0 | 3.0 |
| Lost Time Adjust (s) | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 6.4 | | 6.7 | 6.4 | 7.1 | 6.7 |
| Lead/Lag | Lag | | Lead | | | Lead |
| Lead-Lag Optimize? | Yes | | Yes | | | Yes |
| Recall Mode | C-Max | | None | C-Max | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 107 (89%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 90 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 43: SR 125 & Mission Gorge Road



| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 1203 | 250 | 936 | 1027 | 180 | 1253 |
| Future Volume (veh/h) | 1203 | 250 | 936 | 1027 | 180 | 1253 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | 0.99 | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 1308 | 272 | 1017 | 1116 | 196 | 1362 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 1716 | 357 | 1100 | 3983 | 371 | 1188 |
| Arrive On Green | 0.81 | 0.81 | 0.11 | 0.26 | 0.11 | 0.11 |
| Sat Flow, veh/h | 4399 | 879 | 3456 | 5274 | 3456 | 2790 |
| Grp Volume(v), veh/h | 1052 | 528 | 1017 | 1116 | 196 | 1362 |
| Grp Sat Flow(s),veh/h/ln | 1702 | 1706 | 1728 | 1702 | 1728 | 1395 |
| Q Serve(g_s), s | 18.3 | 18.4 | 35.0 | 21.0 | 6.4 | 12.9 |
| Cycle Q Clear(g_c), s | 18.3 | 18.4 | 35.0 | 21.0 | 6.4 | 12.9 |
| Prop In Lane | | 0.52 | 1.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 1381 | 692 | 1100 | 3983 | 371 | 1188 |
| V/C Ratio(X) | 0.76 | 0.76 | 0.92 | 0.28 | 0.53 | 1.15 |
| Avail Cap(c_a), veh/h | 1381 | 692 | 1143 | 3983 | 371 | 1188 |
| HCM Platoon Ratio | 2.00 | 2.00 | 0.33 | 0.33 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.90 | 0.90 | 0.91 | 0.91 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 8.5 | 8.5 | 52.3 | 17.6 | 50.7 | 34.4 |
| Incr Delay (d2), s/veh | 3.6 | 7.0 | 11.3 | 0.2 | 1.4 | 76.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 3.7 | 4.4 | 17.9 | 9.6 | 2.9 | 29.4 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 12.1 | 15.5 | 63.5 | 17.8 | 52.1 | 110.5 |
| LnGrp LOS | B | B | E | B | D | F |
| Approach Vol, veh/h | 1580 | | | 2133 | 1558 | |
| Approach Delay, s/veh | 13.2 | | | 39.6 | 103.2 | |
| Approach LOS | B | | | D | F | |

| Timer - Assigned Phs | 1 | 2 | | | | 6 | 8 |
|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 44.9 | 55.1 | | | | 100.0 | 20.0 |
| Change Period (Y+Rc), s | * 6.7 | 6.4 | | | | 6.4 | 7.1 |
| Max Green Setting (Gmax), s | * 40 | 47.2 | | | | 93.6 | 12.9 |
| Max Q Clear Time (g_c+I1), s | 37.0 | 20.4 | | | | 23.0 | 14.9 |
| Green Ext Time (p_c), s | 1.2 | 12.6 | | | | 9.9 | 0.0 |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | | 50.5 |
| HCM 6th LOS | | | D |

**Notes**

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

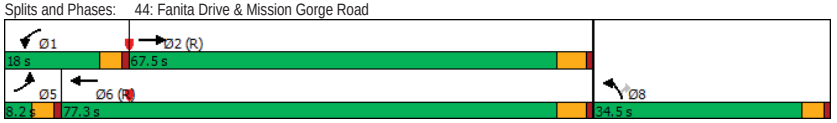




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 5 | 1966 | 460 | 340 | 1303 | 0 | 350 | 0 | 430 | 0 | 0 | 0 |
| Future Volume (vph) | 5 | 1966 | 460 | 340 | 1303 | 0 | 350 | 0 | 430 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | | | 6 | | | | | | | | | |
| Confl. Bikes (#/hr) | | | 4 | | | 3 | | | 3 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | | Perm | | | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 8 | | | | | |
| Permitted Phases | | | | | | | | | 8 | | | |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | | 8 | | | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 7.0 | | 7.0 | | | |
| Minimum Split (s) | 8.2 | 33.3 | | 8.2 | 20.0 | | 34.2 | | 34.2 | | | |
| Total Split (s) | 8.2 | 67.5 | | 18.0 | 77.3 | | 34.5 | | 34.5 | | | |
| Total Split (%) | 6.8% | 56.3% | | 15.0% | 64.4% | | 28.8% | | 28.8% | | | |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | | 3.2 | | 3.2 | | | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | | 1.0 | | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | | 0.0 | | | |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | | 4.2 | | 4.2 | | | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | | None | | | |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 9 (8%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 120 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 44: Fanita Drive & Mission Gorge Road



Year 2035 + Proj PM (No School) — Fanita Ranch
44: Fanita Drive & Mission Gorge Road — 06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 5 | 1966 | 460 | 340 | 1303 | 0 | 350 | 0 | 430 | 0 | 0 | 0 |
| Future Volume (veh/h) | 5 | 1966 | 460 | 340 | 1303 | 0 | 350 | 0 | 430 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 1.00 | 1.00 | | 1.00 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 0 | 1870 | 0 | 1870 | | | |
| Adj Flow Rate, veh/h | 5 | 2137 | 500 | 370 | 1416 | 0 | 380 | 0 | 420 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 0 | 2 | 0 | 2 | | | |
| Cap, veh/h | 9 | 2156 | 476 | 397 | 3208 | 0 | 873 | 0 | 400 | | | |
| Arrive On Green | 0.00 | 0.17 | 0.17 | 0.12 | 0.63 | 0.00 | 0.25 | 0.00 | 0.25 | | | |
| Sat Flow, veh/h | 1781 | 4159 | 918 | 3456 | 5274 | 0 | 3456 | 0 | 1585 | | | |
| Grp Volume(v), veh/h | 5 | 1726 | 911 | 370 | 1416 | 0 | 380 | 0 | 420 | | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1702 | 1673 | 1728 | 1702 | 0 | 1728 | 0 | 1585 | | | |
| Q Serve(g_s), s | 0.3 | 60.6 | 62.2 | 12.7 | 17.1 | 0.0 | 11.1 | 0.0 | 30.3 | | | |
| Cycle Q Clear(g_c), s | 0.3 | 60.6 | 62.2 | 12.7 | 17.1 | 0.0 | 11.1 | 0.0 | 30.3 | | | |
| Prop In Lane | 1.00 | | 0.55 | 1.00 | | 0.00 | 1.00 | | 1.00 | | | |
| Lane Grp Cap(c), veh/h | 9 | 1764 | 867 | 397 | 3208 | 0 | 873 | 0 | 400 | | | |
| V/C Ratio(X) | 0.55 | 0.98 | 1.05 | 0.93 | 0.44 | 0.00 | 0.44 | 0.00 | 1.05 | | | |
| Avail Cap(c_a), veh/h | 59 | 1764 | 867 | 397 | 3208 | 0 | 873 | 0 | 400 | | | |
| HCM Platoon Ratio | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 0.35 | 0.35 | 0.35 | 0.46 | 0.46 | 0.00 | 1.00 | 0.00 | 1.00 | | | |
| Uniform Delay (d), s/veh | 59.8 | 49.1 | 49.7 | 52.6 | 11.5 | 0.0 | 37.7 | 0.0 | 44.8 | | | |
| Incr Delay (d2), s/veh | 16.8 | 8.6 | 33.0 | 16.2 | 0.2 | 0.0 | 0.4 | 0.0 | 58.5 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ln | 0.2 | 29.6 | 35.7 | 6.3 | 6.0 | 0.0 | 4.6 | 0.0 | 18.1 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 76.5 | 57.6 | 82.8 | 68.8 | 11.7 | 0.0 | 38.1 | 0.0 | 103.4 | | | |
| LnGrp LOS | E | E | F | E | B | A | D | A | F | | | |
| Approach Vol, veh/h | | 2642 | | | 1786 | | | 800 | | | | |
| Approach Delay, s/veh | | 66.3 | | | 23.5 | | | 72.4 | | | | |
| Approach LOS | | E | | | C | | | E | | | | |

| Timer - Assigned Phs | 1 | 2 | | | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 18.0 | 67.5 | | | 4.8 | 80.7 | | 34.5 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | | | * 4.2 | 5.3 | | 4.2 | | | | |
| Max Green Setting (Gmax), s | * 14 | 62.2 | | | * 4 | 72.0 | | 30.3 | | | | |
| Max Q Clear Time (g_c+I1), s | 14.7 | 64.2 | | | 2.3 | 19.1 | | 32.3 | | | | |
| Green Ext Time (p_c), s | 0.0 | 0.0 | | | 0.0 | 16.7 | | 0.0 | | | | |

| Intersection Summary | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HCM 6th Ctrl Delay | | | 52.6 | | | | | | | | | |
| HCM 6th LOS | | | D | | | | | | | | | |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

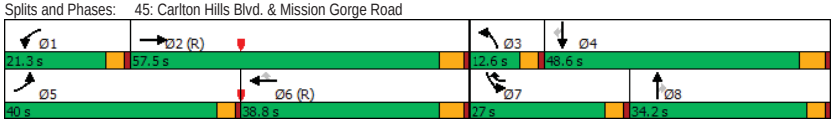
HCM 6th Signalized Intersection Summary
N:\2462\Analysis\Intersections\Synchro\No School Alt\12 2035+P PM.syn

Year 2035 + Proj PM (No School) — Fanita Ranch
45: Carlton Hills Blvd. & Mission Gorge Road — 06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 940 | 1366 | 150 | 150 | 1028 | 638 | 60 | 90 | 25 | 442 | 140 | 650 |
| Future Volume (vph) | 940 | 1366 | 150 | 150 | 1028 | 638 | 60 | 90 | 25 | 442 | 140 | 650 |
| Confl. Peds. (#/hr) | | | 8 | | | | | | 8 | | | 2 |
| Confl. Bikes (#/hr) | | | 1 | | | 2 | | | 1 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | 41% |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | 6 | | | 8 | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | 8 | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 23.3 | | 8.2 | 34.3 | 8.2 | 8.2 | 34.2 | 34.2 | 8.2 | 32.4 | 32.4 |
| Total Split (s) | 40.0 | 57.5 | | 21.3 | 38.8 | 27.0 | 12.6 | 34.2 | 34.2 | 27.0 | 48.6 | 48.6 |
| Total Split (%) | 28.6% | 41.1% | | 15.2% | 27.7% | 19.3% | 9.0% | 24.4% | 24.4% | 19.3% | 34.7% | 34.7% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | 3.2 | 3.2 | 3.2 | 3.2 | 3.2 | 4.4 | 4.4 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | 4.2 | 4.2 | 4.2 | 4.2 | 4.2 | 5.4 | 5.4 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | C-Min | | None | C-Min | None | None | None | None | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 140 |
| Actuated Cycle Length: 140 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 145 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 45: Carlton Hills Blvd. & Mission Gorge Road




Timings
N:\2462\Analysis\Intersections\Synchro\No School Alt\12 2035+P PM.syn

Year 2035 + Proj PM (No School) — Fanita Ranch
45: Carlton Hills Blvd. & Mission Gorge Road — 06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 940 | 1366 | 150 | 150 | 1028 | 638 | 60 | 90 | 25 | 442 | 140 | 650 |
| Future Volume (veh/h) | 940 | 1366 | 150 | 150 | 1028 | 638 | 60 | 90 | 25 | 442 | 140 | 650 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.99 | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 1022 | 1485 | 163 | 163 | 1117 | 693 | 65 | 98 | 27 | 480 | 518 | 396 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 884 | 1941 | 213 | 186 | 1358 | 652 | 83 | 361 | 298 | 530 | 553 | 467 |
| Arrive On Green | 0.26 | 0.42 | 0.42 | 0.10 | 0.27 | 0.27 | 0.05 | 0.19 | 0.19 | 0.15 | 0.30 | 0.30 |
| Sat Flow, veh/h | 3456 | 4653 | 510 | 1781 | 5106 | 1563 | 1781 | 1870 | 1545 | 3563 | 1870 | 1582 |
| Grp Volume(v), veh/h | 1022 | 1086 | 562 | 163 | 1117 | 693 | 65 | 98 | 27 | 480 | 518 | 396 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1702 | 1760 | 1781 | 1702 | 1563 | 1781 | 1870 | 1545 | 1781 | 1870 | 1582 |
| Q Serve(g_s), s | 35.8 | 38.2 | 38.3 | 12.6 | 28.8 | 37.2 | 5.1 | 6.2 | 2.0 | 18.6 | 37.8 | 32.9 |
| Cycle Q Clear(g_c), s | 35.8 | 38.2 | 38.3 | 12.6 | 28.8 | 37.2 | 5.1 | 6.2 | 2.0 | 18.6 | 37.8 | 32.9 |
| Prop In Lane | 1.00 | | 0.29 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 884 | 1420 | 734 | 186 | 1358 | 652 | 83 | 361 | 298 | 530 | 553 | 467 |
| V/C Ratio(X) | 1.16 | 0.77 | 0.77 | 0.87 | 0.82 | 1.06 | 0.79 | 0.27 | 0.09 | 0.91 | 0.94 | 0.85 |
| Avail Cap(c_a), veh/h | 884 | 1420 | 734 | 218 | 1358 | 652 | 107 | 401 | 331 | 580 | 577 | 488 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.10 | 0.10 | 0.10 | 0.72 | 0.72 | 0.72 | 1.00 | 1.00 | 1.00 | 0.71 | 0.71 | 0.71 |
| Uniform Delay (d), s/veh | 52.1 | 34.9 | 35.0 | 61.8 | 48.3 | 41.1 | 66.1 | 48.1 | 46.4 | 58.6 | 48.1 | 46.4 |
| Incr Delay (d2), s/veh | 71.9 | 0.4 | 0.8 | 19.4 | 4.2 | 48.2 | 24.5 | 0.1 | 0.0 | 12.2 | 17.8 | 9.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 24.0 | 15.5 | 16.1 | 6.7 | 12.5 | 30.9 | 2.9 | 3.0 | 0.8 | 9.2 | 20.1 | 14.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 124.0 | 35.3 | 35.7 | 81.2 | 52.5 | 89.3 | 90.6 | 48.2 | 46.4 | 70.8 | 65.9 | 55.8 |
| LnGrp LOS | F | D | D | F | D | F | F | D | D | E | E | E |
| Approach Vol, veh/h | | 2670 | | | 1973 | | | 190 | | | 1394 | |
| Approach Delay, s/veh | | 69.4 | | | 67.8 | | | 62.5 | | | 64.7 | |
| Approach LOS | | E | | | E | | | E | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 18.8 | 63.7 | 10.7 | 46.8 | 40.0 | 42.5 | 25.0 | 32.4 |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | * 4.2 | 5.4 | * 4.2 | 5.3 | * 4.2 | * 5.4 |
| Max Green Setting (Gmax), s | * 17 | 52.2 | * 8.4 | 43.2 | * 36 | 33.5 | * 23 | * 30 |
| Max Q Clear Time (g_c+I1), s | 14.6 | 40.3 | 7.1 | 39.8 | 37.8 | 39.2 | 20.6 | 8.2 |
| Green Ext Time (p_c), s | 0.0 | 8.3 | 0.0 | 1.6 | 0.0 | 0.0 | 0.3 | 0.3 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 67.6 |
| HCM 6th LOS | E |

Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

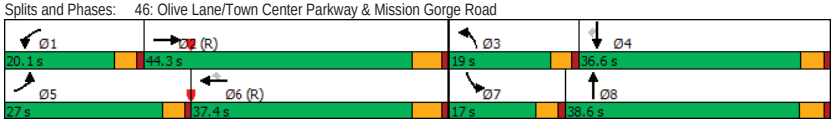
HCM 6th Signalized Intersection Summary
N:\2462\Analysis\Intersections\Synchro\No School Alt\12 2035+P PM.syn

Year 2035 + Proj PM (No School) — Fanita Ranch
46: Olive Lane/Town Center Parkway & Mission Gorge Road — 06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 620 | 1176 | 220 | 195 | 713 | 375 | 390 | 290 | 200 | 340 | 190 | 540 |
| Future Volume (vph) | 620 | 1176 | 220 | 195 | 713 | 375 | 390 | 290 | 200 | 340 | 190 | 540 |
| Confl. Peds. (#/hr) | | | 9 | | | 16 | | | 3 | | | 6 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | Perm | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | 10.0 | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 26.3 | | 8.2 | 36.3 | 36.3 | 8.2 | 34.6 | | 8.2 | 36.5 | 36.5 |
| Total Split (s) | 27.0 | 44.3 | | 20.1 | 37.4 | 37.4 | 19.0 | 38.6 | | 17.0 | 36.6 | 36.6 |
| Total Split (%) | 22.5% | 36.9% | | 16.8% | 31.2% | 31.2% | 15.8% | 32.2% | | 14.2% | 30.5% | 30.5% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | 4.3 | 3.2 | 3.6 | | 3.2 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | 5.3 | 4.2 | 4.6 | | 4.2 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | C-Min | | None | C-Min | C-Min | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 61 (51%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 120 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 46: Olive Lane/Town Center Parkway & Mission Gorge Road




Timings
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Year 2035 + Proj PM (No School) — Fanita Ranch
46: Olive Lane/Town Center Parkway & Mission Gorge Road — 06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 620 | 1176 | 220 | 195 | 713 | 375 | 390 | 290 | 200 | 340 | 190 | 540 |
| Future Volume (veh/h) | 620 | 1176 | 220 | 195 | 713 | 375 | 390 | 290 | 200 | 340 | 190 | 540 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 1.00 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 674 | 1278 | 239 | 212 | 775 | 408 | 424 | 315 | 217 | 370 | 207 | 587 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 657 | 1401 | 262 | 236 | 1366 | 416 | 426 | 292 | 201 | 369 | 499 | 739 |
| Arrive On Green | 0.19 | 0.33 | 0.33 | 0.13 | 0.27 | 0.27 | 0.12 | 0.28 | 0.28 | 0.11 | 0.27 | 0.27 |
| Sat Flow, veh/h | 3456 | 4310 | 806 | 1781 | 5106 | 1557 | 3456 | 1030 | 710 | 3456 | 1870 | 2771 |
| Grp Volume(v), veh/h | 674 | 1009 | 508 | 212 | 775 | 408 | 424 | 0 | 532 | 370 | 207 | 587 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1702 | 1712 | 1781 | 1702 | 1557 | 1728 | 0 | 1740 | 1728 | 1870 | 1385 |
| Q Serve(g_s), s | 22.8 | 34.1 | 34.1 | 14.1 | 15.7 | 31.2 | 14.7 | 0.0 | 34.0 | 12.8 | 11.0 | 23.7 |
| Cycle Q Clear(g_c), s | 22.8 | 34.1 | 34.1 | 14.1 | 15.7 | 31.2 | 14.7 | 0.0 | 34.0 | 12.8 | 11.0 | 23.7 |
| Prop In Lane | 1.00 | | 0.47 | 1.00 | | 1.00 | 1.00 | | 0.41 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 657 | 1106 | 556 | 236 | 1366 | 416 | 426 | 0 | 493 | 369 | 499 | 739 |
| V/C Ratio(X) | 1.03 | 0.91 | 0.91 | 0.90 | 0.57 | 0.98 | 0.99 | 0.00 | 1.08 | 1.00 | 0.42 | 0.79 |
| Avail Cap(c_a), veh/h | 657 | 1106 | 556 | 236 | 1366 | 416 | 426 | 0 | 493 | 369 | 500 | 741 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.53 | 0.53 | 0.53 | 0.51 | 0.51 | 0.51 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 48.6 | 38.9 | 38.9 | 51.3 | 38.0 | 43.6 | 52.6 | 0.0 | 43.0 | 53.6 | 36.3 | 40.9 |
| Incr Delay (d2), s/veh | 32.6 | 7.5 | 13.3 | 19.6 | 0.9 | 27.0 | 42.1 | 0.0 | 63.5 | 47.8 | 1.0 | 6.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 12.5 | 14.9 | 15.9 | 7.4 | 6.5 | 15.0 | 8.9 | 0.0 | 23.1 | 8.0 | 5.2 | 8.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 81.2 | 46.4 | 52.2 | 70.8 | 38.8 | 70.6 | 94.7 | 0.0 | 106.5 | 101.4 | 37.3 | 47.5 |
| LnGrp LOS | F | D | D | E | D | E | F | A | F | F | D | D |
| Approach Vol, veh/h | | 2191 | | | 1395 | | | 956 | | | 1164 | |
| Approach Delay, s/veh | | 58.4 | | | 53.0 | | | 101.3 | | | 62.9 | |
| Approach LOS | | E | | | D | | | F | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 20.1 | 44.3 | 19.0 | 36.6 | 27.0 | 37.4 | 17.0 | 38.6 |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | * 4.2 | * 4.6 | * 4.2 | 5.3 | * 4.2 | 4.6 |
| Max Green Setting (Gmax), s | * 16 | 39.0 | * 15 | * 32 | * 23 | 32.1 | * 13 | 34.0 |
| Max Q Clear Time (g_c+I1), s | 16.1 | 36.1 | 16.7 | 25.7 | 24.8 | 33.2 | 14.8 | 36.0 |
| Green Ext Time (p_c), s | 0.0 | 2.3 | 0.0 | 3.2 | 0.0 | 0.0 | 0.0 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 65.2 |
| HCM 6th LOS | E |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

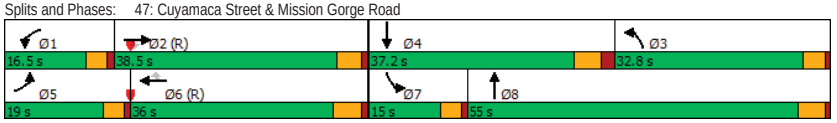


Year 2035 + Proj PM (No School) — Fanita Ranch
47: Cuyamaca Street & Mission Gorge Road — 06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 416 | 735 | 350 | 293 | 540 | 222 | 735 | 1085 | 357 | 348 | 900 | 238 |
| Future Volume (vph) | 416 | 735 | 350 | 293 | 540 | 222 | 735 | 1085 | 357 | 348 | 900 | 238 |
| Confl. Peds. (#/hr) | | | 31 | | | 31 | | | 34 | | | 23 |
| Confl. Bikes (#/hr) | | | 4 | | | 2 | | | 3 | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | 10.0 | 4.0 | 7.0 | | 4.0 | 15.0 | |
| Minimum Split (s) | 19.0 | 34.8 | 34.8 | 8.2 | 34.3 | 34.3 | 8.2 | 38.0 | | 8.2 | 37.0 | |
| Total Split (s) | 19.0 | 38.5 | 38.5 | 16.5 | 36.0 | 36.0 | 32.8 | 55.0 | | 15.0 | 37.2 | |
| Total Split (%) | 15.2% | 30.8% | 30.8% | 13.2% | 28.8% | 28.8% | 26.2% | 44.0% | | 12.0% | 29.8% | |
| Yellow Time (s) | 3.2 | 3.8 | 3.8 | 3.2 | 4.3 | 4.3 | 3.2 | 4.0 | | 3.2 | 4.0 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 2.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.2 | 4.8 | 4.8 | 4.2 | 5.3 | 5.3 | 4.2 | 5.0 | | 4.2 | 6.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lag | Lag | | Lead | Lead | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | C-Min | C-Min | None | C-Min | C-Min | None | None | | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 125 |
| Actuated Cycle Length: 125 |
| Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green, Master Intersection |
| Natural Cycle: 150 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 47: Cuyamaca Street & Mission Gorge Road



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 416 | 735 | 350 | 293 | 540 | 222 | 735 | 1085 | 357 | 348 | 900 | 238 |
| Future Volume (veh/h) | 416 | 735 | 350 | 293 | 540 | 222 | 735 | 1085 | 357 | 348 | 900 | 238 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.96 | 1.00 | | 0.96 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1683 | 1683 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 452 | 799 | 380 | 318 | 587 | 241 | 799 | 1179 | 388 | 378 | 978 | 259 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 409 | 1323 | 390 | 340 | 1221 | 359 | 791 | 957 | 307 | 299 | 993 | 262 |
| Arrive On Green | 0.12 | 0.26 | 0.26 | 0.10 | 0.24 | 0.24 | 0.23 | 0.41 | 0.41 | 0.09 | 0.25 | 0.25 |
| Sat Flow, veh/h | 3456 | 5106 | 1505 | 3456 | 5106 | 1503 | 3456 | 2356 | 755 | 3456 | 3979 | 1051 |
| Grp Volume(v), veh/h | 452 | 799 | 380 | 318 | 587 | 241 | 799 | 790 | 777 | 378 | 836 | 401 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1702 | 1505 | 1728 | 1702 | 1503 | 1728 | 1599 | 1512 | 1728 | 1702 | 1626 |
| Q Serve(g_s), s | 14.8 | 17.2 | 18.1 | 11.4 | 12.4 | 18.2 | 28.6 | 50.8 | 50.8 | 10.8 | 30.5 | 30.7 |
| Cycle Q Clear(g_c), s | 14.8 | 17.2 | 18.1 | 11.4 | 12.4 | 18.2 | 28.6 | 50.8 | 50.8 | 10.8 | 30.5 | 30.7 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.50 | 1.00 | | 0.65 |
| Lane Grp Cap(c), veh/h | 409 | 1323 | 390 | 340 | 1221 | 359 | 791 | 650 | 614 | 299 | 850 | 406 |
| V/C Ratio(X) | 1.10 | 0.60 | 0.97 | 0.94 | 0.48 | 0.67 | 1.01 | 1.22 | 1.26 | 1.27 | 0.98 | 0.99 |
| Avail Cap(c_a), veh/h | 409 | 1377 | 406 | 340 | 1254 | 369 | 791 | 650 | 614 | 299 | 850 | 406 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.22 | 0.22 | 0.22 | 0.85 | 0.85 | 0.85 | 0.09 | 0.09 | 0.09 | 0.77 | 0.77 | 0.77 |
| Uniform Delay (d), s/veh | 55.1 | 40.7 | 15.4 | 56.0 | 40.9 | 43.1 | 48.2 | 37.1 | 37.1 | 57.1 | 46.7 | 46.7 |
| Incr Delay (d2), s/veh | 55.8 | 0.5 | 16.0 | 28.8 | 1.2 | 8.2 | 12.3 | 98.6 | 120.0 | 138.8 | 23.4 | 36.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 9.5 | 7.1 | 7.7 | 6.3 | 5.2 | 7.5 | 13.5 | 37.0 | 38.6 | 10.4 | 15.5 | 16.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 110.9 | 41.1 | 31.5 | 84.7 | 42.0 | 51.3 | 60.5 | 135.7 | 157.1 | 195.9 | 70.1 | 82.7 |
| LnGrp LOS | F | D | C | F | D | D | F | F | F | F | E | F |
| Approach Vol, veh/h | | 1631 | | | 1146 | | | 2366 | | | 1615 | |
| Approach Delay, s/veh | | 58.2 | | | 55.8 | | | 117.4 | | | 102.7 | |
| Approach LOS | | E | | | E | | | F | | | F | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 16.5 | 37.7 | 33.6 | 37.2 | 19.0 | 35.2 | 15.0 | 55.8 |
| Change Period (Y+Rc), s | * 4.2 | * 5.3 | 5.0 | * 6 | * 4.2 | 5.3 | * 4.2 | 5.0 |
| Max Green Setting (Gmax), s | * 12 | * 34 | 28.6 | * 31 | * 15 | 30.7 | * 11 | 50.0 |
| Max Q Clear Time (g_c+I1), s | 13.4 | 20.1 | 30.6 | 32.7 | 16.8 | 20.2 | 12.8 | 52.8 |
| Green Ext Time (p_c), s | 0.0 | 9.9 | 0.0 | 0.0 | 0.0 | 5.0 | 0.0 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 89.1 |
| HCM 6th LOS | F |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

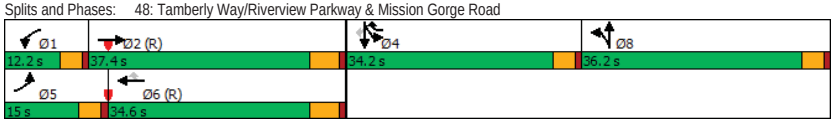




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 213 | 1083 | 75 | 90 | 867 | 235 | 55 | 30 | 45 | 350 | 20 | 212 |
| Future Volume (vph) | 213 | 1083 | 75 | 90 | 867 | 235 | 55 | 30 | 45 | 350 | 20 | 212 |
| Confl. Peds. (#/hr) | | | 13 | | | 13 | | | 10 | | | 8 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | 2 | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | 47% | | |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Split | NA | | Split | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 4 | 8 | 8 | | 4 | 4 | |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 4 | 8 | 8 | | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | 7.0 | 4.0 | 4.0 | | 7.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 23.3 | | 8.2 | 34.3 | 34.2 | 36.2 | 36.2 | | 34.2 | 34.2 | 34.2 |
| Total Split (s) | 15.0 | 37.4 | | 12.2 | 34.6 | 34.2 | 36.2 | 36.2 | | 34.2 | 34.2 | 34.2 |
| Total Split (%) | 12.5% | 31.2% | | 10.2% | 28.8% | 28.5% | 30.2% | 30.2% | | 28.5% | 28.5% | 28.5% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | 3.2 | 3.2 | 3.2 | | 3.2 | 3.2 | 3.2 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | 4.2 | 4.2 | 4.2 | | 4.2 | 4.2 | 4.2 |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | None | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 34 (28%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 125 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 48: Tamberly Way/Riverview Parkway & Mission Gorge Road



Year 2035 + Proj PM (No School) — Fanita Ranch
48: Tamberly Way/Riverview Parkway & Mission Gorge Road — 06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 213 | 1083 | 75 | 90 | 867 | 235 | 55 | 30 | 45 | 350 | 20 | 212 |
| Future Volume (veh/h) | 213 | 1083 | 75 | 90 | 867 | 235 | 55 | 30 | 45 | 350 | 20 | 212 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.95 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 232 | 1177 | 82 | 98 | 942 | 255 | 60 | 33 | 49 | 396 | 0 | 230 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 160 | 2468 | 172 | 119 | 2469 | 1035 | 174 | 65 | 96 | 639 | 0 | 277 |
| Arrive On Green | 0.09 | 0.51 | 0.51 | 0.07 | 0.48 | 0.48 | 0.10 | 0.10 | 0.10 | 0.18 | 0.00 | 0.18 |
| Sat Flow, veh/h | 1781 | 4869 | 339 | 1781 | 5106 | 1553 | 1781 | 659 | 979 | 3563 | 0 | 1541 |
| Grp Volume(v), veh/h | 232 | 823 | 436 | 98 | 942 | 255 | 60 | 0 | 82 | 396 | 0 | 230 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1702 | 1804 | 1781 | 1702 | 1553 | 1781 | 0 | 1638 | 1781 | 0 | 1541 |
| Q Serve(g_s), s | 10.8 | 18.9 | 18.9 | 6.5 | 14.0 | 7.9 | 3.8 | 0.0 | 5.7 | 12.3 | 0.0 | 17.3 |
| Cycle Q Clear(g_c), s | 10.8 | 18.9 | 18.9 | 6.5 | 14.0 | 7.9 | 3.8 | 0.0 | 5.7 | 12.3 | 0.0 | 17.3 |
| Prop In Lane | 1.00 | | 0.19 | 1.00 | | 1.00 | 1.00 | | 0.60 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 160 | 1726 | 915 | 119 | 2469 | 1035 | 174 | 0 | 160 | 639 | 0 | 277 |
| V/C Ratio(X) | 1.45 | 0.48 | 0.48 | 0.83 | 0.38 | 0.25 | 0.34 | 0.00 | 0.51 | 0.62 | 0.00 | 0.83 |
| Avail Cap(c_a), veh/h | 160 | 1726 | 915 | 119 | 2469 | 1035 | 475 | 0 | 437 | 891 | 0 | 385 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.59 | 0.59 | 0.59 | 0.94 | 0.94 | 0.94 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 54.6 | 19.2 | 19.2 | 55.3 | 19.6 | 8.2 | 50.5 | 0.0 | 51.4 | 45.5 | 0.0 | 47.5 |
| Incr Delay (d2), s/veh | 220.8 | 0.6 | 1.1 | 32.3 | 0.4 | 0.5 | 0.4 | 0.0 | 0.9 | 0.4 | 0.0 | 7.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 14.6 | 7.2 | 7.8 | 3.9 | 5.4 | 4.4 | 1.7 | 0.0 | 2.4 | 5.5 | 0.0 | 7.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 275.4 | 19.8 | 20.3 | 87.7 | 20.0 | 8.7 | 51.0 | 0.0 | 52.3 | 45.8 | 0.0 | 55.0 |
| LnGrp LOS | F | B | C | F | C | A | D | A | D | D | A | E |
| Approach Vol, veh/h | | 1491 | | | 1295 | | | 142 | | | 626 | |
| Approach Delay, s/veh | | 59.7 | | | 22.9 | | | 51.8 | | | 49.2 | |
| Approach LOS | | E | | | C | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 12.2 | 66.1 | | 25.7 | 15.0 | 63.3 | | 15.9 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | | * 4.2 | * 4.2 | 5.3 | | 4.2 | | | | |
| Max Green Setting (Gmax), s | * 8 | 32.1 | | * 30 | * 11 | 29.3 | | 32.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 8.5 | 20.9 | | 19.3 | 12.8 | 16.0 | | 7.7 | | | | |
| Green Ext Time (p_c), s | 0.0 | 8.2 | | 1.0 | 0.0 | 8.3 | | 0.4 | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 44.1 | |
| HCM 6th LOS | | D | |

Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

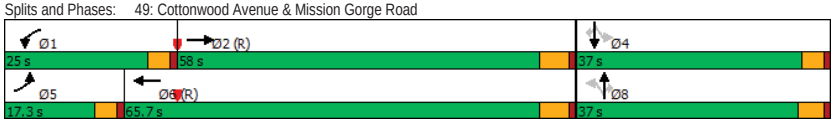


Year 2035 + Proj PM (No School) — Fanita Ranch
49: Cottonwood Avenue & Mission Gorge Road — 06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 85 | 1283 | 170 | 155 | 907 | 80 | 155 | 95 | 195 | 20 | 25 | 25 |
| Future Volume (vph) | 85 | 1283 | 170 | 155 | 907 | 80 | 155 | 95 | 195 | 20 | 25 | 25 |
| Confl. Peds. (#/hr) | | | 3 | | | 14 | | | 1 | | | 4 |
| Confl. Bikes (#/hr) | | | 3 | | | 1 | | | 2 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Perm | NA | Perm | Perm | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | 4 | |
| Permitted Phases | | | | | | | 8 | | 8 | 4 | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | | 8 | 8 | 8 | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | | 4.0 | 4.0 | 4.0 | 7.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 23.3 | | 8.2 | 24.3 | | 33.8 | 33.8 | 33.8 | 32.2 | 32.2 | 32.2 |
| Total Split (s) | 17.3 | 58.0 | | 25.0 | 65.7 | | 37.0 | 37.0 | 37.0 | 37.0 | 37.0 | 37.0 |
| Total Split (%) | 14.4% | 48.3% | | 20.8% | 54.8% | | 30.8% | 30.8% | 30.8% | 30.8% | 30.8% | 30.8% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | | 3.8 | 3.8 | 3.8 | 3.2 | 3.2 | 3.2 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | | | 4.8 | 4.8 | | 4.2 | 4.2 |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | C-Min | | None | C-Min | | None | None | None | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 44 (37%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 80 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 49: Cottonwood Avenue & Mission Gorge Road



Year 2035 + Proj PM (No School) — Fanita Ranch

49: Cottonwood Avenue & Mission Gorge Road — 06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 85 | 1283 | 170 | 155 | 907 | 80 | 155 | 95 | 195 | 20 | 25 | 25 |
| Future Volume (veh/h) | 85 | 1283 | 170 | 155 | 907 | 80 | 155 | 95 | 195 | 20 | 25 | 25 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.97 | 1.00 | | 0.99 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 92 | 1395 | 185 | 168 | 986 | 87 | 168 | 103 | 212 | 22 | 27 | 27 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 114 | 2256 | 299 | 198 | 2588 | 228 | 49 | 0 | 427 | 43 | 38 | 426 |
| Arrive On Green | 0.13 | 0.99 | 0.99 | 0.04 | 0.18 | 0.18 | 0.27 | 0.27 | 0.27 | 0.27 | 0.27 | 0.27 |
| Sat Flow, veh/h | 1781 | 4545 | 603 | 1781 | 4763 | 419 | 0 | 0 | 1562 | 0 | 140 | 1558 |
| Grp Volume(v), veh/h | 92 | 1045 | 535 | 168 | 704 | 369 | 271 | 0 | 212 | 49 | 0 | 27 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1702 | 1744 | 1781 | 1702 | 1778 | 0 | 0 | 1562 | 140 | 0 | 1558 |
| Q Serve(g_s), s | 6.0 | 0.7 | 0.7 | 11.3 | 21.9 | 21.9 | 0.0 | 0.0 | 13.7 | 0.0 | 0.0 | 1.5 |
| Cycle Q Clear(g_c), s | 6.0 | 0.7 | 0.7 | 11.3 | 21.9 | 21.9 | 32.8 | 0.0 | 13.7 | 32.8 | 0.0 | 1.5 |
| Prop In Lane | 1.00 | | 0.35 | 1.00 | | 0.24 | 0.62 | | 1.00 | 0.45 | | 1.00 |
| Lane Grp Cap(c), veh/h | 114 | 1690 | 866 | 198 | 1850 | 966 | 49 | 0 | 427 | 82 | 0 | 426 |
| V/C Ratio(X) | 0.81 | 0.62 | 0.62 | 0.85 | 0.38 | 0.38 | 5.58 | 0.00 | 0.50 | 0.60 | 0.00 | 0.06 |
| Avail Cap(c_a), veh/h | 194 | 1690 | 866 | 309 | 1850 | 966 | 49 | 0 | 427 | 82 | 0 | 426 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.83 | 0.83 | 0.83 | 0.41 | 0.41 | 0.41 | 0.97 | 0.00 | 0.97 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 51.6 | 0.2 | 0.2 | 56.8 | 31.5 | 31.5 | 60.0 | 0.0 | 36.7 | 36.4 | 0.0 | 32.2 |
| Incr Delay (d2), s/veh | 4.2 | 1.4 | 2.8 | 3.2 | 0.2 | 0.5 | 2102.2 | 0.0 | 0.3 | 8.3 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.6 | 0.4 | 0.8 | 5.5 | 10.0 | 10.5 | 29.9 | 0.0 | 5.3 | 1.3 | 0.0 | 0.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 55.8 | 1.6 | 3.0 | 60.0 | 31.7 | 32.0 | 2162.2 | 0.0 | 37.0 | 44.7 | 0.0 | 32.3 |
| LnGrp LOS | E | A | A | E | C | C | F | A | D | D | A | C |
| Approach Vol, veh/h | | 1672 | | | 1241 | | | 483 | | | 76 | |
| Approach Delay, s/veh | | 5.0 | | | 35.6 | | | 1229.4 | | | 40.3 | |
| Approach LOS | | A | | | D | | | F | | | D | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 17.5 | 64.9 | | 37.6 | 11.9 | 70.5 | | 37.6 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | | * 4.8 | * 4.2 | 5.3 | | * 4.8 | | | | |
| Max Green Setting (Gmax), s | * 21 | 52.7 | | * 33 | * 13 | 60.4 | | * 32 | | | | |
| Max Q Clear Time (g_c+I1), s | 13.3 | 2.7 | | 34.8 | 8.0 | 23.9 | | 34.8 | | | | |
| Green Ext Time (p_c), s | 0.1 | 12.7 | | 0.0 | 0.0 | 12.4 | | 0.0 | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 187.1 | |
| HCM 6th LOS | | F | |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

N:\2462\Analysis\Intersections\Synchro\No School Alt\12 2035+P PM.syn

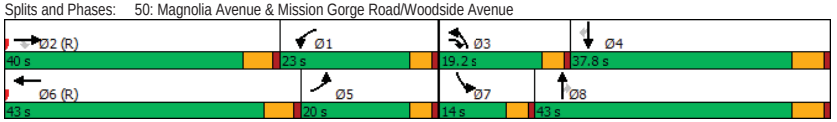
Year 2035 + Proj PM (No School) — Fanita Ranch

50: Magnolia Avenue & Mission Gorge Road/Woodside Avenue — 06/06/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 423 | 700 | 435 | 595 | 635 | 347 | 310 | 1150 | 495 | 288 | 670 | 232 |
| Future Volume (vph) | 423 | 700 | 435 | 595 | 635 | 347 | 310 | 1150 | 495 | 288 | 670 | 232 |
| Confl. Peds. (#/hr) | | | 2 | | | 9 | | | 13 | | | 1 |
| Confl. Bikes (#/hr) | | | 2 | | | 1 | | | 3 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | | | | 8 | | | 4 |
| Detector Phase | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | 8 | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 4.0 | 4.0 | 10.0 | | 4.0 | 7.0 | 7.0 | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 38.3 | 8.2 | 8.2 | 35.3 | | 8.2 | 34.7 | 34.7 | 8.2 | 35.7 | 35.7 |
| Total Split (s) | 20.0 | 40.0 | 19.2 | 23.0 | 43.0 | | 19.2 | 43.0 | 43.0 | 14.0 | 37.8 | 37.8 |
| Total Split (%) | 16.7% | 33.3% | 16.0% | 19.2% | 35.8% | | 16.0% | 35.8% | 35.8% | 11.7% | 31.5% | 31.5% |
| Yellow Time (s) | 3.2 | 4.3 | 3.2 | 3.2 | 4.3 | | 3.2 | 4.7 | 4.7 | 3.2 | 4.7 | 4.7 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | 4.2 | 4.2 | 5.3 | | 4.2 | 5.7 | 5.7 | 4.2 | 5.7 | 5.7 |
| Lead/Lag | Lag | Lead | Lead | Lag | Lead | | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | C-Min | None | None | C-Min | | None | None | None | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 79 (66%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 135 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 50: Magnolia Avenue & Mission Gorge Road/Woodside Avenue




Timings

N:\2462\Analysis\Intersections\Synchro\No School Alt\12 2035+P PM.syn

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 423 | 700 | 435 | 595 | 635 | 347 | 310 | 1150 | 495 | 288 | 670 | 232 |
| Future Volume (veh/h) | 423 | 700 | 435 | 595 | 635 | 347 | 310 | 1150 | 495 | 288 | 670 | 232 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 460 | 761 | 473 | 647 | 690 | 377 | 337 | 1250 | 511 | 313 | 728 | 252 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 455 | 920 | 581 | 646 | 691 | 377 | 386 | 1105 | 480 | 282 | 997 | 444 |
| Arrive On Green | 0.18 | 0.34 | 0.34 | 0.19 | 0.31 | 0.31 | 0.22 | 0.62 | 0.62 | 0.08 | 0.28 | 0.28 |
| Sat Flow, veh/h | 3456 | 3554 | 1560 | 3456 | 2200 | 1201 | 3456 | 3554 | 1543 | 3456 | 3554 | 1583 |
| Grp Volume(v), veh/h | 460 | 761 | 473 | 647 | 557 | 510 | 337 | 1250 | 511 | 313 | 728 | 252 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1560 | 1728 | 1777 | 1624 | 1728 | 1777 | 1543 | 1728 | 1777 | 1583 |
| Q Serve(g_s), s | 15.8 | 23.6 | 17.7 | 22.4 | 37.6 | 37.7 | 11.3 | 37.3 | 22.7 | 9.8 | 22.2 | 11.5 |
| Cycle Q Clear(g_c), s | 15.8 | 23.6 | 17.7 | 22.4 | 37.6 | 37.7 | 11.3 | 37.3 | 22.7 | 9.8 | 22.2 | 11.5 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.74 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 455 | 920 | 581 | 646 | 558 | 510 | 386 | 1105 | 480 | 282 | 997 | 444 |
| V/C Ratio(X) | 1.01 | 0.83 | 0.81 | 1.00 | 1.00 | 1.00 | 0.87 | 1.13 | 1.07 | 1.11 | 0.73 | 0.57 |
| Avail Cap(c_a), veh/h | 455 | 1028 | 628 | 646 | 558 | 510 | 432 | 1105 | 480 | 282 | 997 | 444 |
| HCM Platoon Ratio | 1.33 | 1.33 | 1.33 | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.79 | 0.79 | 0.79 | 1.00 | 1.00 | 1.00 | 0.70 | 0.70 | 0.70 | 0.63 | 0.63 | 0.63 |
| Uniform Delay (d), s/veh | 49.5 | 36.9 | 11.8 | 48.8 | 41.1 | 41.1 | 45.8 | 22.7 | 8.4 | 55.1 | 39.0 | 18.2 |
| Incr Delay (d2), s/veh | 40.3 | 6.8 | 9.6 | 35.7 | 37.6 | 39.7 | 11.1 | 67.8 | 53.1 | 75.6 | 1.8 | 1.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 8.9 | 10.1 | 5.8 | 12.6 | 21.7 | 20.1 | 4.8 | 18.4 | 10.4 | 7.1 | 9.6 | 4.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 89.8 | 43.7 | 21.5 | 84.5 | 78.8 | 80.8 | 56.9 | 90.5 | 61.5 | 130.7 | 40.9 | 19.5 |
| LnGrp LOS | F | D | C | F | E | F | E | F | F | F | D | B |
| Approach Vol, veh/h | | 1694 | | | 1714 | | | 2098 | | | 1293 | |
| Approach Delay, s/veh | | 50.0 | | | 81.5 | | | 78.0 | | | 58.5 | |
| Approach LOS | | D | | | F | | | E | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 26.6 | 36.4 | 17.6 | 39.4 | 20.0 | 43.0 | 14.0 | 43.0 |
| Change Period (Y+Rc), s | 4.2 | * 5.3 | * 4.2 | 5.7 | 4.2 | * 5.3 | * 4.2 | 5.7 |
| Max Green Setting (Gmax), s | 18.8 | * 35 | * 15 | 32.1 | 15.8 | * 38 | * 9.8 | 37.3 |
| Max Q Clear Time (g_c+I1), s | 24.4 | 25.6 | 13.3 | 24.2 | 17.8 | 39.7 | 11.8 | 39.3 |
| Green Ext Time (p_c), s | 0.0 | 5.1 | 0.1 | 4.0 | 0.0 | 0.0 | 0.0 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 68.2 |
| HCM 6th LOS | E |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 19.6 |
| Intersection LOS | C |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 35 | 260 | 230 | 5 | 0 | 190 | 0 | 0 | 10 | 557 | 10 |
| Future Vol, veh/h | 0 | 35 | 260 | 230 | 5 | 0 | 190 | 0 | 0 | 10 | 557 | 10 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 38 | 283 | 250 | 5 | 0 | 207 | 0 | 0 | 11 | 605 | 11 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 2 | 0 |

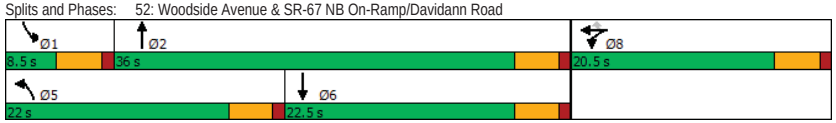
| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay | 18.7 | 18.6 | 18.5 | 20.9 |
| HCM LOS | C | C | C | C |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 98% | 3% | 0% |
| Vol Thru, % | 0% | 100% | 12% | 2% | 97% | 97% |
| Vol Right, % | 0% | 0% | 88% | 0% | 0% | 3% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 190 | 0 | 295 | 235 | 289 | 289 |
| LT Vol | 190 | 0 | 0 | 230 | 10 | 0 |
| Through Vol | 0 | 0 | 35 | 5 | 279 | 279 |
| RT Vol | 0 | 0 | 260 | 0 | 0 | 10 |
| Lane Flow Rate | 207 | 0 | 321 | 255 | 314 | 314 |
| Geometry Grp | 7 | 7 | 2 | 2 | 7 | 7 |
| Degree of Util (X) | 0.477 | 0 | 0.588 | 0.528 | 0.622 | 0.618 |
| Departure Headway (Hd) | 8.307 | 7.79 | 6.597 | 7.445 | 7.136 | 7.093 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 432 | 0 | 545 | 483 | 505 | 508 |
| Service Time | 6.091 | 5.574 | 4.669 | 5.525 | 4.91 | 4.867 |
| HCM Lane V/C Ratio | 0.479 | 0 | 0.589 | 0.528 | 0.622 | 0.618 |
| HCM Control Delay | 18.5 | 10.6 | 18.7 | 18.6 | 21 | 20.8 |
| HCM Lane LOS | C | N | C | C | C | C |
| HCM 95th-tile Q | 2.5 | 0 | 3.8 | 3 | 4.2 | 4.1 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 0 | 30 | 5 | 10 | 413 | 590 | 60 | 5 | 200 | 5 |
| Future Volume (vph) | 0 | 0 | 0 | 30 | 5 | 10 | 413 | 590 | 60 | 5 | 200 | 5 |
| Confl. Peds. (#/hr) | | | 2 | | | | | | 2 | | | |
| Confl. Bikes (#/hr) | | | | | | | | | 2 | | | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | | | | Split | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | | | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | 8 | | | | | | |
| Detector Phase | | | | 8 | 8 | 8 | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | | | | 20.5 | 20.5 | 20.5 | 8.5 | 22.5 | | 8.5 | 22.5 | |
| Total Split (s) | | | | 20.5 | 20.5 | 20.5 | 22.0 | 36.0 | | 8.5 | 22.5 | |
| Total Split (%) | | | | 31.5% | 31.5% | 31.5% | 33.8% | 55.4% | | 13.1% | 34.6% | |
| Yellow Time (s) | | | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | | | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | | | | | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | | | | | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | | | | None | None | None | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 65 |
| Actuated Cycle Length: 41.7 |
| Natural Cycle: 65 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 52: Woodside Avenue & SR-67 NB On-Ramp/Davidann Road








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 30 | 5 | 10 | 413 | 590 | 60 | 5 | 200 | 5 |
| Future Volume (veh/h) | 0 | 0 | 0 | 30 | 5 | 10 | 413 | 590 | 60 | 5 | 200 | 5 |
| Initial Q (Qb), veh | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | | | 1.00 | | 1.00 | 1.00 | | 0.98 | 1.00 | | 0.97 |
| Parking Bus, Adj | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | | | | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | | | | 33 | 5 | 11 | 449 | 641 | 65 | 5 | 217 | 5 |
| Peak Hour Factor | | | | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | | | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | | | | 69 | 10 | 70 | 567 | 871 | 88 | 10 | 382 | 9 |
| Arrive On Green | | | | 0.04 | 0.04 | 0.04 | 0.32 | 0.52 | 0.52 | 0.01 | 0.21 | 0.21 |
| Sat Flow, veh/h | | | | 1557 | 236 | 1585 | 1781 | 1666 | 169 | 1781 | 1820 | 42 |
| Grp Volume(v), veh/h | | | | 38 | 0 | 11 | 449 | 0 | 706 | 5 | 0 | 222 |
| Grp Sat Flow(s),veh/h/ln | | | | 1793 | 0 | 1585 | 1781 | 0 | 1835 | 1781 | 0 | 1862 |
| Q Serve(g_s), s | | | | 0.7 | 0.0 | 0.2 | 7.3 | 0.0 | 9.4 | 0.1 | 0.0 | 3.4 |
| Cycle Q Clear(g_c), s | | | | 0.7 | 0.0 | 0.2 | 7.3 | 0.0 | 9.4 | 0.1 | 0.0 | 3.4 |
| Prop In Lane | | | | 0.87 | | 1.00 | 1.00 | | 0.09 | 1.00 | | 0.02 |
| Lane Grp Cap(c), veh/h | | | | 79 | 0 | 70 | 567 | 0 | 960 | 10 | 0 | 391 |
| V/C Ratio(X) | | | | 0.48 | 0.00 | 0.16 | 0.79 | 0.00 | 0.74 | 0.52 | 0.00 | 0.57 |
| Avail Cap(c_a), veh/h | | | | 908 | 0 | 803 | 987 | 0 | 1830 | 226 | 0 | 1061 |
| HCM Platoon Ratio | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | | | | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | | | | 14.7 | 0.0 | 14.5 | 9.8 | 0.0 | 5.8 | 15.7 | 0.0 | 11.2 |
| Incr Delay (d2), s/veh | | | | 4.4 | 0.0 | 1.0 | 2.5 | 0.0 | 1.1 | 36.7 | 0.0 | 1.3 |
| Initial Q Delay(d3),s/veh | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | | 0.3 | 0.0 | 0.1 | 2.3 | 0.0 | 1.8 | 0.1 | 0.0 | 1.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | 19.2 | 0.0 | 15.6 | 12.4 | 0.0 | 7.0 | 52.4 | 0.0 | 12.5 |
| LnGrp LOS | | | | B | A | B | B | A | A | D | A | B |
| Approach Vol, veh/h | | | | | 49 | | | 1155 | | | 227 | |
| Approach Delay, s/veh | | | | | 18.4 | | | 9.1 | | | 13.4 | |
| Approach LOS | | | | | B | | | A | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 5 | 6 | | 8 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 4.7 | 21.0 | | 14.5 | 11.1 | | 5.9 | | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | | | | | |
| Max Green Setting (Gmax), s | 4.0 | 31.5 | | 17.5 | 18.0 | | 16.0 | | | | | |
| Max Q Clear Time (g_c+I1), s | 2.1 | 11.4 | | 9.3 | 5.4 | | 2.7 | | | | | |
| Green Ext Time (p_c), s | 0.0 | 5.1 | | 1.0 | 0.9 | | 0.1 | | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 10.1 |
| HCM 6th LOS | | B |

| Intersection | |
|---|---|
| Int Delay, s/veh | 5.5 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 170 | 423 | 367 | 0 | 0 | 820 |
| Future Vol, veh/h | 170 | 423 | 367 | 0 | 0 | 820 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 1 | 1 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | 300 | - | - | - | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 185 | 460 | 399 | 0 | 0 | 891 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 845 | 200 | 0 | - | - | - |
| Stage 1 | 399 | - | - | - | - | - |
| Stage 2 | 446 | - | - | - | - | - |
| Critical Hdwy | 6.84 | 6.94 | - | - | - | - |
| Critical Hdwy Stg 1 | 5.84 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.84 | - | - | - | - | - |
| Follow-up Hdwy | 3.52 | 3.32 | - | - | - | - |
| Pot Cap-1 Maneuver | 302 | 808 | - | 0 | 0 | - |
| Stage 1 | 647 | - | - | 0 | 0 | - |
| Stage 2 | 612 | - | - | 0 | 0 | - |
| Platoon blocked, % | | | - | | | - |
| Mov Cap-1 Maneuver | 302 | 808 | - | - | - | - |
| Mov Cap-2 Maneuver | 425 | - | - | - | - | - |
| Stage 1 | 647 | - | - | - | - | - |
| Stage 2 | 612 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 16.5 | 0 | 0 |
| HCM LOS | C | | |

| Minor Lane/Major Mvmt | NBT | WBLn1 | WBLn2 | SBT |
|---|---|---|---|---|
| Capacity (veh/h) | - | 425 | 808 | - |
| HCM Lane V/C Ratio | - | 0.435 | 0.569 | - |
| HCM Control Delay (s) | - | 19.8 | 15.2 | - |
| HCM Lane LOS | - | C | C | - |
| HCM 95th %tile Q(veh) | - | 2.2 | 3.7 | - |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 367 | 100 | 407 | 603 |
| Future Volume (Veh/h) | 0 | 0 | 367 | 100 | 407 | 603 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 0 | 399 | 109 | 442 | 655 |
| Pedestrians | 1 | | | | | |
| Lane Width (ft) | 0.0 | | | | | |
| Walking Speed (ft/s) | 4.0 | | | | | |
| Percent Blockage | 0 | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage veh) | | | | | | |
| Upstream signal (ft) | | | 769 | | | 1029 |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 1666 | 255 | | | 509 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 1666 | 255 | | | 509 | |
| tC, single (s) | 6.8 | 6.9 | | | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 100 | 100 | | | 58 | |
| cM capacity (veh/h) | 51 | 744 | | | 1052 | |

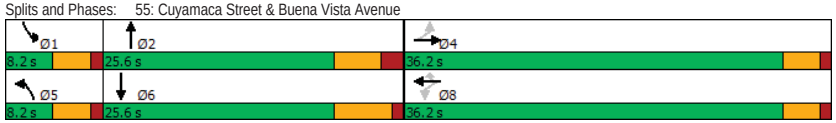
| Direction, Lane # | NB 1 | NB 2 | SB 1 | SB 2 | SB 3 |
|---|---|---|---|---|---|
| Volume Total | 266 | 242 | 442 | 328 | 328 |
| Volume Left | 0 | 0 | 442 | 0 | 0 |
| Volume Right | 0 | 109 | 0 | 0 | 0 |
| cSH | 1700 | 1700 | 1052 | 1700 | 1700 |
| Volume to Capacity | 0.16 | 0.14 | 0.42 | 0.19 | 0.19 |
| Queue Length 95th (ft) | 0 | 0 | 53 | 0 | 0 |
| Control Delay (s) | 0.0 | 0.0 | 10.9 | 0.0 | 0.0 |
| Lane LOS | | | B | | |
| Approach Delay (s) | 0.0 | | 4.4 | | |
| Approach LOS | | | | | |

| Intersection Summary | | | | |
|---|---|---|---|---|
| Average Delay | 3.0 | | | |
| Intersection Capacity Utilization | 43.1% | ICU Level of Service | | A |
| Analysis Period (min) | 15 | | | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 30 | 20 | 50 | 350 | 5 | 100 | 30 | 1853 | 250 | 80 | 1686 | 20 |
| Future Volume (vph) | 30 | 20 | 50 | 350 | 5 | 100 | 30 | 1853 | 250 | 80 | 1686 | 20 |
| Confl. Peds. (#/hr) | | | 5 | | | 11 | | | 14 | | | 3 |
| Confl. Bikes (#/hr) | | | 1 | | | 1 | | | 2 | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Perm | NA | | Perm | NA | Perm | Prot | NA | | Prot | NA | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | 8 | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | 8 | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 10.0 | | 4.0 | 10.0 | |
| Minimum Split (s) | 36.2 | 36.2 | | 34.2 | 34.2 | 34.2 | 8.2 | 24.0 | | 8.2 | 24.0 | |
| Total Split (s) | 36.2 | 36.2 | | 36.2 | 36.2 | 36.2 | 8.2 | 25.6 | | 8.2 | 25.6 | |
| Total Split (%) | 51.7% | 51.7% | | 51.7% | 51.7% | 51.7% | 11.7% | 36.6% | | 11.7% | 36.6% | |
| Yellow Time (s) | 3.2 | 3.2 | | 3.2 | 3.2 | 3.2 | 3.2 | 4.0 | | 3.2 | 4.9 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 2.0 | | 1.0 | 1.1 | |
| Lost Time Adjust (s) | | 0.0 | | | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | | 4.2 | | | 4.2 | 4.2 | 4.2 | 6.0 | | 4.2 | 6.0 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | None | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 70 |
| Actuated Cycle Length: 60.1 |
| Natural Cycle: 90 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 55: Cuyamaca Street & Buena Vista Avenue






Year 2035 + Proj PM (No School) Fanita Ranch
55: Cuyamaca Street & Buena Vista Avenue 06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 30 | 20 | 50 | 350 | 5 | 100 | 30 | 1853 | 250 | 80 | 1686 | 20 |
| Future Volume (veh/h) | 30 | 20 | 50 | 350 | 5 | 100 | 30 | 1853 | 250 | 80 | 1686 | 20 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.95 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 33 | 22 | 54 | 380 | 5 | 109 | 33 | 2014 | 272 | 87 | 1833 | 22 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 67 | 56 | 55 | 370 | 4 | 710 | 48 | 1269 | 168 | 102 | 1612 | 19 |
| Arrive On Green | 0.46 | 0.46 | 0.46 | 0.46 | 0.46 | 0.46 | 0.03 | 0.28 | 0.28 | 0.06 | 0.31 | 0.31 |
| Sat Flow, veh/h | 0 | 123 | 121 | 587 | 8 | 1554 | 1781 | 4531 | 601 | 1781 | 5199 | 62 |
| Grp Volume(v), veh/h | 109 | 0 | 0 | 385 | 0 | 109 | 33 | 1504 | 782 | 87 | 1200 | 655 |
| Grp Sat Flow(s),veh/h/ln | 244 | 0 | 0 | 595 | 0 | 1554 | 1781 | 1702 | 1727 | 1781 | 1702 | 1857 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.9 | 1.3 | 19.6 | 19.6 | 3.4 | 21.7 | 21.7 |
| Cycle Q Clear(g_c), s | 32.0 | 0.0 | 0.0 | 32.0 | 0.0 | 2.9 | 1.3 | 19.6 | 19.6 | 3.4 | 21.7 | 21.7 |
| Prop In Lane | 0.30 | | 0.50 | 0.99 | | 1.00 | 1.00 | | 0.35 | 1.00 | | 0.03 |
| Lane Grp Cap(c), veh/h | 179 | 0 | 0 | 374 | 0 | 710 | 48 | 953 | 484 | 102 | 1056 | 576 |
| V/C Ratio(X) | 0.61 | 0.00 | 0.00 | 1.03 | 0.00 | 0.15 | 0.68 | 1.58 | 1.62 | 0.85 | 1.14 | 1.14 |
| Avail Cap(c_a), veh/h | 179 | 0 | 0 | 374 | 0 | 710 | 102 | 953 | 484 | 102 | 1056 | 576 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 16.4 | 0.0 | 0.0 | 23.4 | 0.0 | 11.1 | 33.8 | 25.2 | 25.2 | 32.7 | 24.1 | 24.1 |
| Incr Delay (d2), s/veh | 4.3 | 0.0 | 0.0 | 54.3 | 0.0 | 0.0 | 6.2 | 265.0 | 287.3 | 45.1 | 73.5 | 81.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.1 | 0.0 | 0.0 | 11.8 | 0.0 | 0.9 | 0.6 | 42.3 | 45.9 | 2.7 | 18.6 | 21.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 20.7 | 0.0 | 0.0 | 77.7 | 0.0 | 11.1 | 40.0 | 290.2 | 312.5 | 77.8 | 97.6 | 105.6 |
| LnGrp LOS | C | A | A | F | A | B | D | F | F | E | F | F |
| Approach Vol, veh/h | | 109 | | | 494 | | | 2319 | | | 1942 | |
| Approach Delay, s/veh | | 20.7 | | | 63.0 | | | 294.2 | | | 99.4 | |
| Approach LOS | | C | | | E | | | F | | | F | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 8.2 | 25.6 | | 36.2 | 6.1 | 27.7 | | 36.2 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 6.0 | | * 4.2 | * 4.2 | * 6 | | * 4.2 | | | | |
| Max Green Setting (Gmax), s | * 4 | 19.6 | | * 32 | * 4 | * 20 | | * 32 | | | | |
| Max Q Clear Time (g_c+I1), s | 5.4 | 21.6 | | 34.0 | 3.3 | 23.7 | | 34.0 | | | | |
| Green Ext Time (p_c), s | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | | 0.0 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 186.8 | |
| HCM 6th LOS | F | |

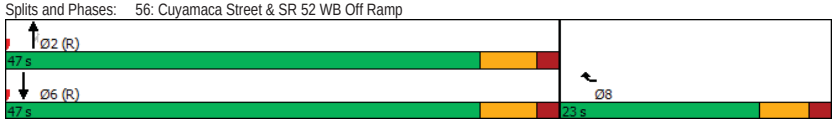
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 0 | 693 | 1360 | 440 | 0 | 1946 |
| Future Volume (vph) | 0 | 693 | 1360 | 440 | 0 | 1946 |
| Confl. Peds. (#/hr) | | | | 4 | | |
| Confl. Bikes (#/hr) | | | | 3 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | 0% | | | 0% |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | | Prot | NA | Perm | | NA |
| Protected Phases | | 8 | 2 | | | 6 |
| Permitted Phases | | | | 2 | | |
| Detector Phase | | 8 | 2 | 2 | | 6 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | | 5.0 | 14.0 | 14.0 | | 14.0 |
| Minimum Split (s) | | 20.0 | 45.8 | 45.8 | | 20.8 |
| Total Split (s) | | 23.0 | 47.0 | 47.0 | | 47.0 |
| Total Split (%) | | 32.9% | 67.1% | 67.1% | | 67.1% |
| Yellow Time (s) | | 4.1 | 4.8 | 4.8 | | 4.8 |
| All-Red Time (s) | | 2.0 | 2.0 | 2.0 | | 2.0 |
| Lost Time Adjust (s) | | 0.0 | 0.0 | 0.0 | | 0.0 |
| Total Lost Time (s) | | 6.1 | 6.8 | 6.8 | | 6.8 |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | | None | C-Max | C-Max | | C-Max |

| Intersection Summary |
|---|
| Cycle Length: 70 |
| Actuated Cycle Length: 70 |
| Offset: 22 (31%), Referenced to phase 2:NBT and 6:SBT, Start of Green |
| Natural Cycle: 70 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 56: Cuyamaca Street & SR 52 WB Off Ramp








| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 0 | 693 | 1360 | 440 | 0 | 1946 |
| Future Volume (veh/h) | 0 | 693 | 1360 | 440 | 0 | 1946 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | | 0.98 | 1.00 | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | No | | | No |
| Adj Sat Flow, veh/h/ln | 0 | 1870 | 1870 | 1870 | 0 | 1870 |
| Adj Flow Rate, veh/h | 0 | 753 | 1478 | 478 | 0 | 2115 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 0 | 2 | 2 | 2 | 0 | 2 |
| Cap, veh/h | 0 | 0 | 4610 | 1398 | 0 | 4610 |
| Arrive On Green | 0.00 | 0.00 | 0.30 | 0.30 | 0.00 | 0.90 |
| Sat Flow, veh/h | 0 | | 5274 | 1548 | 0 | 5443 |
| Grp Volume(v), veh/h | 0.0 | | 1478 | 478 | 0 | 2115 |
| Grp Sat Flow(s),veh/h/ln | | | 1702 | 1548 | 0 | 1702 |
| Q Serve(g_s), s | | | 15.7 | 16.9 | 0.0 | 4.8 |
| Cycle Q Clear(g_c), s | | | 15.7 | 16.9 | 0.0 | 4.8 |
| Prop In Lane | | | | 1.00 | 0.00 | |
| Lane Grp Cap(c), veh/h | | | 4610 | 1398 | 0 | 4610 |
| V/C Ratio(X) | | | 0.32 | 0.34 | 0.00 | 0.46 |
| Avail Cap(c_a), veh/h | | | 4610 | 1398 | 0 | 4610 |
| HCM Platoon Ratio | | | 0.33 | 0.33 | 1.00 | 1.00 |
| Upstream Filter(I) | | | 1.00 | 1.00 | 0.00 | 0.37 |
| Uniform Delay (d), s/veh | | | 7.9 | 8.3 | 0.0 | 0.6 |
| Incr Delay (d2), s/veh | | | 0.2 | 0.7 | 0.0 | 0.1 |
| Initial Q Delay(d3),s/veh | | | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | 2.9 | 3.5 | 0.0 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | | | 8.1 | 9.0 | 0.0 | 0.7 |
| LnGrp LOS | | | A | A | A | A |
| Approach Vol, veh/h | | | 1956 | | | 2115 |
| Approach Delay, s/veh | | | 8.3 | | | 0.7 |
| Approach LOS | | | A | | | A |

| Timer - Assigned Phs | 2 | | | | | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 70.0 | | | | | 70.0 |
| Change Period (Y+Rc), s | 6.8 | | | | | 6.8 |
| Max Green Setting (Gmax), s | 40.2 | | | | | 40.2 |
| Max Q Clear Time (g_c+I1), s | 18.9 | | | | | 6.8 |
| Green Ext Time (p_c), s | 13.1 | | | | | 22.1 |

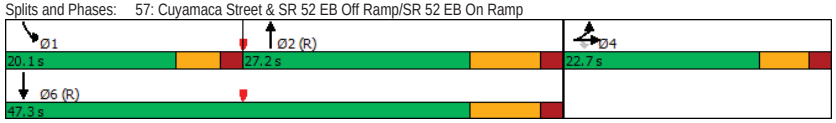
| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 4.3 |
| HCM 6th LOS | A |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 773 | 5 | 360 | 0 | 0 | 0 | 0 | 1027 | 290 | 687 | 643 | 0 |
| Future Volume (vph) | 773 | 5 | 360 | 0 | 0 | 0 | 0 | 1027 | 290 | 687 | 643 | 0 |
| Confl. Peds. (#/hr) | | | 2 | | | | | | 9 | | | 13 |
| Confl. Bikes (#/hr) | | | | | | | | | 2 | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | 50% | | | | | | | | | | | |
| Turn Type | Split | NA | Perm | | | | | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | | | | | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | | | | |
| Detector Phase | 4 | 4 | 4 | | | | | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | | | | | 11.0 | | 5.0 | 12.0 | |
| Minimum Split (s) | 22.1 | 22.1 | 22.1 | | | | | 27.0 | | 10.7 | 32.0 | |
| Total Split (s) | 22.7 | 22.7 | 22.7 | | | | | 27.2 | | 20.1 | 47.3 | |
| Total Split (%) | 32.4% | 32.4% | 32.4% | | | | | 38.9% | | 28.7% | 67.6% | |
| Yellow Time (s) | 4.1 | 4.1 | 4.1 | | | | | 6.0 | | 3.7 | 6.0 | |
| All-Red Time (s) | 2.0 | 2.0 | 2.0 | | | | | 2.0 | | 2.0 | 2.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | | | | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 6.1 | 6.1 | 6.1 | | | | | 8.0 | | 5.7 | 8.0 | |
| Lead/Lag | | | | | | | | Lag | | Lead | | |
| Lead-Lag Optimize? | | | | | | | | Yes | | Yes | | |
| Recall Mode | None | None | None | | | | | C-Min | | None | C-Min | |

**Intersection Summary**

Cycle Length: 70
Actuated Cycle Length: 70
Offset: 20 (29%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 57: Cuyamaca Street & SR 52 EB Off Ramp/SR 52 EB On Ramp








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 773 | 5 | 360 | 0 | 0 | 0 | 0 | 1027 | 290 | 687 | 643 | 0 |
| Future Volume (veh/h) | 773 | 5 | 360 | 0 | 0 | 0 | 0 | 1027 | 290 | 687 | 643 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | | | | 1.00 | | 0.98 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | | | | 0 | 1870 | 1870 | 1870 | 1870 | 0 |
| Adj Flow Rate, veh/h | 844 | 0 | 339 | | | | 0 | 1116 | 267 | 747 | 699 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | | | | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | | | | 0 | 2 | 2 | 2 | 2 | 0 |
| Cap, veh/h | 845 | 0 | 375 | | | | 0 | 1122 | 268 | 711 | 1995 | 0 |
| Arrive On Green | 0.24 | 0.00 | 0.24 | | | | 0.00 | 0.27 | 0.27 | 0.07 | 0.19 | 0.00 |
| Sat Flow, veh/h | 3563 | 0 | 1581 | | | | 0 | 4260 | 979 | 3456 | 3647 | 0 |
| Grp Volume(v), veh/h | 844 | 0 | 339 | | | | 0 | 928 | 455 | 747 | 699 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1581 | | | | 0 | 1702 | 1667 | 1728 | 1777 | 0 |
| Q Serve(g_s), s | 16.6 | 0.0 | 14.6 | | | | 0.0 | 19.0 | 19.1 | 14.4 | 12.0 | 0.0 |
| Cycle Q Clear(g_c), s | 16.6 | 0.0 | 14.6 | | | | 0.0 | 19.0 | 19.1 | 14.4 | 12.0 | 0.0 |
| Prop In Lane | 1.00 | | 1.00 | | | | 0.00 | | 0.59 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 845 | 0 | 375 | | | | 0 | 934 | 457 | 711 | 1995 | 0 |
| V/C Ratio(X) | 1.00 | 0.00 | 0.90 | | | | 0.00 | 0.99 | 0.99 | 1.05 | 0.35 | 0.00 |
| Avail Cap(c_a), veh/h | 845 | 0 | 375 | | | | 0 | 934 | 457 | 711 | 1995 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | | | | 1.00 | 1.00 | 1.00 | 0.33 | 0.33 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | | | | 0.00 | 0.82 | 0.82 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | 26.7 | 0.0 | 25.9 | | | | 0.0 | 25.3 | 25.3 | 32.6 | 17.4 | 0.0 |
| Incr Delay (d2), s/veh | 30.7 | 0.0 | 24.5 | | | | 0.0 | 25.3 | 36.8 | 47.9 | 0.5 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 10.2 | 0.0 | 7.7 | | | | 0.0 | 10.3 | 11.5 | 11.3 | 5.7 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 57.4 | 0.0 | 50.5 | | | | 0.0 | 50.7 | 62.2 | 80.5 | 17.9 | 0.0 |
| LnGrp LOS | E | A | D | | | | A | D | E | F | B | A |
| Approach Vol, veh/h | | 1183 | | | | | | 1383 | | | 1446 | |
| Approach Delay, s/veh | | 55.4 | | | | | | 54.5 | | | 50.2 | |
| Approach LOS | | E | | | | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | 4 | 6 |
|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 20.1 | 27.2 | 22.7 | 47.3 |
| Change Period (Y+Rc), s | * 5.7 | 8.0 | 6.1 | 8.0 |
| Max Green Setting (Gmax), s | * 14 | 19.2 | 16.6 | 39.3 |
| Max Q Clear Time (g_c+I1), s | 16.4 | 21.1 | 18.6 | 14.0 |
| Green Ext Time (p_c), s | 0.0 | 0.0 | 0.0 | 5.0 |

**Intersection Summary**

| | |
|---|---|
| HCM 6th Ctrl Delay | 53.2 |
| HCM 6th LOS | D |

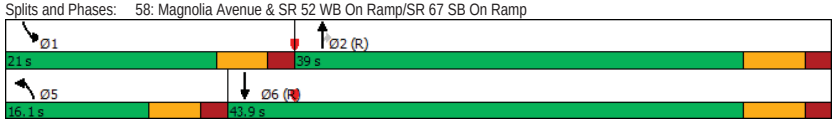
**Notes**

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 300 | 1690 | 240 | 718 | 657 | 395 |
| Future Volume (vph) | 0 | 0 | 0 | 0 | 0 | 0 | 300 | 1690 | 240 | 718 | 657 | 395 |
| Confl. Peds. (#/hr) | | | | | | | | | 2 | | | 2 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | | | | | | | Prot | NA | Perm | Prot | NA | |
| Protected Phases | | | | | | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | | | 2 | | | |
| Detector Phase | | | | | | | 5 | 2 | 2 | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | | | | | | 5.0 | 6.0 | 6.0 | 5.0 | 7.0 | |
| Minimum Split (s) | | | | | | | 10.7 | 38.4 | 38.4 | 10.7 | 39.4 | |
| Total Split (s) | | | | | | | 16.1 | 39.0 | 39.0 | 21.0 | 43.9 | |
| Total Split (%) | | | | | | | 26.8% | 65.0% | 65.0% | 35.0% | 73.2% | |
| Yellow Time (s) | | | | | | | 3.7 | 4.4 | 4.4 | 3.7 | 4.4 | |
| All-Red Time (s) | | | | | | | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | |
| Lost Time Adjust (s) | | | | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | | | | | | | 5.7 | 6.4 | 6.4 | 5.7 | 6.4 | |
| Lead/Lag | | | | | | | Lead | Lag | Lag | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | Yes | Yes | Yes | |
| Recall Mode | | | | | | | None | C-Max | C-Max | None | C-Max | |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 60 |
| Offset: 17 (28%), Referenced to phase 2:NBT and 6:SBT, Start of Green |
| Natural Cycle: 60 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 58: Magnolia Avenue & SR 52 WB On Ramp/SR 67 SB On Ramp








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 0 | 0 | 0 | 300 | 1690 | 240 | 718 | 657 | 395 |
| Future Volume (veh/h) | 0 | 0 | 0 | 0 | 0 | 0 | 300 | 1690 | 240 | 718 | 657 | 395 |
| Initial Q (Qb), veh | | | | | | | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | | | | | | 1.00 | | 1.00 | 1.00 | | 0.98 |
| Parking Bus, Adj | | | | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | | | | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | | | | | | | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | | | | | | | 326 | 1837 | 261 | 780 | 714 | 429 |
| Peak Hour Factor | | | | | | | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | | | | | | | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | | | | | | | 428 | 2810 | 871 | 857 | 1427 | 855 |
| Arrive On Green | | | | | | | 0.25 | 1.00 | 1.00 | 0.41 | 1.00 | 1.00 |
| Sat Flow, veh/h | | | | | | | 3456 | 5106 | 1582 | 3456 | 2117 | 1267 |
| Grp Volume(v), veh/h | | | | | | | 326 | 1837 | 261 | 780 | 599 | 544 |
| Grp Sat Flow(s),veh/h/ln | | | | | | | 1728 | 1702 | 1582 | 1728 | 1777 | 1607 |
| Q Serve(g_s), s | | | | | | | 5.2 | 0.0 | 0.0 | 12.7 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | | | | | | | 5.2 | 0.0 | 0.0 | 12.7 | 0.0 | 0.0 |
| Prop In Lane | | | | | | | 1.00 | | 1.00 | 1.00 | | 0.79 |
| Lane Grp Cap(c), veh/h | | | | | | | 428 | 2810 | 871 | 857 | 1198 | 1084 |
| V/C Ratio(X) | | | | | | | 0.76 | 0.65 | 0.30 | 0.91 | 0.50 | 0.50 |
| Avail Cap(c_a), veh/h | | | | | | | 599 | 2810 | 871 | 881 | 1198 | 1084 |
| HCM Platoon Ratio | | | | | | | 2.00 | 2.00 | 2.00 | 1.67 | 1.67 | 1.67 |
| Upstream Filter(I) | | | | | | | 0.09 | 0.09 | 0.09 | 0.44 | 0.44 | 0.44 |
| Uniform Delay (d), s/veh | | | | | | | 21.7 | 0.0 | 0.0 | 16.9 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | | | | | | | 0.2 | 0.1 | 0.1 | 6.4 | 0.7 | 0.7 |
| Initial Q Delay(d3),s/veh | | | | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | | | | | 1.8 | 0.0 | 0.0 | 4.1 | 0.2 | 0.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | | | | 21.9 | 0.1 | 0.1 | 23.3 | 0.7 | 0.7 |
| LnGrp LOS | | | | | | | C | A | A | C | A | A |
| Approach Vol, veh/h | | | | | | | | 2424 | | | 1923 | |
| Approach Delay, s/veh | | | | | | | | 3.0 | | | 9.9 | |
| Approach LOS | | | | | | | | A | | | A | |

| Timer - Assigned Phs | 1 | 2 | | 5 | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 20.6 | 39.4 | | 13.1 | 46.9 |
| Change Period (Y+Rc), s | * 5.7 | 6.4 | | * 5.7 | 6.4 |
| Max Green Setting (Gmax), s | * 15 | 32.6 | | * 10 | 37.5 |
| Max Q Clear Time (g_c+I1), s | 14.7 | 2.0 | | 7.2 | 2.0 |
| Green Ext Time (p_c), s | 0.1 | 19.6 | | 0.2 | 8.8 |

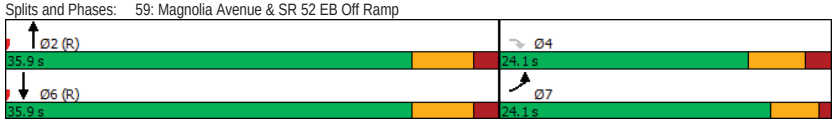
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 6.1 | |
| HCM 6th LOS | A | |

| Notes |
|---|
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. |

| Lane Group | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 560 | 490 | 0 | 1740 | 627 | 0 |
| Future Volume (vph) | 560 | 490 | 0 | 1740 | 627 | 0 |
| Confl. Peds. (#/hr) | | | | | | 1 |
| Confl. Bikes (#/hr) | | | | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | | NA | NA | |
| Protected Phases | 7 | | | 2 | 6 | |
| Permitted Phases | | 4 | | | | |
| Detector Phase | 7 | 4 | | 2 | 6 | |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 5.0 | | 5.0 | 5.0 | |
| Minimum Split (s) | 8.5 | 22.1 | | 22.4 | 27.4 | |
| Total Split (s) | 24.1 | 24.1 | | 35.9 | 35.9 | |
| Total Split (%) | 40.2% | 40.2% | | 59.8% | 59.8% | |
| Yellow Time (s) | 3.5 | 4.1 | | 4.4 | 4.4 | |
| All-Red Time (s) | 1.0 | 2.0 | | 2.0 | 2.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 6.1 | | 6.4 | 6.4 | |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | None | None | | C-Max | C-Max | |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 60 |
| Offset: 2 (3%), Referenced to phase 2:NBT and 6:SBT, Start of Green |
| Natural Cycle: 100 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 59: Magnolia Avenue & SR 52 EB Off Ramp






Year 2035 + Proj PM (No School)
59: Magnolia Avenue & SR 52 EB Off Ramp
Fanita Ranch
06/06/2019

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 560 | 490 | 0 | 1740 | 627 | 0 |
| Future Volume (veh/h) | 560 | 490 | 0 | 1740 | 627 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | 1.00 | | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 0 | 1870 | 1870 | 0 |
| Adj Flow Rate, veh/h | 609 | 533 | 0 | 1891 | 682 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 0 | 2 | 2 | 0 |
| Cap, veh/h | 582 | 518 | 0 | 1747 | 1747 | 0 |
| Arrive On Green | 0.33 | 0.33 | 0.00 | 0.49 | 0.98 | 0.00 |
| Sat Flow, veh/h | 1781 | 1585 | 0 | 3741 | 3741 | 0 |
| Grp Volume(v), veh/h | 609 | 533 | 0 | 1891 | 682 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 0 | 1777 | 1777 | 0 |
| Q Serve(g_s), s | 19.6 | 19.6 | 0.0 | 29.5 | 0.3 | 0.0 |
| Cycle Q Clear(g_c), s | 19.6 | 19.6 | 0.0 | 29.5 | 0.3 | 0.0 |
| Prop In Lane | 1.00 | 1.00 | 0.00 | | | 0.00 |
| Lane Grp Cap(c), veh/h | 582 | 518 | 0 | 1747 | 1747 | 0 |
| V/C Ratio(X) | 1.05 | 1.03 | 0.00 | 1.08 | 0.39 | 0.00 |
| Avail Cap(c_a), veh/h | 582 | 518 | 0 | 1747 | 1747 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 2.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.49 | 0.84 | 0.00 |
| Uniform Delay (d), s/veh | 20.2 | 20.2 | 0.0 | 15.2 | 0.3 | 0.0 |
| Incr Delay (d2), s/veh | 50.1 | 47.3 | 0.0 | 42.8 | 0.6 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 15.3 | 13.2 | 0.0 | 18.8 | 0.2 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 70.3 | 67.5 | 0.0 | 58.0 | 0.8 | 0.0 |
| LnGrp LOS | F | F | A | F | A | A |
| Approach Vol, veh/h | 1142 | | | 1891 | 682 | |
| Approach Delay, s/veh | 69.0 | | | 58.0 | 0.8 | |
| Approach LOS | E | | | E | A | |

| Timer - Assigned Phs | | 2 | | 4 | | 6 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 35.9 | | 24.1 | | 35.9 |
| Change Period (Y+Rc), s | | 6.4 | | 4.5 | | 6.4 |
| Max Green Setting (Gmax), s | | 29.5 | | 19.6 | | 29.5 |
| Max Q Clear Time (g_c+I1), s | | 31.5 | | 21.6 | | 2.3 |
| Green Ext Time (p_c), s | | 0.0 | | 0.0 | | 4.5 |

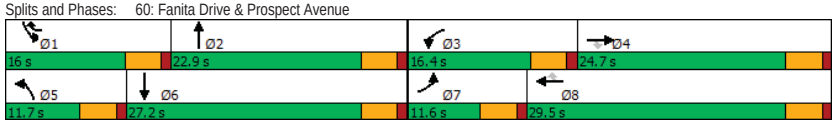
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 50.9 | |
| HCM 6th LOS | D | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 130 | 120 | 40 | 110 | 110 | 150 | 60 | 227 | 90 | 220 | 263 | 130 |
| Future Volume (vph) | 130 | 120 | 40 | 110 | 110 | 150 | 60 | 227 | 90 | 220 | 263 | 130 |
| Confl. Peds. (#/hr) | | | 6 | | | 4 | | | 2 | | | 1 |
| Confl. Bikes (#/hr) | | | 4 | | | 4 | | | 1 | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | pm+ov | Prot | NA | | Prot | NA | |
| Protected Phases | 7 | 4 | | 3 | 8 | 1 | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | | | | |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | 1 | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | 8.5 | 24.5 | 24.5 | 8.5 | 29.5 | 8.5 | 8.5 | 22.5 | | 8.5 | 24.5 | |
| Total Split (s) | 11.6 | 24.7 | 24.7 | 16.4 | 29.5 | 16.0 | 11.7 | 22.9 | | 16.0 | 27.2 | |
| Total Split (%) | 14.5% | 30.9% | 30.9% | 20.5% | 36.9% | 20.0% | 14.6% | 28.6% | | 20.0% | 34.0% | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | None | None | None | None | None | Min | | None | Min | |

**Intersection Summary**

Cycle Length: 80
Actuated Cycle Length: 64.5
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 60: Fanita Drive & Prospect Avenue






Year 2035 + Proj PM (No School)
60: Fanita Drive & Prospect Avenue
Fanita Ranch
06/06/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 130 | 120 | 40 | 110 | 110 | 150 | 60 | 227 | 90 | 220 | 263 | 130 |
| Future Volume (veh/h) | 130 | 120 | 40 | 110 | 110 | 150 | 60 | 227 | 90 | 220 | 263 | 130 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 141 | 130 | 43 | 120 | 120 | 163 | 65 | 247 | 98 | 239 | 286 | 141 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 180 | 324 | 267 | 157 | 300 | 509 | 82 | 306 | 121 | 293 | 833 | 398 |
| Arrive On Green | 0.10 | 0.17 | 0.17 | 0.09 | 0.16 | 0.16 | 0.05 | 0.24 | 0.24 | 0.16 | 0.36 | 0.36 |
| Sat Flow, veh/h | 1781 | 1870 | 1542 | 1781 | 1870 | 1546 | 1781 | 1263 | 501 | 1781 | 2310 | 1104 |
| Grp Volume(v), veh/h | 141 | 130 | 43 | 120 | 120 | 163 | 65 | 0 | 345 | 239 | 218 | 209 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1542 | 1781 | 1870 | 1546 | 1781 | 0 | 1765 | 1781 | 1777 | 1638 |
| Q Serve(g_s), s | 4.2 | 3.3 | 1.3 | 3.6 | 3.1 | 4.3 | 2.0 | 0.0 | 10.0 | 7.0 | 4.8 | 5.1 |
| Cycle Q Clear(g_c), s | 4.2 | 3.3 | 1.3 | 3.6 | 3.1 | 4.3 | 2.0 | 0.0 | 10.0 | 7.0 | 4.8 | 5.1 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.28 | 1.00 | | 0.67 |
| Lane Grp Cap(c), veh/h | 180 | 324 | 267 | 157 | 300 | 509 | 82 | 0 | 427 | 293 | 641 | 591 |
| V/C Ratio(X) | 0.78 | 0.40 | 0.16 | 0.77 | 0.40 | 0.32 | 0.79 | 0.00 | 0.81 | 0.81 | 0.34 | 0.35 |
| Avail Cap(c_a), veh/h | 233 | 697 | 574 | 391 | 862 | 974 | 236 | 0 | 599 | 378 | 744 | 685 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 23.8 | 19.9 | 19.1 | 24.2 | 20.4 | 13.8 | 25.6 | 0.0 | 19.4 | 21.8 | 12.6 | 12.7 |
| Incr Delay (d2), s/veh | 12.2 | 0.8 | 0.3 | 7.6 | 0.9 | 0.4 | 15.5 | 0.0 | 5.6 | 10.2 | 0.3 | 0.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.2 | 1.4 | 0.4 | 1.7 | 1.3 | 1.3 | 1.1 | 0.0 | 4.1 | 3.4 | 1.6 | 1.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 36.0 | 20.7 | 19.3 | 31.8 | 21.3 | 14.2 | 41.1 | 0.0 | 24.9 | 32.0 | 12.9 | 13.1 |
| LnGrp LOS | D | C | B | C | C | B | D | A | C | C | B | B |
| Approach Vol, veh/h | | 314 | | | 403 | | | 410 | | | 666 | |
| Approach Delay, s/veh | | 27.4 | | | 21.5 | | | 27.5 | | | 19.8 | |
| Approach LOS | | C | | | C | | | C | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 13.4 | 17.6 | 9.3 | 13.9 | 7.0 | 24.1 | 10.0 | 13.2 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 11.5 | 18.4 | 11.9 | 20.2 | 7.2 | 22.7 | 7.1 | 25.0 |
| Max Q Clear Time (g_c+I1), s | 9.0 | 12.0 | 5.6 | 5.3 | 4.0 | 7.1 | 6.2 | 6.3 |
| Green Ext Time (p_c), s | 0.2 | 1.0 | 0.1 | 0.7 | 0.0 | 2.1 | 0.0 | 1.1 |

**Intersection Summary**

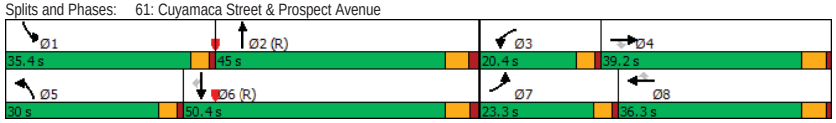
| | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 23.3 | |
| HCM 6th LOS | | C | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 130 | 180 | 180 | 100 | 200 | 245 | 180 | 922 | 120 | 235 | 613 | 220 |
| Future Volume (vph) | 130 | 180 | 180 | 100 | 200 | 245 | 180 | 922 | 120 | 235 | 613 | 220 |
| Confl. Peds. (#/hr) | | | 4 | | | 10 | | | 7 | | | 6 |
| Confl. Bikes (#/hr) | | | 2 | | | 2 | | | 4 | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | | | | 6 |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | 8 | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 7.0 | 7.0 | 4.0 | 7.0 | 7.0 | 4.0 | 10.0 | | 4.0 | 10.0 | 10.0 |
| Minimum Split (s) | 8.2 | 35.2 | 35.2 | 8.2 | 36.2 | 36.2 | 8.2 | 33.0 | | 8.2 | 31.0 | 31.0 |
| Total Split (s) | 23.3 | 39.2 | 39.2 | 20.4 | 36.3 | 36.3 | 30.0 | 45.0 | | 35.4 | 50.4 | 50.4 |
| Total Split (%) | 16.6% | 28.0% | 28.0% | 14.6% | 25.9% | 25.9% | 21.4% | 32.1% | | 25.3% | 36.0% | 36.0% |
| Yellow Time (s) | 3.2 | 4.2 | 4.2 | 3.2 | 4.2 | 4.2 | 3.2 | 4.0 | | 3.2 | 4.1 | 4.1 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 2.0 | | 1.0 | 1.9 | 1.9 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.2 | 5.2 | 4.2 | 5.2 | 5.2 | 4.2 | 6.0 | | 4.2 | 6.0 | 6.0 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | None | None | C-Min | | None | C-Min | C-Min |

**Intersection Summary**

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 26 (19%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 61: Cuyamaca Street & Prospect Avenue








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 130 | 180 | 180 | 100 | 200 | 245 | 180 | 922 | 120 | 235 | 613 | 220 |
| Future Volume (veh/h) | 130 | 180 | 180 | 100 | 200 | 245 | 180 | 922 | 120 | 235 | 613 | 220 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 0.97 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 141 | 196 | 196 | 109 | 217 | 266 | 196 | 1002 | 130 | 255 | 666 | 239 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 165 | 402 | 334 | 132 | 698 | 302 | 220 | 1897 | 245 | 276 | 1589 | 697 |
| Arrive On Green | 0.09 | 0.21 | 0.21 | 0.07 | 0.20 | 0.20 | 0.12 | 0.42 | 0.42 | 0.31 | 0.89 | 0.89 |
| Sat Flow, veh/h | 1781 | 1870 | 1554 | 1781 | 3554 | 1539 | 1781 | 4556 | 590 | 1781 | 3554 | 1558 |
| Grp Volume(v), veh/h | 141 | 196 | 196 | 109 | 217 | 266 | 196 | 748 | 384 | 255 | 666 | 239 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1554 | 1781 | 1777 | 1539 | 1781 | 1702 | 1741 | 1781 | 1777 | 1558 |
| Q Serve(g_s), s | 10.9 | 12.9 | 15.9 | 8.5 | 7.3 | 23.5 | 15.2 | 23.0 | 23.1 | 19.4 | 4.4 | 3.3 |
| Cycle Q Clear(g_c), s | 10.9 | 12.9 | 15.9 | 8.5 | 7.3 | 23.5 | 15.2 | 23.0 | 23.1 | 19.4 | 4.4 | 3.3 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.34 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 165 | 402 | 334 | 132 | 698 | 302 | 220 | 1417 | 725 | 276 | 1589 | 697 |
| V/C Ratio(X) | 0.86 | 0.49 | 0.59 | 0.83 | 0.31 | 0.88 | 0.89 | 0.53 | 0.53 | 0.93 | 0.42 | 0.34 |
| Avail Cap(c_a), veh/h | 243 | 454 | 377 | 206 | 789 | 342 | 328 | 1417 | 725 | 397 | 1589 | 697 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 2.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 0.90 | 0.90 | 0.90 | 1.00 | 1.00 | 1.00 | 0.86 | 0.86 | 0.86 |
| Uniform Delay (d), s/veh | 62.6 | 48.2 | 49.4 | 63.9 | 48.1 | 54.6 | 60.4 | 30.6 | 30.6 | 47.6 | 4.3 | 4.3 |
| Incr Delay (d2), s/veh | 12.4 | 1.0 | 2.0 | 7.2 | 0.1 | 18.1 | 13.3 | 1.4 | 2.8 | 16.1 | 0.7 | 1.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 5.5 | 6.1 | 6.3 | 4.1 | 3.3 | 10.6 | 7.6 | 9.7 | 10.2 | 8.6 | 1.4 | 1.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 75.0 | 49.2 | 51.4 | 71.1 | 48.3 | 72.8 | 73.7 | 32.0 | 33.3 | 63.7 | 5.0 | 5.4 |
| LnGrp LOS | E | D | D | E | D | E | E | C | C | E | A | A |
| Approach Vol, veh/h | | 533 | | | 592 | | | 1328 | | | 1160 | |
| Approach Delay, s/veh | | 56.8 | | | 63.5 | | | 38.5 | | | 18.0 | |
| Approach LOS | | E | | | E | | | D | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 25.9 | 64.3 | 14.6 | 35.3 | 21.5 | 68.6 | 17.2 | 32.7 |
| Change Period (Y+Rc), s | * 4.2 | 6.0 | * 4.2 | 5.2 | * 4.2 | * 6 | * 4.2 | 5.2 |
| Max Green Setting (Gmax), s | * 31 | 39.0 | * 16 | 34.0 | * 26 | * 44 | * 19 | 31.1 |
| Max Q Clear Time (g_c+I1), s | 21.4 | 25.1 | 10.5 | 17.9 | 17.2 | 6.4 | 12.9 | 25.5 |
| Green Ext Time (p_c), s | 0.3 | 8.1 | 0.1 | 1.7 | 0.2 | 9.1 | 0.1 | 0.9 |

**Intersection Summary**

| | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 38.7 | |
| HCM 6th LOS | | D | |

**Notes**

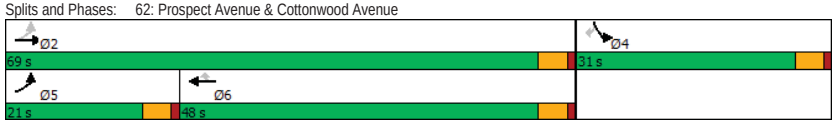
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 160 | 370 | 280 | 170 | 130 | 80 |
| Future Volume (vph) | 160 | 370 | 280 | 170 | 130 | 80 |
| Confl. Peds. (#/hr) | | | | 1 | | 4 |
| Confl. Bikes (#/hr) | | | | 3 | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | pm+pt | NA | NA | Perm | Prot | Perm |
| Protected Phases | 5 | 2 | 6 | | 4 | |
| Permitted Phases | 2 | | | 6 | | 4 |
| Detector Phase | 5 | 2 | 6 | 6 | 4 | 4 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 |
| Total Split (s) | 21.0 | 69.0 | 48.0 | 48.0 | 31.0 | 31.0 |
| Total Split (%) | 21.0% | 69.0% | 48.0% | 48.0% | 31.0% | 31.0% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | | Lag | Lag | | |
| Lead-Lag Optimize? | Yes | | Yes | Yes | | |
| Recall Mode | None | Min | Min | Min | None | None |

**Intersection Summary**

Cycle Length: 100
Actuated Cycle Length: 47.1
Natural Cycle: 55
Control Type: Actuated-Uncoordinated

Splits and Phases: 62: Prospect Avenue & Cottonwood Avenue








| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 160 | 370 | 280 | 170 | 130 | 80 |
| Future Volume (veh/h) | 160 | 370 | 280 | 170 | 130 | 80 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | | 0.97 | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | No | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 174 | 402 | 304 | 185 | 141 | 87 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 575 | 1034 | 550 | 454 | 247 | 220 |
| Arrive On Green | 0.10 | 0.55 | 0.29 | 0.29 | 0.14 | 0.14 |
| Sat Flow, veh/h | 1781 | 1870 | 1870 | 1545 | 1781 | 1585 |
| Grp Volume(v), veh/h | 174 | 402 | 304 | 185 | 141 | 87 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1870 | 1545 | 1781 | 1585 |
| Q Serve(g_s), s | 1.7 | 3.6 | 4.0 | 2.8 | 2.2 | 1.5 |
| Cycle Q Clear(g_c), s | 1.7 | 3.6 | 4.0 | 2.8 | 2.2 | 1.5 |
| Prop In Lane | 1.00 | | | 1.00 | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 575 | 1034 | 550 | 454 | 247 | 220 |
| V/C Ratio(X) | 0.30 | 0.39 | 0.55 | 0.41 | 0.57 | 0.40 |
| Avail Cap(c_a), veh/h | 1396 | 4135 | 2789 | 2303 | 1618 | 1440 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 5.4 | 3.7 | 8.7 | 8.3 | 11.7 | 11.4 |
| Incr Delay (d2), s/veh | 0.3 | 0.2 | 0.9 | 0.6 | 2.1 | 1.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.3 | 0.3 | 1.1 | 0.6 | 0.8 | 1.4 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 5.6 | 4.0 | 9.6 | 8.9 | 13.8 | 12.6 |
| LnGrp LOS | A | A | A | A | B | B |
| Approach Vol, veh/h | | 576 | 489 | | 228 | |
| Approach Delay, s/veh | | 4.5 | 9.3 | | 13.4 | |
| Approach LOS | | A | A | | B | |

| Timer - Assigned Phs | 2 | | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 20.6 | | 8.5 | 7.6 | 13.1 |
| Change Period (Y+Rc), s | 4.5 | | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 64.5 | | 26.5 | 16.5 | 43.5 |
| Max Q Clear Time (g_c+I1), s | 5.6 | | 4.2 | 3.7 | 6.0 |
| Green Ext Time (p_c), s | 2.7 | | 0.6 | 0.4 | 2.5 |

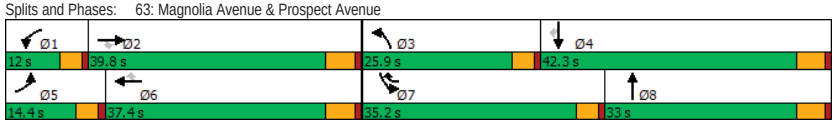
**Intersection Summary**

| | |
|---|---|
| HCM 6th Ctrl Delay | 7.9 |
| HCM 6th LOS | A |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 195 | 290 | 90 | 65 | 290 | 1032 | 155 | 513 | 150 | 660 | 397 | 90 |
| Future Volume (vph) | 195 | 290 | 90 | 65 | 290 | 1032 | 155 | 513 | 150 | 660 | 397 | 90 |
| Confl. Peds. (#/hr) | | | 9 | | | 1 | | | 5 | | | 4 |
| Confl. Bikes (#/hr) | | | 2 | | | 1 | | | 1 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | pm+ov | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | 4.0 | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 39.3 | 39.3 | 8.2 | 37.4 | 8.2 | 8.2 | 23.2 | | 8.2 | 36.2 | 36.2 |
| Total Split (s) | 14.4 | 39.8 | 39.8 | 12.0 | 37.4 | 35.2 | 25.9 | 33.0 | | 35.2 | 42.3 | 42.3 |
| Total Split (%) | 12.0% | 33.2% | 33.2% | 10.0% | 31.2% | 29.3% | 21.6% | 27.5% | | 29.3% | 35.3% | 35.3% |
| Yellow Time (s) | 3.2 | 4.3 | 4.3 | 3.2 | 4.4 | 3.2 | 3.2 | 4.2 | | 3.2 | 4.2 | 4.2 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | 5.3 | 4.2 | 5.4 | 4.2 | 4.2 | 5.2 | | 4.2 | 5.2 | 5.2 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | Min | Min | None | Min | None | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 104.7 |
| Natural Cycle: 95 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 63: Magnolia Avenue & Prospect Avenue








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 195 | 290 | 90 | 65 | 290 | 1032 | 155 | 513 | 150 | 660 | 397 | 90 |
| Future Volume (veh/h) | 195 | 290 | 90 | 65 | 290 | 1032 | 155 | 513 | 150 | 660 | 397 | 90 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 212 | 315 | 98 | 71 | 315 | 1122 | 168 | 558 | 163 | 717 | 432 | 98 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 273 | 587 | 487 | 91 | 1017 | 1431 | 200 | 626 | 182 | 807 | 1254 | 550 |
| Arrive On Green | 0.08 | 0.31 | 0.31 | 0.05 | 0.29 | 0.29 | 0.11 | 0.23 | 0.23 | 0.23 | 0.35 | 0.35 |
| Sat Flow, veh/h | 3456 | 1870 | 1550 | 1781 | 3554 | 2726 | 1781 | 2701 | 786 | 3456 | 3554 | 1560 |
| Grp Volume(v), veh/h | 212 | 315 | 98 | 71 | 315 | 1122 | 168 | 366 | 355 | 717 | 432 | 98 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1870 | 1550 | 1781 | 1777 | 1363 | 1781 | 1777 | 1711 | 1728 | 1777 | 1560 |
| Q Serve(g_s), s | 6.7 | 15.5 | 5.2 | 4.4 | 7.8 | 32.0 | 10.3 | 22.3 | 22.5 | 22.4 | 10.0 | 4.9 |
| Cycle Q Clear(g_c), s | 6.7 | 15.5 | 5.2 | 4.4 | 7.8 | 32.0 | 10.3 | 22.3 | 22.5 | 22.4 | 10.0 | 4.9 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.46 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 273 | 587 | 487 | 91 | 1017 | 1431 | 200 | 412 | 396 | 807 | 1254 | 550 |
| V/C Ratio(X) | 0.78 | 0.54 | 0.20 | 0.78 | 0.31 | 0.78 | 0.84 | 0.89 | 0.89 | 0.89 | 0.34 | 0.18 |
| Avail Cap(c_a), veh/h | 315 | 587 | 487 | 124 | 1017 | 1431 | 346 | 442 | 425 | 958 | 1254 | 550 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 50.5 | 31.7 | 28.1 | 52.4 | 31.3 | 21.9 | 48.7 | 41.6 | 41.6 | 41.5 | 26.7 | 25.0 |
| Incr Delay (d2), s/veh | 10.2 | 1.0 | 0.2 | 19.3 | 0.2 | 2.9 | 9.1 | 18.8 | 20.1 | 9.1 | 0.2 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 3.3 | 7.1 | 2.0 | 2.5 | 3.4 | 12.1 | 5.1 | 11.8 | 11.6 | 10.5 | 4.3 | 1.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 60.7 | 32.6 | 28.3 | 71.7 | 31.4 | 24.9 | 57.7 | 60.4 | 61.7 | 50.6 | 26.8 | 25.1 |
| LnGrp LOS | E | C | C | E | C | C | E | E | E | D | C | C |
| Approach Vol, veh/h | | 625 | | | 1508 | | | 889 | | | 1247 | |
| Approach Delay, s/veh | | 41.5 | | | 28.4 | | | 60.4 | | | 40.4 | |
| Approach LOS | | D | | | C | | | E | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 9.9 | 40.5 | 16.8 | 44.7 | 13.0 | 37.4 | 30.3 | 31.1 |
| Change Period (Y+Rc), s | * 4.2 | * 5.4 | * 4.2 | 5.2 | * 4.2 | 5.4 | * 4.2 | 5.2 |
| Max Green Setting (Gmax), s | * 7.8 | * 35 | * 22 | 37.1 | * 10 | 32.0 | * 31 | 27.8 |
| Max Q Clear Time (g_c+I1), s | 6.4 | 17.5 | 12.3 | 12.0 | 8.7 | 34.0 | 24.4 | 24.5 |
| Green Ext Time (p_c), s | 0.0 | 2.0 | 0.3 | 3.3 | 0.1 | 0.0 | 1.7 | 1.4 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 40.5 | |
| HCM 6th LOS | D | |

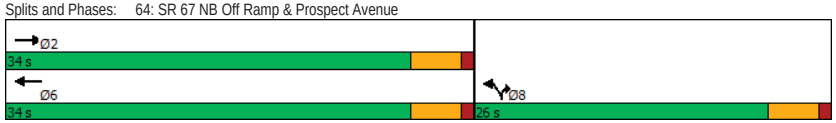
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 1100 | 0 | 0 | 690 | 757 | 180 |
| Future Volume (vph) | 1100 | 0 | 0 | 690 | 757 | 180 |
| Confl. Peds. (#/hr) | | 5 | | | | |
| Confl. Bikes (#/hr) | | 3 | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | NA | | | NA | Prot | Prot |
| Protected Phases | 2 | | | 6 | 8 | 8 |
| Permitted Phases | | | | | | |
| Detector Phase | 2 | | | 6 | 8 | 8 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 5.0 | | | 10.0 | 5.0 | 5.0 |
| Minimum Split (s) | 20.6 | | | 20.6 | 20.6 | 20.6 |
| Total Split (s) | 34.0 | | | 34.0 | 26.0 | 26.0 |
| Total Split (%) | 56.7% | | | 56.7% | 43.3% | 43.3% |
| Yellow Time (s) | 3.6 | | | 3.6 | 3.6 | 3.6 |
| All-Red Time (s) | 1.0 | | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.6 | | | 4.6 | 4.6 | 4.6 |
| Lead/Lag | | | | | | |
| Lead-Lag Optimize? | | | | | | |
| Recall Mode | Min | | | Min | None | None |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 47.7 |
| Natural Cycle: 50 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 64: SR 67 NB Off Ramp & Prospect Avenue






Year 2035 + Proj PM (No School)
64: SR 67 NB Off Ramp & Prospect Avenue
Fanita Ranch
06/06/2019

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 1100 | 0 | 0 | 690 | 757 | 180 |
| Future Volume (veh/h) | 1100 | 0 | 0 | 690 | 757 | 180 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | 1.00 | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 0 | 0 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 1196 | 0 | 0 | 750 | 823 | 196 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 0 | 0 | 2 | 2 | 2 |
| Cap, veh/h | 1636 | 0 | 0 | 1636 | 1073 | 492 |
| Arrive On Green | 0.46 | 0.00 | 0.00 | 0.46 | 0.31 | 0.31 |
| Sat Flow, veh/h | 3741 | 0 | 0 | 3741 | 3456 | 1585 |
| Grp Volume(v), veh/h | 1196 | 0 | 0 | 750 | 823 | 196 |
| Grp Sat Flow(s),veh/h/ln | 1777 | 0 | 0 | 1777 | 1728 | 1585 |
| Q Serve(g_s), s | 11.0 | 0.0 | 0.0 | 5.8 | 8.7 | 3.9 |
| Cycle Q Clear(g_c), s | 11.0 | 0.0 | 0.0 | 5.8 | 8.7 | 3.9 |
| Prop In Lane | | 0.00 | 0.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 1636 | 0 | 0 | 1636 | 1073 | 492 |
| V/C Ratio(X) | 0.73 | 0.00 | 0.00 | 0.46 | 0.77 | 0.40 |
| Avail Cap(c_a), veh/h | 2601 | 0 | 0 | 2601 | 1841 | 845 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 8.8 | 0.0 | 0.0 | 7.4 | 12.5 | 10.9 |
| Incr Delay (d2), s/veh | 0.2 | 0.0 | 0.0 | 0.2 | 0.4 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.7 | 0.0 | 0.0 | 1.4 | 2.7 | 1.1 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 9.1 | 0.0 | 0.0 | 7.6 | 13.0 | 11.1 |
| LnGrp LOS | A | A | A | A | B | B |
| Approach Vol, veh/h | 1196 | | | 750 | 1019 | |
| Approach Delay, s/veh | 9.1 | | | 7.6 | 12.6 | |
| Approach LOS | A | | | A | B | |

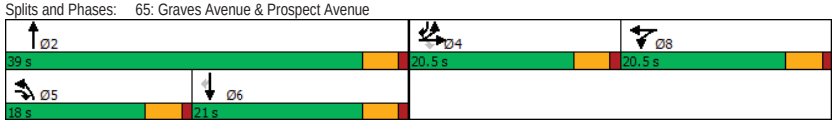
| Timer - Assigned Phs | 2 | | | 6 | 8 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 23.1 | | | 23.1 | 17.1 |
| Change Period (Y+Rc), s | 4.6 | | | 4.6 | 4.6 |
| Max Green Setting (Gmax), s | 29.4 | | | 29.4 | 21.4 |
| Max Q Clear Time (g_c+I1), s | 13.0 | | | 7.8 | 10.7 |
| Green Ext Time (p_c), s | 5.5 | | | 5.1 | 1.8 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 9.9 | |
| HCM 6th LOS | A | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 420 | 20 | 800 | 5 | 15 | 0 | 470 | 40 | 5 | 0 | 60 | 300 |
| Future Volume (vph) | 420 | 20 | 800 | 5 | 15 | 0 | 470 | 40 | 5 | 0 | 60 | 300 |
| Confl. Peds. (#/hr) | | | | | | 1 | | | 6 | | | |
| Confl. Bikes (#/hr) | | | 3 | | | 1 | | | 2 | | | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | 48% | | | | | | | | | | | |
| Turn Type | Split | NA | pm+ov | Split | NA | | Prot | NA | | | NA | pm+ov |
| Protected Phases | 4 | 4 | 5 | 8 | 8 | | 5 | 2 | | | 6 | 4 |
| Permitted Phases | | | 4 | | | | | | | | | 6 |
| Detector Phase | 4 | 4 | 5 | 8 | 8 | | 5 | 2 | | | 6 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | | | 4.0 | 4.0 |
| Minimum Split (s) | 20.5 | 20.5 | 8.5 | 20.5 | 20.5 | | 8.5 | 20.5 | | | 20.5 | 20.5 |
| Total Split (s) | 20.5 | 20.5 | 18.0 | 20.5 | 20.5 | | 18.0 | 39.0 | | | 21.0 | 20.5 |
| Total Split (%) | 25.6% | 25.6% | 22.5% | 25.6% | 25.6% | | 22.5% | 48.8% | | | 26.3% | 25.6% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | | | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | | | 4.5 | 4.5 |
| Lead/Lag | | | Lead | | | | Lead | | | | Lag | |
| Lead-Lag Optimize? | | | Yes | | | | Yes | | | | Yes | |
| Recall Mode | None | None | None | None | None | | None | Min | | | Min | None |

| Intersection Summary |
|---|
| Cycle Length: 80 |
| Actuated Cycle Length: 51.8 |
| Natural Cycle: 80 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 65: Graves Avenue & Prospect Avenue








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 420 | 20 | 800 | 5 | 15 | 0 | 470 | 40 | 5 | 0 | 60 | 300 |
| Future Volume (veh/h) | 420 | 20 | 800 | 5 | 15 | 0 | 470 | 40 | 5 | 0 | 60 | 300 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 1.00 | 1.00 | | 0.97 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 0 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 473 | 0 | 870 | 5 | 16 | 0 | 511 | 43 | 5 | 0 | 65 | 326 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 0 | 2 | 2 |
| Cap, veh/h | 1005 | 0 | 735 | 39 | 41 | 0 | 652 | 751 | 87 | 0 | 355 | 744 |
| Arrive On Green | 0.28 | 0.00 | 0.28 | 0.02 | 0.02 | 0.00 | 0.19 | 0.46 | 0.46 | 0.00 | 0.19 | 0.19 |
| Sat Flow, veh/h | 3563 | 0 | 1547 | 1781 | 1870 | 0 | 3456 | 1639 | 191 | 0 | 1870 | 1560 |
| Grp Volume(v), veh/h | 473 | 0 | 870 | 5 | 16 | 0 | 511 | 0 | 48 | 0 | 65 | 326 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1547 | 1781 | 1870 | 0 | 1728 | 0 | 1830 | 0 | 1870 | 1560 |
| Q Serve(g_s), s | 6.2 | 0.0 | 16.0 | 0.2 | 0.5 | 0.0 | 8.0 | 0.0 | 0.8 | 0.0 | 1.7 | 7.9 |
| Cycle Q Clear(g_c), s | 6.2 | 0.0 | 16.0 | 0.2 | 0.5 | 0.0 | 8.0 | 0.0 | 0.8 | 0.0 | 1.7 | 7.9 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.00 | 1.00 | | 0.10 | 0.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 1005 | 0 | 735 | 39 | 41 | 0 | 652 | 0 | 838 | 0 | 355 | 744 |
| V/C Ratio(X) | 0.47 | 0.00 | 1.18 | 0.13 | 0.39 | 0.00 | 0.78 | 0.00 | 0.06 | 0.00 | 0.18 | 0.44 |
| Avail Cap(c_a), veh/h | 1005 | 0 | 735 | 502 | 528 | 0 | 823 | 0 | 1113 | 0 | 544 | 901 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 16.9 | 0.0 | 15.1 | 27.2 | 27.4 | 0.0 | 21.9 | 0.0 | 8.6 | 0.0 | 19.3 | 10.0 |
| Incr Delay (d2), s/veh | 0.3 | 0.0 | 96.0 | 1.5 | 5.9 | 0.0 | 3.9 | 0.0 | 0.0 | 0.0 | 0.2 | 0.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.3 | 0.0 | 27.2 | 0.1 | 0.3 | 0.0 | 3.3 | 0.0 | 0.3 | 0.0 | 0.7 | 4.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 17.2 | 0.0 | 111.1 | 28.7 | 33.3 | 0.0 | 25.8 | 0.0 | 8.6 | 0.0 | 19.5 | 10.4 |
| LnGrp LOS | B | A | F | C | C | A | C | A | A | A | B | B |
| Approach Vol, veh/h | | 1343 | | | 21 | | | 559 | | | 391 | |
| Approach Delay, s/veh | | 78.0 | | | 32.2 | | | 24.3 | | | 11.9 | |
| Approach LOS | | E | | | C | | | C | | | B | |

| Timer - Assigned Phs | 2 | | 4 | 5 | 6 | | 8 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 30.5 | | 20.5 | 15.2 | 15.3 | | 5.7 | | | | | |
| Change Period (Y+Rc), s | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | | |
| Max Green Setting (Gmax), s | 34.5 | | 16.0 | 13.5 | 16.5 | | 16.0 | | | | | |
| Max Q Clear Time (g_c+I1), s | 2.8 | | 18.0 | 10.0 | 9.9 | | 2.5 | | | | | |
| Green Ext Time (p_c), s | 0.2 | | 0.0 | 0.7 | 0.9 | | 0.0 | | | | | |

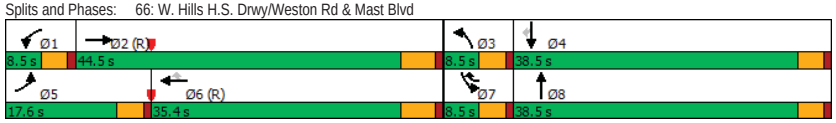
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 53.5 | |
| HCM 6th LOS | D | |

| Notes |
|---|
| User approved volume balancing among the lanes for turning movement. |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 200 | 2149 | 5 | 15 | 799 | 110 | 0 | 10 | 5 | 50 | 5 | 90 |
| Future Volume (vph) | 200 | 2149 | 5 | 15 | 799 | 110 | 0 | 10 | 5 | 50 | 5 | 90 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | | 4.0 | 10.0 | 4.0 | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.5 | 22.5 | | 8.5 | 27.3 | 8.5 | 8.5 | 38.5 | | 8.5 | 33.5 | 33.5 |
| Total Split (s) | 17.6 | 44.5 | | 8.5 | 35.4 | 8.5 | 8.5 | 38.5 | | 8.5 | 38.5 | 38.5 |
| Total Split (%) | 17.6% | 44.5% | | 8.5% | 35.4% | 8.5% | 8.5% | 38.5% | | 8.5% | 38.5% | 38.5% |
| Yellow Time (s) | 3.2 | 4.3 | | 3.2 | 4.3 | 3.2 | 3.2 | 3.2 | | 3.2 | 3.2 | 3.2 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.3 | | 4.2 | 5.3 | 4.2 | 4.2 | 4.2 | | 4.2 | 4.2 | 4.2 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | C-Min | | None | C-Min | None | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 81 (81%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 145 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 66: W. Hills H.S. Drwy/Weston Rd & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 200 | 2149 | 5 | 15 | 799 | 110 | 0 | 10 | 5 | 50 | 5 | 90 |
| Future Volume (veh/h) | 200 | 2149 | 5 | 15 | 799 | 110 | 0 | 10 | 5 | 50 | 5 | 90 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 217 | 2336 | 5 | 16 | 868 | 120 | 0 | 11 | 5 | 54 | 5 | 98 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 239 | 2548 | 5 | 26 | 2064 | 982 | 2 | 82 | 37 | 69 | 277 | 235 |
| Arrive On Green | 0.18 | 0.93 | 0.93 | 0.03 | 1.00 | 1.00 | 0.00 | 0.07 | 0.07 | 0.04 | 0.15 | 0.15 |
| Sat Flow, veh/h | 1781 | 3638 | 8 | 1781 | 3554 | 1585 | 1781 | 1217 | 553 | 1781 | 1870 | 1585 |
| Grp Volume(v), veh/h | 217 | 1140 | 1201 | 16 | 868 | 120 | 0 | 0 | 16 | 54 | 5 | 98 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1869 | 1781 | 1777 | 1585 | 1781 | 0 | 1771 | 1781 | 1870 | 1585 |
| Q Serve(g_s), s | 11.9 | 30.1 | 30.2 | 0.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.9 | 3.0 | 0.2 | 5.6 |
| Cycle Q Clear(g_c), s | 11.9 | 30.1 | 30.2 | 0.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.9 | 3.0 | 0.2 | 5.6 |
| Prop In Lane | 1.00 | | 0.00 | 1.00 | | 1.00 | 1.00 | | 0.31 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 239 | 1244 | 1309 | 26 | 2064 | 982 | 2 | 0 | 119 | 69 | 277 | 235 |
| V/C Ratio(X) | 0.91 | 0.92 | 0.92 | 0.63 | 0.42 | 0.12 | 0.00 | 0.00 | 0.13 | 0.78 | 0.02 | 0.42 |
| Avail Cap(c_a), veh/h | 239 | 1244 | 1309 | 77 | 2064 | 982 | 77 | 0 | 607 | 77 | 642 | 544 |
| HCM Platoon Ratio | 1.33 | 1.33 | 1.33 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.33 | 0.33 | 0.33 | 0.95 | 0.95 | 0.95 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 40.5 | 2.1 | 2.1 | 48.3 | 0.0 | 0.0 | 0.0 | 0.0 | 43.9 | 47.6 | 36.4 | 38.7 |
| Incr Delay (d2), s/veh | 15.5 | 4.7 | 4.5 | 21.4 | 0.6 | 0.2 | 0.0 | 0.0 | 0.5 | 36.2 | 0.0 | 1.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 5.8 | 3.1 | 3.2 | 0.5 | 0.2 | 0.1 | 0.0 | 0.0 | 0.4 | 2.0 | 0.1 | 2.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 56.0 | 6.7 | 6.5 | 69.7 | 0.6 | 0.2 | 0.0 | 0.0 | 44.4 | 83.8 | 36.4 | 39.8 |
| LnGrp LOS | E | A | A | E | A | A | A | A | D | F | D | D |
| Approach Vol, veh/h | | 2558 | | | 1004 | | | 16 | | | 157 | |
| Approach Delay, s/veh | | 10.8 | | | 1.7 | | | 44.4 | | | 54.9 | |
| Approach LOS | | B | | | A | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.6 | 75.3 | 0.0 | 19.0 | 17.6 | 63.4 | 8.1 | 10.9 |
| Change Period (Y+Rc), s | * 4.2 | 5.3 | * 4.2 | * 4.2 | * 4.2 | 5.3 | * 4.2 | * 4.2 |
| Max Green Setting (Gmax), s | * 4.3 | 39.2 | * 4.3 | * 34 | * 13 | 30.1 | * 4.3 | * 34 |
| Max Q Clear Time (g_c+I1), s | 2.9 | 32.2 | 0.0 | 7.6 | 13.9 | 2.0 | 5.0 | 2.9 |
| Green Ext Time (p_c), s | 0.0 | 6.5 | 0.0 | 0.3 | 0.0 | 6.8 | 0.0 | 0.0 |

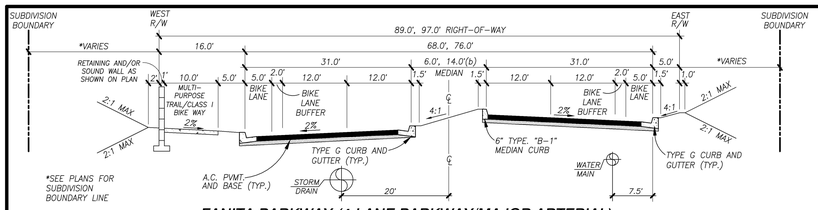
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 10.4 | |
| HCM 6th LOS | B | |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

# APPENDIX O

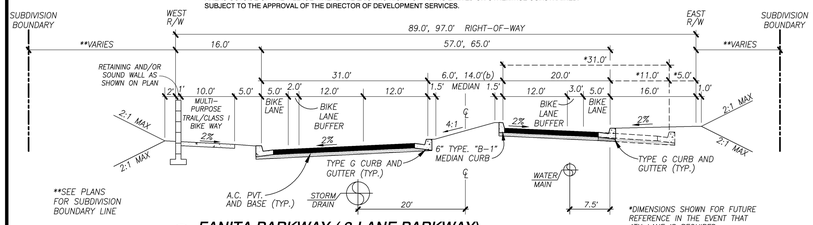
## FANITA RANCH PROPOSED ROADWAY CROSS-SECTIONS




## 1 FANITA PARKWAY (4-LANE PARKWAY/MAJOR ARTERIAL)

*MAST BLVD TO LAKE CANYON RD* — SCALE 1"=10'

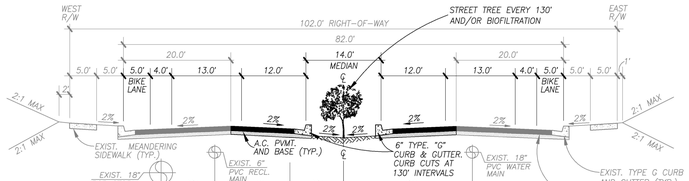
GREEN STREETS AND/OR ALTERNATIVE COMPLIANCE MAY BE USED FOR MEETING WATER QUALITY REQUIREMENTS FOR FANITA PARKWAY IN AREAS OUTSIDE OF THE VILLAGE WHERE THE EXISTING RIGHT-OF-WAY IS LIMITED OR OTHERWISE CONSTRAINED.
SUBJECT TO THE APPROVAL OF THE DIRECTOR OF DEVELOPMENT SERVICES.




## 1a FANITA PARKWAY ( 3-LANE PARKWAY)

*LAKE CANYON RD TO GANLEY RD* — SCALE 1"=10'

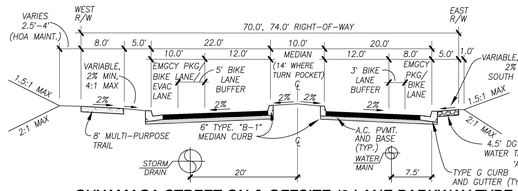
GREEN STREETS AND/OR ALTERNATIVE COMPLIANCE MAY BE USED FOR MEETING WATER QUALITY REQUIREMENTS FOR FANITA PARKWAY IN AREAS OUTSIDE OF THE VILLAGE WHERE THE EXISTING RIGHT-OF-WAY IS LIMITED OR OTHERWISE CONSTRAINED.
**SUBJECT TO THE APPROVAL OF THE DIRECTOR OF DEVELOPMENT SERVICES.**




## 2 CUYAMACA STREET OFFSITE (MAJOR ARTERIAL)

*MAST BLVD TO CHAPARRAL DR* — SCALE 1"=10'

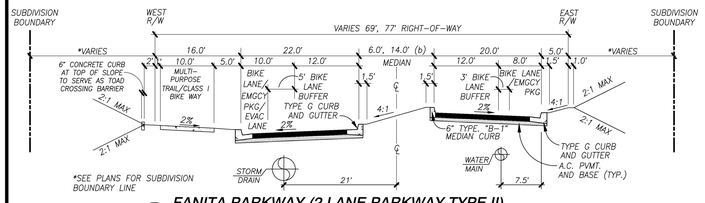
GREEN STREETS AND/OR ALTERNATIVE COMPLIANCE MAY BE USED FOR MEETING WATER QUALITY REQUIREMENTS FOR CUYAMACA STREET IN AREAS OUTSIDE OF THE VILLAGE WHERE THE EXISTING RIGHT-OF-WAY IS LIMITED OR OTHERWISE CONSTRAINED.
SUBJECT TO THE APPROVAL OF THE DIRECTOR OF DEVELOPMENT SERVICES.




## 3 CUYAMACA STREET ON & OFFSITE (2 LANE PARKWAY TYPE I)

*CHAPARRAL DR TO STREET 'A'/'W'* — SCALE 1"=10'

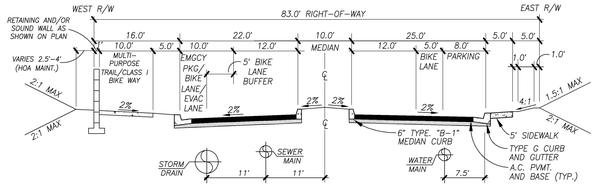
**SEE VARIANCE REQUEST ON SHEET 3**




## 4 FANITA PARKWAY (2 LANE PARKWAY TYPE II)

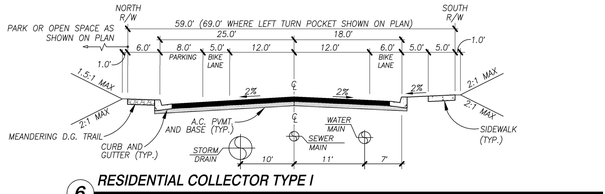
*GANLEY RD TO STREET 'E'* — SCALE 1"=10'

GREEN STREETS AND/OR ALTERNATIVE COMPLIANCE MAY BE USED FOR MEETING WATER QUALITY REQUIREMENTS FOR FANITA PARKWAY AND CUYAMACA STREET IN AREAS OUTSIDE OF THE VILLAGE WHERE THE EXISTING RIGHT-OF-WAY IS LIMITED OR OTHERWISE CONSTRAINED.



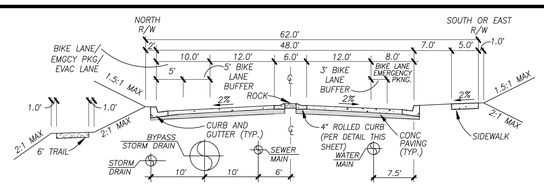

## 5 FANITA PARKWAY (2 LANE PARKWAY TYPE III)

*STREET E TO STREET 'N'* — SCALE 1"=10'



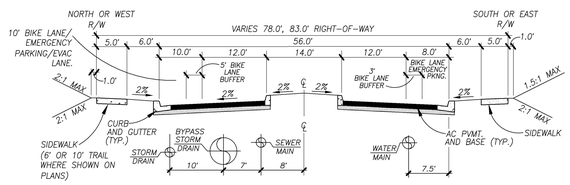

## 6 RESIDENTIAL COLLECTOR TYPE I

*ST 'A' (FANITA PARKWAY TO CUYAMACA STREET)* — SCALE 1"=10'



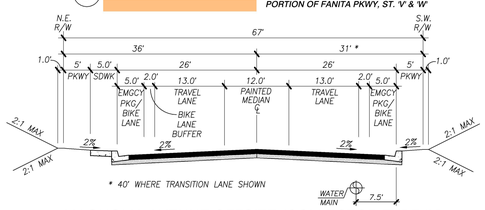

## 7 RESIDENTIAL COLLECTOR TYPE II

*(PORTION OF ST. 'V' & 'W')* — SCALE 1"=10'




## 8 RESIDENTIAL COLLECTOR TYPE III

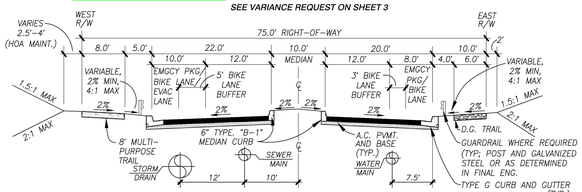
*PORTION OF FANITA PKWY, ST. 'V' & 'W'* — SCALE 1"=10'




## 9 MAGNOLIA AVENUE OFFSITE (COLLECTOR TYPE IV)

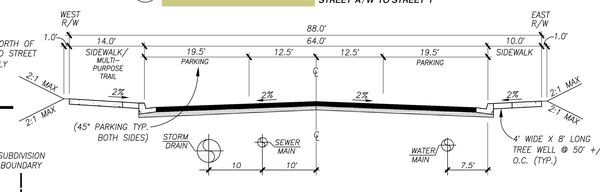
*EXISTING TERMINUS TO CUYAMACA ST* — SCALE 1"=10'

**SEE VARIANCE REQUEST ON SHEET 3**




## 10 CUYAMACA STREET (RESIDENTIAL COLLECTOR TYPE V)

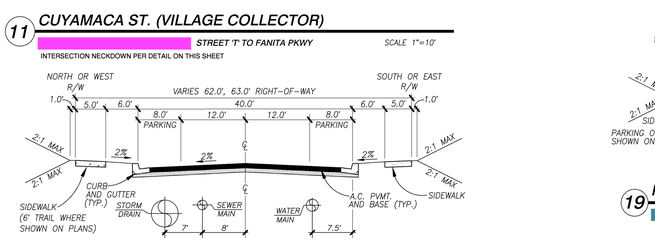
*STREET 'A'/'W' TO STREET 'I'* — SCALE 1"=10'




## 11 CUYAMACA ST. (VILLAGE COLLECTOR)

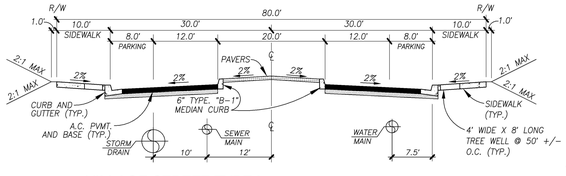
*STREET 'I' TO FANITA PKWY* — SCALE 1"=10'

INTERSECTION NECKDOWN PER DETAIL ON THIS SHEET




## 12 RESIDENTIAL COLLECTOR TYPE VII

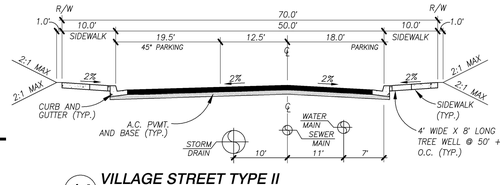
*PORTION OF ST. 'X', ST. 'V', 'W', 'WW'* — SCALE 1"=10'




## 13 VILLAGE STREET TYPE I

*STREET 'I'* — SCALE 1"=10'

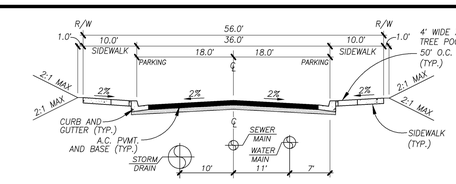
INTERSECTION NECKDOWN PER DETAIL ON THIS SHEET




## 14 VILLAGE STREET TYPE II

*PORTION OF ST. 'F'* — SCALE 1"=10'

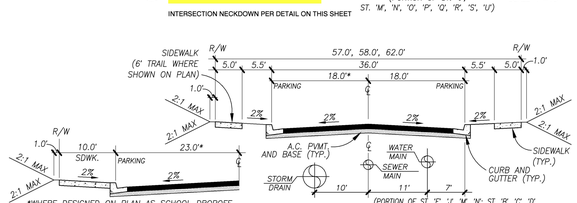
INTERSECTION NECKDOWN PER DETAIL ON THIS SHEET




## 15 VILLAGE STREET TYPE III

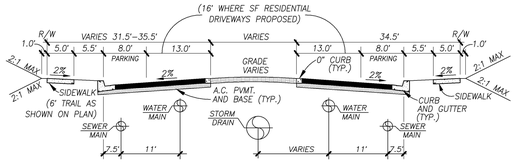
*(PORTION OF ST. 'J', ST. 'M', 'N', 'O', 'P', 'Q', 'R', 'S', 'U')* — SCALE 1"=10'

INTERSECTION NECKDOWN PER DETAIL ON THIS SHEET



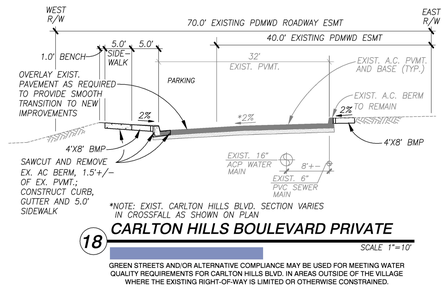

## 16 RESIDENTIAL STREET

SCALE 1"=10'




## 17 SPLIT RESIDENTIAL STREET (ONE WAY)

*(ST. 'CC', 'KK', 'LL', 'UU', 'VV' ST. 'FFF', 'GGG', 'HHH', 'III', 'JJJ')* — SCALE 1"=10'

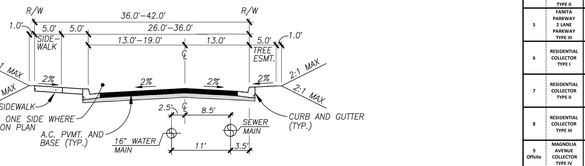



*NOTE: EXIST. CARLTON HILLS BLVD. SECTION VARIES IN CROSSFALL AS SHOWN ON PLAN

## 18 CARLTON HILLS BOULEVARD PRIVATE

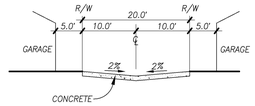
SCALE 1"=10'

GREEN STREETS AND/OR ALTERNATIVE COMPLIANCE MAY BE USED FOR MEETING WATER QUALITY REQUIREMENTS FOR CARLTON HILLS BLVD. IN AREAS OUTSIDE OF THE VILLAGE WHERE THE EXISTING RIGHT-OF-WAY IS LIMITED OR OTHERWISE CONSTRAINED.



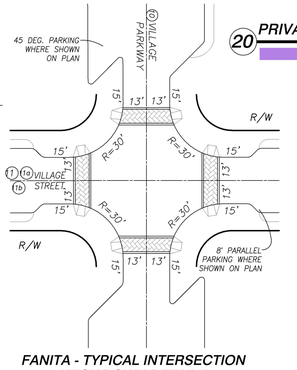

## 19 PRIVATE STREET

*(ST. 'CC' & 'FF')* — SCALE 1"=10'




## 20 PRIVATE DRIVEWAY *(NO FIRE ACCESS. FIRE ACCESS PROVIDED ON FRONTING PUBLIC ST.)*

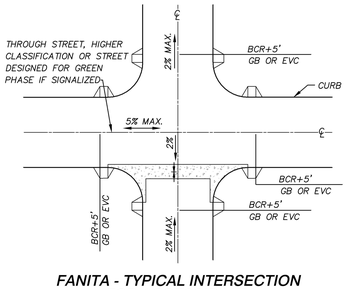
*(ALLEYS 'A' & 'B')* — SCALE 1"=10'




## FANITA - TYPICAL INTERSECTION NECK DOWN DETAIL *

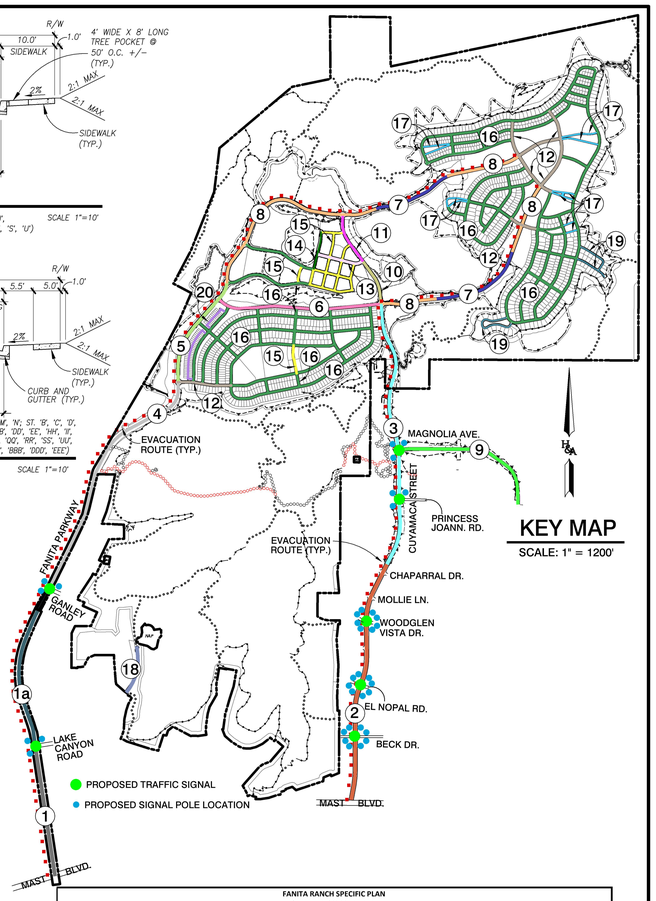
APPLIES TO 13, 14 AND 15 — NOT TO SCALE

* POTENTIAL LOCATIONS ARE SHOWN IN THE FANITA RANCH SPECIFIC PLAN AND WILL BE CONFIRMED IN FINAL ENGINEERING




## FANITA - TYPICAL INTERSECTION FOR ACCESSIBILITY

NOT TO SCALE




**FANITA RANCH SPECIFIC PLAN**
**STREET DESIGN CRITERIA**

| NO. | PROPOSED SECTION – FANITA SPECIFIC PLAN NAME | ADT RANGE (Interim Mobility Element Equivalent) | Estimated ADT | DESIGN SPEED- MPH | TRAVEL LANES | BIKE LANE | PARKING | MEDIAN WIDTH (FT) | CURB TO CURB (FT) | ROW (FT) | MAX GRADE % (2) | MAX GRADE % THROUGH INTERSECTION | MAX CENL. INTERSECTION ANGLE (DEG) | MIN. CENL (s) RADIUS (FT) STD. CROWN/ FULL SUPER | MIN. TRAFFIC INDEX | STOPPING SIGHT DISTANCE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | FANITA PARKWAY 4 LANE PARKWAY | 15,000-40,000 4-Lane Parkway/ Major Arterial City Std. Opts. 1 | 15,460 | 50[H] | 4-12' | CLASS I & II | EMERGENCY, BOTH SIDES | 14'[H] RAISED | 58', 76' | 89', 97' | 7 | 5 | 10 | 1400/850 | 8.5 | 430' |
| 1a | FANITA PARKWAY 3 LANE PARKWAY | 15,000-40,000 4-Lane Parkway/ Major Arterial City Std. Opts. 2 | 15,130 | 50[H] | 2-12' + 1-12' | CLASS I & II | EMERGENCY, BOTH SIDES | 14'[H] RAISED | 57', 65' | 89', 97' | 7 | 5 | 10 | 1400/850 | 8.5 | 430' |
| 2 Offsite | CUYAMACA STREET 4 LANE MAJOR ARTERIAL | 15,000-40,000 4-Lane Major Arterial | 18,630 | 50 | 4-12' | CLASS II | EMERGENCY, BOTH SIDES | 14' RAISED | 82' | 102' | 7 | 5 | 10 | 1400/850 | 8.5 | 430' |
| 3 On- & Offsite | CUYAMACA STREET 2 LANE PARKWAY TYPE I | 5,000-15,000 2-Lane Parkway w/ TWLTL | 13,920 | 40[H] | 2-12' | CLASS II | EMERGENCY, BOTH SIDES | 10'[H] RAISED | 52', 56' | 70', 74' | 12 | 5 | 10 | 800/550 | 8.0 | 300' |
| 4 | FANITA PARKWAY 2 LANE PARKWAY TYPE II | 5,000-15,000 2-Lane Parkway w/ TWLTL | 12,350 | 40[H] | 2-12' | CLASS I & II | EMERGENCY, BOTH SIDES | 14'[H] RAISED | 48', 56' | 69', 77' | 12 | 5 | 10 | 800/550 | 8.0 | 300' |
| 5 | FANITA PARKWAY 2 LANE PARKWAY TYPE III | 5,000-15,000 2-Lane Parkway w/ TWLTL | 9,730 | 40[H] | 2-12' | CLASS I & II | YES ONE SIDE, EMERGENCY ONE SIDE | 10' RAISED | 57' | 83' | 10 | 5 | 10 | 800/550 | 8.0 | 300' |
| 6 | RESIDENTIAL COLLECTOR TYPE I | 4,000-10,000 Residential Collector/ 2-Lane Parkway | 7,400 | 35[H] | 2-12' | CLASS II | YES ONE SIDE | 10' PAINTED | 53' | 59', 69' | 13 | 5 | 10 | 610/400 | 7.5 | 250' |
| 7 | RESIDENTIAL COLLECTOR TYPE II | 4,000-10,000 Residential Collector/ 2-Lane Parkway | 6,480 | 35[H] | 2-12' | CLASS II | EMERGENCY, BOTH SIDES | 6' RAISED | 48' | 62' | 15 | 5 | 10 | 610/400 | 7.5 | 250' |
| 8 | RESIDENTIAL COLLECTOR TYPE III | 4,000-10,000 Residential Collector/ 2-Lane Parkway | 6,480 | 35[H] | 2-12' | CLASS II | EMERGENCY, BOTH SIDES | 14' RAISED | 56' | 78', 83' | 12[H] | 5 | 10 | 610/400 | 7.5 | 250' |
| 9 Offsite | MAGNOLIA AVENUE COLLECTOR | 4,000-10,000 Collector/ 2-Lane Parkway | 6,310 | 35[H-I] | 2-13' | CLASS II | YES, BOTH SIDES | 13' PAINTED | 52' | 67' | 12 | 5 | 10 | 610/400 | 7.5 | 250' |
| 10 | CUYAMACA STREET RESIDENTIAL COLLECTOR TYPE V | 4,000-10,000 Residential Collector/ 2-Lane Parkway | 6,180 | 35[H][I] | 2-12' | CLASS II | EMERGENCY, BOTH SIDES | 10' RAISED | 52' | 75' | 15[H] | 5 | 10 | 610/400 | 7.5 | 250' |
| 11 | VILLAGE COLLECTOR | 4,000-10,000 Residential Collector/ 2-Lane Parkway | 6,180 | 35[H] | 2-12.5' | N/A | YES, BOTH SIDES[I] | N/A | 64' | 88' | 10 | 5 | 10 | 610/400 | 7.5 | 250' |
| 12 | RESIDENTIAL COLLECTOR TYPE VII | 4,000-10,000 Residential Collector/ 2-Lane Parkway | 4,300 | 25[H] | 2-13' | N/A | YES, BOTH SIDES | N/A | 40' | 62', 63' | 12[H] | 5 | 10 | 200 | 7.5 | 160' |
| 13 | VILLAGE STREET | 2,200 (LOCAL) | | 25 | 2-10' | N/A | YES, BOTH SIDES | 20' RAISED | 60' | 80' | 12 | 5 | 10 | 200 | 5.0 | 160' |
| 14 | VILLAGE STREET | 2,200 (LOCAL) | | 25 | 1-12.5' + 1-10' | N/A | YES, BOTH SIDES | N/A | 50' | 70' | 12 | 5 | 10 | 200 | 5.0 | 160' |
| 15 | VILLAGE STREET | 2,200 (LOCAL) | | 25 | 2-10' | N/A | YES, BOTH SIDES | N/A | 36' | 56' | 12 | 5 | 10 | 200 | 5.0 | 160' |
| 16 | RESIDENTIAL STREET | 2,200 (LOCAL) | | 25 | 2-10' | N/A | YES, BOTH SIDES[I] | N/A | 36' | 57', 58', 62' | 15[H] | 5 | 10 | 200 | 5.0 | 160' |
| 17 | RESIDENTIAL STREET | 2,200 (LOCAL) | | 25 | 2-10' | N/A | YES, BOTH SIDES[I] | N/A | 42' | VARIES PER PLAN | 15[H] | 5 | 10 | 200 | 5.0 | 160' |
| 18 | PRIVATE RESIDENTIAL STREET | 2,200 (LOCAL) | | 25 | 2-12' | N/A | YES, ONE SIDE | N/A | 32' | 70'[H] | 12 | 5 | 10 | 200 | 5.0 | 160' |
| 19 | PRIVATE RESIDENTIAL STREET | 1,100 (PRIVATE) | | 15 | 2 | N/A | SEE PLAN | N/A | VARIES PER PLAN | VARIES PER PLAN | 12 | 5 | 10 | 35 | 5.0 | 100' |
| 20 | PRIVATE RESIDENTIAL DRIVEWAY | 1,100 (PRIVATE) | | 15 | 2 | N/A | N/A | N/A | VARIES PER PLAN | VARIES PER PLAN | 12 | 5 | 10 | 35 | 5.0 | 100' |

**NOTES:**

A. THE STREETS WITH A GRADIENT EXCEEDING 12% SHALL BE PCC IN ACCORDANCE WITH PUBLIC WORKS STANDARDS, CITY OF SANTEE.

B. MEDIAN WIDTH MAY BE REDUCED TO 6' IN THE VICINITY OF WETLAND AND/OR BIOLOGICAL IMPACTS PROVIDED THE REQUIRED TURN POCKETS FUNCTION PROPERLY. PARKWAY AND MEDIAN MAY HAVE UP TO A 4:1 SLOPE WHERE SHOWN ON PLANS.

C. PARKING MAY BE ELIMINATED ON ONE SIDE WHERE SHOWN ON PLANS.

D. ENTRY DESIGN SPEED OF A ROUNDABOUT SHALL BE 20 MPH.

E. CURVE RADII SHOWN ARE PER CALTRANS TABLE 202.2 ASSUMING STANDARD CROWN SECTION. MINIMUM CENTERLINE RADIUS ON SUPER ELEVATED STREETS SHALL BE PER CITY OF SANTEE PUBLIC WORKS STANDARDS TABLE A.

F. LIGHTED SAG VERTICAL CURVES CALCULATED AS L=0.0215AV² MAY BE USED ON ANY STREET PROVIDED THAT STREET LIGHTS ARE INSTALLED TO THE SATISFACTION OF THE DIRECTOR OF DEVELOPMENT SERVICES.

G. PARKWAY – PARKWAY IS DEFINED BY THE CITY OF SANTEE MOBILITY ELEMENT AS "ROADWAYS REQUIRING UNIQUE DESIGN APPLICATIONS WHERE STANDARD DESIGNS CANNOT BE UTILIZED BECAUSE OF STEEP TERRAIN, RIGHT-OF-WAY CONSTRAINTS, SPECIAL DEVELOPMENT NEEDS AND/OR OTHER SPECIAL CONDITIONS. DUE TO SIGNIFICANT VARIATION ALONG PARKWAY CROSS-SECTIONS, A TYPICAL CROSS-SECTION IS NOT PROVIDED."

H. THE FANITA RANCH SPECIFIC PLAN USES CALTRANS STANDARDS FOR HORIZONTAL AND VERTICAL DESIGN GEOMETRY BASED ON THE ASSIGNED DESIGN SPEED FOR EACH ROADWAY TYPE. UNLESS OTHERWISE NOTED STREET DESIGN SHALL CONFORM TO CITY OF SANTEE STANDARDS.

I. EXISTING 70' ROADWAY EASEMENT.

J. "THE DESIGN SPEED OF MAGNOLIA AVENUE BETWEEN PRINCES JOANN AND CUYAMACA STREET IS 40 MPH; HOWEVER, THE VERTICAL GRADE DOES NOT MEET THE 40 MPH DESIGN SPEED DUE TO CONDITIONS (TERRAIN CONSTRAINTS) FOR WHICH A DESIGN VARIANCE IS PROVIDED ON THE VESTING TENTATIVE MAP."

## STREET CROSS SECTIONS AND STANDARDS


PREPARED BY:
HUNSAKER & ASSOCIATES SAN DIEGO, INC.
PLANNING 9707 Waples Street
ENGINEERING San Diego, Ca 92121
SURVEYING PH(858)558-4500 · FX(858)558-9414


# VESTING TENTATIVE MAP/ PRELIMINARY GRADING PLAN
# FANITA RANCH
City Of Santee, California

SHEET 2 OF 37

W.O. 2395-0007

R:\1284\&Pln\Tentative Map\FANITA TM SHT 02.dwg[Apr-05-2020:12:59

# FANITA RANCH SPECIFIC PLAN
# STREET DESIGN CRITERIA

| PROPOSED SECTION – FANITA SPECIFIC PLAN | | ADT RANGE (Santee Mobility Element Equivalent) | Estimated ADT | DESIGN SPEED MPH | TRAVEL LANES | BIKE LANE | PARKING | MEDIAN WIDTH (FT) | CURB TO CURB (FT) | ROW (FT) | MAX GRADE % (f) | MAX GRADE % THROUGH INTERSECTION | MAX CENL. INTERSECTION ANGLE (DEG) | MIN. CENL (e) RADIUS (FT) STD. CROWN/ FULL SUPER | MIN. TRAFFIC INDEX | STOPPING SIGHT DISTANCE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NO. | NAME | | | | | | | | | | | | | | | |
| 1 | FANITA PARKWAY 4 LANE PARKWAY | 15,000-40,000 4-Lane Parkway/ Major Arterial City Std. Optn. 2 | 15,460 | 50[g] | 4-12’ | CLASS I & II | EMERGENCY, BOTH SIDES | 14’[b] RAISED | 68’, 76’ | 89’, 97’ | 7 | 5 | 10 | 1400/850 | 8.5 | 430’ |
| 1a | FANITA PARKWAY 3 LANE PARKWAY | 15,000-40,000 4-Lane Parkway/ Major Arterial City Std. Optn. 2 | 15,130 | 50[g] | 2-12' + 1-12' | CLASS I & II | EMERGENCY, BOTH SIDES | 14’[b] RAISED | 57’, 65’ | 89’, 97’ | 7 | 5 | 10 | 1400/850 | 8.5 | 430’ |
| 2 Offsite | CUYAMACA STREET 4 LANE MAJOR ARTERIAL | 15,000-40,000 4-Lane Major Arterial | 18,630 | 50 | 4-12’ | CLASS II | EMERGENCY, BOTH SIDES | 14’ RAISED | 82’ | 102’ | 7 | 5 | 10 | 1400/850 | 8.5 | 430’ |
| 3 On & Offsite | CUYAMACA STREET 2 LANE PARKWAY TYPE I | 5,000-15,000 2-Lane Parkway w/ TWLTL | 13,920 | 40[d] | 2-12' | CLASS II | EMERGENCY, BOTH SIDES | 10’[b] RAISED | 52’, 56’ | 70’, 74’ | 12 | 5 | 10 | 800/550 | 8.0 | 300’ |
| 4 | FANITA PARKWAY 2 LANE PARKWAY TYPE II | 5,000-15,000 2-Lane Parkway w/ TWLTL | 12,350 | 40[d] | 2-12' | CLASS I & II | EMERGENCY, BOTH SIDES | 14’[b] RAISED | 48’, 56’ | 69’, 77’ | 12 | 5 | 10 | 800/550 | 8.0 | 300’ |
| 5 | FANITA PARKWAY 2 LANE PARKWAY TYPE III | 5,000-15,000 2-Lane Parkway w/ TWLTL | 9,730 | 40[d] | 2-12' | CLASS I & II | YES ONE SIDE, EMERGENCY ONE SIDE | 10’ RAISED | 57’ | 83’ | 10 | 5 | 10 | 800/550 | 8.0 | 300’ |
| 6 | RESIDENTIAL COLLECTOR TYPE I | 4,000-10,000 Residential Collector/ 2-Lane Parkway | 7,400 | 35[d] | 2-12' | CLASS II | YES ONE SIDE | 10’ PAINTED | 53’ | 59’, 69’ | 13 | 5 | 10 | 610/400 | 7.5 | 250’ |
| 7 | RESIDENTIAL COLLECTOR TYPE II | 4,000-10,000 Residential Collector/ 2-Lane Parkway | 6,480 | 35[g] | 2-12' | CLASS II | EMERGENCY BOTH SIDES | 6’ RAISED | 48’ | 62’ | 15 | 5 | 10 | 610/400 | 7.5 | 250’ |
| 8 | RESIDENTIAL COLLECTOR TYPE III | 4,000-10,000 Residential Collector/ 2-Lane Parkway | 6,480 | 35[d] | 2-12' | CLASS II | EMERGENCY, BOTH SIDES | 14’ RAISED | 56’ | 78’, 83’ | 12[a] | 5 | 10 | 610/400 | 7.5 | 250’ |
| 9 Offsite | MAGNOLIA AVENUE COLLECTOR TYPE IV | 4,000-10,000 Collector/ 2-Lane Parkway | 6,310 | 35[g, j] | 2-13’ | CLASS II | YES, BOTH SIDES | 12’ PAINTED | 52’ | 67’ | 12 | 5 | 10 | 610/400 | 7.5 | 250’ |
| 10 | CUYAMACA STREET RESIDENTIAL COLLECTOR TYPE V | 4,000-10,000 Residential Collector/ 2-Lane Parkway | 6,180 | 35[d][g] | 2-12' | CLASS II | EMERGENCY, BOTH SIDES | 10’ RAISED | 52’ | 75’ | 15[a] | 5 | 10 | 610/400 | 7.5 | 250’ |
| 11 | VILLAGE COLLECTOR | 4,000-10,000 Residential Collector/ 2-Lane Parkway | 6,180 | 35[d] | 2-12.5’ | N/A | YES, BOTH SIDES[c] | N/A | 64’ | 88’ | 10 | 5 | 10 | 610/400 | 7.5 | 250’ |
| 12 | RESIDENTIAL COLLECTOR TYPE VII | 4,000-10,000 Residential Collector/ 2-Lane Parkway | 4,300 | 25[d] | 2-12' | N/A | YES, BOTH SIDES | N/A | 40’ | 62’, 63’ | 12[a] | 5 | 10 | 200 | 7.5 | 160’ |
| 13 | VILLAGE STREET | 2,200 (LOCAL) | | 25 | 2-12’ | N/A | YES, BOTH SIDES | 20’ RAISED | 60’ | 80’ | 12 | 5 | 10 | 200 | 5.0 | 160’ |
| 14 | VILLAGE STREET | 2,200 (LOCAL) | | 25 | 1-12.5’+ 1-10’ | N/A | YES, BOTH SIDES | N/A | 50’ | 70’ | 12 | 5 | 10 | 200 | 5.0 | 160’ |
| 15 | VILLAGE STREET | 2,200 (LOCAL) | | 25 | 2-10’ | N/A | YES, BOTH SIDES | N/A | 36’ | 56’ | 12 | 5 | 10 | 200 | 5.0 | 160’ |
| 16 | RESIDENTIAL STREET | 2,200 (LOCAL) | | 25 | 2-10’ | N/A | YES, BOTH SIDES[c] | N/A | 36’ | 57’, 58’, 62’ | 15[a] | 5 | 10 | 200 | 5.0 | 160’ |
| 17 | RESIDENTIAL STREET | 2,200 (LOCAL) | | 25 | 2-10’ | N/A | YES, BOTH SIDES[c] | N/A | 42’ | VARIES PER PLAN | 15[a] | 5 | 10 | 200 | 5.0 | 160’ |
| 18 | PRIVATE RESIDENTIAL STREET | 2,200 (LOCAL) | | 25 | 2-12’ | N/A | YES, ONE SIDE | N/A | 32’ | 70’[l] | 12 | 5 | 10 | 200 | 5.0 | 160’ |
| 19 | PRIVATE RESIDENTIAL STREET | 1,100 (PRIVATE) | | 15 | 2 | N/A | SEE PLAN | N/A | VARIES PER PLAN | VARIES PER PLAN | 12 | 5 | 10 | 35 | 5.0 | 100’ |
| 20 | PRIVATE RESIDENTIAL DRIVEWAY | 1,100 (PRIVATE) | | 15 | 2 | N/A | N/A | N/A | VARIES PER PLAN | VARIES PER PLAN | 12 | 5 | 10 | 35 | 5.0 | 100’ |

**NOTES:**

A. THE STREETS WITH A GRADIENT EXCEEDING 12% SHALL BE PCC IN ACCORDANCE WITH PUBLIC WORKS STANDARDS, CITY OF SANTEE.

B. MEDIAN WIDTH MAY BE REDUCED TO 6' IN THE VICINITY OF WETLAND AND/OR BIOLOGICAL IMPACTS PROVIDED THE REQUIRED TURN POCKETS FUNCTION PROPERLY. PARKWAY AND MEDIAN MAY HAVE UP TO A 4:1 SLOPE WHERE SHOWN ON PLANS.

C. PARKING MAY BE ELIMINATED ON ONE SIDE WHERE SHOWN ON PLANS.

D. ENTRY DESIGN SPEED OF A ROUNDABOUT SHALL BE 20 MPH.

E. CURVE RADII SHOWN ARE PER CALTRANS TABLE 202.2 ASSUMING STANDARD CROWN SECTION. MINIMUM CENTERLINE RADIUS ON SUPER ELEVATED STREETS SHALL BE PER CITY OF SANTEE PUBLIC WORKS STANDARDS TABLE A.

F. LIGHTED SAG VERTICAL CURVES CALCULATED AS $L=0.0215AV^2$ MAY BE USED ON ANY STREET PROVIDED THAT STREET LIGHTS ARE INSTALLED TO THE SATISFACTION OF THE DIRECTOR OF DEVELOPMENT SERVICES.

G. PARKWAY – PARKWAY IS DEFINED BY THE CITY OF SANTEE MOBILITY ELEMENT AS “ROADWAYS REQUIRING UNIQUE DESIGN APPLICATIONS WHERE STANDARD DESIGNS CANNOT BE UTILIZED BECAUSE OF STEEP TERRAIN, RIGHT-OF-WAY CONSTRAINTS, SPECIAL DEVELOPMENT NEEDS AND/OR OTHER SPECIAL CONDITIONS. DUE TO SIGNIFICANT VARIATION ALONG PARKWAY CROSS-SECTIONS, A TYPICAL CROSS-SECTION IS NOT PROVIDED.”

H. THE FANITA RANCH SPECIFIC PLAN USES CALTRANS STANDARDS FOR HORIZONTAL AND VERTICAL DESIGN GEOMETRY BASED ON THE ASSIGNED DESIGN SPEED FOR EACH ROADWAY TYPE. UNLESS OTHERWISE NOTED STREET DESIGN SHALL CONFORM TO CITY OF SANTEE STANDARDS.

I. EXISTING 70’ ROADWAY EASEMENT.

J. “THE DESIGN SPEED OF MAGNOLIA AVENUE BETWEEN PRINCES JOANN AND CUYAMACA STREET IS 40 MPH; HOWEVER, THE VERTICAL GRADE DOES NOT MEET THE 40 MPH DESIGN SPEED DUE TO CONDITIONS (TERRAIN CONSTRAINTS) FOR WHICH A DESIGN VARIANCE IS PROVIDED ON THE VESTING TENTATIVE MAP.”

# APPENDIX P

THREE-LANE FANITA PARKWAY
PEAK HOUR INTERSECTION ANALYSIS WORKSHEETS, PEAK HOUR ARTERIAL WORKSHEETS,
QUEUING ANALYSIS WORKSHEETS

## Intersection: 3: Fanita Parkway & Santee Lakes/Ganley Road

| Movement | EB | WB | WB | NB | NB | SB | SB |
|---|---|---|---|---|---|---|---|
| Directions Served | LTR | L | TR | L | T | T | TR |
| Maximum Queue (ft) | 30 | 84 | 18 | 28 | 93 | 132 | 158 |
| Average Queue (ft) | 14 | 45 | 7 | 21 | 53 | 93 | 86 |
| 95th Queue (ft) | 35 | 88 | 20 | 38 | 97 | 140 | 193 |
| Link Distance (ft) | 174 | | 816 | | 329 | 402 | 402 |
| Upstream Blk Time (%) | | | | | | | |
| Queuing Penalty (veh) | | | | | | | |
| Storage Bay Dist (ft) | | 150 | | 50 | | | |
| Storage Blk Time (%) | | | | | 4 | 13 | |
| Queuing Penalty (veh) | | | | | 3 | 1 | |





## Arterial Level of Service: NB Fanita Parkway

| Cross Street | Arterial Class | Flow Speed | Running Time | Signal Delay | Travel Time (s) | Dist (mi) | Arterial Speed | Arterial LOS |
|---|---|---|---|---|---|---|---|---|
| Lake Canyon Road | II | 40 | 29.0 | 7.1 | 36.1 | 0.28 | 28.3 | B |
| Ganley Road | II | 40 | 62.1 | 9.7 | 71.8 | 0.69 | 34.6 | B |
| Total | II | | 91.1 | 16.8 | 107.9 | 0.97 | 32.5 | B |

## Arterial Level of Service: SB Fanita Parkway

| Cross Street | Arterial Class | Flow Speed | Running Time | Signal Delay | Travel Time (s) | Dist (mi) | Arterial Speed | Arterial LOS |
|---|---|---|---|---|---|---|---|---|
| Santee Lakes | II | 40 | 17.9 | 8.6 | 26.5 | 0.16 | 21.1 | D |
| Lake Canyon Road | II | 40 | 62.1 | 3.9 | 66.0 | 0.69 | 37.7 | A |
| Total | II | | 80.0 | 12.5 | 92.5 | 0.85 | 32.9 | B |

## Intersection: 3: Fanita Parkway & Ganley Road

| Movement | EB | WB | WB | NB | NB | NB | SB | SB |
|---|---|---|---|---|---|---|---|---|
| Directions Served | LTR | L | TR | L | T | R | T | TR |
| Maximum Queue (ft) | 31 | 68 | 18 | 50 | 179 | 29 | 76 | 26 |
| Average Queue (ft) | 6 | 29 | 7 | 21 | 120 | 6 | 28 | 13 |
| 95th Queue (ft) | 26 | 70 | 22 | 52 | 190 | 25 | 71 | 32 |
| Link Distance (ft) | 160 | | 816 | | 329 | | 476 | 476 |
| Upstream Blk Time (%) | | | | | | | | |
| Queuing Penalty (veh) | | | | | | | | |
| Storage Bay Dist (ft) | | 150 | | 50 | | 150 | | |
| Storage Blk Time (%) | | | | 2 | 8 | | 1 | |
| Queuing Penalty (veh) | | | | 17 | 10 | | 0 | |





## Arterial Level of Service: NB Fanita Parkway

| Cross Street | Arterial Class | Flow Speed | Running Time | Signal Delay | Travel Time (s) | Dist (mi) | Arterial Speed | Arterial LOS |
|---|---|---|---|---|---|---|---|---|
| Lake Canyon Road | II | 40 | 29.0 | 7.0 | 36.0 | 0.28 | 28.4 | B |
| Ganley Road | II | 40 | 62.1 | 9.4 | 71.5 | 0.69 | 34.8 | B |
| Total | II | | 91.1 | 16.4 | 107.5 | 0.97 | 32.6 | B |

## Arterial Level of Service: SB Fanita Parkway

| Cross Street | Arterial Class | Flow Speed | Running Time | Signal Delay | Travel Time (s) | Dist (mi) | Arterial Speed | Arterial LOS |
|---|---|---|---|---|---|---|---|---|
| | II | 40 | 17.9 | 5.9 | 23.8 | 0.16 | 23.5 | C |
| Lake Canyon Road | II | 40 | 62.1 | 2.6 | 64.7 | 0.69 | 38.4 | A |
| Total | II | | 80.0 | 8.5 | 88.5 | 0.85 | 34.4 | B |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 5 | 5 | 20 | 128 | 5 | 5 | 15 | 392 | 58 | 5 | 757 | 5 |
| Future Volume (vph) | 5 | 5 | 20 | 128 | 5 | 5 | 15 | 392 | 58 | 5 | 757 | 5 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | 2 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Perm | NA | | Perm | NA | | Prot | NA | Perm | Prot | NA | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | | | | 2 | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | | 5 | 2 | 2 | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Minimum Split (s) | 22.5 | 22.5 | | 22.5 | 22.5 | | 8.5 | 22.5 | 22.5 | 8.5 | 22.5 | |
| Total Split (s) | 22.5 | 22.5 | | 22.5 | 22.5 | | 8.5 | 29.0 | 29.0 | 8.5 | 29.0 | |
| Total Split (%) | 37.5% | 37.5% | | 37.5% | 37.5% | | 14.2% | 48.3% | 48.3% | 14.2% | 48.3% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lag | Lag | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | Yes | Yes | Yes | |
| Recall Mode | None | None | | None | None | | None | Min | Min | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 41.5 |
| Natural Cycle: 55 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 3: Fanita Parkway & Ganley Road

Year 2035 + Proj AM (Mitigated)
3: Fanita Parkway & Ganley Road
Fanita Ranch
06/05/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 5 | 5 | 20 | 128 | 5 | 5 | 15 | 392 | 58 | 5 | 757 | 5 |
| Future Volume (veh/h) | 5 | 5 | 20 | 128 | 5 | 5 | 15 | 392 | 58 | 5 | 757 | 5 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.97 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 5 | 5 | 22 | 139 | 5 | 5 | 16 | 426 | 63 | 5 | 823 | 5 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 158 | 46 | 146 | 427 | 111 | 111 | 30 | 779 | 660 | 10 | 1467 | 9 |
| Arrive On Green | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.02 | 0.42 | 0.42 | 0.01 | 0.41 | 0.41 |
| Sat Flow, veh/h | 153 | 353 | 1113 | 1383 | 846 | 846 | 1781 | 1870 | 1585 | 1781 | 3621 | 22 |
| Grp Volume(v), veh/h | 32 | 0 | 0 | 139 | 0 | 10 | 16 | 426 | 63 | 5 | 404 | 424 |
| Grp Sat Flow(s),veh/h/ln | 1619 | 0 | 0 | 1383 | 0 | 1692 | 1781 | 1870 | 1585 | 1781 | 1777 | 1866 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.0 | 2.3 | 0.0 | 0.2 | 0.3 | 5.2 | 0.7 | 0.1 | 5.3 | 5.3 |
| Cycle Q Clear(g_c), s | 0.5 | 0.0 | 0.0 | 2.8 | 0.0 | 0.2 | 0.3 | 5.2 | 0.7 | 0.1 | 5.3 | 5.3 |
| Prop In Lane | 0.16 | | 0.69 | 1.00 | | 0.50 | 1.00 | | 1.00 | 1.00 | | 0.01 |
| Lane Grp Cap(c), veh/h | 351 | 0 | 0 | 427 | 0 | 222 | 30 | 779 | 660 | 10 | 720 | 756 |
| V/C Ratio(X) | 0.09 | 0.00 | 0.00 | 0.33 | 0.00 | 0.04 | 0.54 | 0.55 | 0.10 | 0.52 | 0.56 | 0.56 |
| Avail Cap(c_a), veh/h | 1089 | 0 | 0 | 1069 | 0 | 1008 | 236 | 1516 | 1285 | 236 | 1441 | 1513 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 11.6 | 0.0 | 0.0 | 12.5 | 0.0 | 11.5 | 14.7 | 6.7 | 5.4 | 15.0 | 6.9 | 6.9 |
| Incr Delay (d2), s/veh | 0.1 | 0.0 | 0.0 | 0.4 | 0.0 | 0.1 | 14.4 | 0.6 | 0.1 | 36.6 | 0.7 | 0.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.2 | 0.0 | 0.0 | 0.7 | 0.0 | 0.0 | 0.2 | 1.2 | 0.1 | 0.1 | 1.2 | 1.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 11.7 | 0.0 | 0.0 | 13.0 | 0.0 | 11.5 | 29.1 | 7.3 | 5.4 | 51.6 | 7.6 | 7.6 |
| LnGrp LOS | B | A | A | B | A | B | C | A | A | D | A | A |
| Approach Vol, veh/h | | 32 | | | 149 | | | 505 | | | 833 | |
| Approach Delay, s/veh | | 11.7 | | | 12.9 | | | 7.7 | | | 7.9 | |
| Approach LOS | | B | | | B | | | A | | | A | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 4.7 | 17.1 | | 8.5 | 5.0 | 16.7 | | 8.5 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 4.0 | 24.5 | | 18.0 | 4.0 | 24.5 | | 18.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.1 | 7.2 | | 2.5 | 2.3 | 7.3 | | 4.8 | | | | |
| Green Ext Time (p_c), s | 0.0 | 2.7 | | 0.1 | 0.0 | 5.0 | | 0.3 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 8.4 |
| HCM 6th LOS | | A |

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\Mitigation\11 2035+P AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 5 | 5 | 20 | 63 | 5 | 5 | 25 | 775 | 103 | 5 | 389 | 5 |
| Future Volume (vph) | 5 | 5 | 20 | 63 | 5 | 5 | 25 | 775 | 103 | 5 | 389 | 5 |
| Confl. Peds. (#/hr) | | | | | | | | | 1 | 1 | | |
| Confl. Bikes (#/hr) | | | | | | 8 | | | 8 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Perm | NA | | Perm | NA | | Prot | NA | Perm | Prot | NA | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | | | | 2 | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | | 5 | 2 | 2 | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Minimum Split (s) | 22.5 | 22.5 | | 22.5 | 22.5 | | 8.5 | 22.5 | 22.5 | 8.5 | 22.5 | |
| Total Split (s) | 22.5 | 22.5 | | 22.5 | 22.5 | | 9.9 | 44.0 | 44.0 | 8.5 | 42.6 | |
| Total Split (%) | 30.0% | 30.0% | | 30.0% | 30.0% | | 13.2% | 58.7% | 58.7% | 11.3% | 56.8% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lag | Lag | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | Yes | Yes | Yes | |
| Recall Mode | None | None | | None | None | | None | Min | Min | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 75 |
| Actuated Cycle Length: 50.6 |
| Natural Cycle: 75 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 3: Fanita Parkway & Ganley Road

Year 2035 + Proj PM (Mitigated)
3: Fanita Parkway & Ganley Road
Fanita Ranch
06/05/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 5 | 5 | 20 | 63 | 5 | 5 | 25 | 775 | 103 | 5 | 389 | 5 |
| Future Volume (veh/h) | 5 | 5 | 20 | 63 | 5 | 5 | 25 | 775 | 103 | 5 | 389 | 5 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.95 | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 5 | 5 | 22 | 68 | 5 | 5 | 27 | 842 | 112 | 5 | 423 | 5 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 121 | 21 | 78 | 288 | 59 | 59 | 46 | 1087 | 897 | 10 | 2016 | 24 |
| Arrive On Green | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.03 | 0.58 | 0.58 | 0.01 | 0.56 | 0.56 |
| Sat Flow, veh/h | 210 | 291 | 1102 | 1383 | 835 | 835 | 1781 | 1870 | 1544 | 1781 | 3597 | 42 |
| Grp Volume(v), veh/h | 32 | 0 | 0 | 68 | 0 | 10 | 27 | 842 | 112 | 5 | 209 | 219 |
| Grp Sat Flow(s),veh/h/ln | 1603 | 0 | 0 | 1383 | 0 | 1669 | 1781 | 1870 | 1544 | 1781 | 1777 | 1863 |
| Q Serve(g_s), s | 0.3 | 0.0 | 0.0 | 0.9 | 0.0 | 0.2 | 0.6 | 13.5 | 1.3 | 0.1 | 2.3 | 2.3 |
| Cycle Q Clear(g_c), s | 0.7 | 0.0 | 0.0 | 1.7 | 0.0 | 0.2 | 0.6 | 13.5 | 1.3 | 0.1 | 2.3 | 2.3 |
| Prop In Lane | 0.16 | | 0.69 | 1.00 | | 0.50 | 1.00 | | 1.00 | 1.00 | | 0.02 |
| Lane Grp Cap(c), veh/h | 220 | 0 | 0 | 288 | 0 | 119 | 46 | 1087 | 897 | 10 | 996 | 1044 |
| V/C Ratio(X) | 0.15 | 0.00 | 0.00 | 0.24 | 0.00 | 0.08 | 0.58 | 0.77 | 0.12 | 0.52 | 0.21 | 0.21 |
| Avail Cap(c_a), veh/h | 833 | 0 | 0 | 822 | 0 | 763 | 244 | 1875 | 1548 | 181 | 1718 | 1801 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 17.3 | 0.0 | 0.0 | 17.7 | 0.0 | 17.1 | 19.0 | 6.3 | 3.7 | 19.5 | 4.3 | 4.3 |
| Incr Delay (d2), s/veh | 0.3 | 0.0 | 0.0 | 0.4 | 0.0 | 0.3 | 11.1 | 1.2 | 0.1 | 37.2 | 0.1 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.3 | 0.0 | 0.0 | 0.6 | 0.0 | 0.1 | 0.4 | 3.0 | 0.2 | 0.1 | 0.5 | 0.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 17.6 | 0.0 | 0.0 | 18.1 | 0.0 | 17.4 | 30.1 | 7.5 | 3.8 | 56.8 | 4.4 | 4.4 |
| LnGrp LOS | B | A | A | B | A | B | C | A | A | E | A | A |
| Approach Vol, veh/h | | 32 | | | 78 | | | 981 | | | 433 | |
| Approach Delay, s/veh | | 17.6 | | | 18.0 | | | 7.7 | | | 5.0 | |
| Approach LOS | | B | | | B | | | A | | | A | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 4.7 | 27.4 | | 7.3 | 5.5 | 26.6 | | 7.3 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 4.0 | 39.5 | | 18.0 | 5.4 | 38.1 | | 18.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.1 | 15.5 | | 2.7 | 2.6 | 4.3 | | 3.7 | | | | |
| Green Ext Time (p_c), s | 0.0 | 7.4 | | 0.1 | 0.0 | 2.7 | | 0.1 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 7.7 | |
| HCM 6th LOS | A | |

# APPENDIX Q

## CUYAMACA STREET ANALYSIS: PEAK HOUR INTERSECTION ANALYSIS WORKSHEETS, PEAK HOUR ARTERIAL WORKSHEETS

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 11.7 |
| Intersection LOS | B |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Entry Lanes | 1 | 1 | 1 | 1 |
| Conflicting Circle Lanes | 1 | 1 | 1 | 1 |
| Adj Approach Flow, veh/h | 632 | 345 | 485 | 338 |
| Demand Flow Rate, veh/h | 645 | 352 | 495 | 345 |
| Vehicles Circulating, veh/h | 413 | 453 | 102 | 608 |
| Vehicles Exiting, veh/h | 540 | 144 | 956 | 197 |
| Ped Vol Crossing Leg, #/h | 0 | 0 | 0 | 0 |
| Ped Cap Adj | 1.000 | 1.000 | 1.000 | 1.000 |
| Approach Delay, s/veh | 17.0 | 9.1 | 6.9 | 11.5 |
| Approach LOS | C | A | A | B |

| Lane | Left | Left | Left | Left |
|---|---|---|---|---|
| Designated Moves | LTR | LTR | LTR | LTR |
| Assumed Moves | LTR | LTR | LTR | LTR |
| RT Channelized | | | | |
| Lane Util | 1.000 | 1.000 | 1.000 | 1.000 |
| Follow-Up Headway, s | 2.609 | 2.609 | 2.609 | 2.609 |
| Critical Headway, s | 4.976 | 4.976 | 4.976 | 4.976 |
| Entry Flow, veh/h | 645 | 352 | 495 | 345 |
| Cap Entry Lane, veh/h | 906 | 869 | 1244 | 742 |
| Entry HV Adj Factor | 0.980 | 0.981 | 0.980 | 0.980 |
| Flow Entry, veh/h | 632 | 345 | 485 | 338 |
| Cap Entry, veh/h | 887 | 853 | 1219 | 727 |
| V/C Ratio | 0.712 | 0.405 | 0.398 | 0.465 |
| Control Delay, s/veh | 17.0 | 9.1 | 6.9 | 11.5 |
| LOS | C | A | A | B |
| 95th %tile Queue, veh | 6 | 2 | 2 | 2 |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 24.8 |
| Intersection LOS | C |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Entry Lanes | 1 | 1 | 1 | 1 |
| Conflicting Circle Lanes | 1 | 1 | 1 | 1 |
| Adj Approach Flow, veh/h | 409 | 179 | 962 | 360 |
| Demand Flow Rate, veh/h | 417 | 182 | 981 | 368 |
| Vehicles Circulating, veh/h | 369 | 867 | 294 | 480 |
| Vehicles Exiting, veh/h | 479 | 408 | 492 | 569 |
| Ped Vol Crossing Leg, #/h | 0 | 0 | 0 | 0 |
| Ped Cap Adj | 1.000 | 1.000 | 1.000 | 1.000 |
| Approach Delay, s/veh | 9.1 | 11.0 | 39.7 | 9.8 |
| Approach LOS | A | B | E | A |

| Lane | Left | Left | Left | Left |
|---|---|---|---|---|
| Designated Moves | LTR | LTR | LTR | LTR |
| Assumed Moves | LTR | LTR | LTR | LTR |
| RT Channelized | | | | |
| Lane Util | 1.000 | 1.000 | 1.000 | 1.000 |
| Follow-Up Headway, s | 2.609 | 2.609 | 2.609 | 2.609 |
| Critical Headway, s | 4.976 | 4.976 | 4.976 | 4.976 |
| Entry Flow, veh/h | 417 | 182 | 981 | 368 |
| Cap Entry Lane, veh/h | 947 | 570 | 1022 | 846 |
| Entry HV Adj Factor | 0.982 | 0.982 | 0.980 | 0.979 |
| Flow Entry, veh/h | 409 | 179 | 962 | 360 |
| Cap Entry, veh/h | 930 | 560 | 1002 | 828 |
| V/C Ratio | 0.440 | 0.319 | 0.960 | 0.435 |
| Control Delay, s/veh | 9.1 | 11.0 | 39.7 | 9.8 |
| LOS | A | B | E | A |
| 95th %tile Queue, veh | 2 | 1 | 17 | 2 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 10 | 202 | 244 | 10 | 391 | 472 |
| Future Volume (veh/h) | 10 | 202 | 244 | 10 | 391 | 472 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | No | | | No |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 11 | 198 | 265 | 11 | 425 | 513 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 291 | 259 | 391 | 331 | 530 | 1153 |
| Arrive On Green | 0.16 | 0.16 | 0.21 | 0.21 | 0.30 | 0.62 |
| Sat Flow, veh/h | 1781 | 1585 | 1870 | 1585 | 1781 | 1870 |
| Grp Volume(v), veh/h | 11 | 198 | 265 | 11 | 425 | 513 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 1870 | 1585 | 1781 | 1870 |
| Q Serve(g_s), s | 0.2 | 4.9 | 5.3 | 0.2 | 9.0 | 5.9 |
| Cycle Q Clear(g_c), s | 0.2 | 4.9 | 5.3 | 0.2 | 9.0 | 5.9 |
| Prop In Lane | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Lane Grp Cap(c), veh/h | 291 | 259 | 391 | 331 | 530 | 1153 |
| V/C Ratio(X) | 0.04 | 0.76 | 0.68 | 0.03 | 0.80 | 0.44 |
| Avail Cap(c_a), veh/h | 784 | 698 | 915 | 775 | 1242 | 2424 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 14.4 | 16.4 | 14.9 | 12.9 | 13.3 | 4.1 |
| Incr Delay (d2), s/veh | 0.1 | 4.7 | 2.1 | 0.0 | 2.9 | 0.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.1 | 1.8 | 2.1 | 0.1 | 3.3 | 1.1 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 14.5 | 21.0 | 17.0 | 12.9 | 16.1 | 4.4 |
| LnGrp LOS | B | C | B | B | B | A |
| Approach Vol, veh/h | 209 | | 276 | | | 938 |
| Approach Delay, s/veh | 20.7 | | 16.8 | | | 9.7 |
| Approach LOS | C | | B | | | A |

| Timer - Assigned Phs | 1 | 2 | | | | 6 | 8 |
|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 16.7 | 13.0 | | | | 29.7 | 11.2 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 28.5 | 20.0 | | | | 53.0 | 18.0 |
| Max Q Clear Time (g_c+I1), s | 11.0 | 7.3 | | | | 7.9 | 6.9 |
| Green Ext Time (p_c), s | 1.3 | 1.2 | | | | 3.8 | 0.5 |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | | 12.7 |
| HCM 6th LOS | | | B |





| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 10 | 401 | 484 | 10 | 201 | 243 |
| Future Volume (veh/h) | 10 | 401 | 484 | 10 | 201 | 243 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | No | | | No |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 11 | 393 | 526 | 11 | 218 | 264 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 498 | 443 | 645 | 547 | 274 | 1071 |
| Arrive On Green | 0.28 | 0.28 | 0.34 | 0.34 | 0.15 | 0.57 |
| Sat Flow, veh/h | 1781 | 1585 | 1870 | 1585 | 1781 | 1870 |
| Grp Volume(v), veh/h | 11 | 393 | 526 | 11 | 218 | 264 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 1870 | 1585 | 1781 | 1870 |
| Q Serve(g_s), s | 0.3 | 14.5 | 15.6 | 0.3 | 7.2 | 4.3 |
| Cycle Q Clear(g_c), s | 0.3 | 14.5 | 15.6 | 0.3 | 7.2 | 4.3 |
| Prop In Lane | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Lane Grp Cap(c), veh/h | 498 | 443 | 645 | 547 | 274 | 1071 |
| V/C Ratio(X) | 0.02 | 0.89 | 0.82 | 0.02 | 0.80 | 0.25 |
| Avail Cap(c_a), veh/h | 599 | 533 | 1151 | 976 | 541 | 1858 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 15.9 | 21.0 | 18.2 | 13.2 | 24.9 | 6.5 |
| Incr Delay (d2), s/veh | 0.0 | 14.5 | 2.6 | 0.0 | 5.3 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.1 | 6.6 | 6.5 | 0.1 | 3.2 | 1.4 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 15.9 | 35.5 | 20.8 | 13.2 | 30.1 | 6.6 |
| LnGrp LOS | B | D | C | B | C | A |
| Approach Vol, veh/h | 404 | | 537 | | | 482 |
| Approach Delay, s/veh | 35.0 | | 20.6 | | | 17.2 |
| Approach LOS | C | | C | | | B |

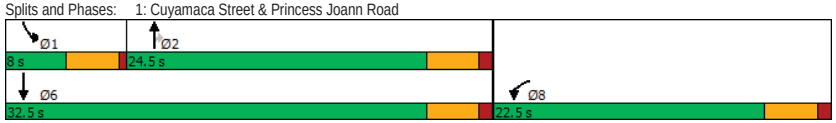
| Timer - Assigned Phs | 1 | 2 | | | | 6 | 8 |
|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 13.9 | 25.5 | | | | 39.4 | 21.5 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 13.5 | 37.5 | | | | 60.5 | 20.5 |
| Max Q Clear Time (g_c+I1), s | 9.2 | 17.6 | | | | 6.3 | 16.5 |
| Green Ext Time (p_c), s | 0.4 | 3.4 | | | | 1.7 | 0.6 |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | | 23.5 |
| HCM 6th LOS | | | C |

| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 220 | 15 | 275 | 80 | 10 | 528 |
| Future Volume (vph) | 220 | 15 | 275 | 80 | 10 | 528 |
| Confl. Peds. (#/hr) | | | | | | |
| Confl. Bikes (#/hr) | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | 0% | | | 0% |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | | NA | Perm | Prot | NA |
| Protected Phases | 8 | | 2 | | 1 | 6 |
| Permitted Phases | | | | 2 | | |
| Detector Phase | 8 | | 2 | 2 | 1 | 6 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 22.5 | | 22.5 | 22.5 | 8.0 | 22.5 |
| Total Split (s) | 22.5 | | 24.5 | 24.5 | 8.0 | 32.5 |
| Total Split (%) | 40.9% | | 44.5% | 44.5% | 14.5% | 59.1% |
| Yellow Time (s) | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | | 1.0 | 1.0 | 0.5 | 1.0 |
| Lost Time Adjust (s) | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | | 4.5 | 4.5 | 4.0 | 4.5 |
| Lead/Lag | | | Lag | Lag | Lead | |
| Lead-Lag Optimize? | | | Yes | Yes | Yes | |
| Recall Mode | None | | Min | Min | None | Min |

| Intersection Summary |
|---|
| Cycle Length: 55 |
| Actuated Cycle Length: 42.6 |
| Natural Cycle: 55 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 1: Cuyamaca Street & Princess Joann Road






Year 2035 + Proj AM (Mitigated)
1: Cuyamaca Street & Princess Joann Road
Fanita Ranch
06/05/2019

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 220 | 15 | 275 | 80 | 10 | 528 |
| Future Volume (veh/h) | 220 | 15 | 275 | 80 | 10 | 528 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | No | | | No |
| Adj Sat Flow, veh/h/ln | 1900 | 1900 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 239 | 16 | 299 | 87 | 11 | 574 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 0 | 0 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 330 | 22 | 552 | 467 | 21 | 859 |
| Arrive On Green | 0.20 | 0.20 | 0.29 | 0.29 | 0.01 | 0.46 |
| Sat Flow, veh/h | 1677 | 112 | 1870 | 1585 | 1781 | 1870 |
| Grp Volume(v), veh/h | 256 | 0 | 299 | 87 | 11 | 574 |
| Grp Sat Flow(s),veh/h/ln | 1796 | 0 | 1870 | 1585 | 1781 | 1870 |
| Q Serve(g_s), s | 3.5 | 0.0 | 3.5 | 1.1 | 0.2 | 6.3 |
| Cycle Q Clear(g_c), s | 3.5 | 0.0 | 3.5 | 1.1 | 0.2 | 6.3 |
| Prop In Lane | 0.93 | 0.06 | | 1.00 | 1.00 | |
| Lane Grp Cap(c), veh/h | 353 | 0 | 552 | 467 | 21 | 859 |
| V/C Ratio(X) | 0.73 | 0.00 | 0.54 | 0.19 | 0.53 | 0.67 |
| Avail Cap(c_a), veh/h | 1235 | 0 | 1429 | 1211 | 272 | 2001 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 9.8 | 0.0 | 7.7 | 6.9 | 12.9 | 5.5 |
| Incr Delay (d2), s/veh | 2.8 | 0.0 | 0.8 | 0.2 | 18.9 | 0.9 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.2 | 0.0 | 0.9 | 0.2 | 0.2 | 1.1 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 12.7 | 0.0 | 8.6 | 7.1 | 31.8 | 6.4 |
| LnGrp LOS | B | A | A | A | C | A |
| Approach Vol, veh/h | 256 | | 386 | | | 585 |
| Approach Delay, s/veh | 12.7 | | 8.2 | | | 6.9 |
| Approach LOS | B | | A | | | A |

| Timer - Assigned Phs | 1 | 2 | | | 6 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 4.3 | 12.2 | | | 16.5 | 9.6 |
| Change Period (Y+Rc), s | 4.0 | 4.5 | | | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 4.0 | 20.0 | | | 28.0 | 18.0 |
| Max Q Clear Time (g_c+I1), s | 2.2 | 5.5 | | | 8.3 | 5.5 |
| Green Ext Time (p_c), s | 0.0 | 1.8 | | | 3.8 | 0.6 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 8.5 | |
| HCM 6th LOS | A | |

Notes

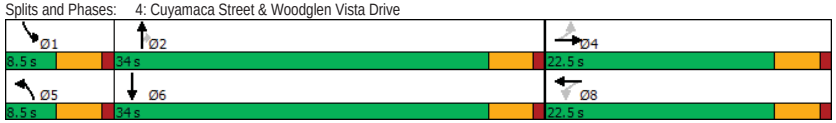
User approved volume balancing among the lanes for turning movement.

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\Mitigation\11 2035+P AM.syn

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 5 | 15 | 235 | 0 | 5 | 5 | 340 | 70 | 10 | 723 | 0 |
| Future Volume (vph) | 0 | 5 | 15 | 235 | 0 | 5 | 5 | 340 | 70 | 10 | 723 | 0 |
| Confl. Peds. (#/hr) | 3 | | 2 | 2 | | 3 | 5 | | 4 | 4 | | 5 |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | | NA | | Perm | NA | | Prot | NA | Perm | Prot | NA | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | | | | 2 | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | | 5 | 2 | 2 | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Minimum Split (s) | 22.5 | 22.5 | | 22.5 | 22.5 | | 8.5 | 22.5 | 22.5 | 8.5 | 22.5 | |
| Total Split (s) | 22.5 | 22.5 | | 22.5 | 22.5 | | 8.5 | 34.0 | 34.0 | 8.5 | 34.0 | |
| Total Split (%) | 34.6% | 34.6% | | 34.6% | 34.6% | | 13.1% | 52.3% | 52.3% | 13.1% | 52.3% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | | | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | | 4.5 | | | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lag | Lag | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | Yes | Yes | Yes | |
| Recall Mode | None | None | | None | None | | None | Min | Min | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 65 |
| Actuated Cycle Length: 51.2 |
| Natural Cycle: 70 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 4: Cuyamaca Street & Woodglen Vista Drive






Year 2035 + Proj AM (Mitigated) Fanita Ranch
4: Cuyamaca Street & Woodglen Vista Drive 06/05/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 5 | 15 | 235 | 0 | 5 | 5 | 340 | 70 | 10 | 723 | 0 |
| Future Volume (veh/h) | 0 | 5 | 15 | 235 | 0 | 5 | 5 | 340 | 70 | 10 | 723 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.99 | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 5 | 16 | 255 | 0 | 5 | 5 | 370 | 76 | 11 | 786 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 0 | 95 | 303 | 459 | 0 | 6 | 10 | 894 | 738 | 20 | 905 | 0 |
| Arrive On Green | 0.00 | 0.24 | 0.24 | 0.24 | 0.00 | 0.24 | 0.01 | 0.48 | 0.48 | 0.01 | 0.48 | 0.00 |
| Sat Flow, veh/h | 0 | 390 | 1249 | 1307 | 0 | 26 | 1781 | 1870 | 1544 | 1781 | 1870 | 0 |
| Grp Volume(v), veh/h | 0 | 0 | 21 | 260 | 0 | 0 | 5 | 370 | 76 | 11 | 786 | 0 |
| Grp Sat Flow(s),veh/h/ln | 0 | 0 | 1640 | 1333 | 0 | 0 | 1781 | 1870 | 1544 | 1781 | 1870 | 0 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.5 | 8.9 | 0.0 | 0.0 | 0.1 | 6.5 | 1.4 | 0.3 | 18.8 | 0.0 |
| Cycle Q Clear(g_c), s | 0.0 | 0.0 | 0.5 | 9.4 | 0.0 | 0.0 | 0.1 | 6.5 | 1.4 | 0.3 | 18.8 | 0.0 |
| Prop In Lane | 0.00 | | 0.76 | 0.98 | | 0.02 | 1.00 | | 1.00 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 0 | 0 | 398 | 465 | 0 | 0 | 10 | 894 | 738 | 20 | 905 | 0 |
| V/C Ratio(X) | 0.00 | 0.00 | 0.05 | 0.56 | 0.00 | 0.00 | 0.52 | 0.41 | 0.10 | 0.55 | 0.87 | 0.00 |
| Avail Cap(c_a), veh/h | 0 | 0 | 587 | 625 | 0 | 0 | 142 | 1097 | 905 | 142 | 1097 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | 0.0 | 0.0 | 14.6 | 18.2 | 0.0 | 0.0 | 25.0 | 8.6 | 7.2 | 24.7 | 11.6 | 0.0 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 0.1 | 1.1 | 0.0 | 0.0 | 37.9 | 0.3 | 0.1 | 20.9 | 6.6 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.0 | 0.2 | 2.7 | 0.0 | 0.0 | 0.2 | 2.0 | 0.3 | 0.2 | 7.2 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 0.0 | 14.7 | 19.3 | 0.0 | 0.0 | 62.9 | 8.9 | 7.3 | 45.7 | 18.1 | 0.0 |
| LnGrp LOS | A | A | B | B | A | A | E | A | A | D | B | A |
| Approach Vol, veh/h | | 21 | | | 260 | | | 451 | | | 797 | |
| Approach Delay, s/veh | | 14.7 | | | 19.3 | | | 9.2 | | | 18.5 | |
| Approach LOS | | B | | | B | | | A | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.1 | 28.5 | | 16.7 | 4.8 | 28.8 | | 16.7 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 4.0 | 29.5 | | 18.0 | 4.0 | 29.5 | | 18.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.3 | 8.5 | | 2.5 | 2.1 | 20.8 | | 11.4 | | | | |
| Green Ext Time (p_c), s | 0.0 | 2.4 | | 0.0 | 0.0 | 3.5 | | 0.8 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 15.8 | |
| HCM 6th LOS | B | |

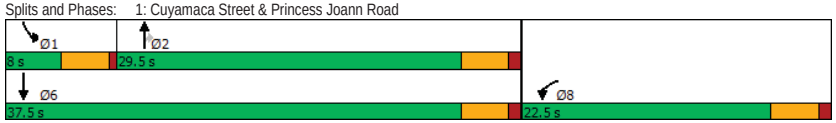
Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\Mitigation\11 2035+P AM.syn

| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 100 | 10 | 557 | 220 | 10 | 280 |
| Future Volume (vph) | 100 | 10 | 557 | 220 | 10 | 280 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | | NA | Perm | Prot | NA |
| Protected Phases | 8 | | 2 | | 1 | 6 |
| Permitted Phases | | | | 2 | | |
| Detector Phase | 8 | | 2 | 2 | 1 | 6 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 22.5 | | 22.5 | 22.5 | 8.0 | 22.5 |
| Total Split (s) | 22.5 | | 29.5 | 29.5 | 8.0 | 37.5 |
| Total Split (%) | 37.5% | | 49.2% | 49.2% | 13.3% | 62.5% |
| Yellow Time (s) | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | | 1.0 | 1.0 | 0.5 | 1.0 |
| Lost Time Adjust (s) | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | | 4.5 | 4.5 | 4.0 | 4.5 |
| Lead/Lag | | | Lag | Lag | Lead | |
| Lead-Lag Optimize? | | | Yes | Yes | Yes | |
| Recall Mode | None | | Min | Min | None | Min |

**Intersection Summary**

Cycle Length: 60
Actuated Cycle Length: 45.7
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Cuyamaca Street & Princess Joann Road








| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 100 | 10 | 557 | 220 | 10 | 280 |
| Future Volume (veh/h) | 100 | 10 | 557 | 220 | 10 | 280 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | No | | | No |
| Adj Sat Flow, veh/h/ln | 1900 | 1900 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 109 | 11 | 605 | 239 | 11 | 304 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 0 | 0 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 144 | 15 | 875 | 742 | 21 | 1145 |
| Arrive On Green | 0.09 | 0.09 | 0.47 | 0.47 | 0.01 | 0.61 |
| Sat Flow, veh/h | 1613 | 163 | 1870 | 1585 | 1781 | 1870 |
| Grp Volume(v), veh/h | 121 | 0 | 605 | 239 | 11 | 304 |
| Grp Sat Flow(s),veh/h/ln | 1790 | 0 | 1870 | 1585 | 1781 | 1870 |
| Q Serve(g_s), s | 2.0 | 0.0 | 7.7 | 2.8 | 0.2 | 2.3 |
| Cycle Q Clear(g_c), s | 2.0 | 0.0 | 7.7 | 2.8 | 0.2 | 2.3 |
| Prop In Lane | 0.90 | 0.09 | | 1.00 | 1.00 | |
| Lane Grp Cap(c), veh/h | 160 | 0 | 875 | 742 | 21 | 1145 |
| V/C Ratio(X) | 0.76 | 0.00 | 0.69 | 0.32 | 0.53 | 0.27 |
| Avail Cap(c_a), veh/h | 1068 | 0 | 1550 | 1314 | 236 | 2047 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 13.4 | 0.0 | 6.3 | 5.0 | 14.8 | 2.7 |
| Incr Delay (d2), s/veh | 7.1 | 0.0 | 1.0 | 0.2 | 19.2 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.9 | 0.0 | 1.7 | 0.5 | 0.2 | 0.2 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 20.5 | 0.0 | 7.3 | 5.3 | 34.1 | 2.8 |
| LnGrp LOS | C | A | A | A | C | A |
| Approach Vol, veh/h | 121 | | 844 | | | 315 |
| Approach Delay, s/veh | 20.5 | | 6.7 | | | 3.9 |
| Approach LOS | C | | A | | | A |

| Timer - Assigned Phs | 1 | 2 | | | 6 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 4.4 | 18.6 | | | 23.0 | 7.2 |
| Change Period (Y+Rc), s | 4.0 | 4.5 | | | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 4.0 | 25.0 | | | 33.0 | 18.0 |
| Max Q Clear Time (g_c+I1), s | 2.2 | 9.7 | | | 4.3 | 4.0 |
| Green Ext Time (p_c), s | 0.0 | 4.4 | | | 1.9 | 0.2 |

**Intersection Summary**

| | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 7.3 | |
| HCM 6th LOS | | A | |

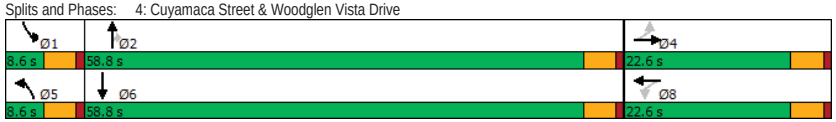
**Notes**

User approved volume balancing among the lanes for turning movement.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 5 | 10 | 115 | 5 | 15 | 10 | 742 | 240 | 5 | 360 | 5 |
| Future Volume (vph) | 0 | 5 | 10 | 115 | 5 | 15 | 10 | 742 | 240 | 5 | 360 | 5 |
| Confl. Peds. (#/hr) | 3 | | 2 | 2 | | 3 | 1 | | 4 | 4 | | 1 |
| Confl. Bikes (#/hr) | | | 1 | | | | | | 1 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | | NA | | Perm | NA | | Prot | NA | Perm | Prot | NA | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | | | | 2 | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | | 5 | 2 | 2 | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Minimum Split (s) | 22.5 | 22.5 | | 22.5 | 22.5 | | 8.5 | 22.5 | 22.5 | 8.5 | 22.5 | |
| Total Split (s) | 22.6 | 22.6 | | 22.6 | 22.6 | | 8.6 | 58.8 | 58.8 | 8.6 | 58.8 | |
| Total Split (%) | 25.1% | 25.1% | | 25.1% | 25.1% | | 9.6% | 65.3% | 65.3% | 9.6% | 65.3% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | | | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | | 4.5 | | | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lag | Lag | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | Yes | Yes | Yes | |
| Recall Mode | None | None | | None | None | | None | Min | Min | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 90 |
| Actuated Cycle Length: 58.6 |
| Natural Cycle: 70 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 4: Cuyamaca Street & Woodglen Vista Drive








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 5 | 10 | 115 | 5 | 15 | 10 | 742 | 240 | 5 | 360 | 5 |
| Future Volume (veh/h) | 0 | 5 | 10 | 115 | 5 | 15 | 10 | 742 | 240 | 5 | 360 | 5 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 0.99 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 5 | 11 | 125 | 5 | 16 | 11 | 807 | 261 | 5 | 391 | 5 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 0 | 76 | 167 | 314 | 12 | 22 | 20 | 1039 | 859 | 10 | 1012 | 13 |
| Arrive On Green | 0.00 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.01 | 0.56 | 0.56 | 0.01 | 0.55 | 0.55 |
| Sat Flow, veh/h | 0 | 513 | 1128 | 1146 | 80 | 151 | 1781 | 1870 | 1547 | 1781 | 1842 | 24 |
| Grp Volume(v), veh/h | 0 | 0 | 16 | 146 | 0 | 0 | 11 | 807 | 261 | 5 | 0 | 396 |
| Grp Sat Flow(s),veh/h/ln | 0 | 0 | 1641 | 1377 | 0 | 0 | 1781 | 1870 | 1547 | 1781 | 0 | 1865 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.4 | 4.4 | 0.0 | 0.0 | 0.3 | 15.6 | 4.2 | 0.1 | 0.0 | 5.6 |
| Cycle Q Clear(g_c), s | 0.0 | 0.0 | 0.4 | 4.7 | 0.0 | 0.0 | 0.3 | 15.6 | 4.2 | 0.1 | 0.0 | 5.6 |
| Prop In Lane | 0.00 | | 0.69 | 0.86 | | 0.11 | 1.00 | | 1.00 | 1.00 | | 0.01 |
| Lane Grp Cap(c), veh/h | 0 | 0 | 242 | 348 | 0 | 0 | 20 | 1039 | 859 | 10 | 0 | 1025 |
| V/C Ratio(X) | 0.00 | 0.00 | 0.07 | 0.42 | 0.00 | 0.00 | 0.54 | 0.78 | 0.30 | 0.52 | 0.00 | 0.39 |
| Avail Cap(c_a), veh/h | 0 | 0 | 642 | 693 | 0 | 0 | 158 | 2194 | 1815 | 158 | 0 | 2188 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 0.0 | 0.0 | 17.0 | 18.9 | 0.0 | 0.0 | 22.8 | 8.0 | 5.5 | 23.0 | 0.0 | 6.0 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 0.1 | 0.8 | 0.0 | 0.0 | 20.6 | 1.3 | 0.2 | 37.7 | 0.0 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.0 | 0.1 | 1.4 | 0.0 | 0.0 | 0.2 | 4.1 | 0.9 | 0.1 | 0.0 | 1.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 0.0 | 17.1 | 19.7 | 0.0 | 0.0 | 43.4 | 9.3 | 5.7 | 60.6 | 0.0 | 6.2 |
| LnGrp LOS | A | A | B | B | A | A | D | A | A | E | A | A |
| Approach Vol, veh/h | | 16 | | | 146 | | | 1079 | | | 401 | |
| Approach Delay, s/veh | | 17.1 | | | 19.7 | | | 8.8 | | | 6.9 | |
| Approach LOS | | B | | | B | | | A | | | A | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 4.7 | 30.2 | | 11.3 | 5.0 | 29.9 | | 11.3 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 4.1 | 54.3 | | 18.1 | 4.1 | 54.3 | | 18.1 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.1 | 17.6 | | 2.4 | 2.3 | 7.6 | | 6.7 | | | | |
| Green Ext Time (p_c), s | 0.0 | 8.1 | | 0.0 | 0.0 | 2.6 | | 0.5 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 9.4 | |
| HCM 6th LOS | A | |

## Arterial Level of Service: NB Cuyamaca Street

| Cross Street | Arterial Class | Flow Speed | Running Time | Signal Delay | Travel Time (s) | Dist (mi) | Arterial Speed | Arterial LOS |
|---|---|---|---|---|---|---|---|---|
| Woodglen Vista Drive | III | 35 | 32.8 | 8.8 | 41.6 | 0.27 | 23.7 | C |
| Princess Joann Road | III | 35 | 55.0 | 10.0 | 65.0 | 0.53 | 29.6 | B |
| Magnolia Ave | III | 35 | 48.3 | 25.7 | 74.0 | 0.40 | 19.6 | C |
| Street Y | III | 35 | 64.3 | 8.9 | 73.2 | 0.62 | 30.7 | A |
| Total | III | | 200.4 | 53.4 | 253.8 | 1.84 | 26.0 | B |

## Arterial Level of Service: SB Cuyamaca Street

| Cross Street | Arterial Class | Flow Speed | Running Time | Signal Delay | Travel Time (s) | Dist (mi) | Arterial Speed | Arterial LOS |
|---|---|---|---|---|---|---|---|---|
| Street A | III | 35 | 22.7 | 12.1 | 34.8 | 0.19 | 19.6 | C |
| Magnolia Ave | III | 35 | 64.3 | 5.4 | 69.7 | 0.62 | 32.3 | A |
| Princess Joann Road | III | 35 | 48.3 | 11.4 | 59.7 | 0.40 | 24.3 | B |
| Woodglen Vista Drive | III | 35 | 55.0 | 17.0 | 72.0 | 0.53 | 26.7 | B |
| Total | III | | 190.3 | 45.9 | 236.2 | 1.75 | 26.7 | B |





## Arterial Level of Service: NB Cuyamaca Street

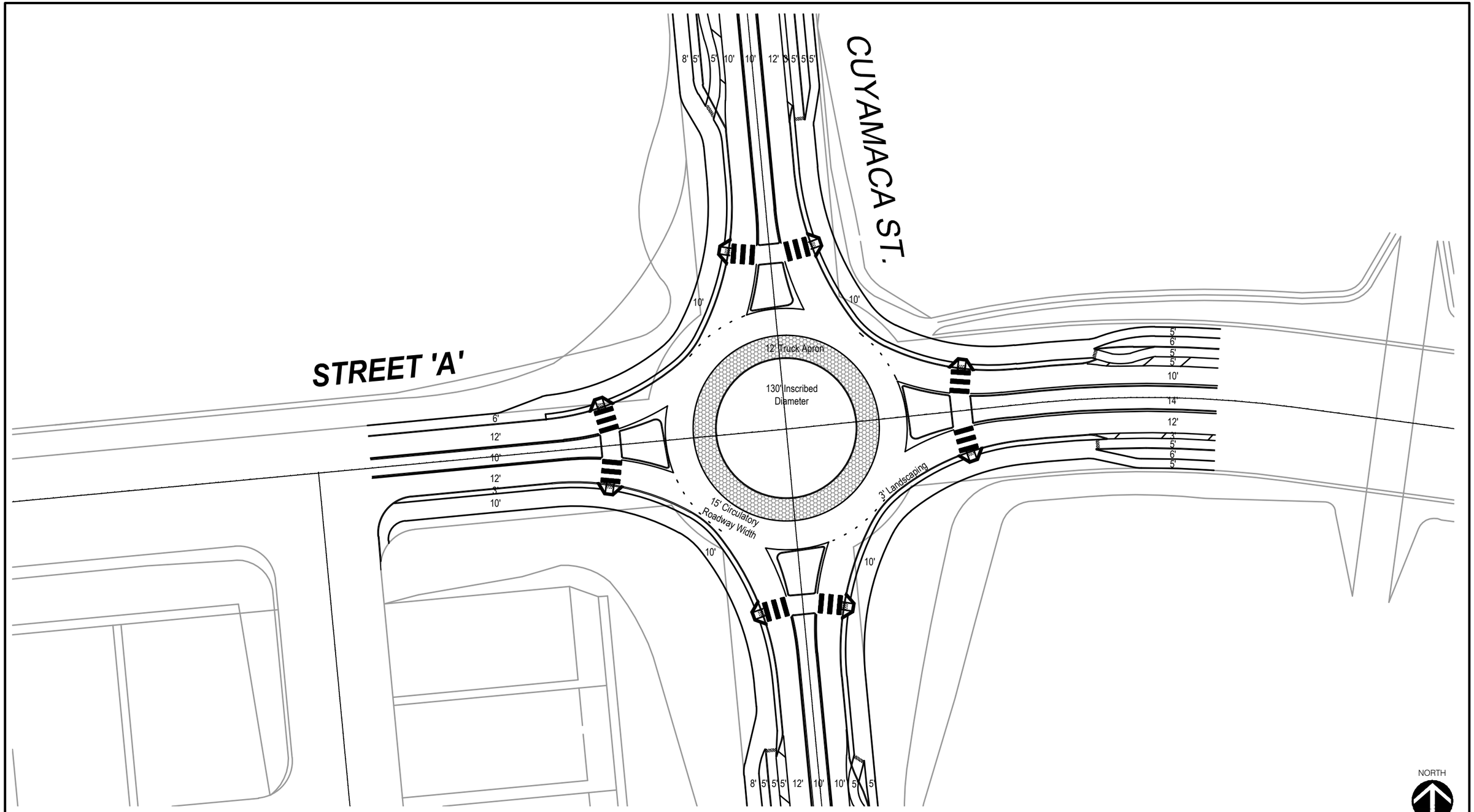
| Cross Street | Arterial Class | Flow Speed | Running Time | Signal Delay | Travel Time (s) | Dist (mi) | Arterial Speed | Arterial LOS |
|---|---|---|---|---|---|---|---|---|
| Woodglen Vista Drive | III | 35 | 32.8 | 11.0 | 43.8 | 0.27 | 22.5 | C |
| Princess Joann Road | III | 35 | 54.9 | 10.6 | 65.5 | 0.53 | 29.3 | B |
| Magnolia Ave | III | 35 | 48.3 | 23.1 | 71.4 | 0.40 | 20.3 | C |
| Street Y | III | 35 | 64.3 | 41.3 | 105.6 | 0.62 | 21.3 | C |
| Total | III | | 200.3 | 86.0 | 286.3 | 1.83 | 23.1 | C |

## Arterial Level of Service: SB Cuyamaca Street

| Cross Street | Arterial Class | Flow Speed | Running Time | Signal Delay | Travel Time (s) | Dist (mi) | Arterial Speed | Arterial LOS |
|---|---|---|---|---|---|---|---|---|
| Street A | III | 35 | 22.7 | 32.8 | 55.5 | 0.19 | 12.3 | E |
| Magnolia Ave | III | 35 | 64.3 | 3.9 | 68.2 | 0.62 | 33.0 | A |
| Princess Joann Road | III | 35 | 48.3 | 5.6 | 53.9 | 0.40 | 26.9 | B |
| Woodglen Vista Drive | III | 35 | 54.9 | 6.8 | 61.7 | 0.53 | 31.2 | A |
| Total | III | | 190.2 | 49.1 | 239.3 | 1.75 | 26.3 | B |

# APPENDIX R

## PROPOSED ROUNDABOUT CONFIGURATIONS

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N:\2880\CAD\Roundabout Conceptual Plans.dwg

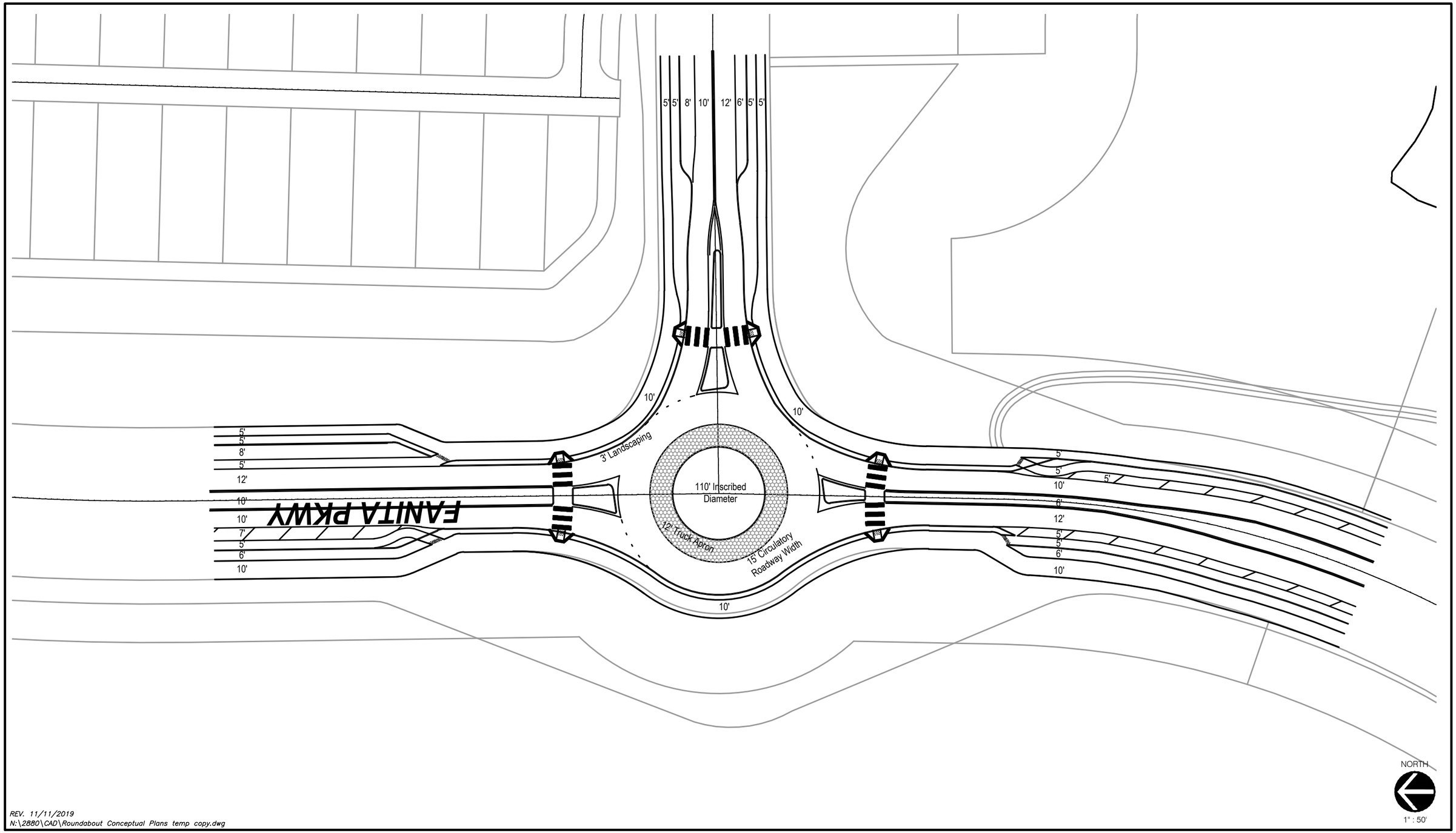
LINSCOTT LAW & GREENSPAN engineers

**NOTE:** Roundabout can be traversed by trucks as large as a CA-Legal 65.

# Figure A

## Conceptual Plan - Cuyumaca Street / Street "A" Roundabout

FANITA RANCH




REV. 11/11/2019
N:\2880\CAD\Roundabout Conceptual Plans temp copy.dwg

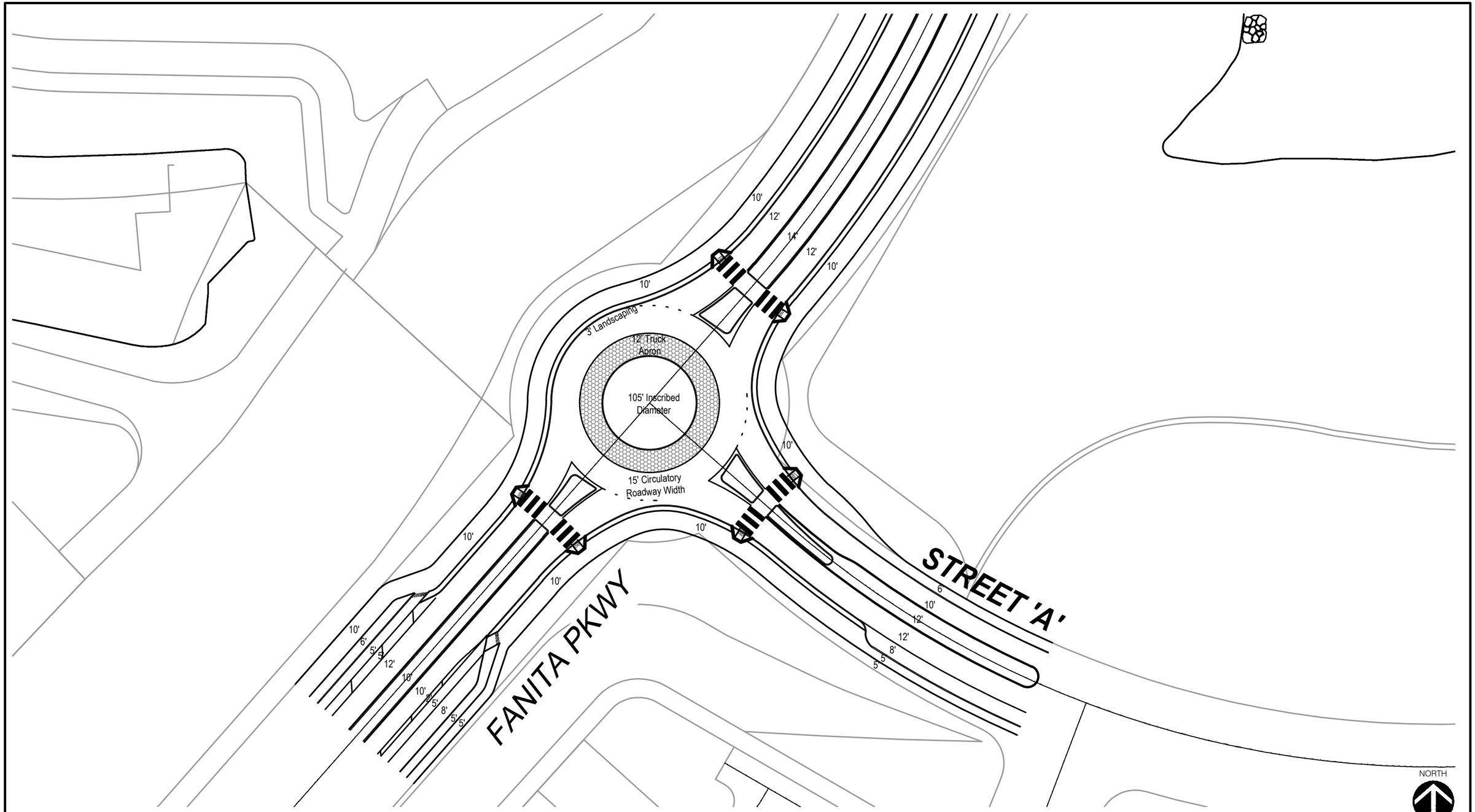
LINSCOTT LAW & GREENSPAN engineers

**NOTE:** Roundabout can be traversed by trucks as large as a WB-50.

# Figure B

## Conceptual Plan - Fanita Parkway / Street "E" Roundabout

FANITA RANCH




REV. 4/18/2018
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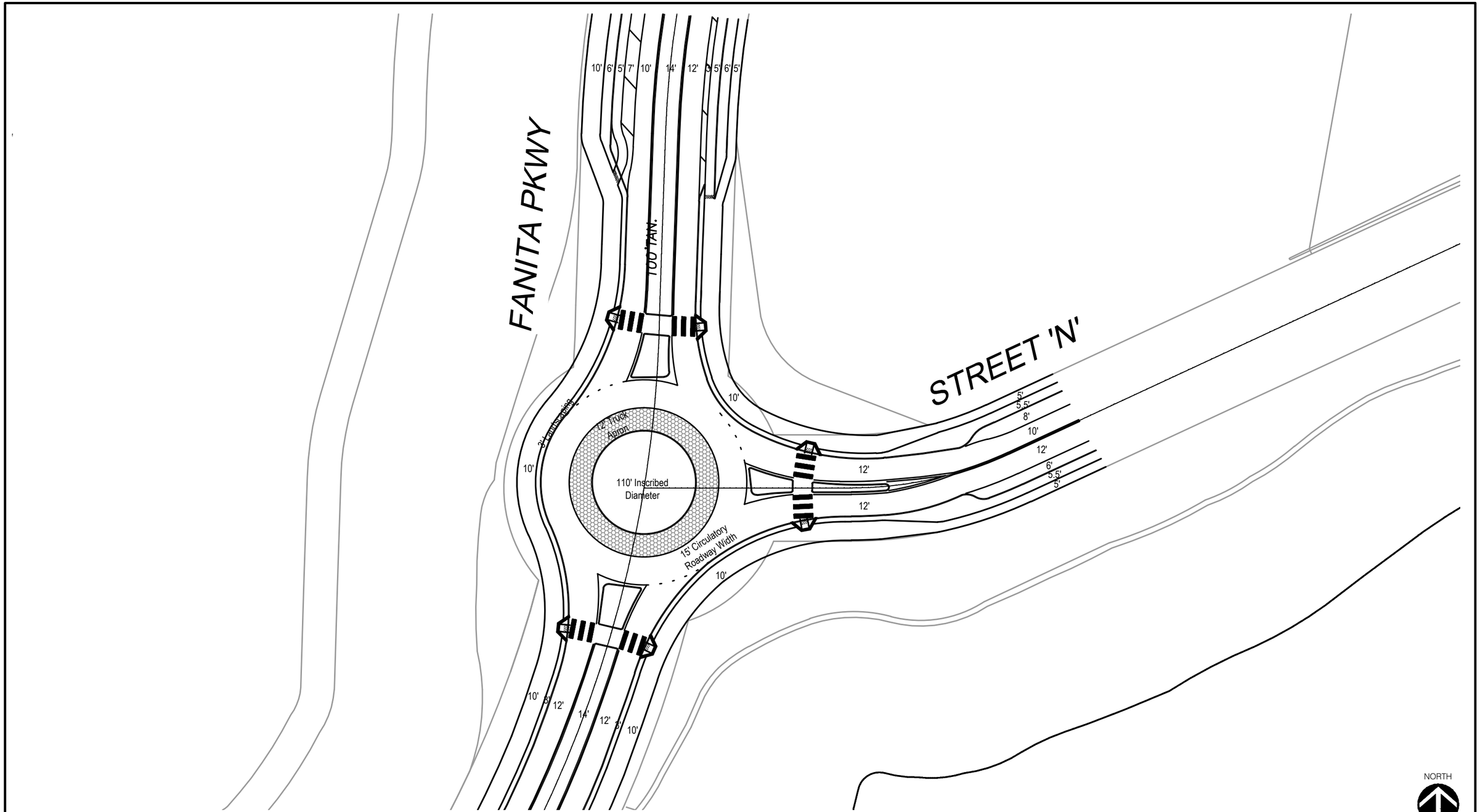
**NOTE:** Roundabout can be traversed by trucks as large as a WB-50.

LINSCOTT LAW & GREENSPAN engineers

# Figure C

## Conceptual Plan - Fanita Parkway / Street "A" Roundabout

FANITA RANCH




REV. 4/18/2018
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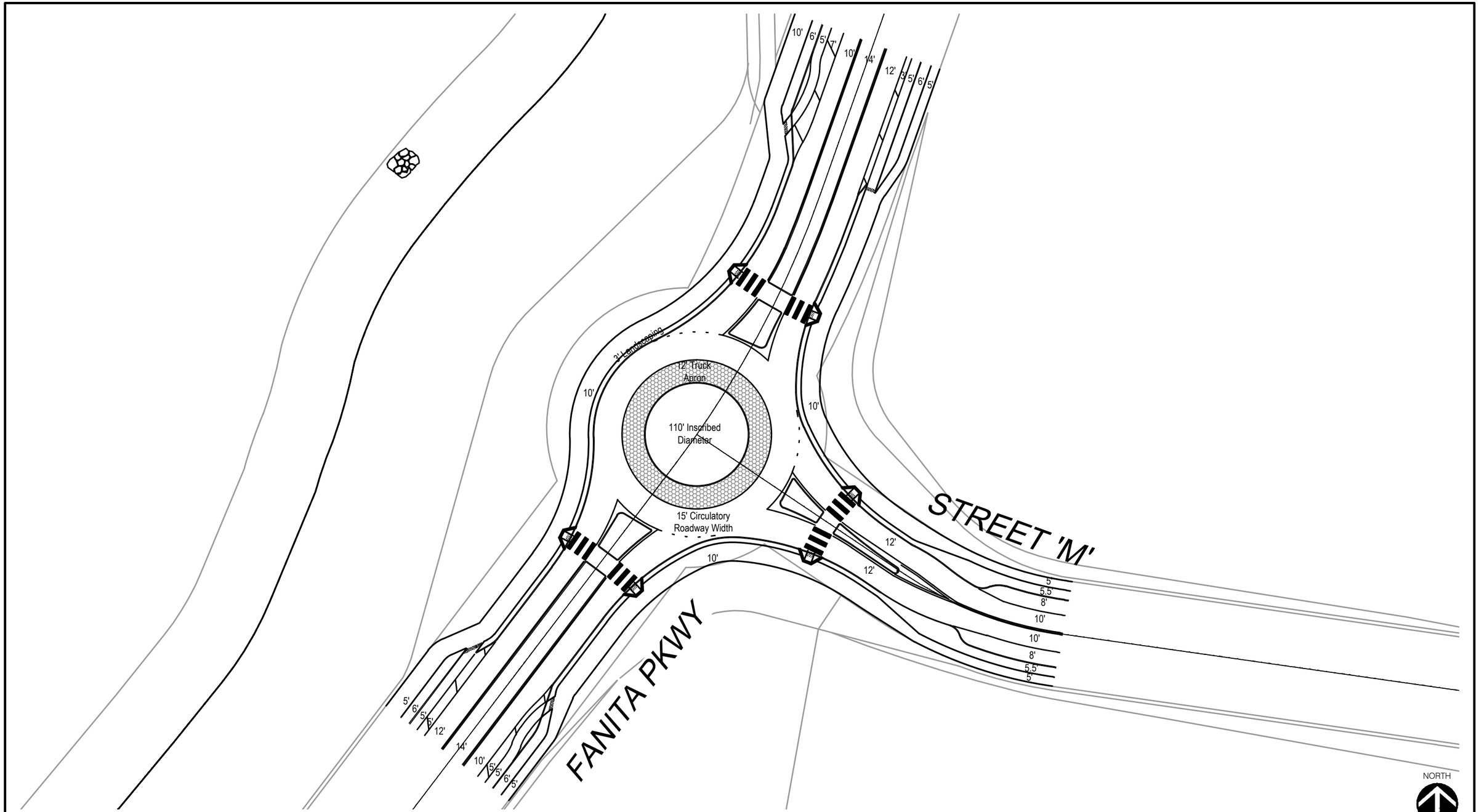
**NOTE:** Roundabout can be traversed by trucks as large as a WB-50.

# Figure D

## Conceptual Plan - Fanita Parkway / Street "O" Roundabout

FANITA RANCH




REV. 4/18/2018
N:\2880\CAD\Roundabout Conceptual Plans.dwg

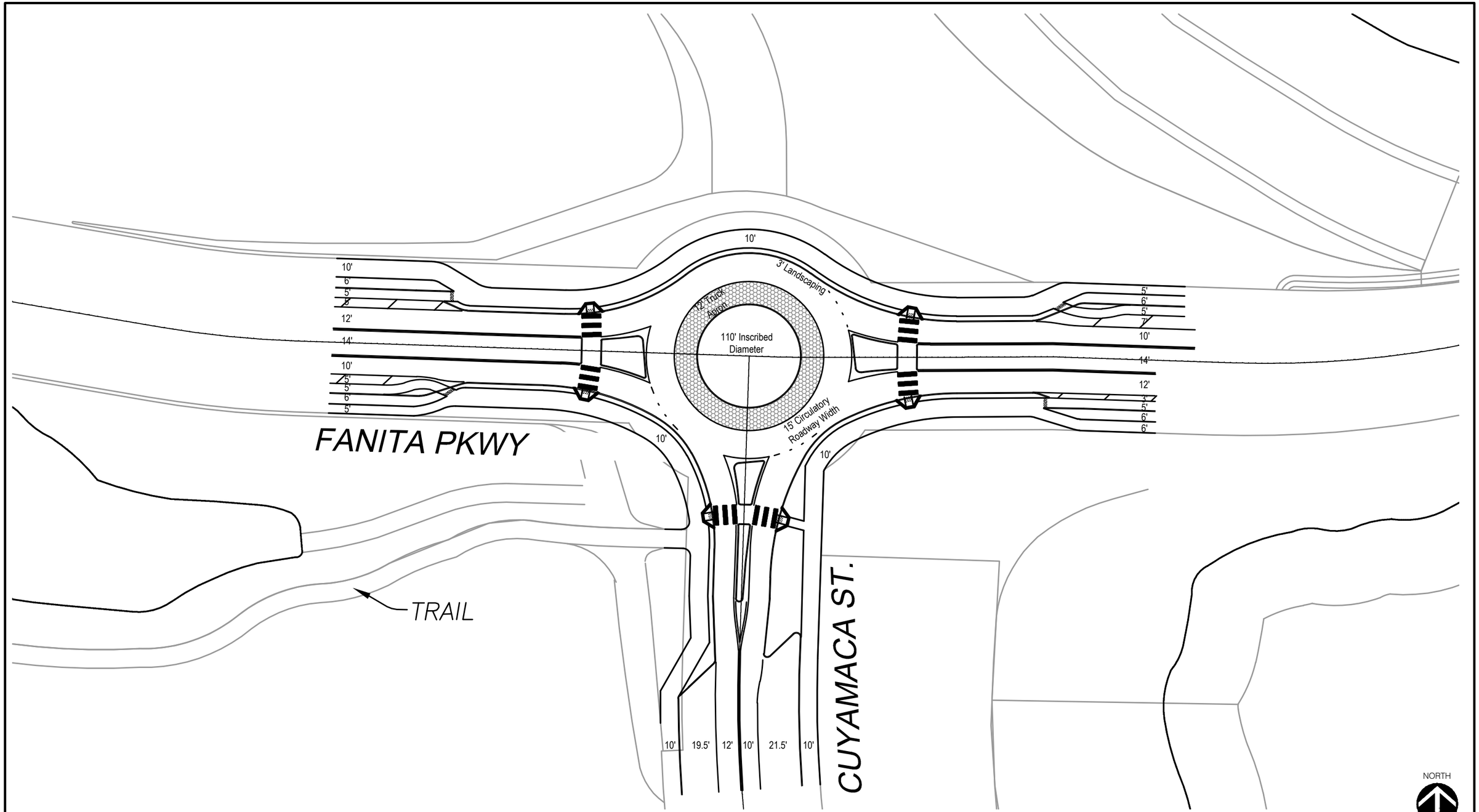
LINSCOTT LAW & GREENSPAN engineers

**NOTE:** Roundabout can be traversed by trucks as large as a WB-50.

# Figure E

## Conceptual Plan - Fanita Parkway / Street "P" Roundabout

FANITA RANCH




REV. 4/18/2018
N:\2880\CAD\Roundabout Conceptual Plans.dwg

**NOTE:** Roundabout can be traversed by trucks as large as a WB-50.

LINSCOTT LAW & GREENSPAN engineers

# Figure F

## Conceptual Plan - Fanita Parkway / Cuyamaca St Roundabout

FANITA RANCH

# APPENDIX S

## ON-SITE INTERSECTIONS PEAK HOUR INTERSECTION ANALYSIS WORKSHEETS

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 11.7 |
| Intersection LOS | B |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Entry Lanes | 1 | 1 | 1 | 1 |
| Conflicting Circle Lanes | 1 | 1 | 1 | 1 |
| Adj Approach Flow, veh/h | 632 | 345 | 485 | 338 |
| Demand Flow Rate, veh/h | 645 | 352 | 495 | 345 |
| Vehicles Circulating, veh/h | 413 | 453 | 102 | 608 |
| Vehicles Exiting, veh/h | 540 | 144 | 956 | 197 |
| Ped Vol Crossing Leg, #/h | 0 | 0 | 0 | 0 |
| Ped Cap Adj | 1.000 | 1.000 | 1.000 | 1.000 |
| Approach Delay, s/veh | 17.0 | 9.1 | 6.9 | 11.5 |
| Approach LOS | C | A | A | B |

| Lane | Left | Left | Left | Left |
|---|---|---|---|---|
| Designated Moves | LTR | LTR | LTR | LTR |
| Assumed Moves | LTR | LTR | LTR | LTR |
| RT Channelized | | | | |
| Lane Util | 1.000 | 1.000 | 1.000 | 1.000 |
| Follow-Up Headway, s | 2.609 | 2.609 | 2.609 | 2.609 |
| Critical Headway, s | 4.976 | 4.976 | 4.976 | 4.976 |
| Entry Flow, veh/h | 645 | 352 | 495 | 345 |
| Cap Entry Lane, veh/h | 906 | 869 | 1244 | 742 |
| Entry HV Adj Factor | 0.980 | 0.981 | 0.980 | 0.980 |
| Flow Entry, veh/h | 632 | 345 | 485 | 338 |
| Cap Entry, veh/h | 887 | 853 | 1219 | 727 |
| V/C Ratio | 0.712 | 0.405 | 0.398 | 0.465 |
| Control Delay, s/veh | 17.0 | 9.1 | 6.9 | 11.5 |
| LOS | C | A | A | B |
| 95th %tile Queue, veh | 6 | 2 | 2 | 2 |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 8.4 |
| Intersection LOS | A |

| Approach | WB | NB | SB |
|---|---|---|---|
| Entry Lanes | 1 | 1 | 1 |
| Conflicting Circle Lanes | 1 | 1 | 1 |
| Adj Approach Flow, veh/h | 244 | 437 | 692 |
| Demand Flow Rate, veh/h | 249 | 446 | 705 |
| Vehicles Circulating, veh/h | 364 | 22 | 162 |
| Vehicles Exiting, veh/h | 104 | 845 | 451 |
| Ped Vol Crossing Leg, #/h | 0 | 0 | 0 |
| Ped Cap Adj | 1.000 | 1.000 | 1.000 |
| Approach Delay, s/veh | 6.5 | 5.7 | 10.8 |
| Approach LOS | A | A | B |

| Lane | Left | Left | Left |
|---|---|---|---|
| Designated Moves | LR | TR | LT |
| Assumed Moves | LR | TR | LT |
| RT Channelized | | | |
| Lane Util | 1.000 | 1.000 | 1.000 |
| Follow-Up Headway, s | 2.609 | 2.609 | 2.609 |
| Critical Headway, s | 4.976 | 4.976 | 4.976 |
| Entry Flow, veh/h | 249 | 446 | 705 |
| Cap Entry Lane, veh/h | 952 | 1349 | 1170 |
| Entry HV Adj Factor | 0.980 | 0.980 | 0.981 |
| Flow Entry, veh/h | 244 | 437 | 692 |
| Cap Entry, veh/h | 933 | 1322 | 1147 |
| V/C Ratio | 0.262 | 0.331 | 0.603 |
| Control Delay, s/veh | 6.5 | 5.7 | 10.8 |
| LOS | A | A | B |
| 95th %tile Queue, veh | 1 | 1 | 4 |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 10.1 |
| Intersection LOS | B |

| Approach | WB | NB | SB |
|---|---|---|---|
| Entry Lanes | 1 | 1 | 1 |
| Conflicting Circle Lanes | 1 | 1 | 1 |
| Adj Approach Flow, veh/h | 460 | 396 | 738 |
| Demand Flow Rate, veh/h | 469 | 404 | 753 |
| Vehicles Circulating, veh/h | 318 | 305 | 154 |
| Vehicles Exiting, veh/h | 391 | 602 | 633 |
| Ped Vol Crossing Leg, #/h | 0 | 0 | 0 |
| Ped Cap Adj | 1.000 | 1.000 | 1.000 |
| Approach Delay, s/veh | 9.3 | 8.0 | 11.6 |
| Approach LOS | A | A | B |

| Lane | Left | Left | Left |
|---|---|---|---|
| Designated Moves | LR | TR | LT |
| Assumed Moves | LR | TR | LT |
| RT Channelized | | | |
| Lane Util | 1.000 | 1.000 | 1.000 |
| Follow-Up Headway, s | 2.609 | 2.609 | 2.609 |
| Critical Headway, s | 4.976 | 4.976 | 4.976 |
| Entry Flow, veh/h | 469 | 404 | 753 |
| Cap Entry Lane, veh/h | 998 | 1011 | 1179 |
| Entry HV Adj Factor | 0.981 | 0.980 | 0.980 |
| Flow Entry, veh/h | 460 | 396 | 738 |
| Cap Entry, veh/h | 979 | 990 | 1156 |
| V/C Ratio | 0.470 | 0.400 | 0.639 |
| Control Delay, s/veh | 9.3 | 8.0 | 11.6 |
| LOS | A | A | B |
| 95th %tile Queue, veh | 3 | 2 | 5 |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 8.1 |
| Intersection LOS | A |

| Approach | WB | NB | SB |
|---|---|---|---|
| Entry Lanes | 1 | 1 | 1 |
| Conflicting Circle Lanes | 1 | 1 | 1 |
| Adj Approach Flow, veh/h | 317 | 621 | 483 |
| Demand Flow Rate, veh/h | 324 | 634 | 493 |
| Vehicles Circulating, veh/h | 333 | 37 | 297 |
| Vehicles Exiting, veh/h | 338 | 753 | 360 |
| Ped Vol Crossing Leg, #/h | 0 | 0 | 0 |
| Ped Cap Adj | 1.000 | 1.000 | 1.000 |
| Approach Delay, s/veh | 7.2 | 7.6 | 9.4 |
| Approach LOS | A | A | A |

| Lane | Left | Left | Left |
|---|---|---|---|
| Designated Moves | LR | TR | LT |
| Assumed Moves | LR | TR | LT |
| RT Channelized | | | |
| Lane Util | 1.000 | 1.000 | 1.000 |
| Follow-Up Headway, s | 2.609 | 2.609 | 2.609 |
| Critical Headway, s | 4.976 | 4.976 | 4.976 |
| Entry Flow, veh/h | 324 | 634 | 493 |
| Cap Entry Lane, veh/h | 983 | 1329 | 1019 |
| Entry HV Adj Factor | 0.978 | 0.980 | 0.980 |
| Flow Entry, veh/h | 317 | 621 | 483 |
| Cap Entry, veh/h | 961 | 1302 | 999 |
| V/C Ratio | 0.330 | 0.477 | 0.484 |
| Control Delay, s/veh | 7.2 | 7.6 | 9.4 |
| LOS | A | A | A |
| 95th %tile Queue, veh | 1 | 3 | 3 |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 5.3 |
| Intersection LOS | A |

| Approach | WB | NB | SB |
|---|---|---|---|
| Entry Lanes | 1 | 1 | 1 |
| Conflicting Circle Lanes | 1 | 1 | 1 |
| Adj Approach Flow, veh/h | 290 | 352 | 256 |
| Demand Flow Rate, veh/h | 296 | 359 | 261 |
| Vehicles Circulating, veh/h | 95 | 39 | 269 |
| Vehicles Exiting, veh/h | 303 | 491 | 122 |
| Ped Vol Crossing Leg, #/h | 0 | 0 | 0 |
| Ped Cap Adj | 1.000 | 1.000 | 1.000 |
| Approach Delay, s/veh | 5.0 | 5.1 | 5.9 |
| Approach LOS | A | A | A |

| Lane | Left | Left | Left |
|---|---|---|---|
| Designated Moves | LR | TR | LT |
| Assumed Moves | LR | TR | LT |
| RT Channelized | | | |
| Lane Util | 1.000 | 1.000 | 1.000 |
| Follow-Up Headway, s | 2.609 | 2.609 | 2.609 |
| Critical Headway, s | 4.976 | 4.976 | 4.976 |
| Entry Flow, veh/h | 296 | 359 | 261 |
| Cap Entry Lane, veh/h | 1252 | 1326 | 1049 |
| Entry HV Adj Factor | 0.980 | 0.981 | 0.979 |
| Flow Entry, veh/h | 290 | 352 | 256 |
| Cap Entry, veh/h | 1227 | 1301 | 1027 |
| V/C Ratio | 0.236 | 0.271 | 0.249 |
| Control Delay, s/veh | 5.0 | 5.1 | 5.9 |
| LOS | A | A | A |
| 95th %tile Queue, veh | 1 | 1 | 1 |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 4.9 |
| Intersection LOS | A |

| Approach | EB | WB | NB |
|---|---|---|---|
| Entry Lanes | 1 | 1 | 1 |
| Conflicting Circle Lanes | 1 | 1 | 1 |
| Adj Approach Flow, veh/h | 94 | 421 | 121 |
| Demand Flow Rate, veh/h | 96 | 429 | 123 |
| Vehicles Circulating, veh/h | 227 | 11 | 52 |
| Vehicles Exiting, veh/h | 213 | 164 | 271 |
| Ped Vol Crossing Leg, #/h | 0 | 0 | 0 |
| Ped Cap Adj | 1.000 | 1.000 | 1.000 |
| Approach Delay, s/veh | 4.1 | 5.5 | 3.6 |
| Approach LOS | A | A | A |

| Lane | Left | Left | Left |
|---|---|---|---|
| Designated Moves | TR | LT | LR |
| Assumed Moves | TR | LT | LR |
| RT Channelized | | | |
| Lane Util | 1.000 | 1.000 | 1.000 |
| Follow-Up Headway, s | 2.609 | 2.609 | 2.609 |
| Critical Headway, s | 4.976 | 4.976 | 4.976 |
| Entry Flow, veh/h | 96 | 429 | 123 |
| Cap Entry Lane, veh/h | 1095 | 1364 | 1309 |
| Entry HV Adj Factor | 0.979 | 0.981 | 0.984 |
| Flow Entry, veh/h | 94 | 421 | 121 |
| Cap Entry, veh/h | 1072 | 1339 | 1287 |
| V/C Ratio | 0.088 | 0.314 | 0.094 |
| Control Delay, s/veh | 4.1 | 5.5 | 3.6 |
| LOS | A | A | A |
| 95th %tile Queue, veh | 0 | 1 | 0 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 10 | 202 | 244 | 10 | 391 | 472 |
| Future Volume (veh/h) | 10 | 202 | 244 | 10 | 391 | 472 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | No | | | No |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 11 | 198 | 265 | 11 | 425 | 513 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 297 | 265 | 430 | 364 | 709 | 1062 |
| Arrive On Green | 0.17 | 0.17 | 0.23 | 0.23 | 0.21 | 0.57 |
| Sat Flow, veh/h | 1781 | 1585 | 1870 | 1585 | 3456 | 1870 |
| Grp Volume(v), veh/h | 11 | 198 | 265 | 11 | 425 | 513 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 1870 | 1585 | 1728 | 1870 |
| Q Serve(g_s), s | 0.2 | 4.0 | 4.3 | 0.2 | 3.8 | 5.5 |
| Cycle Q Clear(g_c), s | 0.2 | 4.0 | 4.3 | 0.2 | 3.8 | 5.5 |
| Prop In Lane | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Lane Grp Cap(c), veh/h | 297 | 265 | 430 | 364 | 709 | 1062 |
| V/C Ratio(X) | 0.04 | 0.75 | 0.62 | 0.03 | 0.60 | 0.48 |
| Avail Cap(c_a), veh/h | 1076 | 958 | 1461 | 1238 | 1986 | 2783 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 11.8 | 13.5 | 11.7 | 10.1 | 12.2 | 4.4 |
| Incr Delay (d2), s/veh | 0.1 | 4.2 | 1.4 | 0.0 | 0.8 | 0.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.1 | 1.4 | 1.5 | 0.1 | 1.2 | 0.9 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 11.9 | 17.7 | 13.2 | 10.2 | 13.0 | 4.7 |
| LnGrp LOS | B | B | B | B | B | A |
| Approach Vol, veh/h | 209 | | 276 | | | 938 |
| Approach Delay, s/veh | 17.4 | | 13.0 | | | 8.5 |
| Approach LOS | B | | B | | | A |

| Timer - Assigned Phs | 1 | 2 | | | | 6 | 8 |
|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 11.5 | 12.3 | | | | 23.8 | 10.2 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 7.5 | 26.5 | | | | 50.5 | 20.5 |
| Max Q Clear Time (g_c+I1), s | 5.8 | 6.3 | | | | 7.5 | 6.0 |
| Green Ext Time (p_c), s | 1.3 | 1.5 | | | | 3.8 | 0.6 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 10.7 |
| HCM 6th LOS | B |





| Intersection | |
|---|---|
| Int Delay, s/veh | 3.2 |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 1 | 98 | 64 | 100 | 195 | 10 |
| Future Vol, veh/h | 1 | 98 | 64 | 100 | 195 | 10 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | 0 | 100 | - | - | 100 |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 1 | 107 | 70 | 109 | 212 | 11 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 461 | 212 | 223 | 0 | - | 0 |
| Stage 1 | 212 | - | - | - | - | - |
| Stage 2 | 249 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | 4.12 | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | 2.218 | - | - | - |
| Pot Cap-1 Maneuver | 559 | 828 | 1346 | - | - | - |
| Stage 1 | 823 | - | - | - | - | - |
| Stage 2 | 792 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 530 | 828 | 1346 | - | - | - |
| Mov Cap-2 Maneuver | 530 | - | - | - | - | - |
| Stage 1 | 780 | - | - | - | - | - |
| Stage 2 | 792 | - | - | - | - | - |

| Approach | EB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 10 | 3.1 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | EBLn2 | SBT | SBR |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1346 | - | 530 | 828 | - | - |
| HCM Lane V/C Ratio | 0.052 | - | 0.002 | 0.129 | - | - |
| HCM Control Delay (s) | 7.8 | - | 11.8 | 10 | - | - |
| HCM Lane LOS | A | - | B | B | - | - |
| HCM 95th %tile Q(veh) | 0.2 | - | 0 | 0.4 | - | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 4.7 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 35 | 60 | 35 | 2 | 159 | 2 | 79 | 0 | 2 | 2 | 0 | 79 |
| Future Vol, veh/h | 35 | 60 | 35 | 2 | 159 | 2 | 79 | 0 | 2 | 2 | 0 | 79 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | 50 | - | - | 50 | - | - | 50 | - | - | 50 | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 38 | 65 | 38 | 2 | 173 | 2 | 86 | 0 | 2 | 2 | 0 | 86 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 175 | 0 | 0 | 103 | 0 | 0 | 381 | 339 | 84 | 339 | 357 | 174 |
| Stage 1 | - | - | - | - | - | - | 160 | 160 | - | 178 | 178 | - |
| Stage 2 | - | - | - | - | - | - | 221 | 179 | - | 161 | 179 | - |
| Critical Hdwy | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Follow-up Hdwy | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver | 1401 | - | - | 1489 | - | - | 577 | 582 | 975 | 615 | 569 | 869 |
| Stage 1 | - | - | - | - | - | - | 842 | 766 | - | 824 | 752 | - |
| Stage 2 | - | - | - | - | - | - | 781 | 751 | - | 841 | 751 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1401 | - | - | 1489 | - | - | 509 | 566 | 975 | 600 | 553 | 869 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 509 | 566 | - | 600 | 553 | - |
| Stage 1 | - | - | - | - | - | - | 819 | 745 | - | 802 | 751 | - |
| Stage 2 | - | - | - | - | - | - | 703 | 750 | - | 816 | 731 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 2.1 | 0.1 | 13.4 | 9.6 |
| HCM LOS | | | B | A |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 509 | 975 | 1401 | - | - | 1489 | - | - | 600 | 869 |
| HCM Lane V/C Ratio | 0.169 | 0.002 | 0.027 | - | - | 0.001 | - | - | 0.004 | 0.099 |
| HCM Control Delay (s) | 13.5 | 8.7 | 7.6 | - | - | 7.4 | - | - | 11 | 9.6 |
| HCM Lane LOS | B | A | A | - | - | A | - | - | B | A |
| HCM 95th %tile Q(veh) | 0.6 | 0 | 0.1 | - | - | 0 | - | - | 0 | 0.3 |





| Intersection | |
|---|---|
| Int Delay, s/veh | 5.5 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 22 | 19 | 19 | 2 | 52 | 2 | 52 | 2 | 2 | 2 | 2 | 55 |
| Future Vol, veh/h | 22 | 19 | 19 | 2 | 52 | 2 | 52 | 2 | 2 | 2 | 2 | 55 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | 50 | - | - | 50 | - | - | 50 | - | - | 50 | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 24 | 21 | 21 | 2 | 57 | 2 | 57 | 2 | 2 | 2 | 2 | 60 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 59 | 0 | 0 | 42 | 0 | 0 | 173 | 143 | 32 | 144 | 152 | 58 |
| Stage 1 | - | - | - | - | - | - | 80 | 80 | - | 62 | 62 | - |
| Stage 2 | - | - | - | - | - | - | 93 | 63 | - | 82 | 90 | - |
| Critical Hdwy | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Follow-up Hdwy | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver | 1545 | - | - | 1567 | - | - | 790 | 748 | 1042 | 825 | 740 | 1008 |
| Stage 1 | - | - | - | - | - | - | 929 | 828 | - | 949 | 843 | - |
| Stage 2 | - | - | - | - | - | - | 914 | 842 | - | 926 | 820 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1545 | - | - | 1567 | - | - | 732 | 735 | 1042 | 811 | 727 | 1008 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 732 | 735 | - | 811 | 727 | - |
| Stage 1 | - | - | - | - | - | - | 914 | 815 | - | 934 | 842 | - |
| Stage 2 | - | - | - | - | - | - | 856 | 841 | - | 907 | 807 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 2.7 | 0.3 | 10.2 | 8.9 |
| HCM LOS | | | B | A |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 732 | 862 | 1545 | - | - | 1567 | - | - | 811 | 995 |
| HCM Lane V/C Ratio | 0.077 | 0.005 | 0.015 | - | - | 0.001 | - | - | 0.003 | 0.062 |
| HCM Control Delay (s) | 10.3 | 9.2 | 7.4 | - | - | 7.3 | - | - | 9.5 | 8.9 |
| HCM Lane LOS | B | A | A | - | - | A | - | - | A | A |
| HCM 95th %tile Q(veh) | 0.2 | 0 | 0 | - | - | 0 | - | - | 0 | 0.2 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 7.3 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 51 | 45 | 52 | 2 | 120 | 2 | 134 | 2 | 2 | 2 | 2 | 133 |
| Future Vol, veh/h | 51 | 45 | 52 | 2 | 120 | 2 | 134 | 2 | 2 | 2 | 2 | 133 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | 100 | - | - | - | - | - | 100 | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 55 | 49 | 57 | 2 | 130 | 2 | 146 | 2 | 2 | 2 | 2 | 145 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 132 | 0 | 0 | 106 | 0 | 0 | 397 | 324 | 78 | 325 | 351 | 131 |
| Stage 1 | - | - | - | - | - | - | 188 | 188 | - | 135 | 135 | - |
| Stage 2 | - | - | - | - | - | - | 209 | 136 | - | 190 | 216 | - |
| Critical Hdwy | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Follow-up Hdwy | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver | 1453 | - | - | 1485 | - | - | 563 | 594 | 983 | 628 | 573 | 919 |
| Stage 1 | - | - | - | - | - | - | 814 | 745 | - | 868 | 785 | - |
| Stage 2 | - | - | - | - | - | - | 793 | 784 | - | 812 | 724 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1453 | - | - | 1485 | - | - | 459 | 571 | 983 | 606 | 551 | 919 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 459 | 571 | - | 606 | 551 | - |
| Stage 1 | - | - | - | - | - | - | 783 | 717 | - | 835 | 784 | - |
| Stage 2 | - | - | - | - | - | - | 666 | 783 | - | 777 | 696 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 2.6 | 0.1 | 16.2 | 9.8 |
| HCM LOS | | | C | A |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|---|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 459 | 722 | 1453 | - | - | 1485 | - | - | 903 |
| HCM Lane V/C Ratio | 0.317 | 0.006 | 0.038 | - | - | 0.001 | - | - | 0.165 |
| HCM Control Delay (s) | 16.4 | 10 | 7.6 | - | - | 7.4 | 0 | - | 9.8 |
| HCM Lane LOS | C | B | A | - | - | A | A | - | A |
| HCM 95th %tile Q(veh) | 1.3 | 0 | 0.1 | - | - | 0 | - | - | 0.6 |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 24.8 |
| Intersection LOS | C |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Entry Lanes | 1 | 1 | 1 | 1 |
| Conflicting Circle Lanes | 1 | 1 | 1 | 1 |
| Adj Approach Flow, veh/h | 409 | 179 | 962 | 360 |
| Demand Flow Rate, veh/h | 417 | 182 | 981 | 368 |
| Vehicles Circulating, veh/h | 369 | 867 | 294 | 480 |
| Vehicles Exiting, veh/h | 479 | 408 | 492 | 569 |
| Ped Vol Crossing Leg, #/h | 0 | 0 | 0 | 0 |
| Ped Cap Adj | 1.000 | 1.000 | 1.000 | 1.000 |
| Approach Delay, s/veh | 9.1 | 11.0 | 39.7 | 9.8 |
| Approach LOS | A | B | E | A |

| Lane | Left | Left | Left | Left |
|---|---|---|---|---|
| Designated Moves | LTR | LTR | LTR | LTR |
| Assumed Moves | LTR | LTR | LTR | LTR |
| RT Channelized | | | | |
| Lane Util | 1.000 | 1.000 | 1.000 | 1.000 |
| Follow-Up Headway, s | 2.609 | 2.609 | 2.609 | 2.609 |
| Critical Headway, s | 4.976 | 4.976 | 4.976 | 4.976 |
| Entry Flow, veh/h | 417 | 182 | 981 | 368 |
| Cap Entry Lane, veh/h | 947 | 570 | 1022 | 846 |
| Entry HV Adj Factor | 0.982 | 0.982 | 0.980 | 0.979 |
| Flow Entry, veh/h | 409 | 179 | 962 | 360 |
| Cap Entry, veh/h | 930 | 560 | 1002 | 828 |
| V/C Ratio | 0.440 | 0.319 | 0.960 | 0.435 |
| Control Delay, s/veh | 9.1 | 11.0 | 39.7 | 9.8 |
| LOS | A | B | E | A |
| 95th %tile Queue, veh | 2 | 1 | 17 | 2 |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 9.0 |
| Intersection LOS | A |

| Approach | WB | NB | SB |
|---|---|---|---|
| Entry Lanes | 1 | 1 | 1 |
| Conflicting Circle Lanes | 1 | 1 | 1 |
| Adj Approach Flow, veh/h | 118 | 848 | 359 |
| Demand Flow Rate, veh/h | 120 | 865 | 367 |
| Vehicles Circulating, veh/h | 574 | 27 | 98 |
| Vehicles Exiting, veh/h | 318 | 438 | 596 |
| Ped Vol Crossing Leg, #/h | 0 | 0 | 0 |
| Ped Cap Adj | 1.000 | 1.000 | 1.000 |
| Approach Delay, s/veh | 6.4 | 10.8 | 5.6 |
| Approach LOS | A | B | A |

| Lane | Left | Left | Left |
|---|---|---|---|
| Designated Moves | LR | TR | LT |
| Assumed Moves | LR | TR | LT |
| RT Channelized | | | |
| Lane Util | 1.000 | 1.000 | 1.000 |
| Follow-Up Headway, s | 2.609 | 2.609 | 2.609 |
| Critical Headway, s | 4.976 | 4.976 | 4.976 |
| Entry Flow, veh/h | 120 | 865 | 367 |
| Cap Entry Lane, veh/h | 768 | 1342 | 1249 |
| Entry HV Adj Factor | 0.983 | 0.980 | 0.979 |
| Flow Entry, veh/h | 118 | 848 | 359 |
| Cap Entry, veh/h | 756 | 1316 | 1223 |
| V/C Ratio | 0.156 | 0.644 | 0.294 |
| Control Delay, s/veh | 6.4 | 10.8 | 5.6 |
| LOS | A | B | A |
| 95th %tile Queue, veh | 1 | 5 | 1 |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 5.9 |
| Intersection LOS | A |

| Approach | WB | NB | SB |
|---|---|---|---|
| Entry Lanes | 1 | 1 | 1 |
| Conflicting Circle Lanes | 1 | 1 | 1 |
| Adj Approach Flow, veh/h | 161 | 512 | 211 |
| Demand Flow Rate, veh/h | 165 | 522 | 215 |
| Vehicles Circulating, veh/h | 258 | 53 | 139 |
| Vehicles Exiting, veh/h | 317 | 301 | 283 |
| Ped Vol Crossing Leg, #/h | 0 | 0 | 0 |
| Ped Cap Adj | 1.000 | 1.000 | 1.000 |
| Approach Delay, s/veh | 4.9 | 6.7 | 4.6 |
| Approach LOS | A | A | A |

| Lane | Left | Left | Left |
|---|---|---|---|
| Designated Moves | LR | TR | LT |
| Assumed Moves | LR | TR | LT |
| RT Channelized | | | |
| Lane Util | 1.000 | 1.000 | 1.000 |
| Follow-Up Headway, s | 2.609 | 2.609 | 2.609 |
| Critical Headway, s | 4.976 | 4.976 | 4.976 |
| Entry Flow, veh/h | 165 | 522 | 215 |
| Cap Entry Lane, veh/h | 1061 | 1307 | 1197 |
| Entry HV Adj Factor | 0.976 | 0.981 | 0.981 |
| Flow Entry, veh/h | 161 | 512 | 211 |
| Cap Entry, veh/h | 1035 | 1282 | 1174 |
| V/C Ratio | 0.156 | 0.399 | 0.180 |
| Control Delay, s/veh | 4.9 | 6.7 | 4.6 |
| LOS | A | A | A |
| 95th %tile Queue, veh | 1 | 2 | 1 |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 4.3 |
| Intersection LOS | A |

| Approach | WB | NB | SB |
|---|---|---|---|
| Entry Lanes | 1 | 1 | 1 |
| Conflicting Circle Lanes | 1 | 1 | 1 |
| Adj Approach Flow, veh/h | 97 | 278 | 167 |
| Demand Flow Rate, veh/h | 99 | 283 | 170 |
| Vehicles Circulating, veh/h | 227 | 24 | 68 |
| Vehicles Exiting, veh/h | 80 | 214 | 258 |
| Ped Vol Crossing Leg, #/h | 0 | 0 | 0 |
| Ped Cap Adj | 1.000 | 1.000 | 1.000 |
| Approach Delay, s/veh | 4.1 | 4.5 | 3.9 |
| Approach LOS | A | A | A |

| Lane | Left | Left | Left |
|---|---|---|---|
| Designated Moves | LR | TR | LT |
| Assumed Moves | LR | TR | LT |
| RT Channelized | | | |
| Lane Util | 1.000 | 1.000 | 1.000 |
| Follow-Up Headway, s | 2.609 | 2.609 | 2.609 |
| Critical Headway, s | 4.976 | 4.976 | 4.976 |
| Entry Flow, veh/h | 99 | 283 | 170 |
| Cap Entry Lane, veh/h | 1095 | 1346 | 1287 |
| Entry HV Adj Factor | 0.980 | 0.981 | 0.983 |
| Flow Entry, veh/h | 97 | 278 | 167 |
| Cap Entry, veh/h | 1073 | 1321 | 1266 |
| V/C Ratio | 0.090 | 0.210 | 0.132 |
| Control Delay, s/veh | 4.1 | 4.5 | 3.9 |
| LOS | A | A | A |
| 95th %tile Queue, veh | 0 | 1 | 0 |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 4.1 |
| Intersection LOS | A |

| Approach | WB | NB | SB |
|---|---|---|---|
| Entry Lanes | 1 | 1 | 1 |
| Conflicting Circle Lanes | 1 | 1 | 1 |
| Adj Approach Flow, veh/h | 61 | 254 | 154 |
| Demand Flow Rate, veh/h | 62 | 259 | 157 |
| Vehicles Circulating, veh/h | 237 | 33 | 47 |
| Vehicles Exiting, veh/h | 55 | 171 | 252 |
| Ped Vol Crossing Leg, #/h | 0 | 0 | 0 |
| Ped Cap Adj | 1.000 | 1.000 | 1.000 |
| Approach Delay, s/veh | 3.9 | 4.4 | 3.8 |
| Approach LOS | A | A | A |

| Lane | Left | Left | Left |
|---|---|---|---|
| Designated Moves | LR | TR | LT |
| Assumed Moves | LR | TR | LT |
| RT Channelized | | | |
| Lane Util | 1.000 | 1.000 | 1.000 |
| Follow-Up Headway, s | 2.609 | 2.609 | 2.609 |
| Critical Headway, s | 4.976 | 4.976 | 4.976 |
| Entry Flow, veh/h | 62 | 259 | 157 |
| Cap Entry Lane, veh/h | 1084 | 1334 | 1315 |
| Entry HV Adj Factor | 0.984 | 0.982 | 0.978 |
| Flow Entry, veh/h | 61 | 254 | 154 |
| Cap Entry, veh/h | 1066 | 1310 | 1287 |
| V/C Ratio | 0.057 | 0.194 | 0.119 |
| Control Delay, s/veh | 3.9 | 4.4 | 3.8 |
| LOS | A | A | A |
| 95th %tile Queue, veh | 0 | 1 | 0 |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 5.3 |
| Intersection LOS | A |

| Approach | EB | WB | NB |
|---|---|---|---|
| Entry Lanes | 1 | 1 | 1 |
| Conflicting Circle Lanes | 1 | 1 | 1 |
| Adj Approach Flow, veh/h | 168 | 218 | 397 |
| Demand Flow Rate, veh/h | 172 | 222 | 405 |
| Vehicles Circulating, veh/h | 155 | 46 | 138 |
| Vehicles Exiting, veh/h | 113 | 497 | 189 |
| Ped Vol Crossing Leg, #/h | 0 | 0 | 0 |
| Ped Cap Adj | 1.000 | 1.000 | 1.000 |
| Approach Delay, s/veh | 4.4 | 4.2 | 6.3 |
| Approach LOS | A | A | A |

| Lane | Left | Left | Left |
|---|---|---|---|
| Designated Moves | TR | LT | LR |
| Assumed Moves | TR | LT | LR |
| RT Channelized | | | |
| Lane Util | 1.000 | 1.000 | 1.000 |
| Follow-Up Headway, s | 2.609 | 2.609 | 2.609 |
| Critical Headway, s | 4.976 | 4.976 | 4.976 |
| Entry Flow, veh/h | 172 | 222 | 405 |
| Cap Entry Lane, veh/h | 1178 | 1317 | 1199 |
| Entry HV Adj Factor | 0.978 | 0.981 | 0.980 |
| Flow Entry, veh/h | 168 | 218 | 397 |
| Cap Entry, veh/h | 1153 | 1291 | 1175 |
| V/C Ratio | 0.146 | 0.169 | 0.338 |
| Control Delay, s/veh | 4.4 | 4.2 | 6.3 |
| LOS | A | A | A |
| 95th %tile Queue, veh | 1 | 1 | 2 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 10 | 401 | 484 | 10 | 201 | 243 |
| Future Volume (veh/h) | 10 | 401 | 484 | 10 | 201 | 243 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | No | | | No |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 11 | 393 | 526 | 11 | 218 | 264 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 518 | 461 | 668 | 566 | 345 | 1012 |
| Arrive On Green | 0.29 | 0.29 | 0.36 | 0.36 | 0.10 | 0.54 |
| Sat Flow, veh/h | 1781 | 1585 | 1870 | 1585 | 3456 | 1870 |
| Grp Volume(v), veh/h | 11 | 393 | 526 | 11 | 218 | 264 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 1870 | 1585 | 1728 | 1870 |
| Q Serve(g_s), s | 0.2 | 12.5 | 13.5 | 0.2 | 3.2 | 4.0 |
| Cycle Q Clear(g_c), s | 0.2 | 12.5 | 13.5 | 0.2 | 3.2 | 4.0 |
| Prop In Lane | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Lane Grp Cap(c), veh/h | 518 | 461 | 668 | 566 | 345 | 1012 |
| V/C Ratio(X) | 0.02 | 0.85 | 0.79 | 0.02 | 0.63 | 0.26 |
| Avail Cap(c_a), veh/h | 815 | 725 | 1450 | 1229 | 678 | 1974 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 13.6 | 17.9 | 15.4 | 11.1 | 23.1 | 6.6 |
| Incr Delay (d2), s/veh | 0.0 | 5.9 | 2.1 | 0.0 | 1.9 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.1 | 4.7 | 5.3 | 0.1 | 1.3 | 1.2 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 13.6 | 23.8 | 17.5 | 11.1 | 25.1 | 6.7 |
| LnGrp LOS | B | C | B | B | C | A |
| Approach Vol, veh/h | 404 | | 537 | | | 482 |
| Approach Delay, s/veh | 23.5 | | 17.4 | | | 15.0 |
| Approach LOS | C | | B | | | B |

| Timer - Assigned Phs | 1 | 2 | | | | 6 | 8 |
|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 9.8 | 23.6 | | | | 33.5 | 20.1 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 10.5 | 41.5 | | | | 56.5 | 24.5 |
| Max Q Clear Time (g_c+I1), s | 5.2 | 15.5 | | | | 6.0 | 14.5 |
| Green Ext Time (p_c), s | 0.3 | 3.7 | | | | 1.7 | 1.1 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 18.3 |
| HCM 6th LOS | B |





| Intersection | |
|---|---|
| Int Delay, s/veh | 3.9 |

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 2 | 179 | 179 | 322 | 115 | 25 |
| Future Vol, veh/h | 2 | 179 | 179 | 322 | 115 | 25 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | 0 | 100 | - | - | 100 |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 2 | 195 | 195 | 350 | 125 | 27 |

| Major/Minor | Minor2 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 865 | 125 | 152 | 0 | - | 0 |
| Stage 1 | 125 | - | - | - | - | - |
| Stage 2 | 740 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | 4.12 | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | 2.218 | - | - | - |
| Pot Cap-1 Maneuver | 324 | 926 | 1429 | - | - | - |
| Stage 1 | 901 | - | - | - | - | - |
| Stage 2 | 472 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 280 | 926 | 1429 | - | - | - |
| Mov Cap-2 Maneuver | 280 | - | - | - | - | - |
| Stage 1 | 778 | - | - | - | - | - |
| Stage 2 | 472 | - | - | - | - | - |

| Approach | EB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 10 | 2.8 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | EBLn2 | SBT | SBR |
|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1429 | - | 280 | 926 | - | - |
| HCM Lane V/C Ratio | 0.136 | - | 0.008 | 0.21 | - | - |
| HCM Control Delay (s) | 7.9 | - | 18 | 9.9 | - | - |
| HCM Lane LOS | A | - | C | A | - | - |
| HCM 95th %tile Q(veh) | 0.5 | - | 0 | 0.8 | - | - |

| Intersection | |
|---|---|
| Int Delay, s/veh | 3.3 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 92 | 183 | 92 | 3 | 83 | 3 | 41 | 0 | 3 | 3 | 0 | 41 |
| Future Vol, veh/h | 92 | 183 | 92 | 3 | 83 | 3 | 41 | 0 | 3 | 3 | 0 | 41 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | 50 | - | - | 50 | - | - | 50 | - | - | 50 | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 100 | 199 | 100 | 3 | 90 | 3 | 45 | 0 | 3 | 3 | 0 | 45 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 93 | 0 | 0 | 299 | 0 | 0 | 569 | 548 | 249 | 549 | 597 | 92 |
| Stage 1 | - | - | - | - | - | - | 449 | 449 | - | 98 | 98 | - |
| Stage 2 | - | - | - | - | - | - | 120 | 99 | - | 451 | 499 | - |
| Critical Hdwy | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Follow-up Hdwy | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver | 1501 | - | - | 1262 | - | - | 433 | 444 | 790 | 446 | 416 | 965 |
| Stage 1 | - | - | - | - | - | - | 589 | 572 | - | 908 | 814 | - |
| Stage 2 | - | - | - | - | - | - | 884 | 813 | - | 588 | 544 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1501 | - | - | 1262 | - | - | 391 | 413 | 790 | 421 | 387 | 965 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 391 | 413 | - | 421 | 387 | - |
| Stage 1 | - | - | - | - | - | - | 550 | 534 | - | 847 | 812 | - |
| Stage 2 | - | - | - | - | - | - | 841 | 811 | - | 547 | 508 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 1.9 | 0.3 | 15 | 9.2 |
| HCM LOS | | | C | A |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 391 | 790 | 1501 | - | - | 1262 | - | - | 421 | 965 |
| HCM Lane V/C Ratio | 0.114 | 0.004 | 0.067 | - | - | 0.003 | - | - | 0.008 | 0.046 |
| HCM Control Delay (s) | 15.4 | 9.6 | 7.6 | - | - | 7.9 | - | - | 13.6 | 8.9 |
| HCM Lane LOS | C | A | A | - | - | A | - | - | B | A |
| HCM 95th %tile Q(veh) | 0.4 | 0 | 0.2 | - | - | 0 | - | - | 0 | 0.1 |





| Intersection | |
|---|---|
| Int Delay, s/veh | 4.1 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 61 | 61 | 61 | 3 | 27 | 3 | 28 | 3 | 3 | 3 | 3 | 28 |
| Future Vol, veh/h | 61 | 61 | 61 | 3 | 27 | 3 | 28 | 3 | 3 | 3 | 3 | 28 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | 50 | - | - | 50 | - | - | 50 | - | - | 50 | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 66 | 66 | 66 | 3 | 29 | 3 | 30 | 3 | 3 | 3 | 3 | 30 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 32 | 0 | 0 | 132 | 0 | 0 | 284 | 269 | 99 | 271 | 301 | 31 |
| Stage 1 | - | - | - | - | - | - | 231 | 231 | - | 37 | 37 | - |
| Stage 2 | - | - | - | - | - | - | 53 | 38 | - | 234 | 264 | - |
| Critical Hdwy | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Follow-up Hdwy | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver | 1580 | - | - | 1453 | - | - | 668 | 637 | 957 | 682 | 612 | 1043 |
| Stage 1 | - | - | - | - | - | - | 772 | 713 | - | 978 | 864 | - |
| Stage 2 | - | - | - | - | - | - | 960 | 863 | - | 769 | 690 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1580 | - | - | 1453 | - | - | 624 | 609 | 957 | 654 | 585 | 1043 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 624 | 609 | - | 654 | 585 | - |
| Stage 1 | - | - | - | - | - | - | 740 | 683 | - | 937 | 862 | - |
| Stage 2 | - | - | - | - | - | - | 927 | 861 | - | 731 | 661 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 2.5 | 0.7 | 10.9 | 9 |
| HCM LOS | | | B | A |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 624 | 744 | 1580 | - | - | 1453 | - | - | 654 | 970 |
| HCM Lane V/C Ratio | 0.049 | 0.009 | 0.042 | - | - | 0.002 | - | - | 0.005 | 0.035 |
| HCM Control Delay (s) | 11.1 | 9.9 | 7.4 | - | - | 7.5 | - | - | 10.5 | 8.8 |
| HCM Lane LOS | B | A | A | - | - | A | - | - | B | A |
| HCM 95th %tile Q(veh) | 0.2 | 0 | 0.1 | - | - | 0 | - | - | 0 | 0.1 |

| Intersection | |
|---|---|
| Int Delay, s/veh | 5.1 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 154 | 140 | 154 | 3 | 63 | 3 | 69 | 3 | 3 | 3 | 3 | 69 |
| Future Vol, veh/h | 154 | 140 | 154 | 3 | 63 | 3 | 69 | 3 | 3 | 3 | 3 | 69 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | 100 | - | - | 100 | - | - | 100 | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 167 | 152 | 167 | 3 | 68 | 3 | 75 | 3 | 3 | 3 | 3 | 75 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 71 | 0 | 0 | 319 | 0 | 0 | 685 | 647 | 236 | 649 | 729 | 70 |
| Stage 1 | - | - | - | - | - | - | 570 | 570 | - | 76 | 76 | - |
| Stage 2 | - | - | - | - | - | - | 115 | 77 | - | 573 | 653 | - |
| Critical Hdwy | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Follow-up Hdwy | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver | 1529 | - | - | 1241 | - | - | 362 | 390 | 803 | 383 | 350 | 993 |
| Stage 1 | - | - | - | - | - | - | 506 | 505 | - | 933 | 832 | - |
| Stage 2 | - | - | - | - | - | - | 890 | 831 | - | 505 | 464 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1529 | - | - | 1241 | - | - | 304 | 347 | 803 | 347 | 311 | 993 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 304 | 347 | - | 347 | 311 | - |
| Stage 1 | - | - | - | - | - | - | 451 | 450 | - | 831 | 830 | - |
| Stage 2 | - | - | - | - | - | - | 818 | 829 | - | 445 | 413 | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 2.6 | 0.3 | 20 | 9.5 |
| HCM LOS | | | C | A |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 304 | 485 | 1529 | - | - | 1241 | - | - | 347 | 910 |
| HCM Lane V/C Ratio | 0.247 | 0.013 | 0.109 | - | - | 0.003 | - | - | 0.009 | 0.086 |
| HCM Control Delay (s) | 20.7 | 12.5 | 7.6 | - | - | 7.9 | - | - | 15.5 | 9.3 |
| HCM Lane LOS | C | B | A | - | - | A | - | - | C | A |
| HCM 95th %tile Q(veh) | 1 | 0 | 0.4 | - | - | 0 | - | - | 0 | 0.3 |

| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 11 | 220 | 265 | 11 | 425 | 513 |
| v/c Ratio | 0.04 | 0.48 | 0.53 | 0.03 | 0.50 | 0.44 |
| Control Delay | 18.1 | 7.5 | 19.9 | 9.2 | 18.4 | 6.4 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 18.1 | 7.5 | 19.9 | 9.2 | 18.4 | 6.4 |
| Queue Length 50th (ft) | 2 | 0 | 51 | 0 | 42 | 43 |
| Queue Length 95th (ft) | 14 | 47 | 157 | 10 | 119 | 166 |
| Internal Link Dist (ft) | 510 | | 703 | | | 722 |
| Turn Bay Length (ft) | 150 | | | 150 | 150 | |
| Base Capacity (vph) | 836 | 863 | 1137 | 970 | 1542 | 1764 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.01 | 0.25 | 0.23 | 0.01 | 0.28 | 0.29 |

Intersection Summary

| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Group Flow (vph) | 11 | 436 | 526 | 11 | 218 | 264 |
| v/c Ratio | 0.04 | 0.72 | 0.72 | 0.02 | 0.37 | 0.22 |
| Control Delay | 21.8 | 11.1 | 20.2 | 6.3 | 24.7 | 4.5 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 21.8 | 11.1 | 20.2 | 6.3 | 24.7 | 4.5 |
| Queue Length 50th (ft) | 3 | 5 | 115 | 0 | 27 | 20 |
| Queue Length 95th (ft) | 16 | 83 | 284 | 8 | 83 | 75 |
| Internal Link Dist (ft) | 510 | | 703 | | | 722 |
| Turn Bay Length (ft) | 150 | | | 150 | 150 | |
| Base Capacity (vph) | 877 | 995 | 1526 | 1299 | 729 | 1751 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.01 | 0.44 | 0.34 | 0.01 | 0.30 | 0.15 |

Intersection Summary

# APPENDIX T

## VMT CALCULATIONS

**Data Science - VMT Near-Term analysis**
**(with school)**

# Santee, CA

Place in: San Diego County, CA, San Diego-Carlsbad, CA Metro Area, California, United States

**57,376** Population

**16.7** square miles

**3,441.3** people per square mile

**Census data:** ACS 2017 5-year unless noted

**Transportation to work**

**26.7** minutes
Mean travel time to work

**a little higher** than the figure in the San Diego-Carlsbad, CA Metro Area: 25.7

**about 90 percent** of the figure in California: 28.8

**Means of transportation to work**

* Universe: Workers 16 years and over

Show data / Embed

City of Santee VMT/Capita

| City Population (residents & employees) | Regional PersonTrip Rate per Capita (Daily) | Mode Split | | | Daily Auto Trips (roundtrip) | Average Auto Trip Length (one-way, miles) | Average Auto Trip Length (roundtrip, miles) | Total VMT | City VMT per Capita |
|---|---|---|---|---|---|---|---|---|---|
| | | Single Occupancy | High Occupancy | Auto Total | | | | | |
| 57,376 | 3.50 | 85.0% | 8.0% | 93.0% | 184,923 | 7.25 | 14.5 | 1,340,691 | 23.4 |

note:

- Population and auto mode splits obtained from US Census Bureau data - American Community Survey (ACS) 2017

- A person trip rate per Capita of 3.5 was assumed based on a review of available information. The lower the trip rate directly translates to a lower City threshold and therefore represents a conservative approach. The SANDAG Series 12 Model Year 2030 calculated a person trip rate of 3.95 for the City of Santee. NCHRP Research Report 868 - Cell Phone Location Data for Travel Behavior Analysis, 2018 reports Call Detail Records (CDR) are estimated to generate 3.5 daily person trips per Capita and the FHWA Travel Model Validation and Reasonableness Checking Manual, 2010 estimates 4.0 daily person trips per Capita.

-Mode splits (SOV: drive alone & HOV: carpool) obtained from US Census Bureau data - American Community Survey (ACS) 2017

- Vehicle Occupancy Ratio (VOR) was assumed to be 1.13 persons per vehicle. This represents the weighted average between 85% SOV (at 1 VOR) and 8% HOV (2.5 VOR). Calculations are shown below.

- Average Trip Lenghts based on GPS data obtained from daily, weekday trip data for a 1 year time period between September 1st, 2017 and August 31st, 2018. The total data sample size is approximately 42,000. This represents trip-based travel patterns (and not tour-based travel patterns).
- Total VMT = Daily Auto Trips (roundtrip) x Average Auto Trip Length (one-way)
- VMT per Capita = Total VMT / Total Population

| | Split | VOR |
|---|---|---|
| SOV | 85% | 1 |
| HOV | 8% | 2.5 |
| | weighted average | 1.13 |

**Project VMT/Capita**

| Land Use Type | Site Population Estimate | Daily Auto Trips (Cumulative Trips per TIA) | Average Trip Length (one-way, miles) | Average Trip Length (roundtrip, miles) | Total VMT | VMT per Capita |
|---|---|---|---|---|---|---|
| **Residential** | 7,262 | 20,670 | 10.2 | 20.4 | 210,911 | 29.0 |
| **Active Adult (55+)** | 712 | 1,739 | 6.4 | 12.8 | 11,091 | 15.6 |
| **Retail** | 724 | 1,318 | 4.8 | 9.6 | 6,318 | 8.7 |
| **K-8 Charter School** | 800 | 1,016 | 5.7 | 11.3 | 5,759 | 7.2 |
| **Rec Center** | 132 | 264 | *6.3* | 12.6 | 1,660 | 12.6 |
| **Farm** | 33 | 66 | *5.9* | 11.9 | 391 | 11.9 |
| **Park / Trails** | 578 | 1,156 | *5.9* | 11.9 | 6,865 | 11.9 |
| **RV Parking / Solar Farms** | 23 | 46 | *5.9* | 11.9 | 272 | 11.8 |
| | 9,498 | 26,272 | 8.9 | 17.8 | 243,266 | 25.6 |

validation SANDAG Trip Lenghts (April 2002)

| Average Trip Length (one-way, miles) | Average Trip Length (roundtrip, miles) | |
|---|---|---|
| 7.9 | 15.8 | residential |
| - | - | |
| 4.3 | 8.6 | commercial retail |
| 4.2 | 8.4 | education (average of elementary & middle/junior high) |
| 6.3 | 12.6 | recreation |
| - | - | |
| 5.4 | 10.8 | parks |
| - | - | |

***General Notes***

-Data science was used to determine trip lenghts with a 10% factor unless otherwise noted. SANDAG trip lenghts were used to validate results.
- Site population excludes Rec. Center, Farm, Parks/Trails, RV Parking/Solar Farms for a conservative approach
- SANDAG 'recreation' and 'parks' trips lenghts assumed for Rec-Center, Farms, Park / Trails, RV Parking / Solar Farmsdue to the lack of proxy sites within the immediate vicinity of the project

**SB743 Analysis**

| Scenario | Santee Baseline | Significance Threshold (85% of Region VMT) | Project | Transportation Impact? (Over Threshold) |
|---|---|---|---|---|
| Project - Existing Conditions | 23.4 | 19.9 | 25.6 | **Yes** |
| | | 15% | 9.61% | 24.61% |

May 30, 2019 Submittal
No School

**Data Science - VMT Near-Term analysis**
**(without school)**

# Santee, CA

Place in: San Diego County, CA, San Diego-Carlsbad, CA Metro Area, California, United States

**57,376** Population

**16.7** square miles

**3,441.3** people per square mile

**Census data:** ACS 2017 5-year unless noted

**Transportation to work**

**26.7** minutes

Mean travel time to work

**a little higher** than the figure in the San Diego-Carlsbad, CA Metro Area: 25.7

**about 90 percent** of the figure in California: 28.8

**Means of transportation to work**

* Universe: Workers 16 years and over

Show data / Embed

City of Santee VMT/Capita

| City Population (residents & employees) | Regional PersonTrip Rate per Capita (Daily) | Mode Split | | | Daily Auto Trips (roundtrip) | Average Auto Trip Length (one-way, miles) | Average Auto Trip Length (roundtrip, miles) | Total VMT | City VMT per Capita |
|---|---|---|---|---|---|---|---|---|---|
| | | Single Occupancy | High Occupancy | Auto Total | | | | | |
| 57,376 | 3.50 | 85.0% | 8.0% | 93.0% | 184,923 | 7.25 | 14.5 | 1,340,691 | 23.4 |

note:

- Population and auto mode splits obtained from US Census Bureau data - American Community Survey (ACS) 2017
- A person trip rate per Capita of 3.5 was assumed based on a review of available information. The lower the trip rate directly translates to a lower City threshold and therefore represents a conservative approach. The SANDAG Series 12 Model Year 2030 calculated a person trip rate of 3.95 for the City of Santee. NCHRP Research Report 868 - Cell Phone Location Data for Travel Behavior Analysis, 2018 reports Call Detail Records (CDR) are estimated to generate 3.5 daily person trips per Capita and the FHWA Travel Model Validation and Reasonableness Checking Manual, 2010 estimates 4.0 daily person trips per Capita.
-Mode splits (SOV: drive alone & HOV: carpool) obtained from US Census Bureau data - American Community Survey (ACS) 2017

- Vehicle Occupancy Ratio (VOR) was assumed to be 1.13 persons per vehicle. This represents the weighted average between 85% SOV (at 1 VOR) and 8% HOV (2.5 VOR). Calculations are shown below.
- Average Trip Lenghts based on GPS data obtained from daily, weekday trip data for a 1 year time period between September 1st, 2017 and August 31st, 2018. The total data sample size is approximately 42,000. This represents trip-based travel patterns (and not tour-based travel patterns).
- Total VMT = Daily Auto Trips (roundtrip) x Average Auto Trip Length (one-way)
- VMT per Capita = Total VMT / Total Population

| | Split | VOR |
|---|---|---|
| SOV | 85% | 1 |
| HOV | 8% | 2.5 |
| | weighted average | 1.13 |

**Project VMT/Capita**

| Land Use Type | Site Population Estimate | Daily Auto Trips (Cumulative Trips per TIA) | Average Trip Length (one-way, miles) | Average Trip Length (roundtrip, miles) | Total VMT | VMT per Capita |
|---|---|---|---|---|---|---|
| **Residential** | 7,433 | 21,743 | 10.2 | 20.4 | 221,859 | 29.8 |
| **Active Adult (55+)** | 712 | 1,782 | 6.4 | 12.8 | 11,370 | 16.0 |
| **Retail** | 741 | 1,351 | 4.8 | 9.6 | 6,477 | 8.7 |
| **K-8 Charter School** | | | | | | |
| **Rec Center** | 135 | 270 | *6.3* | 12.6 | 1,702 | 12.6 |
| **Farm** | 34 | 68 | *5.9* | 11.9 | 401 | 11.8 |
| **Park / Trails** | 592 | 1,185 | *5.9* | 11.9 | 7,037 | 11.9 |
| **RV Parking / Solar Farms** | 23 | 47 | *5.9* | 11.9 | 279 | 12.1 |
| | 8,886 | 26,445 | 9.2 | 18.3 | 249,124 | 28.0 |

validation SANDAG Trip Lenghts (April 2002)

| Average Trip Length (one-way, miles) | Average Trip Length (roundtrip, miles) | |
|---|---|---|
| 7.9 | 15.8 | residential |
| | | |
| 4.3 | 8.6 | commercial retail |
| 4.2 | 8.4 | education (average of elementary & middle/junior high) |
| 6.3 | 12.6 | recreation |
| | | |
| 5.4 | 10.8 | parks |
| | | |

***General Notes***

-Data science used to determine trip lenghts with a 10% factor unless otherwise noted.
- Site population excludes Rec. Center, Farm, Parks/Trails, RV Parking/Solar Farms for a conservative approach
- SANDAG 'recreation' and 'parks' trips lenghts assumed for Rec-Center, Farms, Park / Trails, RV Parking / Solar Farmsdue to the lack of proxy sites within the immediate vicinity of the project

**SB743 Analysis**

| Scenario | Santee Baseline | Significance Threshold (85% of Region VMT) | Project | Transportation Impact? (Over Threshold) |
|---|---|---|---|---|
| Project - Existing Conditions | 23.4 | 19.9 | 28.0 | **Yes** |
| | | 15% | 19.98% | 34.98% |

Service Population Estimate
(with school)

| | | | | ADT (cumulative/external) | Service Population | |
|---|---|---|---|---|---|---|
| A | Residential | 2504 | DU | 20,670 | 7,262 | |
| B | Active Adult | 445 | DU | 1,739 | 712 | |
| C | Retail | 80,000 | SF | 1,318 | 724 | |
| D | K-8 School | 1,000 | students | 1,016 | 800 | |
| E | Recreation Center | 10,000 | SF | 264 | 132 | |
| F | Farm | 34 | acres | 66 | 33 | |
| G | Park/Trails | 72 | acres | 1,156 | 578 | |
| H | RV Parking/Solar Farms | 250 | spaces | 46 | 23 | |
| | | | | 26,272 | 10,263 | gross |
| | | | | | 9,498 | gross (excludes rec center, farm, p |

Note:
The Project service population assumes only primary trip generating land uses such as Residential, Actice Adult, Retail, School. This is a conserva

Source:

A US Census Data (2017) average occupancy rate of a medium-density multi-family home is 2.9 persons per unit

B Staff approved density for active adult residential is 1.6 based on past studies with similar land use

C SANDAG Code 5004 Neighborhood Shopping Center (30,000 SF or more) 550 SF/employee or 145 employees. The customer population was calculated by substracting the employee ADT from the total external (cumulative) ADT and converting to population assuming 2 trips per customer (1 inbound + 1 outbound).
NOTE: Harris is not adding anything for customers. They use 145 employees as population.

D 1,000 students with 250 staff (assuming a ratio of 1 staff member per 4 students). Of the 1,000 students, per the trip generation breakdown, 45% are primary trips with an 8% mixed use reduction. This amounts to 55% of the students being external to the site.
1,000 x 0.55 = 550 students + 250 staff = 800 service population.

E-H 2 trips per person assumed (1 inbound + 1 outbound)

May 30, 2019 Submittal
No School

Service Population Estimate
(without school)

| | | | | ADT (cumulative/external) | Service Population | |
|---|---|---|---|---|---|---|
| A | Residential | 2563 | DU | 21,743 | 7,433 | |
| B | Active Adult | 445 | DU | 1,782 | 712 | |
| C | Retail | 80,000 | SF | 1,351 | 741 | |
| D | K-8 School | 0 | students | 0 | 0 | |
| E | Recreation Center | 10,000 | SF | 270 | 135 | |
| F | Farm | 34 | acres | 68 | 34 | |
| G | Park/Trails | 72 | acres | 1,185 | 592 | |
| H | RV Parking/Solar Farms | 250 | spaces | 47 | 23 | |
| | | | | 26,445 | 9,670 | gross |
| | | | | | 8,886 | gross (excludes rec center, farm, |

Note:
The Project service population assumes only primary trip generating land uses such as Residential, Actice Adult, Retail, School. This is a conse

Source:

| | |
|---|---|
| A | US Census Data (2017) average occupancy rate of a medium-density multi-family home is 2.9 persons per unit |
| B | Staff approved density for active adult residential is 1.6 based on past studies with similar land use |
| C | SANDAG Code 5004 Neighborhood Shopping Center (30,000 SF or more) 550 SF/employee or 145 employees. The customer population was calculated by substracting the employee ADT from the total ADT and converting to population assuming 2 trips per customer (1 inbound + 1 outbound). |
| D | N/A |
| E-H | 2 trips per person assumed (1 inbound + 1 outbound) |

SANDAG Model - VMT Long-Term analysis
(with school)

| | | Santee | | Project raw | Project calibrated | |
|---|---|---|---|---|---|---|
| A | Daily Vehicle Miles | 1,651,559 | E/F | 271,205 | 221,300 | |
| B | Daily VMT/trip | 5.88 | G | 8.52 | 8.52 | |
| C | Daily Volume | 280,877 | H | 31,824 | 25,968 | TIA |
| | | | | | 0.82 | |
| D | Population | 71,189 | I | 9,258 | 9,258 | total population |
| | VMT/Capita | 23.20 | | 29.29 | 23.90 | |
| | Trips/Person | 3.95 | | 3.44 | 2.80 | |

| | Project - Long Term Conditions | Santee Baseline | |
|---|---|---|---|
| **Service Population** | 9,258 | 69,843 | |
| **ATL** | 8.52 | 5.88 | |
| **Total Trips** | 25,968 | 280,877 | |
| **Total VMT** | 221,300 | 1,651,559 | |
| **VMT/Capita** | 23.90 | 23.20 | 3.03% |
| | | | |
| **SB743 Threshold (85%)** | - | 19.72 | 15% |
| **Project (calibrated) Impact?** | - | **Yes** | 18.03% |

Source:

A-F nms12miles.info --> Santee Series 12 Mobility Element Model Year 2035

D Year 2035 population interpolated between SANDAG DataSurfer Forecast Year 2030 and 2040 (3,870,000 and 4,163,688) for the region and (69,843 and 72,536) for the City of Santee

E Series 12 Year 2035 Mobility Element - Fanita Ranch SZA VMT Run (Project Raw)

F Project Calibrated = TIA Trip Generation x Model ATL

G VMT per trip assigned (external) increased based on weighted change in ATL from proxy trip lengths. (See Weighted ATL tab).

H ADT per trip assigned (external)

I See population estimate sheet

May 30, 2019 Submittal
No School

SANDAG Model - VMT Long-Term analysis
(without school)

| | | Santee | | Project raw | Project calibrated | |
|---|---|---|---|---|---|---|
| A | Daily Vehicle Miles | 1,651,559 | E/F | 274,827 | 228,375 | |
| B | Daily VMT/trip | 5.88 | G | 8.64 | 8.64 | |
| C | Daily Volume | 280,877 | H | 31,824 | 26,445 | TIA |
| | | | | | 0.83 | |
| D | Population | 71,189 | I | 8,886 | 8,886 | total population |
| | VMT/Capita | 23.20 | | 30.93 | 25.70 | |
| | Trips/Person | 3.95 | | 3.58 | 2.98 | |

| | Project - Long Term Conditions | Santee Baseline | |
|---|---|---|---|
| **Service Population** | 8,886 | 69,843 | |
| **ATL** | 8.64 | 5.88 | |
| **Total Trips** | 26,445 | 280,877 | |
| **Total VMT** | 228,375 | 1,651,559 | |
| **VMT/Capita** | 25.70 | 23.20 | 10.78% |
| | | | |
| **SB743 Threshold (85%)** | - | 19.72 | 15% |
| **Project (calibrated) Impact?** | - | **Yes** | 25.78% |

Source:

A-C nms12miles.info --> Santee Series 12 Mobility Element Model Year 2035

D Year 2035 population interpolated between SANDAG DataSurfer Forecast Year 2030 and 2040 (3,870,000 and 4,163,688) for the region and (69,843 and 72,536) for the City of Santee

E Series 12 Year 2035 Mobility Element - Fanita Ranch SZA VMT Run (Project Raw)

F Project Calibrated = TIA Trip Generation x Model ATL

G VMT per trip assigned (external)

H ADT per trip assigned (external)

I See population estimate sheet

# APPENDIX U

## TDM VMT REDUCTION CALCULATIONS

**Transportation Measures (five subcategories) Global Maximum Reduction (all VMT)**

| Max | Project |
|---|---|
| 20.0% | 13.7% |

**Transportation Measures (four categories) Cross-Category Max Reduction (all VMT)**

| Max | Project |
|---|---|
| 15.0% | 9.0% |

Max Reduction = 15% Overall;
Work VMT = 25%
School VMT = 65%

| Max Work | Project Work |
|---|---|
| 25% | 13.6% |
| Max School | Project School |
| 65% | 7.2% |

| Land Use / Location | | Neighborhood / Site Enhancement | | Parking Policy / Pricing | | Transit System Improvements | | Commute Trip Reduction (Assumes mixed use) | |
|---|---|---|---|---|---|---|---|---|---|
| Max | Project | Max | Project | Max | Project | Max | Project | Max | Project |
| 5.0% | 5.0% | 15.0% | 4.2% | 20.0% | 0.0% | 10.0% | 0.0% | 25.0% | 13.6% |

| Design of Development (LUT-9) | |
|---|---|
| Max | Project |
| 21.3% | 5.0% |

| Pedestrian Network (SDT-1) | |
|---|---|
| Max | Project |
| 2.0% | 2.0% |

| Traffic Calming (SDT-2) | |
|---|---|
| Max | Project |
| 1.0% | 0.25% |

| Provide Bike Parking in Non-Residential Projects (SDT-6) | |
|---|---|
| Max | Project |
| | 0.625% |

| Car Share Program (TRT-9) | |
|---|---|
| Max | Project |
| 0.7% | 0.370% |

| NEV Network (SDT-3) | |
|---|---|
| Max | Project |
| 12.7% | 1.0% |

| Ride share programs (TRT-3) | |
|---|---|
| Max - Work | Project - Work |
| 15.0% | 10.0% |

| CTR Marketing (TRT-7) | |
|---|---|
| Max - Work | Project - Work |
| 4.0% | 4.0% |

| School Pool (TRT-10) | |
|---|---|
| Max - School | Project - School |
| 15.8% | 7.2% |

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**Transportation Strategies Organization Chart**

Date: 12/19/2019
LLG Ref: 3-18-2882

Project Name: Fanita Ranch

Notes:

| Section: 3.1.9 | | **Improve Design Development** | |
|---|---|---|---|
| Measure: LUT-9 | | Min | 3.0% |
| | | Max | 21.3% |
| | | Intersection per Square Mile (int/sq.mi) of Project | 89 |
| | | Int/sq.mi of a Typical ITE Suburban Development | 36 |
| | A | % Increase in Int/sq.mi of Project vs. Int/sq.mi of a Typical ITE Suburban Development[1] | 147.2% |
| | B | Elasticity of VMT with Respect to Percentage of Intersections | 0.12 |
| | | VMT Reduction = A x B [not to exceed 500%] | 17.7% |
| | | ***VMT Reduction Utilized*** [2] | **5.0%** |

*Footnotes:*

1. See the formula utilized below to calculate this parameter per the CAPCOA Report.

$$A = \frac{int.per\ sq.mile\ of\ project\ - int.per\ sq.mile\ of\ typical\ suburban\ development}{int.per\ sq.mile\ of\ typical\ suburban\ development}$$

2. VMT Reduction utilized per CAPCOA Report guidelines. 5% is the maximum allowable total reduction for measures under the Land Use / Location category for a suburban project.

**Explanation:** Based on the project site plan, there are 118 intersections within the project site and the total area of development is 847.9 acres (or 1.325 square miles). Additionally, other measures are grouped with this measure and are project features so the VMT reduction is further justified.

| | | | |
|---|---|---|---|
| Section: 3.2.1 | | **Provide Pedestrian Network Improvements** | |
| Measure: SDT-1 | | Min | 0.0% |
| | | Max | 2.0% |
| | | Extent of Pedestrian Accomodations (Work Site Setting)[1] | Within Project & Connecting Off Site (Urban or Suburban) |
| | | VMT Reduction[1] | 2.0% |
| | | ***VMT Reduction Utilized*** | ***2.0%*** |

*Footnotes:*

1. See table below of the various options per the CAPCOA Report

| Context | Extent of Ped Accomodations | Estimated VMT Reductions |
|---|---|---|
| Urban/Suburban | Within Project & Connecting Off Site | 2.0% |
| Urban/Suburban | Within Project | 1.0% |
| Rural | Within Project & Connecting Off Site | <1% |

**Explanation:** Based on review of the site plan and proposed street cross-sections, appropriate pedestrian accomodations are provided both on and off-site. Residential roadways provide at least a 5' sidewalk and in some cases up to 10' wide sidewalks. In addition, the project also provides multiple multi-use paths that connect different land uses of residential, recreational, and commercial. The main roadways that connect the project site to off-site are Fanita Parkway and Cuyamaca Street. Fanita Parkway provides a 5' sidewalk on one side and a 10' multi-use trail on the other. Cuyamaca Street provides a n 8' multi-use trail on one side and a 5' sidewalk on the other and transitions to a 5' sidewalk on both sides on the southern extent of the project.

| Section: 3.2.2 | | **Provide Traffic Calming Measures** | |
|---|---|---|---|
| Measure: SDT-2 | | Min | 0.25% |
| | | % of intersections with improvements[1] | 25% |
| | | % of street with improvements[1] | 25% |
| | | VMT Reduction | 0.25% |
| | | ***VMT Reduction Utilized*** | ***0.25%*** |

*Footnotes:*

1. See table below of the various options per the CAPCOA Report

| | | *% of streets with improvements* | | | |
|---|---|---|---|---|---|
| | | *25%* | *50%* | *75%* | *100%* |
| | | **% VMT Reduction** | | | |
| *% of intersections with improvements* | *25%* | **0.25%** | **0.25%** | **0.5%** | **0.5%** |
| | *50%* | **0.25%** | **0.5%** | **0.5%** | **0.75%** |
| | *75%* | **0.5%** | **0.5%** | **0.75%** | **0.75%** |
| | *100%* | **0.5%** | **0.75%** | **0.75%** | **1%** |

**Explanation:** Based on review of the site plan and proposed street cross-sections, it is estimated that 25% of intersections and street segments provide traffic calming measures. The traffic calming measures identified are roundabouts, bulbouts, textured pavement crosswalks, and reduced travel lane widths (at roundabout approaches).

| | | | |
|---|---|---|---|
| Section: | 3.2.6 | | **Provide Bike Parking in Non-Residential Projects** |
| Measure: | SDT-6 | | CAPCOA Baseline Method: Grouped Strategy[1] |
| | | | Alternative Literature[2]: 0.625% |
| | | | ***VMT Reduction Utilized***: ***0.625%*** |

*Footnotes:*

1. Grouped strategy with CAPCOA measure LUT-9. "Bike parking non-residential projects has minimal impacts as a standalone strategy and should be frouped with Improve Design of Development strategy to encourage bicycling by providing strengtened street network characteristics and bicycle facilities"

2. As a rule of thumb, the Center for Clean Air Policy (CCAP) guidebook [1] attributes a 1% to 5% reduction in VMT to the use of bicycles, which reflects the assumption that their use is typically for shorter trips. Based on the CCAP Guidebook, the TIAX report allots 2.5% reduction for all bicycle-related measures and a quarter of that for this bicycle parking alone.

**planation:** Alternative literature provided by the CAPCOA report is used for this measure to obtain
e .625% VMT reduction.

| Section: 3.4.3 | | **Provide Ride-Sharing Programs** | |
|---|---|---|---|
| Measure: TRT-3 | | Min | 1.0% |
| | | Max | 15.0% |
| | | Work Site Setting[1] | Suburban Center |
| | A | % Reduction in Work VMT[1] | 10.0% |
| | B | % Employees Eligible | 100.0% |
| | | Work VMT Reduction = A x B | 10.00% |
| | | Work VMT Reduction | 10.00% |
| | | ***VMT Reduction Utilized*** [2] | ***2.43%*** |

*Footnotes:*

1. See the table below of the various options per the CAPCOA Report

| Percent Reduction in Work VMT | |
|---|---|
| Low Density Suburb | 5.0% |
| Suburban Center | 10.0% |
| Urban | 15.0% |

2. Total VMT Reduction calculated per CAPCOA Report guidelines (Appendix C.2) from Work VMT reduction utilizing trip adjustment factors.

**Explanation:** Assumes Project as Sububan Center due to its mixed-use and high-density land use nature. Ride-shawing will be available for all project users.

| Section: 3.4.7 | | **Implement Commute Trip Reduction (CTR) Marketing** | |
|---|---|---|---|
| Measure: TRT-7 | | Min | 0.8% |
| | | Max | 4.0% |
| | A | % Reduction in Work Vehicle Trips | 4.0% |
| | B | % Employees Eligible | 100.0% |
| | C | Adjustment from Work Vehicle Trips to Work VMT | 1.00 |
| | | Work VMT Reduction = A x B x C | 4.0% |
| | | Work VMT Reduction Utilized | 4.0% |
| | | ***VMT Reduction Utilized*** [1] | ***0.97%*** |

*Footnotes:*

1. Total VMT Reduction calculated per CAPCOA Report guidelines (Appendix C.2) from Work VMT reduction utilizing trip adjustment factors.

**Explanation:** All projects users will be presented with CTR Marketing and all TDM amenities and services will be available to all.

| Section: 3.4.9 | | **Implement Car-Sharing Program** | |
|---|---|---|---|
| Measure: TRT-9 | | Min | 0.4% |
| | | Max | 0.7% |
| | | Work Site Setting[1] | Suburban |
| | A | % Reduction in Car-Share Member Annual VMT | 37.0% |
| | B | Number of Car-Share Memebers per Shared Car | 20 |
| | C | Deployment Level[1] | 2000 |
| | | VMT Reduction = A x B / C | 0.37% |
| | | ***VMT Reduction Utilized*** | ***0.37%*** |

*Footnotes:*

1. See the table below of the various options per the CAPCOA Report:

| Project Setting | 1 Shared Car per X Population |
|---|---|
| Urban | 1000 |
| Suburban | 2000 |

**Explanation:** Assumes Suburban project setting. All other values used to calculate VMT reduction are constant values recommended in CAPCOA Report.

| | | | |
|---|---|---|---|
| Section: 3.4.10 | | **Implement School Pool Program** | |
| Measure: TRT-10 | | Min | 7.2% |
| | | Max | 15.8% |
| | | | Moderate |
| | A | Deployment Level | 16% |
| | B | adjustments to convert from participation to daily VMT to | 45% |
| | | School VMT Reduction = A x B | 7.2% |
| | | School VMT Reduction Utilized | 7.2% |
| | | ***VMT Reduction Utilized*** [1] | ***1.98%*** |

*Footnotes:*

1. Total VMT Reduction calculated per CAPCOA Report guidelines (Appendix C.2) from School VMT reduction utilizing trip adjustment factors.

**Explanation:** Assumes a moderate implementation resulting in 16% family participation. Lower value is assumed to be conservative.

**Transportation Measures (five subcategories) Global Maximum Reduction (all VMT)**

| Max | Project |
|---|---|
| 15.0% | 12.0% |

**Transportation Measures (four categories) Cross-Category Max Reduction (all VMT)**

| Max | Project |
|---|---|
| 10.0% | 9.0% |

Max Reduction = 15% Overall;
Work VMT = 25%
School VMT = 65%

| Max Work | Project Work |
|---|---|
| 25% | 13.6% |
| Max School | Project School |
| 65% | |

| Land Use / Location | | Neighborhood / Site Enhancement | | Parking Policy / Pricing | | Transit System Improvements | | Commute Trip Reduction (Assumes mixed use) | |
|---|---|---|---|---|---|---|---|---|---|
| Max | Project | Max | Project | Max | Project | Max | Project | Max | Project |
| 5.0% | 5.0% | 5.0% | 4.2% | 20.0% | 0.0% | 10.0% | 0.0% | 25.0% | 13.6% |

| Design of Development (LUT-9) | |
|---|---|
| Max | Project |
| 21.3% | 5.0% |

| Pedestrian Network (SDT-1) | |
|---|---|
| Max | Project |
| 2.0% | 2.0% |

| Traffic Calming (SDT-2) | |
|---|---|
| Max | Project |
| 1.0% | 0.25% |

| Provide Bike Parking in Non-Residential Projects (SDT-6) | |
|---|---|
| Max | Project |
| | 0.625% |

| Car Share Program (TRT-9) | |
|---|---|
| Max | Project |
| 0.7% | 0.370% |

| NEV Network (SDT-3) | |
|---|---|
| Max | Project |
| 12.7% | 1.0% |

| Ride share programs (TRT-3) | |
|---|---|
| Max - Work | Project - Work |
| 15.0% | 10.0% |

| CTR Marketing (TRT-7) | |
|---|---|
| Max - Work | Project - Work |
| 4.0% | 4.0% |

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**Transportation Strategies Organization Chart**

Date: 6/3/2019

LLG Ref: 3-18-2882

Project Name: Fanita Ranch

Notes:

NO SCHOOL ANALYSIS

# APPENDIX V

## ADAPTIVE TRAFFIC SIGNAL CONTROL SUPPORTING DOCUMENTATION

# ADAPTIVE TRAFFIC SIGNAL CONTROL
# CASE STUDIES IN SOUTHERN CALIFORNIA

| Location | System | # of Intersections | AM/PM Delay | AM/PM Travel Time | AM/PM Speed |
|---|---|---|---|---|---|
| Citywide[1] (Temecula, CA) | McCain – QuicTrac | 83 intersections | N/A[1] | -14.0% | +17.0% |
| San Marcos Boulevard[2] (San Marcos, CA) | McCain – QuicTrac | 17 intersections | -19.1%/-46.0% (32.6%) | -2.7%/-13.2% (8.0%) | N/A |
| Lusk Boulevard[3, 4] (San Diego, CA) | Rhythm Engineering – InSync | 4 intersections (Wateridge Circle to Pacific Center Boulevard) | -18.0%/-24.0% (21.0%) | -17.9%/ -17.2% (17.6%) | +17.6%/ +23.3% (20.5%) |
| Rosecrans Street[5, 6] (San Diego, CA) | Rhythm Engineering – InSync | 12 intersections (Hancock Street to Nimitz Boulevard) | -25.0% | N/A | N/A |
| Citywide Santa Rosa CA[7] | TransCore – SCATS | 46 intersections | N/A | -32.0% | +49.0% |
| La Jolla Parkway[3, 4] (San Diego, CA) | Rhythm Engineering – InSync | 3 intersections | N/A | N/A | N/A |
| East H Street & Otay Lakes Road[8] (Chula Vista, CA) | Trafficware – SynchroGreen | 12 intersections | -43.0% H Street -37.0% Otay Lakes | -15.0% H Street -14.0% Otay Lakes | N/A |
| ***San Diego County Average*** | | | ***-31.7%*** | ***-13.6%*** | ***-20.5%*** |
| ***Overall Average*** | | | ***-31.7%*** | ***-16.8%*** | ***-28.8%*** |


*References:*

[1] McCain Inc., (2011), "Temecula Implements Citywide Adaptive Traffic Signal Control to Optimize Traffic Flow"

[2] McCain Inc (2011) "McCain Dramatically Reduces Congestion on the Second Busiest Arterial in the San Diego County"

[3] Mackin-Solomon, A., La Jolla Light.(2016) "Traffic Coming In and Out of La Jolla: Early Data on Adaptive Signal Timing shows traffic snarls eased"

[4] Mackin-Solomon, A., La Jolla Light.(2016) "Lights! Camera! Action! Adaptive Signal cameras installed on La Jolla Parkway to ease traffic flow"

[5] Schwab, D., "InSync reduces travel times on Rosecrans in Midway District" http://www.sdnews.com/view/full_story/27389201/article-InSync-reduces-travel-times-on-Rosecrans-in-Midway-District-?instance=most_popular1

[6] Gustafson, C., City of San Diego, (2017) "Mayor Faulconer, Councilmember Zapf Announce City's Smart Traffic Signals Are Shrinking Commute Times"

[7] TransCore LP., (2015), "SCATS Adaptive Control Systems" https://www.transcore.com/wp-content/uploads/2017/01/SCATS_4_Page_Digital_1.pdf

[8] City of Chula Vista "Evaluation Report Adaptive Traffic Control Systems Using SCATS".


*Footnotes:*

1. N/A – Data currently not available

This document discusses the benefits of Adaptive Traffic Signals or Smart Signals. It presents a background on Adaptive Signals, benefits and application of Adaptive Signals, case studies of projects that have implemented in the United States. In addition, a few details on the implementation of Adaptive Signals in the San Diego County and City are also provided

## WHAT ARE ADAPTIVE SIGNALS?

The typical traffic signal systems are set to allow the most efficient commute for the majority of drivers during rush-hour traffic. However, those same traffic signal timings continue throughout the day and do not dynamically adjust for varying traffic loads and patterns.

Adaptive Signals adjusts signal timing plans in real time "based on the current traffic conditions, demand and system capacity". Adaptive Signals are an emerging technology quickly gaining momentum and replacing the static standard signal coordination techniques. The newest generation of Adaptive Signals benefit from modern traffic controller design, micro processing advancements in vehicle detection and high speed communications to provide more reliable adaptive operations for rapid large-scale deployment. The Federal Highway Administration (FHWA) states that Adaptive Signals are a "proven and market ready" and furthermore recommends that agencies explore this technology to improve traffic operations and congestion.

## WHAT ARE THE BENEFITS OF ADAPTIVE SIGNALS?

Implementing Adaptive Signals maximizes the capacity of an existing roadway system. Primary advantages of Adaptive Signals are improved travel times by reducing delays and stops, better progression through a roadway corridor, fewer emissions and fuel savings. In addition, an agency benefits through prolonged effectiveness of signal timing and reduced maintenance of constantly altering "static" signal timing plans in field to account for "dynamic" traffic loads.

## WHEN ARE ADAPTIVE SIGNALS SUITABLE?

Adaptive Signals are most effective where dynamic traffic patterns occur and actuated-coordinated signal timing plans cannot reasonably accommodate fluctuating traffic conditions. The following characteristics lend ideal to an Adaptive Signal application:

- Random traffic patterns with frequent fluctuations in traffic volume and distribution of traffic.
- Traffic patterns are difficult to predict due to special events, diversions or other situations that traditional traffic signals cannot handle.
- Interruption of progression and problems with coordination existing due to pedestrian crossings, emergency preemption or the need for frequent progression changes.
- Frequent signal retiming is required based on community feedback.
- Large queues on side streets and traffic on side streets is also a major consideration.
- Pedestrian traffic is higher than typical and is a major consideration along the corridor.
- Optimal signal timing plans desired during all periods (AM, Mid-day and PM).

## CASE STUDIES ON ADAPTIVE SIGNALS

Adaptive Signals have been implemented nationwide by several regional and local agencies. A few case studies[1] have been provided below:

- *Seminole County, Florida*: SR 436 (Altamonte Drive), between Westmonte Drive and Maitland Avenue, is a 1.7 mile roadway segment in Seminole County, Florida. The study area for this corridor includes 12 traffic signals, a minimum six lane roadway section, and has an Average Daily Traffic (ADT) of over 59,600 vehicles. Daily traffic consists of emergency responders traveling to and from nearby hospitals, as well as the drivers that are en route to the Altamonte Mall and numerous retail, dining, and entertainment establishments along the corridor. In addition, SR 436 had many traffic signal coordination issues that were directly attributed to high pedestrian volumes. Within a 24-hour period, over 1,100 pedestrian calls have been recorded at the study intersections.

  After implementation of Adaptive Signals, reductions in arterial travel time and delay were observed in all time periods. Most notably, mid-day (MD) travel time runs were reduced by 27 percent eastbound and 25 percent westbound, while arterial delay was reduced by 46 percent eastbound and 37 percent westbound.

- Baytown, Texas; Adaptive Traffic Control System was implemented along the State Highway 146 and Garth Road corridors in Baytown, Texas. The project goal was to provide congestion relief to Baytown area commuters and improve travel time for local commercial arterials.

  Funded in conjunction with the Texas Department of Transportation's support of adaptive initiatives in the Houston area, the project included a total of 28 intersections. State Highway 146 and Garth Road were the key North-South corridors in Baytown's transportation network. These corridors are a major hub for large oil refining, chemical, plastic and rubber manufacturing companies.

  Overall, improvements of approximately 25% in reduced travel time during busy peaks were observed with the implementation of Adaptive Signals.

## ADAPTIVE SIGNALS IN SAN DIEGO CITY AND COUNTY

The City of San Diego has already implemented Adaptive traffic signals on several major corridors. In 2015, City officials created a $163 million, 10-year master plan to install modern stoplight timing systems and other advanced technologies that combat gridlock, including smart stoplights in several corridors in the City of San Diego.

In 2017, the City of San Diego installed twelve (12) Adaptive Traffic Signals along the Rosecrans Street corridor from Hancock Street to Nimitz Boulevard as a quality-of-life improvement for neighborhood residents. The Adaptive System on Rosecrans Street has reduced travel time by as much as 25 percent and the number of times cars must come to a stop during

[1] Trafficware SynchroGreen case studies: http://www.trafficware.com/adaptive-traffic-control.html

rush hour by 53 percent. In the City of San Diego, the following corridors have Adaptive Signals:

Rosecrans Street: *Reduction of 25% in travel times*

- Mira Mesa Boulevard
- Lusk Boulevard: *Reduction of 24% in travel times*
- Friars Road
- La Jolla Parkway
- Vista Sorrento Parkway

In San Diego County, the following agencies have already implemented Adaptive Signals along the following corridors:

- *City of Oceanside*, College Boulevard:
- *City of Chula Vista,* Telegraph Canyon Road, East H Street and Otay Lakes Road.
- *City of Carlsbad*, Palomar Airport Road
- *City of San Marcos*, San Marcos Boulevard

# APPENDIX W

## MITIGATION PHASING PEAK HOUR INTERSECTION ANALYSIS WORKSHEETS

| Intersection | |
|---|---|
| Int Delay, s/veh | 4.9 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 17 | 128 | 0 | 1 | 10 | 257 | 58 | 1 | 492 | 0 |
| Future Vol, veh/h | 0 | 0 | 17 | 128 | 0 | 1 | 10 | 257 | 58 | 1 | 492 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 18 | 139 | 0 | 1 | 11 | 279 | 63 | 1 | 535 | 0 |

| Major/Minor | Minor2 | | | Minor1 | | | Major1 | | | Major2 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Conflicting Flow All | 870 | 901 | 535 | 879 | 870 | 311 | 535 | 0 | 0 | 342 | 0 | 0 |
| Stage 1 | 537 | 537 | - | 333 | 333 | - | - | - | - | - | - | - |
| Stage 2 | 333 | 364 | - | 546 | 537 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | 4.12 | - | - | 4.12 | - | - |
| Critical Hdwy Stg 1 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | 2.218 | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 272 | 278 | 545 | 268 | 290 | 729 | 1033 | - | - | 1217 | - | - |
| Stage 1 | 528 | 523 | - | 681 | 644 | - | - | - | - | - | - | - |
| Stage 2 | 681 | 624 | - | 522 | 523 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | | - | - |
| Mov Cap-1 Maneuver | 269 | 274 | 545 | 256 | 286 | 729 | 1033 | - | - | 1217 | - | - |
| Mov Cap-2 Maneuver | 269 | 274 | - | 256 | 286 | - | - | - | - | - | - | - |
| Stage 1 | 521 | 522 | - | 672 | 636 | - | - | - | - | - | - | - |
| Stage 2 | 671 | 616 | - | 504 | 522 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| HCM Control Delay, s | 11.8 | 34.6 | 0.3 | 0 |
| HCM LOS | B | D | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1 | WBLn1 | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|
| Capacity (veh/h) | 1033 | - | - | 545 | 257 | 1217 | - | - |
| HCM Lane V/C Ratio | 0.011 | - | - | 0.034 | 0.546 | 0.001 | - | - |
| HCM Control Delay (s) | 8.5 | 0 | - | 11.8 | 34.6 | 8 | 0 | - |
| HCM Lane LOS | A | A | - | B | D | A | A | - |
| HCM 95th %tile Q(veh) | 0 | - | - | 0.1 | 3 | 0 | - | - |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 34.4 |
| Intersection LOS | D |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 11 | 93 | 1 | 1 | 1 | 164 | 32 | 3 | 571 | 0 |
| Future Vol, veh/h | 0 | 0 | 11 | 93 | 1 | 1 | 1 | 164 | 32 | 3 | 571 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 12 | 101 | 1 | 1 | 1 | 178 | 35 | 3 | 621 | 0 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 3 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 3 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 3 | 2 | 1 | 1 |
| HCM Control Delay | 9.2 | 11.8 | 10.1 | 47 |
| HCM LOS | A | B | B | E |

| Lane | NBLn1 | NBLn2 | NBLn3 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 0% | 98% | 100% | 0% |
| Vol Thru, % | 0% | 100% | 0% | 0% | 1% | 0% | 100% |
| Vol Right, % | 0% | 0% | 100% | 100% | 1% | 0% | 0% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 1 | 164 | 32 | 11 | 95 | 3 | 571 |
| LT Vol | 1 | 0 | 0 | 0 | 93 | 3 | 0 |
| Through Vol | 0 | 164 | 0 | 0 | 1 | 0 | 571 |
| RT Vol | 0 | 0 | 32 | 11 | 1 | 0 | 0 |
| Lane Flow Rate | 1 | 178 | 35 | 12 | 103 | 3 | 621 |
| Geometry Grp | 7 | 7 | 7 | 7 | 7 | 8 | 8 |
| Degree of Util (X) | 0.002 | 0.279 | 0.047 | 0.021 | 0.207 | 0.005 | 0.952 |
| Departure Headway (Hd) | 6.131 | 5.625 | 4.916 | 6.302 | 7.21 | 6.027 | 5.523 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 585 | 640 | 729 | 567 | 498 | 597 | 664 |
| Service Time | 3.858 | 3.352 | 2.643 | 4.053 | 4.953 | 3.727 | 3.223 |
| HCM Lane V/C Ratio | 0.002 | 0.278 | 0.048 | 0.021 | 0.207 | 0.005 | 0.935 |
| HCM Control Delay | 8.9 | 10.5 | 7.9 | 9.2 | 11.8 | 8.8 | 47.2 |
| HCM Lane LOS | A | B | A | A | B | A | E |
| HCM 95th-tile Q | 0 | 1.1 | 0.1 | 0.1 | 0.8 | 0 | 13.4 |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 7 | 383 | 0 | 0 | 170 | 2268 | 6 | 0 | 51 | 0 | 0 | 0 |
| Future Volume (veh/h) | 7 | 383 | 0 | 0 | 170 | 2268 | 6 | 0 | 51 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.98 | 1.00 | | 1.00 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.99 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 0 | 0 | 1870 | 1945 | 1870 | 1870 | 1870 | | | |
| Adj Flow Rate, veh/h | 8 | 416 | 0 | 0 | 0 | 2588 | 0 | 0 | 62 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | |
| Percent Heavy Veh, % | 2 | 2 | 0 | 0 | 2 | 2 | 2 | 2 | 2 | | | |
| Cap, veh/h | 25 | 2825 | 0 | 0 | 1368 | 2363 | 0 | 156 | 268 | | | |
| Arrive On Green | 0.01 | 0.79 | 0.00 | 0.00 | 0.00 | 0.73 | 0.00 | 0.00 | 0.08 | | | |
| Sat Flow, veh/h | 1781 | 3647 | 0 | 0 | 1870 | 3229 | 0 | 1848 | 3170 | | | |
| Grp Volume(v), veh/h | 8 | 416 | 0 | 0 | 0 | 2588 | 0 | 0 | 62 | | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 0 | 0 | 1870 | 1615 | 0 | 1848 | 1585 | | | |
| Q Serve(g_s), s | 0.4 | 2.6 | 0.0 | 0.0 | 0.0 | 69.8 | 0.0 | 0.0 | 1.7 | | | |
| Cycle Q Clear(g_c), s | 0.4 | 2.6 | 0.0 | 0.0 | 0.0 | 69.8 | 0.0 | 0.0 | 1.7 | | | |
| Prop In Lane | 1.00 | | 0.00 | 0.00 | | 1.00 | 0.00 | | 1.00 | | | |
| Lane Grp Cap(c), veh/h | 25 | 2825 | 0 | 0 | 1368 | 2363 | 0 | 156 | 268 | | | |
| V/C Ratio(X) | 0.32 | 0.15 | 0.00 | 0.00 | 0.00 | 1.10 | 0.00 | 0.00 | 0.23 | | | |
| Avail Cap(c_a), veh/h | 131 | 3047 | 0 | 0 | 1368 | 2363 | 0 | 717 | 1229 | | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | | | |
| Uniform Delay (d), s/veh | 46.6 | 2.3 | 0.0 | 0.0 | 0.0 | 12.8 | 0.0 | 0.0 | 40.8 | | | |
| Incr Delay (d2), s/veh | 2.7 | 0.0 | 0.0 | 0.0 | 0.0 | 50.4 | 0.0 | 0.0 | 0.2 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ln | 0.2 | 0.6 | 0.0 | 0.0 | 0.0 | 34.3 | 0.0 | 0.0 | 0.7 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 49.3 | 2.3 | 0.0 | 0.0 | 0.0 | 63.2 | 0.0 | 0.0 | 40.9 | | | |
| LnGrp LOS | D | A | A | A | A | F | A | A | D | | | |
| Approach Vol, veh/h | | 424 | | | 2588 | | | 62 | | | | |
| Approach Delay, s/veh | | 3.2 | | | 63.2 | | | 40.9 | | | | |
| Approach LOS | | A | | | E | | | D | | | | |

| Timer - Assigned Phs | 2 | 5 | 6 | 8 |
|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 81.2 | 6.0 | 75.2 | 14.2 |
| Change Period (Y+Rc), s | * 5.4 | * 4.7 | 5.4 | 6.1 |
| Max Green Setting (Gmax), s | * 82 | * 7 | 69.8 | 37.0 |
| Max Q Clear Time (g_c+I1), s | 4.6 | 2.4 | 71.8 | 3.7 |
| Green Ext Time (p_c), s | 3.0 | 0.0 | 0.0 | 0.1 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 54.5 |
| HCM 6th LOS | D |

Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 236 | 548 | 113 | 80 | 1258 | 53 | 42 | 108 | 33 | 56 | 209 | 426 |
| Future Volume (veh/h) | 236 | 548 | 113 | 80 | 1258 | 53 | 42 | 108 | 33 | 56 | 209 | 426 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.98 | 1.00 | | 0.99 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 257 | 596 | 123 | 87 | 1367 | 58 | 46 | 117 | 36 | 61 | 227 | 405 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 228 | 1533 | 663 | 110 | 1267 | 54 | 59 | 518 | 436 | 71 | 531 | 449 |
| Arrive On Green | 0.26 | 0.86 | 0.86 | 0.12 | 0.73 | 0.73 | 0.03 | 0.28 | 0.28 | 0.04 | 0.28 | 0.28 |
| Sat Flow, veh/h | 1781 | 3554 | 1536 | 1781 | 3470 | 147 | 1781 | 1870 | 1575 | 1781 | 1870 | 1582 |
| Grp Volume(v), veh/h | 257 | 596 | 123 | 87 | 699 | 726 | 46 | 117 | 36 | 61 | 227 | 405 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1536 | 1781 | 1777 | 1840 | 1781 | 1870 | 1575 | 1781 | 1870 | 1582 |
| Q Serve(g_s), s | 12.8 | 3.5 | 1.3 | 4.7 | 36.5 | 36.5 | 2.6 | 4.8 | 1.7 | 3.4 | 9.9 | 24.6 |
| Cycle Q Clear(g_c), s | 12.8 | 3.5 | 1.3 | 4.7 | 36.5 | 36.5 | 2.6 | 4.8 | 1.7 | 3.4 | 9.9 | 24.6 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.08 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 228 | 1533 | 663 | 110 | 649 | 672 | 59 | 518 | 436 | 71 | 531 | 449 |
| V/C Ratio(X) | 1.13 | 0.39 | 0.19 | 0.79 | 1.08 | 1.08 | 0.78 | 0.23 | 0.08 | 0.86 | 0.43 | 0.90 |
| Avail Cap(c_a), veh/h | 228 | 1533 | 663 | 187 | 649 | 672 | 73 | 561 | 472 | 71 | 559 | 473 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.93 | 0.93 | 0.93 | 0.61 | 0.61 | 0.61 | 0.98 | 0.98 | 0.98 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 37.2 | 4.1 | 4.0 | 43.2 | 13.5 | 13.5 | 48.0 | 27.9 | 26.8 | 47.7 | 29.2 | 34.5 |
| Incr Delay (d2), s/veh | 96.0 | 0.7 | 0.6 | 5.7 | 50.7 | 51.6 | 31.3 | 0.8 | 0.3 | 59.4 | 1.8 | 22.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 10.6 | 1.1 | 0.5 | 2.1 | 13.9 | 14.5 | 1.6 | 2.2 | 0.7 | 2.6 | 4.5 | 11.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 133.2 | 4.8 | 4.6 | 48.9 | 64.2 | 65.1 | 79.3 | 28.7 | 27.1 | 107.1 | 31.0 | 56.9 |
| LnGrp LOS | F | A | A | D | F | F | E | C | C | F | C | E |
| Approach Vol, veh/h | | 976 | | | 1512 | | | 199 | | | 693 | |
| Approach Delay, s/veh | | 38.6 | | | 63.7 | | | 40.1 | | | 52.8 | |
| Approach LOS | | D | | | E | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 10.4 | 48.6 | 7.5 | 33.5 | 17.0 | 42.0 | 8.2 | 32.8 |
| Change Period (Y+Rc), s | 4.2 | 5.5 | * 4.2 | 5.1 | * 4.2 | * 5.5 | * 4.2 | 5.1 |
| Max Green Setting (Gmax), s | 11.1 | 36.5 | * 4.1 | 29.9 | * 13 | * 35 | * 4 | 30.0 |
| Max Q Clear Time (g_c+I1), s | 10.7 | 5.5 | 4.6 | 26.6 | 14.8 | 38.5 | 5.4 | 6.8 |
| Green Ext Time (p_c), s | 0.0 | 11.2 | 0.0 | 1.7 | 0.0 | 0.0 | 0.0 | 1.7 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 52.8 |
| HCM 6th LOS | D |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 141 | 332 | 219 | 358 | 679 | 6 | 210 | 230 | 196 | 9 | 516 | 475 |
| Future Volume (veh/h) | 141 | 332 | 219 | 358 | 679 | 6 | 210 | 230 | 196 | 9 | 516 | 475 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 153 | 361 | 238 | 389 | 738 | 7 | 228 | 250 | 213 | 10 | 561 | 516 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 184 | 1034 | 451 | 425 | 1120 | 11 | 270 | 1344 | 785 | 17 | 551 | 483 |
| Arrive On Green | 0.10 | 0.29 | 0.29 | 0.12 | 0.31 | 0.31 | 0.08 | 0.38 | 0.38 | 0.01 | 0.31 | 0.31 |
| Sat Flow, veh/h | 1781 | 3554 | 1548 | 3456 | 3606 | 34 | 3456 | 3554 | 1560 | 1781 | 1777 | 1558 |
| Grp Volume(v), veh/h | 153 | 361 | 238 | 389 | 364 | 381 | 228 | 250 | 213 | 10 | 561 | 516 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1548 | 1728 | 1777 | 1863 | 1728 | 1777 | 1560 | 1781 | 1777 | 1558 |
| Q Serve(g_s), s | 8.4 | 8.0 | 12.9 | 11.1 | 17.7 | 17.7 | 6.5 | 4.7 | 7.9 | 0.6 | 31.0 | 31.0 |
| Cycle Q Clear(g_c), s | 8.4 | 8.0 | 12.9 | 11.1 | 17.7 | 17.7 | 6.5 | 4.7 | 7.9 | 0.6 | 31.0 | 31.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.02 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 184 | 1034 | 451 | 425 | 552 | 579 | 270 | 1344 | 785 | 17 | 551 | 483 |
| V/C Ratio(X) | 0.83 | 0.35 | 0.53 | 0.92 | 0.66 | 0.66 | 0.85 | 0.19 | 0.27 | 0.58 | 1.02 | 1.07 |
| Avail Cap(c_a), veh/h | 240 | 1038 | 452 | 425 | 552 | 579 | 270 | 1344 | 785 | 71 | 551 | 483 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.97 | 0.97 | 0.97 | 0.94 | 0.94 | 0.94 | 0.83 | 0.83 | 0.83 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 44.0 | 28.0 | 29.7 | 43.3 | 29.9 | 29.9 | 45.5 | 20.8 | 14.4 | 49.3 | 34.5 | 34.5 |
| Incr Delay (d2), s/veh | 13.2 | 0.9 | 4.3 | 22.7 | 5.7 | 5.4 | 17.4 | 0.1 | 0.2 | 10.9 | 43.1 | 60.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 4.3 | 3.4 | 5.2 | 5.9 | 8.1 | 8.5 | 3.4 | 1.9 | 2.7 | 0.3 | 19.4 | 19.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 57.2 | 28.9 | 34.0 | 66.1 | 35.6 | 35.3 | 62.9 | 20.9 | 14.6 | 60.2 | 77.6 | 94.9 |
| LnGrp LOS | E | C | C | E | D | D | E | C | B | E | F | F |
| Approach Vol, veh/h | | 752 | | | 1134 | | | 691 | | | 1087 | |
| Approach Delay, s/veh | | 36.2 | | | 45.9 | | | 32.8 | | | 85.6 | |
| Approach LOS | | D | | | D | | | C | | | F | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 16.5 | 35.4 | 12.0 | 36.1 | 14.5 | 37.4 | 5.2 | 42.9 |
| Change Period (Y+Rc), s | 4.2 | 6.3 | * 4.2 | * 5.1 | * 4.2 | * 6.3 | * 4.2 | 5.1 |
| Max Green Setting (Gmax), s | 12.3 | 29.2 | * 7.8 | * 31 | * 14 | * 29 | * 4 | 34.7 |
| Max Q Clear Time (g_c+I1), s | 13.1 | 14.9 | 8.5 | 33.0 | 10.4 | 19.7 | 2.6 | 9.9 |
| Green Ext Time (p_c), s | 0.0 | 3.8 | 0.0 | 0.0 | 0.1 | 3.6 | 0.0 | 3.4 |

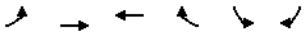
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 53.3 | |
| HCM 6th LOS | D | |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.







| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 462 | 345 | 126 | 506 | 267 | 42 |
| Future Volume (vph) | 462 | 345 | 126 | 506 | 267 | 42 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.3 | 5.3 | 5.3 | | 5.3 | 5.3 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 0.98 | | 1.00 | 1.00 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 0.89 | | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (prot) | 1770 | 1863 | 1633 | | 1770 | 1583 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | | 0.95 | 1.00 |
| Satd. Flow (perm) | 1770 | 1863 | 1633 | | 1770 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 502 | 375 | 137 | 550 | 290 | 46 |
| RTOR Reduction (vph) | 0 | 0 | 115 | 0 | 0 | 30 |
| Lane Group Flow (vph) | 502 | 375 | 572 | 0 | 290 | 16 |
| Confl. Peds. (#/hr) | | | | | | 1 |
| Confl. Bikes (#/hr) | | | | 1 | | |
| Turn Type | Prot | NA | NA | | Prot | Prot |
| Protected Phases | 12 17 | 14 17 | 6 | | 3 | 3 |
| Permitted Phases | | | | | | |
| Actuated Green, G (s) | 44.1 | 86.5 | 37.1 | | 22.9 | 22.9 |
| Effective Green, g (s) | 39.9 | 82.3 | 37.1 | | 22.9 | 22.9 |
| Actuated g/C Ratio | 0.33 | 0.69 | 0.31 | | 0.19 | 0.19 |
| Clearance Time (s) | | | 5.3 | | 5.3 | 5.3 |
| Vehicle Extension (s) | | | 3.0 | | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 588 | 1277 | 504 | | 337 | 302 |
| v/s Ratio Prot | c0.28 | 0.20 | c0.35 | | c0.16 | 0.01 |
| v/s Ratio Perm | | | | | | |
| v/c Ratio | 0.85 | 0.29 | 1.14 | | 0.86 | 0.05 |
| Uniform Delay, d1 | 37.3 | 7.4 | 41.5 | | 47.0 | 39.7 |
| Progression Factor | 0.33 | 0.08 | 1.00 | | 1.00 | 1.00 |
| Incremental Delay, d2 | 9.6 | 0.1 | 83.0 | | 19.5 | 0.1 |
| Delay (s) | 21.8 | 0.7 | 124.4 | | 66.5 | 39.8 |
| Level of Service | C | A | F | | E | D |
| Approach Delay (s) | | 12.8 | 124.4 | | 62.9 | |
| Approach LOS | | B | F | | E | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 62.0 | HCM 2000 Level of Service | E |
| HCM 2000 Volume to Capacity ratio | 0.97 | | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 21.2 |
| Intersection Capacity Utilization | 91.6% | ICU Level of Service | F |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 699 | 709 | 22 | 13 | 739 | 416 | 39 | 40 | 8 | 388 | 19 | 929 |
| Future Volume (veh/h) | 699 | 709 | 22 | 13 | 739 | 416 | 39 | 40 | 8 | 388 | 19 | 929 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.96 | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 760 | 771 | 24 | 14 | 803 | 452 | 42 | 43 | 9 | 422 | 0 | 904 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 622 | 2389 | 74 | 23 | 1546 | 642 | 54 | 442 | 367 | 382 | 0 | 974 |
| Arrive On Green | 0.06 | 0.16 | 0.16 | 0.00 | 0.10 | 0.10 | 0.03 | 0.24 | 0.24 | 0.11 | 0.00 | 0.31 |
| Sat Flow, veh/h | 3456 | 5081 | 158 | 1781 | 5106 | 1559 | 1781 | 1870 | 1552 | 3563 | 0 | 3108 |
| Grp Volume(v), veh/h | 760 | 516 | 279 | 14 | 803 | 452 | 42 | 43 | 9 | 422 | 0 | 904 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1702 | 1835 | 1781 | 1702 | 1559 | 1781 | 1870 | 1552 | 1781 | 0 | 1554 |
| Q Serve(g_s), s | 19.8 | 14.8 | 14.9 | 0.9 | 16.4 | 26.9 | 2.6 | 2.0 | 0.5 | 11.8 | 0.0 | 31.0 |
| Cycle Q Clear(g_c), s | 19.8 | 14.8 | 14.9 | 0.9 | 16.4 | 26.9 | 2.6 | 2.0 | 0.5 | 11.8 | 0.0 | 31.0 |
| Prop In Lane | 1.00 | | 0.09 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 622 | 1600 | 863 | 23 | 1546 | 642 | 54 | 442 | 367 | 382 | 0 | 974 |
| V/C Ratio(X) | 1.22 | 0.32 | 0.32 | 0.62 | 0.52 | 0.70 | 0.78 | 0.10 | 0.02 | 1.10 | 0.00 | 0.93 |
| Avail Cap(c_a), veh/h | 622 | 1600 | 863 | 65 | 1546 | 642 | 65 | 510 | 423 | 382 | 0 | 1034 |
| HCM Platoon Ratio | 0.33 | 0.33 | 0.33 | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.55 | 0.55 | 0.55 | 0.88 | 0.88 | 0.88 | 1.00 | 1.00 | 1.00 | 0.20 | 0.00 | 0.20 |
| Uniform Delay (d), s/veh | 51.7 | 30.9 | 30.9 | 54.5 | 41.9 | 34.9 | 53.0 | 32.8 | 32.3 | 49.1 | 0.0 | 36.6 |
| Incr Delay (d2), s/veh | 107.9 | 0.3 | 0.5 | 8.8 | 1.1 | 5.6 | 39.0 | 0.0 | 0.0 | 55.4 | 0.0 | 3.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 18.5 | 6.8 | 7.4 | 0.4 | 7.6 | 12.2 | 1.7 | 0.9 | 0.2 | 8.1 | 0.0 | 12.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 159.7 | 31.2 | 31.5 | 63.3 | 43.0 | 40.6 | 92.0 | 32.9 | 32.3 | 104.5 | 0.0 | 40.0 |
| LnGrp LOS | F | C | C | E | D | D | F | C | C | F | A | D |
| Approach Vol, veh/h | | 1555 | | | 1269 | | | 94 | | | 1326 | |
| Approach Delay, s/veh | | 94.0 | | | 42.4 | | | 59.2 | | | 60.5 | |
| Approach LOS | | F | | | D | | | E | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.6 | 57.0 | 7.5 | 39.9 | 24.0 | 38.6 | 16.0 | 31.4 |
| Change Period (Y+Rc), s | 4.2 | 5.3 | * 4.2 | 5.4 | * 4.2 | 5.3 | * 4.2 | * 5.4 |
| Max Green Setting (Gmax), s | 4 | 46.3 | * 4 | 36.6 | * 20 | 30.5 | * 12 | * 30 |
| Max Q Clear Time (g_c+I1), s | 2.5 | 16.9 | 4.6 | 33.0 | 21.8 | 28.9 | 13.8 | 4.0 |
| Green Ext Time (p_c), s | 0.0 | 6.0 | 0.0 | 1.5 | 0.0 | 1.4 | 0.0 | 0.1 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 67.3 |
| HCM 6th LOS | E |

**Notes**

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 31.9 |
| Intersection LOS | D |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 1 | 7 | 111 | 2 | 11 | 7 | 397 | 238 | 3 | 196 | 2 |
| Future Vol, veh/h | 0 | 1 | 7 | 111 | 2 | 11 | 7 | 397 | 238 | 3 | 196 | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 1 | 8 | 121 | 2 | 12 | 8 | 432 | 259 | 3 | 213 | 2 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay | 9.2 | 11.3 | 42.6 | 11.3 |
| HCM LOS | A | B | E | B |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 90% | 100% | 0% |
| Vol Thru, % | 0% | 63% | 12% | 2% | 0% | 99% |
| Vol Right, % | 0% | 37% | 88% | 9% | 0% | 1% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 7 | 635 | 8 | 124 | 3 | 198 |
| LT Vol | 7 | 0 | 0 | 111 | 3 | 0 |
| Through Vol | 0 | 397 | 1 | 2 | 0 | 196 |
| RT Vol | 0 | 238 | 7 | 11 | 0 | 2 |
| Lane Flow Rate | 8 | 690 | 9 | 135 | 3 | 215 |
| Geometry Grp | 7 | 7 | 2 | 2 | 7 | 7 |
| Degree of Util (X) | 0.012 | 0.944 | 0.015 | 0.237 | 0.006 | 0.341 |
| Departure Headway (Hd) | 5.69 | 4.922 | 6.058 | 6.343 | 6.211 | 5.697 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 623 | 725 | 593 | 569 | 578 | 633 |
| Service Time | 3.484 | 2.716 | 4.076 | 4.354 | 3.924 | 3.411 |
| HCM Lane V/C Ratio | 0.013 | 0.952 | 0.015 | 0.237 | 0.005 | 0.34 |
| HCM Control Delay | 8.6 | 43 | 9.2 | 11.3 | 9 | 11.3 |
| HCM Lane LOS | A | E | A | B | A | B |
| HCM 95th-tile Q | 0 | 13.6 | 0 | 0.9 | 0 | 1.5 |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 30.5 |
| Intersection LOS | D |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 1 | 1 | 5 | 102 | 8 | 3 | 13 | 501 | 109 | 3 | 248 | 0 |
| Future Vol, veh/h | 1 | 1 | 5 | 102 | 8 | 3 | 13 | 501 | 109 | 3 | 248 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 1 | 1 | 5 | 111 | 9 | 3 | 14 | 545 | 118 | 3 | 270 | 0 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay | 9.4 | 11.3 | 41.4 | 12.5 |
| HCM LOS | A | B | E | B |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 14% | 90% | 100% | 0% |
| Vol Thru, % | 0% | 82% | 14% | 7% | 0% | 100% |
| Vol Right, % | 0% | 18% | 71% | 3% | 0% | 0% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 13 | 610 | 7 | 113 | 3 | 248 |
| LT Vol | 13 | 0 | 1 | 102 | 3 | 0 |
| Through Vol | 0 | 501 | 1 | 8 | 0 | 248 |
| RT Vol | 0 | 109 | 5 | 3 | 0 | 0 |
| Lane Flow Rate | 14 | 663 | 8 | 123 | 3 | 270 |
| Geometry Grp | 7 | 7 | 2 | 2 | 7 | 7 |
| Degree of Util (X) | 0.022 | 0.935 | 0.013 | 0.221 | 0.006 | 0.424 |
| Departure Headway (Hd) | 5.704 | 5.074 | 6.272 | 6.476 | 6.166 | 5.659 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 621 | 703 | 572 | 556 | 583 | 639 |
| Service Time | 3.503 | 2.873 | 4.295 | 4.488 | 3.879 | 3.373 |
| HCM Lane V/C Ratio | 0.023 | 0.943 | 0.014 | 0.221 | 0.005 | 0.423 |
| HCM Control Delay | 8.6 | 42.1 | 9.4 | 11.3 | 8.9 | 12.5 |
| HCM Lane LOS | A | E | A | B | A | B |
| HCM 95th-tile Q | 0.1 | 13 | 0 | 0.8 | 0 | 2.1 |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 33.7 |
| Intersection LOS | D |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 324 | 15 | 154 | 443 | 11 | 198 |
| Future Vol, veh/h | 324 | 15 | 154 | 443 | 11 | 198 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 352 | 16 | 167 | 482 | 12 | 215 |
| Number of Lanes | 1 | 1 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB |
|---|---|---|---|
| Opposing Approach | WB | EB | |
| Opposing Lanes | 1 | 2 | 0 |
| Conflicting Approach Left | | NB | EB |
| Conflicting Lanes Left | 0 | 1 | 2 |
| Conflicting Approach Right | NB | | WB |
| Conflicting Lanes Right | 1 | 0 | 1 |
| HCM Control Delay | 16.7 | 50.8 | 12.6 |
| HCM LOS | C | F | B |

| Lane | NBLn1 | EBLn1 | EBLn2 | WBLn1 |
|---|---|---|---|---|
| Vol Left, % | 5% | 0% | 0% | 26% |
| Vol Thru, % | 0% | 100% | 0% | 74% |
| Vol Right, % | 95% | 0% | 100% | 0% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 209 | 324 | 15 | 597 |
| LT Vol | 11 | 0 | 0 | 154 |
| Through Vol | 0 | 324 | 0 | 443 |
| RT Vol | 198 | 0 | 15 | 0 |
| Lane Flow Rate | 227 | 352 | 16 | 649 |
| Geometry Grp | 2 | 7 | 7 | 5 |
| Degree of Util (X) | 0.376 | 0.588 | 0.024 | 0.97 |
| Departure Headway (Hd) | 5.951 | 6.013 | 5.301 | 5.379 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 602 | 599 | 672 | 675 |
| Service Time | 4.021 | 3.768 | 3.056 | 3.425 |
| HCM Lane V/C Ratio | 0.377 | 0.588 | 0.024 | 0.961 |
| HCM Control Delay | 12.6 | 17.1 | 8.2 | 50.8 |
| HCM Lane LOS | B | C | A | F |
| HCM 95th-tile Q | 1.7 | 3.8 | 0.1 | 14.3 |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 33 |
| Intersection LOS | D |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 53 | 51 | 595 | 93 | 23 | 321 |
| Future Vol, veh/h | 53 | 51 | 595 | 93 | 23 | 321 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 58 | 55 | 647 | 101 | 25 | 349 |
| Number of Lanes | 1 | 0 | 1 | 0 | 0 | 1 |

| Approach | WB | NB | SB |
|---|---|---|---|
| Opposing Approach | | SB | NB |
| Opposing Lanes | 0 | 1 | 1 |
| Conflicting Approach Left | NB | | WB |
| Conflicting Lanes Left | 1 | 0 | 1 |
| Conflicting Approach Right | SB | WB | |
| Conflicting Lanes Right | 1 | 1 | 0 |
| HCM Control Delay | 10.9 | 45.7 | 14.2 |
| HCM LOS | B | E | B |

| Lane | NBLn1 | WBLn1 | SBLn1 |
|---|---|---|---|
| Vol Left, % | 0% | 51% | 7% |
| Vol Thru, % | 86% | 0% | 93% |
| Vol Right, % | 14% | 49% | 0% |
| Sign Control | Stop | Stop | Stop |
| Traffic Vol by Lane | 688 | 104 | 344 |
| LT Vol | 0 | 53 | 23 |
| Through Vol | 595 | 0 | 321 |
| RT Vol | 93 | 51 | 0 |
| Lane Flow Rate | 748 | 113 | 374 |
| Geometry Grp | 1 | 1 | 1 |
| Degree of Util (X) | 0.964 | 0.198 | 0.541 |
| Departure Headway (Hd) | 4.641 | 6.308 | 5.21 |
| Convergence, Y/N | Yes | Yes | Yes |
| Cap | 770 | 571 | 695 |
| Service Time | 2.739 | 4.321 | 3.222 |
| HCM Lane V/C Ratio | 0.971 | 0.198 | 0.538 |
| HCM Control Delay | 45.7 | 10.9 | 14.2 |
| HCM Lane LOS | E | B | B |
| HCM 95th-tile Q | 15 | 0.7 | 3.3 |





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 36 | 1308 | 524 | 144 | 384 | 4 | 222 | 2 | 378 | 11 | 3 | 66 |
| Future Volume (veh/h) | 36 | 1308 | 524 | 144 | 384 | 4 | 222 | 2 | 378 | 11 | 3 | 66 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 39 | 1422 | 570 | 157 | 417 | 4 | 242 | 0 | 358 | 12 | 3 | 72 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 100 | 1185 | 443 | 182 | 1681 | 16 | 826 | 0 | 368 | 125 | 31 | 136 |
| Arrive On Green | 0.06 | 0.47 | 0.47 | 0.05 | 0.47 | 0.47 | 0.23 | 0.00 | 0.23 | 0.09 | 0.09 | 0.09 |
| Sat Flow, veh/h | 1781 | 2525 | 944 | 3456 | 3606 | 35 | 3563 | 0 | 1585 | 1439 | 360 | 1563 |
| Grp Volume(v), veh/h | 39 | 970 | 1022 | 157 | 205 | 216 | 242 | 0 | 358 | 15 | 0 | 72 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1692 | 1728 | 1777 | 1864 | 1781 | 0 | 1585 | 1798 | 0 | 1563 |
| Q Serve(g_s), s | 2.6 | 58.7 | 58.7 | 5.6 | 8.7 | 8.7 | 7.0 | 0.0 | 28.0 | 1.0 | 0.0 | 5.5 |
| Cycle Q Clear(g_c), s | 2.6 | 58.7 | 58.7 | 5.6 | 8.7 | 8.7 | 7.0 | 0.0 | 28.0 | 1.0 | 0.0 | 5.5 |
| Prop In Lane | 1.00 | | 0.56 | 1.00 | | 0.02 | 1.00 | | 1.00 | 0.80 | | 1.00 |
| Lane Grp Cap(c), veh/h | 100 | 834 | 794 | 182 | 828 | 869 | 826 | 0 | 368 | 156 | 0 | 136 |
| V/C Ratio(X) | 0.39 | 1.16 | 1.29 | 0.86 | 0.25 | 0.25 | 0.29 | 0.00 | 0.97 | 0.10 | 0.00 | 0.53 |
| Avail Cap(c_a), veh/h | 236 | 834 | 794 | 182 | 828 | 869 | 826 | 0 | 368 | 447 | 0 | 389 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 57.0 | 33.2 | 33.2 | 58.8 | 20.1 | 20.1 | 39.6 | 0.0 | 47.6 | 52.6 | 0.0 | 54.7 |
| Incr Delay (d2), s/veh | 0.9 | 86.6 | 138.3 | 30.5 | 0.3 | 0.3 | 0.3 | 0.0 | 40.0 | 0.3 | 0.0 | 3.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.2 | 43.8 | 53.1 | 3.2 | 3.6 | 3.8 | 3.0 | 0.0 | 14.8 | 0.4 | 0.0 | 2.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 57.9 | 119.8 | 171.5 | 89.3 | 20.5 | 20.5 | 39.9 | 0.0 | 87.6 | 52.9 | 0.0 | 57.9 |
| LnGrp LOS | E | F | F | F | C | C | D | A | F | D | A | E |
| Approach Vol, veh/h | | 2031 | | | 578 | | | 600 | | | 87 | |
| Approach Delay, s/veh | | 144.6 | | | 39.2 | | | 68.4 | | | 57.0 | |
| Approach LOS | | F | | | D | | | E | | | E | |

| Timer - Assigned Phs | 1 | 2 | 4 | 5 | 6 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 11.0 | 63.9 | 15.7 | 11.4 | 63.5 | 34.4 |
| Change Period (Y+Rc), s | 4.4 | * 5.2 | 4.9 | 4.4 | 5.2 | 5.4 |
| Max Green Setting (Gmax), s | 6.6 | * 59 | 31.1 | 16.6 | 48.4 | 29.0 |
| Max Q Clear Time (g_c+I1), s | 7.6 | 60.7 | 7.5 | 4.6 | 10.7 | 30.0 |
| Green Ext Time (p_c), s | 0.0 | 0.0 | 0.2 | 0.0 | 5.0 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 109.9 |
| HCM 6th LOS | F |

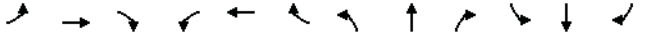
Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Existing + Cuml + Proj PM
47: Cuyamca Street & Mission Gorge Road

Fanita Ranch
06/06/2019



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 362 | 681 | 322 | 289 | 525 | 194 | 584 | 932 | 207 | 311 | 892 | 189 |
| Future Volume (veh/h) | 362 | 681 | 322 | 289 | 525 | 194 | 584 | 932 | 207 | 311 | 892 | 189 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.96 | 1.00 | | 0.96 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1683 | 1683 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 393 | 740 | 350 | 314 | 571 | 211 | 635 | 1013 | 225 | 338 | 970 | 205 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 409 | 1336 | 394 | 348 | 1246 | 367 | 728 | 991 | 219 | 359 | 1102 | 232 |
| Arrive On Green | 0.12 | 0.26 | 0.26 | 0.10 | 0.24 | 0.24 | 0.21 | 0.38 | 0.38 | 0.10 | 0.26 | 0.26 |
| Sat Flow, veh/h | 3456 | 5106 | 1506 | 3456 | 5106 | 1504 | 3456 | 2581 | 571 | 3456 | 4189 | 882 |
| Grp Volume(v), veh/h | 393 | 740 | 350 | 314 | 571 | 211 | 635 | 626 | 612 | 338 | 788 | 387 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1702 | 1506 | 1728 | 1702 | 1504 | 1728 | 1599 | 1553 | 1728 | 1702 | 1667 |
| Q Serve(g_s), s | 14.1 | 15.6 | 16.9 | 11.2 | 11.9 | 15.4 | 22.2 | 48.0 | 48.0 | 12.1 | 27.7 | 27.9 |
| Cycle Q Clear(g_c), s | 14.1 | 15.6 | 16.9 | 11.2 | 11.9 | 15.4 | 22.2 | 48.0 | 48.0 | 12.1 | 27.7 | 27.9 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.37 | 1.00 | | 0.53 |
| Lane Grp Cap(c), veh/h | 409 | 1336 | 394 | 348 | 1246 | 367 | 728 | 614 | 596 | 359 | 895 | 438 |
| V/C Ratio(X) | 0.96 | 0.55 | 0.89 | 0.90 | 0.46 | 0.57 | 0.87 | 1.02 | 1.03 | 0.94 | 0.88 | 0.88 |
| Avail Cap(c_a), veh/h | 409 | 1356 | 400 | 348 | 1246 | 367 | 735 | 614 | 596 | 359 | 910 | 445 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.72 | 0.72 | 0.72 | 0.93 | 0.93 | 0.93 | 0.09 | 0.09 | 0.09 | 0.78 | 0.78 | 0.78 |
| Uniform Delay (d), s/veh | 54.8 | 39.9 | 16.2 | 55.6 | 40.2 | 41.5 | 47.7 | 38.5 | 38.5 | 55.6 | 44.2 | 44.2 |
| Incr Delay (d2), s/veh | 27.8 | 1.2 | 19.0 | 23.5 | 1.1 | 6.0 | 1.1 | 16.4 | 18.4 | 27.2 | 8.9 | 16.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 7.6 | 6.6 | 7.7 | 6.0 | 5.0 | 6.3 | 9.6 | 21.0 | 20.7 | 6.6 | 12.6 | 13.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 82.6 | 41.1 | 35.2 | 79.1 | 41.4 | 47.5 | 48.8 | 54.9 | 56.9 | 82.9 | 53.1 | 60.9 |
| LnGrp LOS | F | D | D | E | D | D | D | F | F | F | D | E |
| Approach Vol, veh/h | | 1483 | | | 1096 | | | 1873 | | | 1513 | |
| Approach Delay, s/veh | | 50.7 | | | 53.4 | | | 53.5 | | | 61.7 | |
| Approach LOS | | D | | | D | | | D | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 16.8 | 38.0 | 31.3 | 38.9 | 19.0 | 35.8 | 17.2 | 53.0 |
| Change Period (Y+Rc), s | * 4.2 | * 5.3 | 5.0 | * 6 | * 4.2 | 5.3 | * 4.2 | 5.0 |
| Max Green Setting (Gmax), s | * 13 | * 33 | 26.6 | * 33 | * 15 | 30.5 | * 13 | 48.0 |
| Max Q Clear Time (g_c+I1), s | 13.2 | 18.9 | 24.2 | 29.9 | 16.1 | 17.4 | 14.1 | 50.0 |
| Green Ext Time (p_c), s | 0.0 | 9.8 | 0.4 | 3.0 | 0.0 | 5.5 | 0.0 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 54.9 |
| HCM 6th LOS | D |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
N:\2462\Analysis\Intersections\Synchro\Trigger\8 Existing + Cuml + Proj PM.syn

Existing + Cuml + Proj PM
55: Cuyamca Street & Buena Vista Avenue

Fanita Ranch
12/26/2018

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 29 | 18 | 48 | 347 | 4 | 89 | 26 | 1718 | 234 | 74 | 1617 | 15 |
| Future Volume (veh/h) | 29 | 18 | 48 | 347 | 4 | 89 | 26 | 1718 | 234 | 74 | 1617 | 15 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.95 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 32 | 20 | 52 | 377 | 4 | 97 | 28 | 1867 | 254 | 80 | 1758 | 16 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 67 | 55 | 55 | 374 | 3 | 710 | 43 | 1266 | 170 | 102 | 1634 | 15 |
| Arrive On Green | 0.46 | 0.46 | 0.46 | 0.46 | 0.46 | 0.46 | 0.02 | 0.28 | 0.28 | 0.06 | 0.31 | 0.31 |
| Sat Flow, veh/h | 0 | 119 | 119 | 595 | 6 | 1554 | 1781 | 4522 | 608 | 1781 | 5217 | 47 |
| Grp Volume(v), veh/h | 104 | 0 | 0 | 381 | 0 | 97 | 28 | 1400 | 721 | 80 | 1147 | 627 |
| Grp Sat Flow(s),veh/h/ln | 239 | 0 | 0 | 602 | 0 | 1554 | 1781 | 1702 | 1726 | 1781 | 1702 | 1860 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.5 | 1.1 | 19.6 | 19.6 | 3.1 | 21.9 | 21.9 |
| Cycle Q Clear(g_c), s | 32.0 | 0.0 | 0.0 | 32.0 | 0.0 | 2.5 | 1.1 | 19.6 | 19.6 | 3.1 | 21.9 | 21.9 |
| Prop In Lane | 0.31 | | 0.50 | 0.99 | | 1.00 | 1.00 | | 0.35 | 1.00 | | 0.03 |
| Lane Grp Cap(c), veh/h | 176 | 0 | 0 | 377 | 0 | 710 | 43 | 953 | 483 | 102 | 1066 | 583 |
| V/C Ratio(X) | 0.59 | 0.00 | 0.00 | 1.01 | 0.00 | 0.14 | 0.66 | 1.47 | 1.49 | 0.79 | 1.08 | 1.08 |
| Avail Cap(c_a), veh/h | 176 | 0 | 0 | 377 | 0 | 710 | 102 | 953 | 483 | 102 | 1066 | 583 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 16.4 | 0.0 | 0.0 | 23.3 | 0.0 | 11.0 | 33.9 | 25.2 | 25.2 | 32.6 | 24.0 | 24.0 |
| Incr Delay (d2), s/veh | 3.5 | 0.0 | 0.0 | 48.8 | 0.0 | 0.0 | 6.2 | 216.7 | 232.4 | 30.0 | 50.4 | 59.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.0 | 0.0 | 0.0 | 11.3 | 0.0 | 0.8 | 0.5 | 35.9 | 38.5 | 2.1 | 15.4 | 18.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 19.9 | 0.0 | 0.0 | 72.1 | 0.0 | 11.0 | 40.0 | 241.9 | 257.6 | 62.6 | 74.5 | 83.5 |
| LnGrp LOS | B | A | A | F | A | B | D | F | F | E | F | F |
| Approach Vol, veh/h | | 104 | | | 478 | | | 2149 | | | 1854 | |
| Approach Delay, s/veh | | 19.9 | | | 59.7 | | | 244.5 | | | 77.0 | |
| Approach LOS | | B | | | E | | | F | | | E | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 8.2 | 25.6 | | 36.2 | 5.9 | 27.9 | | 36.2 |
| Change Period (Y+Rc), s | * 4.2 | 6.0 | | * 4.2 | * 4.2 | * 6 | | * 4.2 |
| Max Green Setting (Gmax), s | * 4 | 19.6 | | * 32 | * 4 | * 20 | | * 32 |
| Max Q Clear Time (g_c+I1), s | 5.1 | 21.6 | | 34.0 | 3.1 | 23.9 | | 34.0 |
| Green Ext Time (p_c), s | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 152.4 |
| HCM 6th LOS | F |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
N:\2462\Analysis\Intersections\Synchro\Trigger\8 Existing + Cuml + Proj PM.syn

| Intersection | |
|---|---|
| Int Delay, s/veh | 8 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 220 | 15 | 244 | 80 | 10 | 471 |
| Future Vol, veh/h | 220 | 15 | 244 | 80 | 10 | 471 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | 150 | 50 | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 239 | 16 | 265 | 87 | 11 | 512 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 799 | 265 | 0 | 0 | 352 | 0 |
| Stage 1 | 265 | - | - | - | - | - |
| Stage 2 | 534 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | - | - | 4.12 | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | - | - | 2.218 | - |
| Pot Cap-1 Maneuver | 355 | 774 | - | - | 1207 | - |
| Stage 1 | 779 | - | - | - | - | - |
| Stage 2 | 588 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | |
| Mov Cap-1 Maneuver | 352 | 774 | - | - | 1207 | - |
| Mov Cap-2 Maneuver | 352 | - | - | - | - | - |
| Stage 1 | 772 | - | - | - | - | - |
| Stage 2 | 588 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 34.9 | 0 | 0.2 |
| HCM LOS | D | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | SBL | SBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 365 | 1207 | - |
| HCM Lane V/C Ratio | - | - | 0.7 | 0.009 | - |
| HCM Control Delay (s) | - | - | 34.9 | 8 | - |
| HCM Lane LOS | - | - | D | A | - |
| HCM 95th %tile Q(veh) | - | - | 5.1 | 0 | - |





| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 324 | 410 | 80 | 80 | 1090 | 1235 | 40 | 60 | 80 | 175 | 60 | 426 |
| Future Volume (veh/h) | 324 | 410 | 80 | 80 | 1090 | 1235 | 40 | 60 | 80 | 175 | 60 | 426 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 1.00 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 352 | 446 | 87 | 87 | 1185 | 1342 | 43 | 65 | 87 | 190 | 65 | 463 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 341 | 1386 | 268 | 113 | 1541 | 811 | 56 | 106 | 142 | 293 | 373 | 819 |
| Arrive On Green | 0.10 | 0.47 | 0.47 | 0.06 | 0.43 | 0.43 | 0.03 | 0.15 | 0.15 | 0.08 | 0.20 | 0.20 |
| Sat Flow, veh/h | 3456 | 2955 | 572 | 1781 | 3554 | 1560 | 1781 | 724 | 969 | 3456 | 1870 | 2724 |
| Grp Volume(v), veh/h | 352 | 267 | 266 | 87 | 1185 | 1342 | 43 | 0 | 152 | 190 | 65 | 463 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1750 | 1781 | 1777 | 1560 | 1781 | 0 | 1694 | 1728 | 1870 | 1362 |
| Q Serve(g_s), s | 7.5 | 7.1 | 7.2 | 3.7 | 21.6 | 33.0 | 1.8 | 0.0 | 6.4 | 4.1 | 2.2 | 10.9 |
| Cycle Q Clear(g_c), s | 7.5 | 7.1 | 7.2 | 3.7 | 21.6 | 33.0 | 1.8 | 0.0 | 6.4 | 4.1 | 2.2 | 10.9 |
| Prop In Lane | 1.00 | | 0.33 | 1.00 | | 1.00 | 1.00 | | 0.57 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 341 | 834 | 821 | 113 | 1541 | 811 | 56 | 0 | 248 | 293 | 373 | 819 |
| V/C Ratio(X) | 1.03 | 0.32 | 0.32 | 0.77 | 0.77 | 1.65 | 0.77 | 0.00 | 0.61 | 0.65 | 0.17 | 0.57 |
| Avail Cap(c_a), veh/h | 341 | 834 | 821 | 246 | 1541 | 811 | 176 | 0 | 401 | 1067 | 836 | 1492 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 34.3 | 12.6 | 12.6 | 35.1 | 18.3 | 18.4 | 36.6 | 0.0 | 30.5 | 33.7 | 25.2 | 22.6 |
| Incr Delay (d2), s/veh | 57.6 | 0.2 | 0.2 | 10.6 | 2.4 | 300.0 | 19.5 | 0.0 | 2.5 | 2.4 | 0.2 | 0.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 5.6 | 2.3 | 2.3 | 1.8 | 7.8 | 79.9 | 1.1 | 0.0 | 2.7 | 1.7 | 0.9 | 3.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 91.9 | 12.8 | 12.9 | 45.7 | 20.7 | 318.3 | 56.1 | 0.0 | 32.9 | 36.1 | 25.5 | 23.2 |
| LnGrp LOS | F | B | B | D | C | F | E | A | C | D | C | C |
| Approach Vol, veh/h | | 885 | | | 2614 | | | 195 | | | 718 | |
| Approach Delay, s/veh | | 44.3 | | | 174.3 | | | 38.0 | | | 26.8 | |
| Approach LOS | | D | | | F | | | D | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 9.3 | 40.2 | 6.9 | 19.7 | 12.0 | 37.5 | 11.0 | 15.6 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 10.5 | 30.0 | 7.5 | 34.0 | 7.5 | 33.0 | 23.5 | 18.0 |
| Max Q Clear Time (g_c+I1), s | 5.7 | 9.2 | 3.8 | 12.9 | 9.5 | 35.0 | 6.1 | 8.4 |
| Green Ext Time (p_c), s | 0.1 | 2.6 | 0.0 | 2.1 | 0.0 | 0.0 | 0.5 | 0.5 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 118.2 |
| HCM 6th LOS | | F |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 166 | 220 | 180 | 430 | 630 | 302 | 270 | 818 | 430 | 339 | 1224 | 305 |
| Future Volume (veh/h) | 166 | 220 | 180 | 430 | 630 | 302 | 270 | 818 | 430 | 339 | 1224 | 305 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 180 | 239 | 196 | 467 | 685 | 295 | 293 | 889 | 420 | 368 | 1330 | 303 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 237 | 1121 | 610 | 371 | 854 | 368 | 245 | 1011 | 442 | 402 | 1173 | 520 |
| Arrive On Green | 0.11 | 0.53 | 0.53 | 0.11 | 0.35 | 0.35 | 0.14 | 0.57 | 0.57 | 0.12 | 0.33 | 0.33 |
| Sat Flow, veh/h | 3456 | 3554 | 1576 | 3456 | 2411 | 1038 | 3456 | 3554 | 1553 | 3456 | 3554 | 1576 |
| Grp Volume(v), veh/h | 180 | 239 | 196 | 467 | 505 | 475 | 293 | 889 | 420 | 368 | 1330 | 303 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1576 | 1728 | 1777 | 1672 | 1728 | 1777 | 1553 | 1728 | 1777 | 1576 |
| Q Serve(g_s), s | 5.6 | 3.9 | 7.3 | 11.8 | 28.2 | 28.2 | 7.8 | 23.7 | 27.9 | 11.6 | 36.3 | 17.5 |
| Cycle Q Clear(g_c), s | 5.6 | 3.9 | 7.3 | 11.8 | 28.2 | 28.2 | 7.8 | 23.7 | 27.9 | 11.6 | 36.3 | 17.5 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.62 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 237 | 1121 | 610 | 371 | 629 | 592 | 245 | 1011 | 442 | 402 | 1173 | 520 |
| V/C Ratio(X) | 0.76 | 0.21 | 0.32 | 1.26 | 0.80 | 0.80 | 1.20 | 0.88 | 0.95 | 0.92 | 1.13 | 0.58 |
| Avail Cap(c_a), veh/h | 258 | 1121 | 610 | 371 | 629 | 592 | 245 | 1011 | 442 | 402 | 1173 | 520 |
| HCM Platoon Ratio | 1.67 | 1.67 | 1.67 | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.98 | 0.98 | 0.98 | 1.00 | 1.00 | 1.00 | 0.88 | 0.88 | 0.88 | 0.29 | 0.29 | 0.29 |
| Uniform Delay (d), s/veh | 47.8 | 18.7 | 15.9 | 49.1 | 32.1 | 32.1 | 47.2 | 22.1 | 23.0 | 48.1 | 36.8 | 30.6 |
| Incr Delay (d2), s/veh | 9.6 | 0.4 | 1.4 | 137.0 | 10.4 | 11.0 | 117.6 | 8.2 | 28.2 | 9.5 | 63.9 | 0.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.6 | 1.6 | 2.5 | 12.0 | 13.4 | 12.7 | 7.0 | 6.9 | 9.0 | 5.4 | 25.2 | 6.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 57.4 | 19.2 | 17.2 | 186.1 | 42.5 | 43.0 | 164.8 | 30.3 | 51.2 | 57.5 | 100.8 | 31.1 |
| LnGrp LOS | E | B | B | F | D | D | F | C | D | E | F | C |
| Approach Vol, veh/h | | 615 | | | 1447 | | | 1602 | | | 2001 | |
| Approach Delay, s/veh | | 29.8 | | | 89.0 | | | 60.4 | | | 82.3 | |
| Approach LOS | | C | | | F | | | E | | | F | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 16.0 | 40.0 | 12.0 | 42.0 | 11.7 | 44.3 | 17.0 | 37.0 |
| Change Period (Y+Rc), s | 4.2 | 5.3 | * 4.2 | 5.7 | * 4.2 | 5.3 | * 4.2 | 5.7 |
| Max Green Setting (Gmax), s | 11.8 | 34.7 | * 7.8 | 36.3 | * 8.2 | 38.3 | * 13 | 31.3 |
| Max Q Clear Time (g_c+I1), s | 13.8 | 9.3 | 9.8 | 38.3 | 7.6 | 30.2 | 13.6 | 29.9 |
| Green Ext Time (p_c), s | 0.0 | 2.6 | 0.0 | 0.0 | 0.0 | 5.1 | 0.0 | 1.1 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 72.1 |
| HCM 6th LOS | E |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

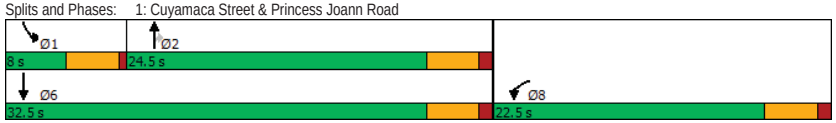
# APPENDIX X

## POST-MITIGATION PEAK HOUR INTERSECTION AND ARTERIAL ANALYSIS WORKSHEETS

| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 220 | 15 | 275 | 80 | 10 | 528 |
| Future Volume (vph) | 220 | 15 | 275 | 80 | 10 | 528 |
| Confl. Peds. (#/hr) | | | | | | |
| Confl. Bikes (#/hr) | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | 0% | | | 0% |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | | NA | Perm | Prot | NA |
| Protected Phases | 8 | | 2 | | 1 | 6 |
| Permitted Phases | | | | 2 | | |
| Detector Phase | 8 | | 2 | 2 | 1 | 6 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 22.5 | | 22.5 | 22.5 | 8.0 | 22.5 |
| Total Split (s) | 22.5 | | 24.5 | 24.5 | 8.0 | 32.5 |
| Total Split (%) | 40.9% | | 44.5% | 44.5% | 14.5% | 59.1% |
| Yellow Time (s) | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | | 1.0 | 1.0 | 0.5 | 1.0 |
| Lost Time Adjust (s) | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | | 4.5 | 4.5 | 4.0 | 4.5 |
| Lead/Lag | | | Lag | Lag | Lead | |
| Lead-Lag Optimize? | | | Yes | Yes | Yes | |
| Recall Mode | None | | Min | Min | None | Min |

| Intersection Summary |
|---|
| Cycle Length: 55 |
| Actuated Cycle Length: 42.6 |
| Natural Cycle: 55 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 1: Cuyamaca Street & Princess Joann Road






Year 2035 + Proj AM (Mitigated)
1: Cuyamaca Street & Princess Joann Road
Fanita Ranch
06/05/2019

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 220 | 15 | 275 | 80 | 10 | 528 |
| Future Volume (veh/h) | 220 | 15 | 275 | 80 | 10 | 528 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | No | | | No |
| Adj Sat Flow, veh/h/ln | 1900 | 1900 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 239 | 16 | 299 | 87 | 11 | 574 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 0 | 0 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 330 | 22 | 552 | 467 | 21 | 859 |
| Arrive On Green | 0.20 | 0.20 | 0.29 | 0.29 | 0.01 | 0.46 |
| Sat Flow, veh/h | 1677 | 112 | 1870 | 1585 | 1781 | 1870 |
| Grp Volume(v), veh/h | 256 | 0 | 299 | 87 | 11 | 574 |
| Grp Sat Flow(s),veh/h/ln | 1796 | 0 | 1870 | 1585 | 1781 | 1870 |
| Q Serve(g_s), s | 3.5 | 0.0 | 3.5 | 1.1 | 0.2 | 6.3 |
| Cycle Q Clear(g_c), s | 3.5 | 0.0 | 3.5 | 1.1 | 0.2 | 6.3 |
| Prop In Lane | 0.93 | 0.06 | | 1.00 | 1.00 | |
| Lane Grp Cap(c), veh/h | 353 | 0 | 552 | 467 | 21 | 859 |
| V/C Ratio(X) | 0.73 | 0.00 | 0.54 | 0.19 | 0.53 | 0.67 |
| Avail Cap(c_a), veh/h | 1235 | 0 | 1429 | 1211 | 272 | 2001 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 9.8 | 0.0 | 7.7 | 6.9 | 12.9 | 5.5 |
| Incr Delay (d2), s/veh | 2.8 | 0.0 | 0.8 | 0.2 | 18.9 | 0.9 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.2 | 0.0 | 0.9 | 0.2 | 0.2 | 1.1 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 12.7 | 0.0 | 8.6 | 7.1 | 31.8 | 6.4 |
| LnGrp LOS | B | A | A | A | C | A |
| Approach Vol, veh/h | 256 | | 386 | | | 585 |
| Approach Delay, s/veh | 12.7 | | 8.2 | | | 6.9 |
| Approach LOS | B | | A | | | A |

| Timer - Assigned Phs | 1 | 2 | | | 6 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 4.3 | 12.2 | | | 16.5 | 9.6 |
| Change Period (Y+Rc), s | 4.0 | 4.5 | | | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 4.0 | 20.0 | | | 28.0 | 18.0 |
| Max Q Clear Time (g_c+I1), s | 2.2 | 5.5 | | | 8.3 | 5.5 |
| Green Ext Time (p_c), s | 0.0 | 1.8 | | | 3.8 | 0.6 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 8.5 | |
| HCM 6th LOS | A | |

Notes

User approved volume balancing among the lanes for turning movement.

Fanita Ranch
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| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 5 | 5 | 20 | 128 | 5 | 5 | 15 | 392 | 58 | 5 | 757 | 5 |
| Future Volume (vph) | 5 | 5 | 20 | 128 | 5 | 5 | 15 | 392 | 58 | 5 | 757 | 5 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | 2 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Perm | NA | | Perm | NA | | Prot | NA | Perm | Prot | NA | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | | | | 2 | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | | 5 | 2 | 2 | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Minimum Split (s) | 22.5 | 22.5 | | 22.5 | 22.5 | | 8.5 | 22.5 | 22.5 | 8.5 | 22.5 | |
| Total Split (s) | 22.5 | 22.5 | | 22.5 | 22.5 | | 8.5 | 29.0 | 29.0 | 8.5 | 29.0 | |
| Total Split (%) | 37.5% | 37.5% | | 37.5% | 37.5% | | 14.2% | 48.3% | 48.3% | 14.2% | 48.3% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lag | Lag | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | Yes | Yes | Yes | |
| Recall Mode | None | None | | None | None | | None | Min | Min | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 50.6 |
| Natural Cycle: 70 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 3: Fanita Parkway & Ganley Road

Year 2035 + Proj AM (Mitigated)
3: Fanita Parkway & Ganley Road
Fanita Ranch
12/19/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 5 | 5 | 20 | 128 | 5 | 5 | 15 | 392 | 58 | 5 | 757 | 5 |
| Future Volume (veh/h) | 5 | 5 | 20 | 128 | 5 | 5 | 15 | 392 | 58 | 5 | 757 | 5 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.97 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 5 | 5 | 22 | 139 | 5 | 5 | 16 | 426 | 63 | 5 | 823 | 5 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 120 | 49 | 145 | 365 | 109 | 109 | 29 | 988 | 838 | 10 | 961 | 6 |
| Arrive On Green | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.02 | 0.53 | 0.53 | 0.01 | 0.52 | 0.52 |
| Sat Flow, veh/h | 128 | 380 | 1118 | 1383 | 846 | 846 | 1781 | 1870 | 1585 | 1781 | 1857 | 11 |
| Grp Volume(v), veh/h | 32 | 0 | 0 | 139 | 0 | 10 | 16 | 426 | 63 | 5 | 0 | 828 |
| Grp Sat Flow(s),veh/h/ln | 1627 | 0 | 0 | 1383 | 0 | 1692 | 1781 | 1870 | 1585 | 1781 | 0 | 1868 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.2 | 0.4 | 5.6 | 0.8 | 0.1 | 0.0 | 15.4 |
| Cycle Q Clear(g_c), s | 0.7 | 0.0 | 0.0 | 3.7 | 0.0 | 0.2 | 0.4 | 5.6 | 0.8 | 0.1 | 0.0 | 15.4 |
| Prop In Lane | 0.16 | | 0.69 | 1.00 | | 0.50 | 1.00 | | 1.00 | 1.00 | | 0.01 |
| Lane Grp Cap(c), veh/h | 314 | 0 | 0 | 365 | 0 | 219 | 29 | 988 | 838 | 10 | 0 | 967 |
| V/C Ratio(X) | 0.10 | 0.00 | 0.00 | 0.38 | 0.00 | 0.05 | 0.55 | 0.43 | 0.08 | 0.52 | 0.00 | 0.86 |
| Avail Cap(c_a), veh/h | 823 | 0 | 0 | 808 | 0 | 760 | 178 | 1143 | 969 | 178 | 0 | 1142 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 15.5 | 0.0 | 0.0 | 16.7 | 0.0 | 15.3 | 19.6 | 5.8 | 4.6 | 19.9 | 0.0 | 8.4 |
| Incr Delay (d2), s/veh | 0.1 | 0.0 | 0.0 | 0.7 | 0.0 | 0.1 | 15.3 | 0.3 | 0.0 | 37.3 | 0.0 | 5.8 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.2 | 0.0 | 0.0 | 1.1 | 0.0 | 0.1 | 0.3 | 1.4 | 0.2 | 0.1 | 0.0 | 5.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 15.6 | 0.0 | 0.0 | 17.4 | 0.0 | 15.4 | 34.9 | 6.1 | 4.7 | 57.1 | 0.0 | 14.2 |
| LnGrp LOS | B | A | A | B | A | B | C | A | A | E | A | B |
| Approach Vol, veh/h | | 32 | | | 149 | | | 505 | | | 833 | |
| Approach Delay, s/veh | | 15.6 | | | 17.2 | | | 6.8 | | | 14.4 | |
| Approach LOS | | B | | | B | | | A | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 4.7 | 25.7 | | 9.7 | 5.2 | 25.2 | | 9.7 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 4.0 | 24.5 | | 18.0 | 4.0 | 24.5 | | 18.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.1 | 7.6 | | 2.7 | 2.4 | 17.4 | | 5.7 | | | | |
| Green Ext Time (p_c), s | 0.0 | 2.6 | | 0.1 | 0.0 | 3.4 | | 0.3 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 12.2 | |
| HCM 6th LOS | B | |

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| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 5 | 5 | 20 | 63 | 5 | 5 | 25 | 775 | 103 | 5 | 389 | 5 |
| Future Volume (vph) | 5 | 5 | 20 | 63 | 5 | 5 | 25 | 775 | 103 | 5 | 389 | 5 |
| Confl. Peds. (#/hr) | | | | | | | | | 1 | 1 | | |
| Confl. Bikes (#/hr) | | | | | | 8 | | | 8 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Perm | NA | | Perm | NA | | Prot | NA | Perm | Prot | NA | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | | | | 2 | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | | 5 | 2 | 2 | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Minimum Split (s) | 22.5 | 22.5 | | 22.5 | 22.5 | | 8.5 | 22.5 | 22.5 | 8.5 | 22.5 | |
| Total Split (s) | 22.5 | 22.5 | | 22.5 | 22.5 | | 9.9 | 44.0 | 44.0 | 8.5 | 42.6 | |
| Total Split (%) | 30.0% | 30.0% | | 30.0% | 30.0% | | 13.2% | 58.7% | 58.7% | 11.3% | 56.8% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lag | Lag | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | Yes | Yes | Yes | |
| Recall Mode | None | None | | None | None | | None | Min | Min | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 75 |
| Actuated Cycle Length: 50.6 |
| Natural Cycle: 75 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 3: Fanita Parkway & Ganley Road

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 5 | 5 | 20 | 63 | 5 | 5 | 25 | 775 | 103 | 5 | 389 | 5 |
| Future Volume (veh/h) | 5 | 5 | 20 | 63 | 5 | 5 | 25 | 775 | 103 | 5 | 389 | 5 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.95 | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 5 | 5 | 22 | 68 | 5 | 5 | 27 | 842 | 112 | 5 | 423 | 5 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 121 | 21 | 78 | 288 | 59 | 59 | 46 | 1087 | 897 | 10 | 1034 | 12 |
| Arrive On Green | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.03 | 0.58 | 0.58 | 0.01 | 0.56 | 0.56 |
| Sat Flow, veh/h | 210 | 291 | 1102 | 1383 | 835 | 835 | 1781 | 1870 | 1544 | 1781 | 1845 | 22 |
| Grp Volume(v), veh/h | 32 | 0 | 0 | 68 | 0 | 10 | 27 | 842 | 112 | 5 | 0 | 428 |
| Grp Sat Flow(s),veh/h/ln | 1603 | 0 | 0 | 1383 | 0 | 1669 | 1781 | 1870 | 1544 | 1781 | 0 | 1866 |
| Q Serve(g_s), s | 0.3 | 0.0 | 0.0 | 0.9 | 0.0 | 0.2 | 0.6 | 13.5 | 1.3 | 0.1 | 0.0 | 5.2 |
| Cycle Q Clear(g_c), s | 0.7 | 0.0 | 0.0 | 1.7 | 0.0 | 0.2 | 0.6 | 13.5 | 1.3 | 0.1 | 0.0 | 5.2 |
| Prop In Lane | 0.16 | | 0.69 | 1.00 | | 0.50 | 1.00 | | 1.00 | 1.00 | | 0.01 |
| Lane Grp Cap(c), veh/h | 220 | 0 | 0 | 288 | 0 | 119 | 46 | 1087 | 897 | 10 | 0 | 1046 |
| V/C Ratio(X) | 0.15 | 0.00 | 0.00 | 0.24 | 0.00 | 0.08 | 0.58 | 0.77 | 0.12 | 0.52 | 0.00 | 0.41 |
| Avail Cap(c_a), veh/h | 833 | 0 | 0 | 822 | 0 | 763 | 244 | 1875 | 1548 | 181 | 0 | 1805 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 17.3 | 0.0 | 0.0 | 17.7 | 0.0 | 17.1 | 19.0 | 6.3 | 3.7 | 19.5 | 0.0 | 4.9 |
| Incr Delay (d2), s/veh | 0.3 | 0.0 | 0.0 | 0.4 | 0.0 | 0.3 | 11.1 | 1.2 | 0.1 | 37.2 | 0.0 | 0.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.3 | 0.0 | 0.0 | 0.6 | 0.0 | 0.1 | 0.4 | 3.0 | 0.2 | 0.1 | 0.0 | 1.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 17.6 | 0.0 | 0.0 | 18.1 | 0.0 | 17.4 | 30.1 | 7.5 | 3.8 | 56.8 | 0.0 | 5.2 |
| LnGrp LOS | B | A | A | B | A | B | C | A | A | E | A | A |
| Approach Vol, veh/h | | 32 | | | 78 | | | 981 | | | 433 | |
| Approach Delay, s/veh | | 17.6 | | | 18.0 | | | 7.7 | | | 5.8 | |
| Approach LOS | | B | | | B | | | A | | | A | |

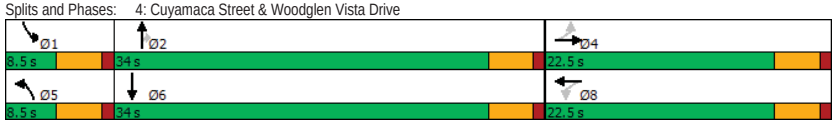
| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 4.7 | 27.4 | | 7.3 | 5.5 | 26.6 | | 7.3 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 4.0 | 39.5 | | 18.0 | 5.4 | 38.1 | | 18.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.1 | 15.5 | | 2.7 | 2.6 | 7.2 | | 3.7 | | | | |
| Green Ext Time (p_c), s | 0.0 | 7.4 | | 0.1 | 0.0 | 2.9 | | 0.1 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 7.9 | |
| HCM 6th LOS | A | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 5 | 15 | 235 | 0 | 5 | 5 | 340 | 70 | 10 | 723 | 0 |
| Future Volume (vph) | 0 | 5 | 15 | 235 | 0 | 5 | 5 | 340 | 70 | 10 | 723 | 0 |
| Confl. Peds. (#/hr) | 3 | | 2 | 2 | | 3 | 5 | | 4 | 4 | | 5 |
| Confl. Bikes (#/hr) | | | | | | | | | 1 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | | NA | | Perm | NA | | Prot | NA | Perm | Prot | NA | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | | | | 2 | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | | 5 | 2 | 2 | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Minimum Split (s) | 22.5 | 22.5 | | 22.5 | 22.5 | | 8.5 | 22.5 | 22.5 | 8.5 | 22.5 | |
| Total Split (s) | 22.5 | 22.5 | | 22.5 | 22.5 | | 8.5 | 34.0 | 34.0 | 8.5 | 34.0 | |
| Total Split (%) | 34.6% | 34.6% | | 34.6% | 34.6% | | 13.1% | 52.3% | 52.3% | 13.1% | 52.3% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | | | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | | 4.5 | | | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lag | Lag | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | Yes | Yes | Yes | |
| Recall Mode | None | None | | None | None | | None | Min | Min | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 65 |
| Actuated Cycle Length: 51.2 |
| Natural Cycle: 70 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 4: Cuyamaca Street & Woodglen Vista Drive






Year 2035 + Proj AM (Mitigated) Fanita Ranch
4: Cuyamaca Street & Woodglen Vista Drive 06/05/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 5 | 15 | 235 | 0 | 5 | 5 | 340 | 70 | 10 | 723 | 0 |
| Future Volume (veh/h) | 0 | 5 | 15 | 235 | 0 | 5 | 5 | 340 | 70 | 10 | 723 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.99 | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 5 | 16 | 255 | 0 | 5 | 5 | 370 | 76 | 11 | 786 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 0 | 95 | 303 | 459 | 0 | 6 | 10 | 894 | 738 | 20 | 905 | 0 |
| Arrive On Green | 0.00 | 0.24 | 0.24 | 0.24 | 0.00 | 0.24 | 0.01 | 0.48 | 0.48 | 0.01 | 0.48 | 0.00 |
| Sat Flow, veh/h | 0 | 390 | 1249 | 1307 | 0 | 26 | 1781 | 1870 | 1544 | 1781 | 1870 | 0 |
| Grp Volume(v), veh/h | 0 | 0 | 21 | 260 | 0 | 0 | 5 | 370 | 76 | 11 | 786 | 0 |
| Grp Sat Flow(s),veh/h/ln | 0 | 0 | 1640 | 1333 | 0 | 0 | 1781 | 1870 | 1544 | 1781 | 1870 | 0 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.5 | 8.9 | 0.0 | 0.0 | 0.1 | 6.5 | 1.4 | 0.3 | 18.8 | 0.0 |
| Cycle Q Clear(g_c), s | 0.0 | 0.0 | 0.5 | 9.4 | 0.0 | 0.0 | 0.1 | 6.5 | 1.4 | 0.3 | 18.8 | 0.0 |
| Prop In Lane | 0.00 | | 0.76 | 0.98 | | 0.02 | 1.00 | | 1.00 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 0 | 0 | 398 | 465 | 0 | 0 | 10 | 894 | 738 | 20 | 905 | 0 |
| V/C Ratio(X) | 0.00 | 0.00 | 0.05 | 0.56 | 0.00 | 0.00 | 0.52 | 0.41 | 0.10 | 0.55 | 0.87 | 0.00 |
| Avail Cap(c_a), veh/h | 0 | 0 | 587 | 625 | 0 | 0 | 142 | 1097 | 905 | 142 | 1097 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | 0.0 | 0.0 | 14.6 | 18.2 | 0.0 | 0.0 | 25.0 | 8.6 | 7.2 | 24.7 | 11.6 | 0.0 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 0.1 | 1.1 | 0.0 | 0.0 | 37.9 | 0.3 | 0.1 | 20.9 | 6.6 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.0 | 0.2 | 2.7 | 0.0 | 0.0 | 0.2 | 2.0 | 0.3 | 0.2 | 7.2 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 0.0 | 14.7 | 19.3 | 0.0 | 0.0 | 62.9 | 8.9 | 7.3 | 45.7 | 18.1 | 0.0 |
| LnGrp LOS | A | A | B | B | A | A | E | A | A | D | B | A |
| Approach Vol, veh/h | | 21 | | | 260 | | | 451 | | | 797 | |
| Approach Delay, s/veh | | 14.7 | | | 19.3 | | | 9.2 | | | 18.5 | |
| Approach LOS | | B | | | B | | | A | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.1 | 28.5 | | 16.7 | 4.8 | 28.8 | | 16.7 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 4.0 | 29.5 | | 18.0 | 4.0 | 29.5 | | 18.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.3 | 8.5 | | 2.5 | 2.1 | 20.8 | | 11.4 | | | | |
| Green Ext Time (p_c), s | 0.0 | 2.4 | | 0.0 | 0.0 | 3.5 | | 0.8 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 15.8 | |
| HCM 6th LOS | B | |

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| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 5 | 10 | 265 | 5 | 5 | 5 | 405 | 50 | 5 | 958 | 5 |
| Future Volume (vph) | 0 | 5 | 10 | 265 | 5 | 5 | 5 | 405 | 50 | 5 | 958 | 5 |
| Confl. Peds. (#/hr) | 3 | | 1 | 1 | | 3 | 5 | | 6 | 6 | | 5 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | | NA | | Perm | NA | | Prot | NA | | Prot | NA | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | 22.5 | 22.5 | | 22.5 | 22.5 | | 8.5 | 22.5 | | 8.5 | 22.5 | |
| Total Split (s) | 24.0 | 24.0 | | 24.0 | 24.0 | | 8.6 | 27.4 | | 8.6 | 27.4 | |
| Total Split (%) | 40.0% | 40.0% | | 40.0% | 40.0% | | 14.3% | 45.7% | | 14.3% | 45.7% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | | | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | | 4.5 | | | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 47.4 |
| Natural Cycle: 60 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 6: Cuyamaca Street & El Nopal

Year 2035 + Proj AM (Mitigated)
6: Cuyamaca Street & El Nopal

Fanita Ranch
06/05/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 5 | 10 | 265 | 5 | 5 | 5 | 405 | 50 | 5 | 958 | 5 |
| Future Volume (veh/h) | 0 | 5 | 10 | 265 | 5 | 5 | 5 | 405 | 50 | 5 | 958 | 5 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.98 | 1.00 | | 0.99 | 1.00 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 5 | 11 | 288 | 5 | 5 | 5 | 440 | 54 | 5 | 1041 | 5 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 0 | 144 | 316 | 531 | 6 | 6 | 10 | 1279 | 156 | 10 | 1456 | 7 |
| Arrive On Green | 0.00 | 0.28 | 0.28 | 0.28 | 0.28 | 0.28 | 0.01 | 0.40 | 0.40 | 0.01 | 0.40 | 0.40 |
| Sat Flow, veh/h | 0 | 519 | 1142 | 1320 | 23 | 23 | 1781 | 3185 | 389 | 1781 | 3626 | 17 |
| Grp Volume(v), veh/h | 0 | 0 | 16 | 298 | 0 | 0 | 5 | 244 | 250 | 5 | 510 | 536 |
| Grp Sat Flow(s),veh/h/ln | 0 | 0 | 1660 | 1366 | 0 | 0 | 1781 | 1777 | 1797 | 1781 | 1777 | 1867 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.3 | 8.4 | 0.0 | 0.0 | 0.1 | 4.1 | 4.1 | 0.1 | 10.3 | 10.3 |
| Cycle Q Clear(g_c), s | 0.0 | 0.0 | 0.3 | 8.7 | 0.0 | 0.0 | 0.1 | 4.1 | 4.1 | 0.1 | 10.3 | 10.3 |
| Prop In Lane | 0.00 | | 0.69 | 0.97 | | 0.02 | 1.00 | | 0.22 | 1.00 | | 0.01 |
| Lane Grp Cap(c), veh/h | 0 | 0 | 460 | 544 | 0 | 0 | 10 | 713 | 721 | 10 | 713 | 750 |
| V/C Ratio(X) | 0.00 | 0.00 | 0.03 | 0.55 | 0.00 | 0.00 | 0.52 | 0.34 | 0.35 | 0.52 | 0.72 | 0.72 |
| Avail Cap(c_a), veh/h | 0 | 0 | 758 | 796 | 0 | 0 | 171 | 953 | 964 | 171 | 953 | 1001 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 0.0 | 0.0 | 11.3 | 14.5 | 0.0 | 0.0 | 21.2 | 8.9 | 8.9 | 21.2 | 10.7 | 10.7 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 0.0 | 0.9 | 0.0 | 0.0 | 37.4 | 0.3 | 0.3 | 37.4 | 1.7 | 1.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.0 | 0.1 | 2.4 | 0.0 | 0.0 | 0.1 | 1.2 | 1.2 | 0.1 | 3.2 | 3.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 0.0 | 11.3 | 15.3 | 0.0 | 0.0 | 58.6 | 9.2 | 9.2 | 58.6 | 12.4 | 12.3 |
| LnGrp LOS | A | A | B | B | A | A | E | A | A | E | B | B |
| Approach Vol, veh/h | | 16 | | | 298 | | | 499 | | | 1051 | |
| Approach Delay, s/veh | | 11.3 | | | 15.3 | | | 9.7 | | | 12.6 | |
| Approach LOS | | B | | | B | | | A | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 4.7 | 21.6 | | 16.3 | 4.7 | 21.6 | | 16.3 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 4.1 | 22.9 | | 19.5 | 4.1 | 22.9 | | 19.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.1 | 6.1 | | 2.3 | 2.1 | 12.3 | | 10.7 | | | | |
| Green Ext Time (p_c), s | 0.0 | 2.6 | | 0.0 | 0.0 | 4.8 | | 1.2 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 12.2 | |
| HCM 6th LOS | B | |

Fanita Ranch
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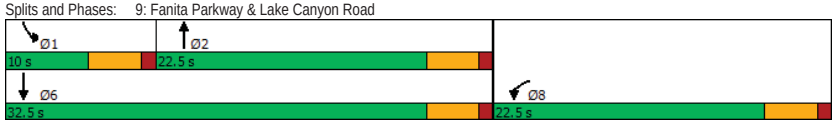
| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 90 | 38 | 425 | 75 | 59 | 825 |
| Future Volume (vph) | 90 | 38 | 425 | 75 | 59 | 825 |
| Confl. Peds. (#/hr) | 17 | 47 | | 2 | 2 | |
| Confl. Bikes (#/hr) | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | 0% | | | 0% |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | | NA | | Prot | NA |
| Protected Phases | 8 | | 2 | | 1 | 6 |
| Permitted Phases | | | | | | |
| Detector Phase | 8 | | 2 | | 1 | 6 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | | 4.0 | | 4.0 | 4.0 |
| Minimum Split (s) | 22.5 | | 22.5 | | 8.5 | 22.5 |
| Total Split (s) | 22.5 | | 22.5 | | 10.0 | 32.5 |
| Total Split (%) | 40.9% | | 40.9% | | 18.2% | 59.1% |
| Yellow Time (s) | 3.5 | | 3.5 | | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | | 1.0 | | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | | 4.5 | | 4.5 | 4.5 |
| Lead/Lag | | | Lag | | Lead | |
| Lead-Lag Optimize? | | | Yes | | Yes | |
| Recall Mode | None | | Min | | None | Min |

| Intersection Summary |
|---|
| Cycle Length: 55 |
| Actuated Cycle Length: 39.3 |
| Natural Cycle: 55 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 9: Fanita Parkway & Lake Canyon Road






Year 2035 + Proj AM (Mitigated)
9: Fanita Parkway & Lake Canyon Road
Fanita Ranch
06/05/2019

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 90 | 38 | 425 | 75 | 59 | 825 |
| Future Volume (veh/h) | 90 | 38 | 425 | 75 | 59 | 825 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | No | | | No |
| Adj Sat Flow, veh/h/ln | 1870 | 1900 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 70 | 72 | 462 | 82 | 64 | 897 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 0 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 178 | 161 | 933 | 165 | 102 | 1935 |
| Arrive On Green | 0.10 | 0.10 | 0.31 | 0.31 | 0.06 | 0.54 |
| Sat Flow, veh/h | 1781 | 1610 | 3111 | 532 | 1781 | 3647 |
| Grp Volume(v), veh/h | 70 | 72 | 271 | 273 | 64 | 897 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1610 | 1777 | 1773 | 1781 | 1777 |
| Q Serve(g_s), s | 0.9 | 1.1 | 3.1 | 3.2 | 0.9 | 3.9 |
| Cycle Q Clear(g_c), s | 0.9 | 1.1 | 3.1 | 3.2 | 0.9 | 3.9 |
| Prop In Lane | 1.00 | 1.00 | | 0.30 | 1.00 | |
| Lane Grp Cap(c), veh/h | 178 | 161 | 550 | 548 | 102 | 1935 |
| V/C Ratio(X) | 0.39 | 0.45 | 0.49 | 0.50 | 0.63 | 0.46 |
| Avail Cap(c_a), veh/h | 1267 | 1146 | 1264 | 1261 | 387 | 3933 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 10.7 | 10.7 | 7.1 | 7.1 | 11.7 | 3.5 |
| Incr Delay (d2), s/veh | 1.4 | 1.9 | 0.7 | 0.7 | 6.2 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.3 | 0.4 | 0.6 | 0.6 | 0.4 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 12.1 | 12.7 | 7.8 | 7.8 | 17.9 | 3.7 |
| LnGrp LOS | B | B | A | A | B | A |
| Approach Vol, veh/h | 142 | | 544 | | | 961 |
| Approach Delay, s/veh | 12.4 | | 7.8 | | | 4.6 |
| Approach LOS | B | | A | | | A |

| Timer - Assigned Phs | 1 | 2 | | | 6 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.9 | 12.3 | | | 18.3 | 7.0 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 5.5 | 18.0 | | | 28.0 | 18.0 |
| Max Q Clear Time (g_c+I1), s | 2.9 | 5.2 | | | 5.9 | 3.1 |
| Green Ext Time (p_c), s | 0.0 | 2.5 | | | 6.2 | 0.3 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 6.4 | |
| HCM 6th LOS | A | |

| Notes |
|---|
| User approved volume balancing among the lanes for turning movement. |

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| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 15 | 95 | 5 | 5 | 5 | 440 | 35 | 5 | 1183 | 0 |
| Future Volume (vph) | 0 | 0 | 15 | 95 | 5 | 5 | 5 | 440 | 35 | 5 | 1183 | 0 |
| Confl. Peds. (#/hr) | 1 | | | | | 1 | 4 | | 6 | 6 | | 4 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | | NA | | Perm | NA | | Prot | NA | | Prot | NA | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | 22.5 | 22.5 | | 22.5 | 22.5 | | 8.5 | 22.5 | | 8.5 | 22.5 | |
| Total Split (s) | 22.5 | 22.5 | | 22.5 | 22.5 | | 8.5 | 29.0 | | 8.5 | 29.0 | |
| Total Split (%) | 37.5% | 37.5% | | 37.5% | 37.5% | | 14.2% | 48.3% | | 14.2% | 48.3% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | | | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | | 4.5 | | | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 48.5 |
| Natural Cycle: 60 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 12: Cuyamaca Street & Beck Drive

Year 2035 + Proj AM (Mitigated)
12: Cuyamaca Street & Beck Drive
Fanita Ranch
06/05/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 15 | 95 | 5 | 5 | 5 | 440 | 35 | 5 | 1183 | 0 |
| Future Volume (veh/h) | 0 | 0 | 15 | 95 | 5 | 5 | 5 | 440 | 35 | 5 | 1183 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.99 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 0 | 16 | 103 | 5 | 5 | 5 | 478 | 38 | 5 | 1286 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 0 | 0 | 182 | 321 | 7 | 7 | 10 | 1729 | 137 | 10 | 1843 | 0 |
| Arrive On Green | 0.00 | 0.00 | 0.11 | 0.11 | 0.11 | 0.11 | 0.01 | 0.52 | 0.52 | 0.01 | 0.52 | 0.00 |
| Sat Flow, veh/h | 0 | 0 | 1581 | 1190 | 58 | 58 | 1781 | 3334 | 264 | 1781 | 3647 | 0 |
| Grp Volume(v), veh/h | 0 | 0 | 16 | 113 | 0 | 0 | 5 | 254 | 262 | 5 | 1286 | 0 |
| Grp Sat Flow(s),veh/h/ln | 0 | 0 | 1581 | 1306 | 0 | 0 | 1781 | 1777 | 1821 | 1781 | 1777 | 0 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.3 | 2.9 | 0.0 | 0.0 | 0.1 | 3.0 | 3.0 | 0.1 | 10.2 | 0.0 |
| Cycle Q Clear(g_c), s | 0.0 | 0.0 | 0.3 | 3.2 | 0.0 | 0.0 | 0.1 | 3.0 | 3.0 | 0.1 | 10.2 | 0.0 |
| Prop In Lane | 0.00 | | 1.00 | 0.91 | | 0.04 | 1.00 | | 0.15 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 0 | 0 | 182 | 334 | 0 | 0 | 10 | 922 | 945 | 10 | 1843 | 0 |
| V/C Ratio(X) | 0.00 | 0.00 | 0.09 | 0.34 | 0.00 | 0.00 | 0.52 | 0.28 | 0.28 | 0.52 | 0.70 | 0.00 |
| Avail Cap(c_a), veh/h | 0 | 0 | 761 | 853 | 0 | 0 | 190 | 1164 | 1193 | 190 | 2327 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | 0.0 | 0.0 | 14.8 | 16.2 | 0.0 | 0.0 | 18.6 | 5.1 | 5.1 | 18.6 | 6.8 | 0.0 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 0.2 | 0.6 | 0.0 | 0.0 | 37.1 | 0.2 | 0.2 | 37.1 | 0.7 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.0 | 0.1 | 0.8 | 0.0 | 0.0 | 0.1 | 0.6 | 0.6 | 0.1 | 2.3 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 0.0 | 15.0 | 16.8 | 0.0 | 0.0 | 55.6 | 5.2 | 5.2 | 55.6 | 7.5 | 0.0 |
| LnGrp LOS | A | A | B | B | A | A | E | A | A | E | A | A |
| Approach Vol, veh/h | | 16 | | | 113 | | | 521 | | | 1291 | |
| Approach Delay, s/veh | | 15.0 | | | 16.8 | | | 5.7 | | | 7.6 | |
| Approach LOS | | B | | | B | | | A | | | A | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 4.7 | 23.9 | | 8.8 | 4.7 | 23.9 | | 8.8 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 4.0 | 24.5 | | 18.0 | 4.0 | 24.5 | | 18.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.1 | 5.0 | | 2.3 | 2.1 | 12.2 | | 5.2 | | | | |
| Green Ext Time (p_c), s | 0.0 | 2.9 | | 0.0 | 0.0 | 7.2 | | 0.4 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 7.7 | |
| HCM 6th LOS | A | |

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| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 20 | 578 | 0 | 0 | 290 | 2912 | 10 | 0 | 75 | 0 | 0 | 0 |
| Future Volume (vph) | 20 | 578 | 0 | 0 | 290 | 2912 | 10 | 0 | 75 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | 28% | | | 44% | | | |
| Turn Type | Prot | NA | | | NA | Perm | Split | NA | Perm | | | |
| Protected Phases | 5 | 2 | | | 6 | | 8 | 8 | | | | |
| Permitted Phases | | | | | | 6 | | | 8 | | | |
| Detector Phase | 5 | 2 | | | 6 | 6 | 8 | 8 | 8 | | | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 10.0 | | | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | | | |
| Minimum Split (s) | 11.7 | 38.6 | | | 28.4 | 28.4 | 43.1 | 43.1 | 43.1 | | | |
| Total Split (s) | 11.7 | 86.9 | | | 75.2 | 75.2 | 43.1 | 43.1 | 43.1 | | | |
| Total Split (%) | 9.0% | 66.8% | | | 57.8% | 57.8% | 33.2% | 33.2% | 33.2% | | | |
| Yellow Time (s) | 3.7 | 4.1 | | | 4.4 | 4.4 | 4.1 | 4.1 | 4.1 | | | |
| All-Red Time (s) | 1.0 | 1.0 | | | 1.0 | 1.0 | 2.0 | 2.0 | 2.0 | | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | 0.0 | | | |
| Total Lost Time (s) | 4.7 | 5.1 | | | 5.4 | 5.4 | | 6.1 | 6.1 | | | |
| Lead/Lag | Lead | | | | Lag | Lag | | | | | | |
| Lead-Lag Optimize? | Yes | | | | Yes | Yes | | | | | | |
| Recall Mode | None | Min | | | Min | Min | None | None | None | | | |

| Intersection Summary |
|---|
| Cycle Length: 130 |
| Actuated Cycle Length: 105.2 |
| Natural Cycle: 145 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 17: SR-52 WB Ramps & Mast Blvd

Year 2035 + Proj AM (Mitigated)
17: SR-52 WB Ramps & Mast Blvd
Fanita Ranch
06/05/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 20 | 578 | 0 | 0 | 290 | 2912 | 10 | 0 | 75 | 0 | 0 | 0 |
| Future Volume (veh/h) | 20 | 578 | 0 | 0 | 290 | 2912 | 10 | 0 | 75 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.99 | 1.00 | | 1.00 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.99 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 0 | 0 | 1870 | 1945 | 1870 | 1870 | 1870 | | | |
| Adj Flow Rate, veh/h | 22 | 628 | 0 | 0 | 933 | 2690 | 0 | 0 | 94 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | |
| Percent Heavy Veh, % | 2 | 2 | 0 | 0 | 2 | 2 | 2 | 2 | 2 | | | |
| Cap, veh/h | 57 | 2805 | 0 | 0 | 1327 | 2310 | 0 | 173 | 297 | | | |
| Arrive On Green | 0.03 | 0.79 | 0.00 | 0.00 | 0.71 | 0.71 | 0.00 | 0.00 | 0.09 | | | |
| Sat Flow, veh/h | 1781 | 3647 | 0 | 0 | 1870 | 3256 | 0 | 1848 | 3170 | | | |
| Grp Volume(v), veh/h | 22 | 628 | 0 | 0 | 933 | 2690 | 0 | 0 | 94 | | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 0 | 0 | 1870 | 1628 | 0 | 1848 | 1585 | | | |
| Q Serve(g_s), s | 1.2 | 4.5 | 0.0 | 0.0 | 28.5 | 69.8 | 0.0 | 0.0 | 2.7 | | | |
| Cycle Q Clear(g_c), s | 1.2 | 4.5 | 0.0 | 0.0 | 28.5 | 69.8 | 0.0 | 0.0 | 2.7 | | | |
| Prop In Lane | 1.00 | | 0.00 | 0.00 | | 1.00 | 0.00 | | 1.00 | | | |
| Lane Grp Cap(c), veh/h | 57 | 2805 | 0 | 0 | 1327 | 2310 | 0 | 173 | 297 | | | |
| V/C Ratio(X) | 0.38 | 0.22 | 0.00 | 0.00 | 0.70 | 1.16 | 0.00 | 0.00 | 0.32 | | | |
| Avail Cap(c_a), veh/h | 127 | 2954 | 0 | 0 | 1327 | 2310 | 0 | 695 | 1192 | | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | | | |
| Uniform Delay (d), s/veh | 46.7 | 2.7 | 0.0 | 0.0 | 8.3 | 14.3 | 0.0 | 0.0 | 41.6 | | | |
| Incr Delay (d2), s/veh | 1.6 | 0.0 | 0.0 | 0.0 | 1.7 | 79.2 | 0.0 | 0.0 | 0.2 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ln | 0.5 | 1.0 | 0.0 | 0.0 | 9.6 | 44.6 | 0.0 | 0.0 | 1.1 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 48.2 | 2.7 | 0.0 | 0.0 | 10.0 | 93.5 | 0.0 | 0.0 | 41.9 | | | |
| LnGrp LOS | D | A | A | A | A | F | A | A | D | | | |
| Approach Vol, veh/h | | 650 | | | 3623 | | | 94 | | | | |
| Approach Delay, s/veh | | 4.2 | | | 72.0 | | | 41.9 | | | | |
| Approach LOS | | A | | | E | | | D | | | | |

| Timer - Assigned Phs | 2 | 5 | 6 | 8 |
|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 83.1 | 7.9 | 75.2 | 15.3 |
| Change Period (Y+Rc), s | * 5.4 | * 4.7 | 5.4 | 6.1 |
| Max Green Setting (Gmax), s | * 82 | * 7 | 69.8 | 37.0 |
| Max Q Clear Time (g_c+I1), s | 6.5 | 3.2 | 71.8 | 4.7 |
| Green Ext Time (p_c), s | 4.8 | 0.0 | 0.0 | 0.2 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 61.3 | |
| HCM 6th LOS | E | |

| Notes |
|---|
| User approved volume balancing among the lanes for turning movement. |
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. |

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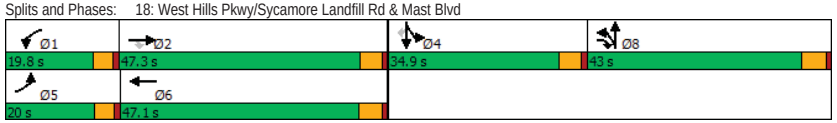
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 120 | 423 | 110 | 203 | 1902 | 20 | 1200 | 15 | 460 | 10 | 10 | 100 |
| Future Volume (vph) | 120 | 423 | 110 | 203 | 1902 | 20 | 1200 | 15 | 460 | 10 | 10 | 100 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | 1 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | | Split | NA | | Split | NA | Perm |
| Protected Phases | 5 | 2 | 8 | 1 | 6 | | 8 | 8 | | 4 | 4 | |
| Permitted Phases | | | 2 | | | | | | | | | 4 |
| Detector Phase | 5 | 2 | 8 | 1 | 6 | | 8 | 8 | | 4 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 10.0 | 10.0 | 4.0 | 10.0 | | 10.0 | 10.0 | | 10.0 | 10.0 | 10.0 |
| Minimum Split (s) | 20.0 | 34.9 | 33.4 | 8.4 | 35.2 | | 33.4 | 33.4 | | 34.9 | 34.9 | 34.9 |
| Total Split (s) | 20.0 | 47.3 | 43.0 | 19.8 | 47.1 | | 43.0 | 43.0 | | 34.9 | 34.9 | 34.9 |
| Total Split (%) | 13.8% | 32.6% | 29.7% | 13.7% | 32.5% | | 29.7% | 29.7% | | 24.1% | 24.1% | 24.1% |
| Yellow Time (s) | 3.4 | 3.9 | 4.4 | 3.4 | 4.2 | | 4.4 | 4.4 | | 3.9 | 3.9 | 3.9 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.4 | 4.9 | 5.4 | 4.4 | 5.2 | | 5.4 | 5.4 | | | 4.9 | 4.9 |
| Lead/Lag | Lead | Lag | | Lead | Lag | | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | | | | | | |
| Recall Mode | None | Min | None | None | Min | | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 145 |
| Actuated Cycle Length: 122.5 |
| Natural Cycle: 145 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 18: West Hills Pkwy/Sycamore Landfill Rd & Mast Blvd






Year 2035 + Proj AM (Mitigated) Fanita Ranch
18: West Hills Pkwy/Sycamore Landfill Rd & Mast Blvd 06/05/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 120 | 423 | 110 | 203 | 1902 | 20 | 1200 | 15 | 460 | 10 | 10 | 100 |
| Future Volume (veh/h) | 120 | 423 | 110 | 203 | 1902 | 20 | 1200 | 15 | 460 | 10 | 10 | 100 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.98 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 130 | 460 | 113 | 221 | 2067 | 21 | 1304 | 16 | 475 | 11 | 11 | 98 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 158 | 1825 | 1064 | 280 | 1821 | 18 | 1084 | 16 | 483 | 75 | 75 | 130 |
| Arrive On Green | 0.09 | 0.36 | 0.36 | 0.08 | 0.35 | 0.35 | 0.31 | 0.31 | 0.31 | 0.08 | 0.08 | 0.08 |
| Sat Flow, veh/h | 1781 | 5106 | 1585 | 3456 | 5211 | 53 | 3456 | 52 | 1541 | 912 | 912 | 1585 |
| Grp Volume(v), veh/h | 130 | 460 | 113 | 221 | 1350 | 738 | 1304 | 0 | 491 | 22 | 0 | 98 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1702 | 1585 | 1728 | 1702 | 1859 | 1728 | 0 | 1593 | 1825 | 0 | 1585 |
| Q Serve(g_s), s | 8.6 | 7.6 | 3.0 | 7.5 | 41.9 | 41.9 | 37.6 | 0.0 | 36.7 | 1.3 | 0.0 | 7.3 |
| Cycle Q Clear(g_c), s | 8.6 | 7.6 | 3.0 | 7.5 | 41.9 | 41.9 | 37.6 | 0.0 | 36.7 | 1.3 | 0.0 | 7.3 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.03 | 1.00 | | 0.97 | 0.50 | | 1.00 |
| Lane Grp Cap(c), veh/h | 158 | 1825 | 1064 | 280 | 1190 | 650 | 1084 | 0 | 500 | 149 | 0 | 130 |
| V/C Ratio(X) | 0.82 | 0.25 | 0.11 | 0.79 | 1.13 | 1.14 | 1.20 | 0.00 | 0.98 | 0.15 | 0.00 | 0.76 |
| Avail Cap(c_a), veh/h | 232 | 1825 | 1064 | 444 | 1190 | 650 | 1084 | 0 | 500 | 457 | 0 | 397 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 53.7 | 27.2 | 7.0 | 54.1 | 39.0 | 39.0 | 41.1 | 0.0 | 40.8 | 51.1 | 0.0 | 53.9 |
| Incr Delay (d2), s/veh | 9.0 | 0.1 | 0.1 | 1.9 | 71.4 | 79.0 | 100.3 | 0.0 | 35.7 | 0.4 | 0.0 | 8.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 4.2 | 3.1 | 2.2 | 3.3 | 28.5 | 32.6 | 30.3 | 0.0 | 18.6 | 0.6 | 0.0 | 0.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 62.7 | 27.3 | 7.0 | 56.0 | 110.3 | 118.0 | 141.5 | 0.0 | 76.5 | 51.6 | 0.0 | 62.4 |
| LnGrp LOS | E | C | A | E | F | F | F | A | E | D | A | E |
| Approach Vol, veh/h | | 703 | | | 2309 | | | 1795 | | | 120 | |
| Approach Delay, s/veh | | 30.6 | | | 107.6 | | | 123.7 | | | 60.4 | |
| Approach LOS | | C | | | F | | | F | | | E | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 14.1 | 48.0 | | 14.7 | 15.1 | 47.1 | | 43.0 | | | | |
| Change Period (Y+Rc), s | 4.4 | * 5.2 | | 4.9 | 4.4 | 5.2 | | 5.4 | | | | |
| Max Green Setting (Gmax), s | 15.4 | * 42 | | 30.0 | 15.6 | 41.9 | | 37.6 | | | | |
| Max Q Clear Time (g_c+I1), s | 9.5 | 9.6 | | 9.3 | 10.6 | 43.9 | | 39.6 | | | | |
| Green Ext Time (p_c), s | 0.2 | 4.6 | | 0.3 | 0.1 | 0.0 | | 0.0 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 101.3 | |
| HCM 6th LOS | F | |

| Notes |
|---|
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. |

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| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 311 | 575 | 180 | 120 | 1523 | 89 | 70 | 146 | 50 | 76 | 273 | 570 |
| Future Volume (vph) | 311 | 575 | 180 | 120 | 1523 | 89 | 70 | 146 | 50 | 76 | 273 | 570 |
| Confl. Peds. (#/hr) | | | 8 | | | | | | 6 | | | 2 |
| Confl. Bikes (#/hr) | | | 2 | | | 2 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | | | | | | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 27.5 | 27.5 | 8.2 | 28.1 | | 8.2 | 35.1 | | 8.2 | 28.1 | 28.1 |
| Total Split (s) | 12.0 | 37.7 | 37.7 | 19.0 | 44.7 | | 14.1 | 35.1 | | 8.2 | 29.2 | 29.2 |
| Total Split (%) | 12.0% | 37.7% | 37.7% | 19.0% | 44.7% | | 14.1% | 35.1% | | 8.2% | 29.2% | 29.2% |
| Yellow Time (s) | 3.2 | 4.5 | 4.5 | 3.2 | 4.1 | | 3.2 | 4.1 | | 3.2 | 4.1 | 4.1 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.5 | 5.5 | 4.2 | 5.1 | | 4.2 | 5.1 | | 4.2 | 5.1 | 5.1 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | C-Max | C-Max | None | C-Max | | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 14.1 (14%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 140 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 22: Fanita Parkway & Mast Blvd

Year 2035 + Proj AM (Mitigated)
22: Fanita Parkway & Mast Blvd
Fanita Ranch
06/05/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 311 | 575 | 180 | 120 | 1523 | 89 | 70 | 146 | 50 | 76 | 273 | 570 |
| Future Volume (veh/h) | 311 | 575 | 180 | 120 | 1523 | 89 | 70 | 146 | 50 | 76 | 273 | 570 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 338 | 625 | 196 | 130 | 1655 | 97 | 76 | 159 | 54 | 83 | 297 | 620 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 270 | 1509 | 652 | 161 | 1489 | 87 | 98 | 340 | 115 | 71 | 450 | 668 |
| Arrive On Green | 0.16 | 0.85 | 0.85 | 0.09 | 0.44 | 0.44 | 0.05 | 0.26 | 0.26 | 0.04 | 0.24 | 0.24 |
| Sat Flow, veh/h | 3456 | 3554 | 1536 | 1781 | 3410 | 198 | 1781 | 1333 | 453 | 1781 | 1870 | 2778 |
| Grp Volume(v), veh/h | 338 | 625 | 196 | 130 | 857 | 895 | 76 | 0 | 213 | 83 | 297 | 620 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1536 | 1781 | 1777 | 1832 | 1781 | 0 | 1785 | 1781 | 1870 | 1389 |
| Q Serve(g_s), s | 7.8 | 4.1 | 2.6 | 7.2 | 43.7 | 43.7 | 4.2 | 0.0 | 10.1 | 4.0 | 14.3 | 21.8 |
| Cycle Q Clear(g_c), s | 7.8 | 4.1 | 2.6 | 7.2 | 43.7 | 43.7 | 4.2 | 0.0 | 10.1 | 4.0 | 14.3 | 21.8 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.11 | 1.00 | | 0.25 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 270 | 1509 | 652 | 161 | 776 | 800 | 98 | 0 | 456 | 71 | 450 | 668 |
| V/C Ratio(X) | 1.25 | 0.41 | 0.30 | 0.81 | 1.10 | 1.12 | 0.78 | 0.00 | 0.47 | 1.16 | 0.66 | 0.93 |
| Avail Cap(c_a), veh/h | 270 | 1509 | 652 | 264 | 776 | 800 | 176 | 0 | 536 | 71 | 451 | 670 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.92 | 0.92 | 0.92 | 0.17 | 0.17 | 0.17 | 0.98 | 0.00 | 0.98 | 0.94 | 0.94 | 0.94 |
| Uniform Delay (d), s/veh | 42.2 | 4.6 | 4.5 | 44.7 | 28.2 | 28.2 | 46.7 | 0.0 | 31.5 | 48.0 | 34.3 | 37.1 |
| Incr Delay (d2), s/veh | 139.2 | 0.8 | 1.1 | 1.3 | 50.7 | 56.9 | 9.3 | 0.0 | 2.6 | 154.7 | 5.6 | 19.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 8.2 | 1.2 | 0.9 | 3.2 | 28.2 | 30.5 | 2.1 | 0.0 | 4.5 | 4.8 | 7.0 | 8.9 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 181.4 | 5.4 | 5.6 | 45.9 | 78.8 | 85.0 | 55.9 | 0.0 | 34.1 | 202.7 | 39.9 | 56.7 |
| LnGrp LOS | F | A | A | D | F | F | E | A | C | F | D | E |
| Approach Vol, veh/h | | 1159 | | | 1882 | | | 289 | | | 1000 | |
| Approach Delay, s/veh | | 56.8 | | | 79.5 | | | 39.9 | | | 63.9 | |
| Approach LOS | | E | | | E | | | D | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 13.2 | 48.0 | 9.7 | 29.1 | 12.0 | 49.2 | 8.2 | 30.6 |
| Change Period (Y+Rc), s | * 4.2 | 5.5 | * 4.2 | 5.1 | * 4.2 | * 5.5 | * 4.2 | 5.1 |
| Max Green Setting (Gmax), s | * 15 | 32.2 | * 9.9 | 24.1 | * 7.8 | * 40 | * 4 | 30.0 |
| Max Q Clear Time (g_c+I1), s | 9.2 | 6.1 | 6.2 | 23.8 | 9.8 | 45.7 | 6.0 | 12.1 |
| Green Ext Time (p_c), s | 0.1 | 11.7 | 0.0 | 0.2 | 0.0 | 0.0 | 0.0 | 2.4 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 67.2 | |
| HCM 6th LOS | E | |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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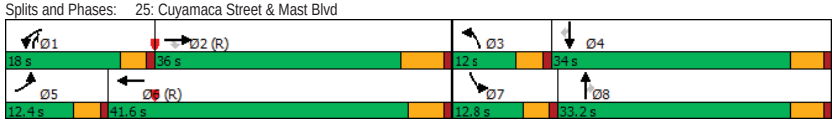
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 185 | 445 | 260 | 383 | 790 | 75 | 210 | 280 | 199 | 90 | 665 | 508 |
| Future Volume (vph) | 185 | 445 | 260 | 383 | 790 | 75 | 210 | 280 | 199 | 90 | 665 | 508 |
| Confl. Peds. (#/hr) | | | 8 | | | 5 | | | 3 | | | 3 |
| Confl. Bikes (#/hr) | | | 4 | | | 1 | | | 3 | | | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | | Prot | NA | pm+ov | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | 1 | 7 | 4 | |
| Permitted Phases | | | 2 | | | | | | 8 | | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | | 3 | 8 | 1 | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | | 4.0 | 7.0 | 4.0 | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 34.3 | 34.3 | 8.2 | 32.3 | | 8.2 | 33.1 | 8.2 | 8.2 | 34.0 | 34.0 |
| Total Split (s) | 12.4 | 36.0 | 36.0 | 18.0 | 41.6 | | 12.0 | 33.2 | 18.0 | 12.8 | 34.0 | 34.0 |
| Total Split (%) | 12.4% | 36.0% | 36.0% | 18.0% | 41.6% | | 12.0% | 33.2% | 18.0% | 12.8% | 34.0% | 34.0% |
| Yellow Time (s) | 3.2 | 5.3 | 5.3 | 3.2 | 4.3 | | 3.2 | 4.1 | 3.2 | 3.2 | 4.0 | 4.0 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 6.3 | 6.3 | 4.2 | 5.3 | | 4.2 | 5.1 | 4.2 | 4.2 | 5.0 | 5.0 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | C-Min | C-Min | None | C-Min | | None | None | None | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 31 (31%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 95 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 25: Cuyamaca Street & Mast Blvd






Year 2035 + Proj AM (Mitigated)
25: Cuyamaca Street & Mast Blvd
Fanita Ranch
06/05/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 185 | 445 | 260 | 383 | 790 | 75 | 210 | 280 | 199 | 90 | 665 | 508 |
| Future Volume (veh/h) | 185 | 445 | 260 | 383 | 790 | 75 | 210 | 280 | 199 | 90 | 665 | 508 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 201 | 484 | 283 | 416 | 859 | 82 | 228 | 304 | 216 | 98 | 723 | 498 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 266 | 1052 | 458 | 477 | 1169 | 112 | 270 | 1061 | 684 | 124 | 1031 | 452 |
| Arrive On Green | 0.08 | 0.30 | 0.30 | 0.14 | 0.36 | 0.36 | 0.08 | 0.30 | 0.30 | 0.07 | 0.29 | 0.29 |
| Sat Flow, veh/h | 3456 | 3554 | 1549 | 3456 | 3272 | 312 | 3456 | 3554 | 1558 | 1781 | 3554 | 1558 |
| Grp Volume(v), veh/h | 201 | 484 | 283 | 416 | 466 | 475 | 228 | 304 | 216 | 98 | 723 | 498 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1549 | 1728 | 1777 | 1808 | 1728 | 1777 | 1558 | 1781 | 1777 | 1558 |
| Q Serve(g_s), s | 5.7 | 11.1 | 15.7 | 11.8 | 22.9 | 22.9 | 6.5 | 6.6 | 9.1 | 5.4 | 18.1 | 29.0 |
| Cycle Q Clear(g_c), s | 5.7 | 11.1 | 15.7 | 11.8 | 22.9 | 22.9 | 6.5 | 6.6 | 9.1 | 5.4 | 18.1 | 29.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.17 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 266 | 1052 | 458 | 477 | 634 | 646 | 270 | 1061 | 684 | 124 | 1031 | 452 |
| V/C Ratio(X) | 0.76 | 0.46 | 0.62 | 0.87 | 0.74 | 0.74 | 0.85 | 0.29 | 0.32 | 0.79 | 0.70 | 1.10 |
| Avail Cap(c_a), veh/h | 283 | 1055 | 460 | 477 | 645 | 656 | 270 | 1061 | 684 | 153 | 1031 | 452 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.92 | 0.92 | 0.92 | 0.90 | 0.90 | 0.90 | 0.83 | 0.83 | 0.83 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 45.2 | 28.7 | 30.3 | 42.2 | 28.0 | 28.0 | 45.5 | 26.9 | 18.4 | 45.8 | 31.6 | 35.5 |
| Incr Delay (d2), s/veh | 8.4 | 1.3 | 5.6 | 14.2 | 6.7 | 6.6 | 17.4 | 0.2 | 0.3 | 16.0 | 2.5 | 73.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.7 | 4.7 | 6.4 | 5.8 | 10.4 | 10.5 | 3.4 | 2.7 | 3.2 | 2.9 | 7.9 | 19.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 53.6 | 30.0 | 36.0 | 56.5 | 34.7 | 34.6 | 62.9 | 27.1 | 18.7 | 61.8 | 34.1 | 108.7 |
| LnGrp LOS | D | C | D | E | C | C | E | C | B | E | C | F |
| Approach Vol, veh/h | | 968 | | | 1357 | | | 748 | | | 1319 | |
| Approach Delay, s/veh | | 36.7 | | | 41.4 | | | 35.6 | | | 64.3 | |
| Approach LOS | | D | | | D | | | D | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 18.0 | 35.9 | 12.0 | 34.1 | 11.9 | 42.0 | 11.1 | 35.0 |
| Change Period (Y+Rc), s | * 4.2 | 6.3 | * 4.2 | * 5.1 | * 4.2 | * 6.3 | * 4.2 | 5.1 |
| Max Green Setting (Gmax), s | * 14 | 29.7 | * 7.8 | * 29 | * 8.2 | * 36 | * 8.6 | 28.1 |
| Max Q Clear Time (g_c+I1), s | 13.8 | 17.7 | 8.5 | 31.0 | 7.7 | 24.9 | 7.4 | 11.1 |
| Green Ext Time (p_c), s | 0.0 | 4.5 | 0.0 | 0.0 | 0.0 | 5.3 | 0.0 | 3.5 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 46.2 |
| HCM 6th LOS | D |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Fanita Ranch
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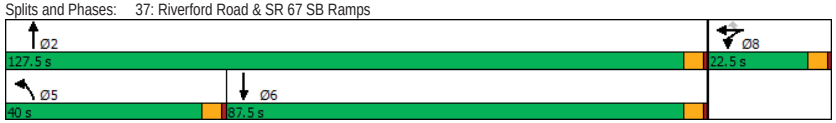
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 0 | 20 | 0 | 208 | 460 | 624 | 0 | 0 | 409 | 670 |
| Future Volume (vph) | 0 | 0 | 0 | 20 | 0 | 208 | 460 | 624 | 0 | 0 | 409 | 670 |
| Confl. Peds. (#/hr) | | | | | | | | | 9 | 9 | | |
| Confl. Bikes (#/hr) | | | | | | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | | | | Split | NA | Perm | Prot | NA | | | NA | |
| Protected Phases | | | | 8 | 8 | | 5 | 2 | | | 6 | |
| Permitted Phases | | | | | | 8 | | | | | | |
| Detector Phase | | | | 8 | 8 | 8 | 5 | 2 | | | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | | 4.0 | |
| Minimum Split (s) | | | | 22.5 | 22.5 | 22.5 | 8.5 | 22.5 | | | 22.5 | |
| Total Split (s) | | | | 22.5 | 22.5 | 22.5 | 40.0 | 127.5 | | | 87.5 | |
| Total Split (%) | | | | 15.0% | 15.0% | 15.0% | 26.7% | 85.0% | | | 58.3% | |
| Yellow Time (s) | | | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | | 3.5 | |
| All-Red Time (s) | | | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | | 1.0 | |
| Lost Time Adjust (s) | | | | | 0.0 | 0.0 | 0.0 | 0.0 | | | 0.0 | |
| Total Lost Time (s) | | | | | 4.5 | 4.5 | 4.5 | 4.5 | | | 4.5 | |
| Lead/Lag | | | | | | | Lead | | | | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | | | | Yes | |
| Recall Mode | | | | None | None | None | None | Min | | | Min | |

| Intersection Summary |
|---|
| Cycle Length: 150 |
| Actuated Cycle Length: 143 |
| Natural Cycle: 150 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 37: Riverford Road & SR 67 SB Ramps






Year 2035 + Proj AM (Mitigated)
37: Riverford Road & SR 67 SB Ramps
Fanita Ranch
06/05/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 20 | 0 | 208 | 460 | 624 | 0 | 0 | 409 | 670 |
| Future Volume (veh/h) | 0 | 0 | 0 | 20 | 0 | 208 | 460 | 624 | 0 | 0 | 409 | 670 |
| Initial Q (Qb), veh | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | | | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | | | | 1870 | 1870 | 1870 | 1870 | 1870 | 0 | 0 | 1870 | 1870 |
| Adj Flow Rate, veh/h | | | | 22 | 0 | 203 | 500 | 678 | 0 | 0 | 445 | 655 |
| Peak Hour Factor | | | | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | | | | 2 | 2 | 2 | 2 | 2 | 0 | 0 | 2 | 2 |
| Cap, veh/h | | | | 214 | 0 | 190 | 422 | 1534 | 0 | 0 | 378 | 557 |
| Arrive On Green | | | | 0.12 | 0.00 | 0.12 | 0.24 | 0.82 | 0.00 | 0.00 | 0.55 | 0.55 |
| Sat Flow, veh/h | | | | 1781 | 0 | 1585 | 1781 | 1870 | 0 | 0 | 683 | 1006 |
| Grp Volume(v), veh/h | | | | 22 | 0 | 203 | 500 | 678 | 0 | 0 | 0 | 1100 |
| Grp Sat Flow(s),veh/h/ln | | | | 1781 | 0 | 1585 | 1781 | 1870 | 0 | 0 | 0 | 1689 |
| Q Serve(g_s), s | | | | 1.7 | 0.0 | 18.0 | 35.5 | 15.4 | 0.0 | 0.0 | 0.0 | 83.0 |
| Cycle Q Clear(g_c), s | | | | 1.7 | 0.0 | 18.0 | 35.5 | 15.4 | 0.0 | 0.0 | 0.0 | 83.0 |
| Prop In Lane | | | | 1.00 | | 1.00 | 1.00 | | 0.00 | 0.00 | | 0.60 |
| Lane Grp Cap(c), veh/h | | | | 214 | 0 | 190 | 422 | 1534 | 0 | 0 | 0 | 935 |
| V/C Ratio(X) | | | | 0.10 | 0.00 | 1.07 | 1.19 | 0.44 | 0.00 | 0.00 | 0.00 | 1.18 |
| Avail Cap(c_a), veh/h | | | | 214 | 0 | 190 | 422 | 1534 | 0 | 0 | 0 | 935 |
| HCM Platoon Ratio | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | | | | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | | | | 58.8 | 0.0 | 66.0 | 57.3 | 3.8 | 0.0 | 0.0 | 0.0 | 33.5 |
| Incr Delay (d2), s/veh | | | | 0.2 | 0.0 | 84.2 | 105.3 | 0.2 | 0.0 | 0.0 | 0.0 | 90.8 |
| Initial Q Delay(d3),s/veh | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | | 0.8 | 0.0 | 11.7 | 28.3 | 5.0 | 0.0 | 0.0 | 0.0 | 56.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | 59.0 | 0.0 | 150.2 | 162.6 | 4.0 | 0.0 | 0.0 | 0.0 | 124.3 |
| LnGrp LOS | | | | E | A | F | F | A | A | A | A | F |
| Approach Vol, veh/h | | | | | 225 | | | 1178 | | | 1100 | |
| Approach Delay, s/veh | | | | | 141.3 | | | 71.3 | | | 124.3 | |
| Approach LOS | | | | | F | | | E | | | F | |

| Timer - Assigned Phs | 2 | | 5 | 6 | | 8 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 127.5 | | 40.0 | 87.5 | | 22.5 | | | | | | |
| Change Period (Y+Rc), s | 4.5 | | 4.5 | 4.5 | | 4.5 | | | | | | |
| Max Green Setting (Gmax), s | 123.0 | | 35.5 | 83.0 | | 18.0 | | | | | | |
| Max Q Clear Time (g_c+I1), s | 17.4 | | 37.5 | 85.0 | | 20.0 | | | | | | |
| Green Ext Time (p_c), s | 5.7 | | 0.0 | 0.0 | | 0.0 | | | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 100.9 | |
| HCM 6th LOS | F | |

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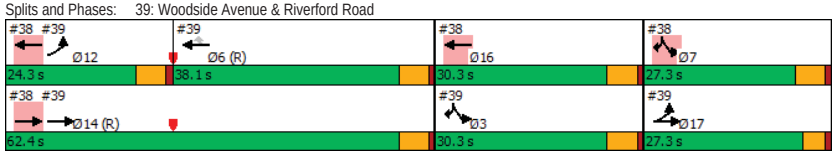
| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR | Ø7 | Ø12 | Ø14 | Ø16 | Ø17 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | |
| Traffic Volume (vph) | 520 | 350 | 130 | 574 | 339 | 50 | | | | | |
| Future Volume (vph) | 520 | 350 | 130 | 574 | 339 | 50 | | | | | |
| Confl. Peds. (#/hr) | | | | | | 1 | | | | | |
| Confl. Bikes (#/hr) | | | | 1 | | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | | | |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | | | | | |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | | | | | |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | | | | | |
| Parking (#/hr) | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | 0% | | 0% | | | | | | |
| Shared Lane Traffic (%) | | | | | | | | | | | |
| Turn Type | Prot | NA | NA | Perm | Prot | Prot | | | | | |
| Protected Phases | 12 17 | 14 17 | 6 | | 3 | 3 | 7 | 12 | 14 | 16 | 17 |
| Permitted Phases | | | | 6 | | | | | | | |
| Detector Phase | 12 17 | 14 17 | 6 | 6 | 3 | 3 | | | | | |
| Switch Phase | | | | | | | | | | | |
| Minimum Initial (s) | | | 5.0 | 5.0 | 5.0 | 5.0 | 8.0 | 5.0 | 4.0 | 2.0 | 5.0 |
| Minimum Split (s) | | | 29.3 | 29.3 | 30.3 | 30.3 | 27.3 | 24.3 | 20.0 | 20.0 | 9.2 |
| Total Split (s) | | | 38.1 | 38.1 | 30.3 | 30.3 | 27.3 | 24.3 | 62.4 | 30.3 | 27.3 |
| Total Split (%) | | | 31.8% | 31.8% | 25.3% | 25.3% | 23% | 20% | 52% | 25% | 23% |
| Yellow Time (s) | | | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 3.2 |
| All-Red Time (s) | | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | | | 0.0 | 0.0 | 0.0 | 0.0 | | | | | |
| Total Lost Time (s) | | | 5.3 | 5.3 | 5.3 | 5.3 | | | | | |
| Lead/Lag | | | Lag | Lag | | | | Lead | | | |
| Lead-Lag Optimize? | | | Yes | Yes | | | | Yes | | | |
| Recall Mode | | | C-Max | C-Max | None | None | Max | None | C-Max | None | None |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 120 |
| Offset: 0 (0%), Referenced to phase 6:WBT and 14:EBT, Start of Green |
| Natural Cycle: 115 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 39: Woodside Avenue & Riverford Road






Year 2035 + Proj AM (Mitigated)
39: Woodside Avenue & Riverford Road
Fanita Ranch
06/05/2019

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 520 | 350 | 130 | 574 | 339 | 50 |
| Future Volume (vph) | 520 | 350 | 130 | 574 | 339 | 50 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.3 | 5.3 | 5.3 | 5.3 | 5.3 | 5.3 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 1.00 | 0.85 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (prot) | 1770 | 1863 | 1863 | 1550 | 1770 | 1583 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (perm) | 1770 | 1863 | 1863 | 1550 | 1770 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 565 | 380 | 141 | 624 | 368 | 54 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 366 | 0 | 27 |
| Lane Group Flow (vph) | 565 | 380 | 141 | 258 | 368 | 27 |
| Confl. Peds. (#/hr) | | | | | | 1 |
| Confl. Bikes (#/hr) | | | | 1 | | |
| Turn Type | Prot | NA | NA | Perm | Prot | Prot |
| Protected Phases | 12 17 | 14 17 | 6 | | 3 | 3 |
| Permitted Phases | | | | 6 | | |
| Actuated Green, G (s) | 44.8 | 84.4 | 34.3 | 34.3 | 25.0 | 25.0 |
| Effective Green, g (s) | 40.6 | 80.2 | 34.3 | 34.3 | 25.0 | 25.0 |
| Actuated g/C Ratio | 0.34 | 0.67 | 0.29 | 0.29 | 0.21 | 0.21 |
| Clearance Time (s) | | | 5.3 | 5.3 | 5.3 | 5.3 |
| Vehicle Extension (s) | | | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 598 | 1245 | 532 | 443 | 368 | 329 |
| v/s Ratio Prot | c0.32 | 0.20 | 0.08 | | c0.21 | 0.02 |
| v/s Ratio Perm | | | | c0.17 | | |
| v/c Ratio | 0.94 | 0.31 | 0.27 | 0.58 | 1.00 | 0.08 |
| Uniform Delay, d1 | 38.6 | 8.3 | 33.1 | 36.7 | 47.5 | 38.3 |
| Progression Factor | 0.27 | 0.08 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 19.1 | 0.1 | 1.2 | 5.5 | 46.9 | 0.1 |
| Delay (s) | 29.7 | 0.8 | 34.3 | 42.2 | 94.4 | 38.4 |
| Level of Service | C | A | C | D | F | D |
| Approach Delay (s) | | 18.1 | 40.8 | | 87.2 | |
| Approach LOS | | B | D | | F | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 39.9 | HCM 2000 Level of Service | D |
| HCM 2000 Volume to Capacity ratio | 0.84 | | |
| Actuated Cycle Length (s) | 120.0 | Sum of lost time (s) | 21.2 |
| Intersection Capacity Utilization | 73.2% | ICU Level of Service | D |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

Fanita Ranch
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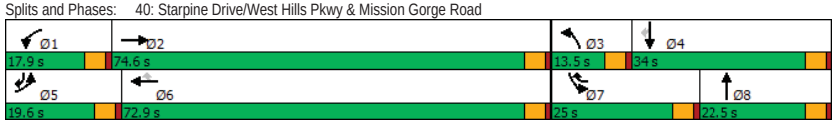
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 358 | 410 | 80 | 80 | 1090 | 1235 | 40 | 60 | 80 | 175 | 60 | 489 |
| Future Volume (vph) | 358 | 410 | 80 | 80 | 1090 | 1235 | 40 | 60 | 80 | 175 | 60 | 489 |
| Confl. Peds. (#/hr) | | | 3 | | | 1 | | | 1 | | | |
| Confl. Bikes (#/hr) | | | 2 | | | 6 | | | | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | 42% | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Prot | NA | | Prot | NA | pm+ov |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 5 |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 5 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 29.5 | | 8.5 | 29.5 | 8.5 | 8.5 | 22.5 | | 8.5 | 29.5 | 8.5 |
| Total Split (s) | 19.6 | 74.6 | | 17.9 | 72.9 | 25.0 | 13.5 | 22.5 | | 25.0 | 34.0 | 19.6 |
| Total Split (%) | 14.0% | 53.3% | | 12.8% | 52.1% | 17.9% | 9.6% | 16.1% | | 17.9% | 24.3% | 14.0% |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | Lead |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | Min | | None | Min | None | None | None | | None | None | None |

**Intersection Summary**

Cycle Length: 140
Actuated Cycle Length: 128.9
Natural Cycle: 140
Control Type: Actuated-Uncoordinated

Splits and Phases: 40: Starpine Drive/West Hills Pkwy & Mission Gorge Road






Year 2035 + Proj AM (Mitigated) Fanita Ranch
40: Starpine Drive/West Hills Pkwy & Mission Gorge Road 06/05/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 358 | 410 | 80 | 80 | 1090 | 1235 | 40 | 60 | 80 | 175 | 60 | 489 |
| Future Volume (veh/h) | 358 | 410 | 80 | 80 | 1090 | 1235 | 40 | 60 | 80 | 175 | 60 | 489 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 1.00 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 389 | 446 | 87 | 87 | 1092 | 1404 | 43 | 65 | 87 | 190 | 65 | 532 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 399 | 1705 | 330 | 109 | 978 | 1845 | 55 | 110 | 147 | 250 | 361 | 848 |
| Arrive On Green | 0.12 | 0.58 | 0.58 | 0.06 | 0.52 | 0.52 | 0.03 | 0.15 | 0.15 | 0.07 | 0.19 | 0.19 |
| Sat Flow, veh/h | 3456 | 2956 | 572 | 1781 | 1870 | 3090 | 1781 | 724 | 969 | 3456 | 1870 | 2723 |
| Grp Volume(v), veh/h | 389 | 267 | 266 | 87 | 1092 | 1404 | 43 | 0 | 152 | 190 | 65 | 532 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1751 | 1781 | 1870 | 1545 | 1781 | 0 | 1694 | 1728 | 1870 | 1362 |
| Q Serve(g_s), s | 14.7 | 9.8 | 9.9 | 6.3 | 68.4 | 44.1 | 3.1 | 0.0 | 10.9 | 7.1 | 3.8 | 22.0 |
| Cycle Q Clear(g_c), s | 14.7 | 9.8 | 9.9 | 6.3 | 68.4 | 44.1 | 3.1 | 0.0 | 10.9 | 7.1 | 3.8 | 22.0 |
| Prop In Lane | 1.00 | | 0.33 | 1.00 | | 1.00 | 1.00 | | 0.57 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 399 | 1025 | 1010 | 109 | 978 | 1845 | 55 | 0 | 257 | 250 | 361 | 848 |
| V/C Ratio(X) | 0.98 | 0.26 | 0.26 | 0.80 | 1.12 | 0.76 | 0.78 | 0.00 | 0.59 | 0.76 | 0.18 | 0.63 |
| Avail Cap(c_a), veh/h | 399 | 1025 | 1010 | 182 | 978 | 1845 | 123 | 0 | 257 | 541 | 422 | 936 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 57.7 | 13.8 | 13.8 | 60.6 | 31.2 | 19.6 | 62.9 | 0.0 | 51.7 | 59.6 | 44.1 | 38.9 |
| Incr Delay (d2), s/veh | 38.5 | 0.1 | 0.1 | 12.3 | 66.5 | 1.9 | 20.2 | 0.0 | 3.6 | 4.7 | 0.2 | 1.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 8.3 | 3.6 | 3.6 | 3.1 | 45.8 | 15.7 | 1.7 | 0.0 | 4.9 | 3.2 | 1.8 | 7.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 96.2 | 13.9 | 14.0 | 72.9 | 97.7 | 21.6 | 83.1 | 0.0 | 55.3 | 64.3 | 44.4 | 40.0 |
| LnGrp LOS | F | B | B | E | F | C | F | A | E | E | D | D |
| Approach Vol, veh/h | | 922 | | | 2583 | | | 195 | | | 787 | |
| Approach Delay, s/veh | | 48.6 | | | 55.5 | | | 61.4 | | | 46.2 | |
| Approach LOS | | D | | | E | | | E | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 12.5 | 80.0 | 8.6 | 29.8 | 19.6 | 72.9 | 14.0 | 24.4 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 13.4 | 70.1 | 9.0 | 29.5 | 15.1 | 68.4 | 20.5 | 18.0 |
| Max Q Clear Time (g_c+I1), s | 8.3 | 11.9 | 5.1 | 24.0 | 16.7 | 70.4 | 9.1 | 12.9 |
| Green Ext Time (p_c), s | 0.1 | 2.9 | 0.0 | 1.3 | 0.0 | 0.0 | 0.4 | 0.3 |

**Intersection Summary**

| | |
|---|---|
| HCM 6th Ctrl Delay | 52.7 |
| HCM 6th LOS | D |

**Notes**

User approved volume balancing among the lanes for turning movement.

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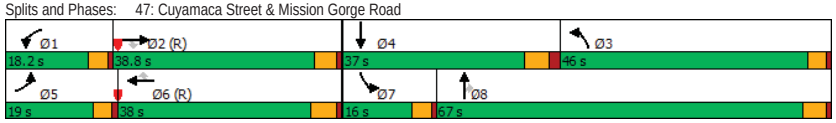
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 200 | 448 | 320 | 198 | 584 | 164 | 700 | 599 | 154 | 153 | 626 | 195 |
| Future Volume (vph) | 200 | 448 | 320 | 198 | 584 | 164 | 700 | 599 | 154 | 153 | 626 | 195 |
| Confl. Peds. (#/hr) | | | 11 | | | 14 | | | 19 | | | 16 |
| Confl. Bikes (#/hr) | | | 4 | | | | | | | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | 8 | | | |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 3 | 8 | 8 | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | 10.0 | 4.0 | 7.0 | 7.0 | 4.0 | 15.0 | |
| Minimum Split (s) | 19.0 | 34.8 | 34.8 | 8.2 | 34.3 | 34.3 | 8.2 | 38.0 | 38.0 | 8.2 | 37.0 | |
| Total Split (s) | 19.0 | 38.8 | 38.8 | 18.2 | 38.0 | 38.0 | 46.0 | 67.0 | 67.0 | 16.0 | 37.0 | |
| Total Split (%) | 13.6% | 27.7% | 27.7% | 13.0% | 27.1% | 27.1% | 32.9% | 47.9% | 47.9% | 11.4% | 26.4% | |
| Yellow Time (s) | 3.2 | 3.8 | 3.8 | 3.2 | 4.3 | 4.3 | 3.2 | 4.0 | 4.0 | 3.2 | 4.0 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 2.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.2 | 4.8 | 4.8 | 4.2 | 5.3 | 5.3 | 4.2 | 5.0 | 5.0 | 4.2 | 6.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lag | Lag | Lag | Lead | Lead | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | |
| Recall Mode | None | C-Min | C-Min | None | C-Min | C-Min | None | None | None | None | None | |

**Intersection Summary**

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green, Master Intersection
Natural Cycle: 120
Control Type: Actuated-Coordinated

Splits and Phases: 47: Cuyamaca Street & Mission Gorge Road






Year 2035 + Proj AM (Mitigated) Fanita Ranch
47: Cuyamaca Street & Mission Gorge Road 06/05/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 200 | 448 | 320 | 198 | 584 | 164 | 700 | 599 | 154 | 153 | 626 | 195 |
| Future Volume (veh/h) | 200 | 448 | 320 | 198 | 584 | 164 | 700 | 599 | 154 | 153 | 626 | 195 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 0.96 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1683 | 1683 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 217 | 487 | 348 | 215 | 635 | 178 | 761 | 651 | 167 | 166 | 680 | 212 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 267 | 1662 | 503 | 264 | 1658 | 508 | 812 | 1287 | 566 | 215 | 831 | 254 |
| Arrive On Green | 0.08 | 0.33 | 0.33 | 0.08 | 0.32 | 0.32 | 0.39 | 0.67 | 0.67 | 0.06 | 0.22 | 0.22 |
| Sat Flow, veh/h | 3456 | 5106 | 1546 | 3456 | 5106 | 1565 | 3456 | 3198 | 1406 | 3456 | 3836 | 1173 |
| Grp Volume(v), veh/h | 217 | 487 | 348 | 215 | 635 | 178 | 761 | 651 | 167 | 166 | 602 | 290 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1702 | 1546 | 1728 | 1702 | 1565 | 1728 | 1599 | 1406 | 1728 | 1702 | 1605 |
| Q Serve(g_s), s | 8.7 | 10.0 | 14.9 | 8.6 | 13.4 | 12.1 | 29.6 | 14.2 | 6.8 | 6.6 | 23.6 | 24.2 |
| Cycle Q Clear(g_c), s | 8.7 | 10.0 | 14.9 | 8.6 | 13.4 | 12.1 | 29.6 | 14.2 | 6.8 | 6.6 | 23.6 | 24.2 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.73 |
| Lane Grp Cap(c), veh/h | 267 | 1662 | 503 | 264 | 1658 | 508 | 812 | 1287 | 566 | 215 | 737 | 348 |
| V/C Ratio(X) | 0.81 | 0.29 | 0.69 | 0.81 | 0.38 | 0.35 | 0.94 | 0.51 | 0.30 | 0.77 | 0.82 | 0.83 |
| Avail Cap(c_a), veh/h | 365 | 1662 | 503 | 346 | 1658 | 508 | 1032 | 1416 | 623 | 291 | 754 | 355 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.67 | 1.67 | 1.67 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.92 | 0.92 | 0.92 | 0.91 | 0.91 | 0.91 | 0.79 | 0.79 | 0.79 | 0.89 | 0.89 | 0.89 |
| Uniform Delay (d), s/veh | 63.6 | 35.2 | 12.1 | 63.7 | 36.5 | 36.0 | 41.5 | 16.0 | 14.8 | 64.7 | 52.2 | 52.4 |
| Incr Delay (d2), s/veh | 6.4 | 0.4 | 7.0 | 7.6 | 0.6 | 1.7 | 10.0 | 0.4 | 0.3 | 5.1 | 7.5 | 16.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 4.0 | 4.2 | 6.0 | 4.0 | 5.6 | 4.9 | 12.2 | 4.1 | 2.0 | 3.1 | 10.8 | 11.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 70.0 | 35.6 | 19.1 | 71.3 | 37.1 | 37.7 | 51.5 | 16.4 | 15.2 | 69.8 | 59.7 | 68.8 |
| LnGrp LOS | E | D | B | E | D | D | D | B | B | E | E | E |
| Approach Vol, veh/h | | 1052 | | | 1028 | | | 1579 | | | 1058 | |
| Approach Delay, s/veh | | 37.3 | | | 44.3 | | | 33.2 | | | 63.8 | |
| Approach LOS | | D | | | D | | | C | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 14.9 | 50.9 | 37.9 | 36.3 | 15.0 | 50.8 | 12.9 | 61.3 |
| Change Period (Y+Rc), s | * 4.2 | * 5.3 | 5.0 | * 6 | * 4.2 | 5.3 | * 4.2 | 5.0 |
| Max Green Setting (Gmax), s | * 14 | * 34 | 41.8 | * 31 | * 15 | 32.7 | * 12 | 62.0 |
| Max Q Clear Time (g_c+I1), s | 10.6 | 16.9 | 31.6 | 26.2 | 10.7 | 15.4 | 8.6 | 16.2 |
| Green Ext Time (p_c), s | 0.1 | 8.8 | 1.3 | 3.5 | 0.1 | 6.8 | 0.1 | 9.2 |

**Intersection Summary**

| | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 43.4 |
| HCM 6th LOS | | D |

**Notes**

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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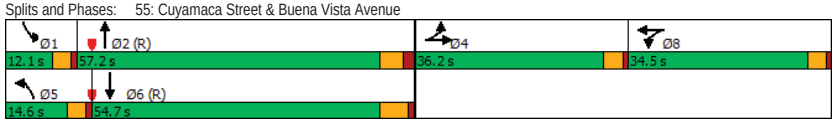
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 10 | 10 | 15 | 210 | 5 | 70 | 55 | 1395 | 180 | 70 | 1183 | 30 |
| Future Volume (vph) | 10 | 10 | 15 | 210 | 5 | 70 | 55 | 1395 | 180 | 70 | 1183 | 30 |
| Confl. Peds. (#/hr) | | | 3 | | | 7 | | | 5 | | | 2 |
| Confl. Bikes (#/hr) | | | 1 | | | 4 | | | 3 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | 30% | | | | | | | | |
| Turn Type | Split | NA | | Split | NA | | Prot | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | | 4.0 | 4.0 | | 4.0 | 10.0 | | 4.0 | 10.0 | |
| Minimum Split (s) | 36.2 | 36.2 | | 34.2 | 34.2 | | 8.2 | 24.0 | | 8.2 | 24.0 | |
| Total Split (s) | 36.2 | 36.2 | | 34.5 | 34.5 | | 14.6 | 57.2 | | 12.1 | 54.7 | |
| Total Split (%) | 25.9% | 25.9% | | 24.6% | 24.6% | | 10.4% | 40.9% | | 8.6% | 39.1% | |
| Yellow Time (s) | 3.2 | 3.2 | | 3.2 | 3.2 | | 3.2 | 4.0 | | 3.2 | 4.9 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 2.0 | | 1.0 | 1.1 | |
| Lost Time Adjust (s) | | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | | 4.2 | | 4.2 | 4.2 | | 4.2 | 6.0 | | 4.2 | 6.0 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | | None | C-Min | | None | C-Min | |

| Intersection Summary |
|---|
| Cycle Length: 140 |
| Actuated Cycle Length: 140 |
| Offset: 45 (32%), Referenced to phase 2:NBT and 6:SBT, Start of Green |
| Natural Cycle: 125 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 55: Cuyamaca Street & Buena Vista Avenue






Year 2035 + Proj AM (Mitigated) Fanita Ranch
55: Cuyamaca Street & Buena Vista Avenue 06/05/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 10 | 10 | 15 | 210 | 5 | 70 | 55 | 1395 | 180 | 70 | 1183 | 30 |
| Future Volume (veh/h) | 10 | 10 | 15 | 210 | 5 | 70 | 55 | 1395 | 180 | 70 | 1183 | 30 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.97 | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 11 | 11 | 16 | 154 | 108 | 76 | 60 | 1516 | 196 | 76 | 1286 | 33 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 24 | 24 | 35 | 241 | 136 | 96 | 76 | 2869 | 370 | 95 | 3272 | 84 |
| Arrive On Green | 0.05 | 0.05 | 0.05 | 0.14 | 0.14 | 0.14 | 0.09 | 1.00 | 1.00 | 0.11 | 1.00 | 1.00 |
| Sat Flow, veh/h | 489 | 489 | 711 | 1781 | 1006 | 708 | 1781 | 4561 | 589 | 1781 | 5119 | 131 |
| Grp Volume(v), veh/h | 38 | 0 | 0 | 154 | 0 | 184 | 60 | 1131 | 581 | 76 | 855 | 464 |
| Grp Sat Flow(s),veh/h/ln | 1688 | 0 | 0 | 1781 | 0 | 1714 | 1781 | 1702 | 1746 | 1781 | 1702 | 1846 |
| Q Serve(g_s), s | 3.1 | 0.0 | 0.0 | 11.5 | 0.0 | 14.6 | 4.6 | 0.0 | 0.0 | 5.8 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 3.1 | 0.0 | 0.0 | 11.5 | 0.0 | 14.6 | 4.6 | 0.0 | 0.0 | 5.8 | 0.0 | 0.0 |
| Prop In Lane | 0.29 | | 0.42 | 1.00 | | 0.41 | 1.00 | | 0.34 | 1.00 | | 0.07 |
| Lane Grp Cap(c), veh/h | 84 | 0 | 0 | 241 | 0 | 232 | 76 | 2141 | 1098 | 95 | 2176 | 1180 |
| V/C Ratio(X) | 0.45 | 0.00 | 0.00 | 0.64 | 0.00 | 0.79 | 0.79 | 0.53 | 0.53 | 0.80 | 0.39 | 0.39 |
| Avail Cap(c_a), veh/h | 386 | 0 | 0 | 386 | 0 | 371 | 132 | 2141 | 1098 | 101 | 2176 | 1180 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 0.56 | 0.56 | 0.56 | 0.62 | 0.62 | 0.62 |
| Uniform Delay (d), s/veh | 64.7 | 0.0 | 0.0 | 57.3 | 0.0 | 58.6 | 63.4 | 0.0 | 0.0 | 61.9 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 1.4 | 0.0 | 0.0 | 1.0 | 0.0 | 2.3 | 3.8 | 0.5 | 1.0 | 21.5 | 0.3 | 0.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.4 | 0.0 | 0.0 | 5.3 | 0.0 | 6.5 | 2.1 | 0.2 | 0.3 | 3.1 | 0.1 | 0.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 66.1 | 0.0 | 0.0 | 58.3 | 0.0 | 60.9 | 67.1 | 0.5 | 1.0 | 83.3 | 0.3 | 0.6 |
| LnGrp LOS | E | A | A | E | A | E | E | A | A | F | A | A |
| Approach Vol, veh/h | | 38 | | | 338 | | | 1772 | | | 1395 | |
| Approach Delay, s/veh | | 66.1 | | | 59.7 | | | 2.9 | | | 4.9 | |
| Approach LOS | | E | | | E | | | A | | | A | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 11.6 | 94.1 | | 11.1 | 10.2 | 95.5 | | 23.2 | | | | |
| Change Period (Y+Rc), s | * 4.2 | 6.0 | | * 4.2 | * 4.2 | * 6 | | 4.2 | | | | |
| Max Green Setting (Gmax), s | * 7.9 | 51.2 | | * 32 | * 10 | * 49 | | 30.3 | | | | |
| Max Q Clear Time (g_c+I1), s | 7.8 | 2.0 | | 5.1 | 6.6 | 2.0 | | 16.6 | | | | |
| Green Ext Time (p_c), s | 0.0 | 27.9 | | 0.1 | 0.0 | 18.4 | | 0.8 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 9.8 | |
| HCM 6th LOS | A | |

| Notes |
|---|
| User approved volume balancing among the lanes for turning movement. |
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. |

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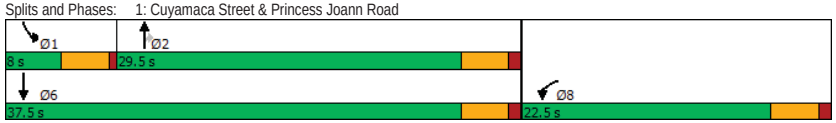
| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 100 | 10 | 557 | 220 | 10 | 280 |
| Future Volume (vph) | 100 | 10 | 557 | 220 | 10 | 280 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | | NA | Perm | Prot | NA |
| Protected Phases | 8 | | 2 | | 1 | 6 |
| Permitted Phases | | | | 2 | | |
| Detector Phase | 8 | | 2 | 2 | 1 | 6 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 22.5 | | 22.5 | 22.5 | 8.0 | 22.5 |
| Total Split (s) | 22.5 | | 29.5 | 29.5 | 8.0 | 37.5 |
| Total Split (%) | 37.5% | | 49.2% | 49.2% | 13.3% | 62.5% |
| Yellow Time (s) | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | | 1.0 | 1.0 | 0.5 | 1.0 |
| Lost Time Adjust (s) | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | | 4.5 | 4.5 | 4.0 | 4.5 |
| Lead/Lag | | | Lag | Lag | Lead | |
| Lead-Lag Optimize? | | | Yes | Yes | Yes | |
| Recall Mode | None | | Min | Min | None | Min |

**Intersection Summary**

Cycle Length: 60
Actuated Cycle Length: 45.7
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Cuyamaca Street & Princess Joann Road








| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 100 | 10 | 557 | 220 | 10 | 280 |
| Future Volume (veh/h) | 100 | 10 | 557 | 220 | 10 | 280 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | No | | | No |
| Adj Sat Flow, veh/h/ln | 1900 | 1900 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 109 | 11 | 605 | 239 | 11 | 304 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 0 | 0 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 144 | 15 | 875 | 742 | 21 | 1145 |
| Arrive On Green | 0.09 | 0.09 | 0.47 | 0.47 | 0.01 | 0.61 |
| Sat Flow, veh/h | 1613 | 163 | 1870 | 1585 | 1781 | 1870 |
| Grp Volume(v), veh/h | 121 | 0 | 605 | 239 | 11 | 304 |
| Grp Sat Flow(s),veh/h/ln | 1790 | 0 | 1870 | 1585 | 1781 | 1870 |
| Q Serve(g_s), s | 2.0 | 0.0 | 7.7 | 2.8 | 0.2 | 2.3 |
| Cycle Q Clear(g_c), s | 2.0 | 0.0 | 7.7 | 2.8 | 0.2 | 2.3 |
| Prop In Lane | 0.90 | 0.09 | | 1.00 | 1.00 | |
| Lane Grp Cap(c), veh/h | 160 | 0 | 875 | 742 | 21 | 1145 |
| V/C Ratio(X) | 0.76 | 0.00 | 0.69 | 0.32 | 0.53 | 0.27 |
| Avail Cap(c_a), veh/h | 1068 | 0 | 1550 | 1314 | 236 | 2047 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 13.4 | 0.0 | 6.3 | 5.0 | 14.8 | 2.7 |
| Incr Delay (d2), s/veh | 7.1 | 0.0 | 1.0 | 0.2 | 19.2 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.9 | 0.0 | 1.7 | 0.5 | 0.2 | 0.2 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 20.5 | 0.0 | 7.3 | 5.3 | 34.1 | 2.8 |
| LnGrp LOS | C | A | A | A | C | A |
| Approach Vol, veh/h | 121 | | 844 | | | 315 |
| Approach Delay, s/veh | 20.5 | | 6.7 | | | 3.9 |
| Approach LOS | C | | A | | | A |

| Timer - Assigned Phs | 1 | 2 | | | 6 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 4.4 | 18.6 | | | 23.0 | 7.2 |
| Change Period (Y+Rc), s | 4.0 | 4.5 | | | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 4.0 | 25.0 | | | 33.0 | 18.0 |
| Max Q Clear Time (g_c+I1), s | 2.2 | 9.7 | | | 4.3 | 4.0 |
| Green Ext Time (p_c), s | 0.0 | 4.4 | | | 1.9 | 0.2 |

**Intersection Summary**

| | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 7.3 | |
| HCM 6th LOS | | A | |

**Notes**

User approved volume balancing among the lanes for turning movement.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 5 | 5 | 20 | 63 | 5 | 5 | 25 | 775 | 103 | 5 | 389 | 5 |
| Future Volume (vph) | 5 | 5 | 20 | 63 | 5 | 5 | 25 | 775 | 103 | 5 | 389 | 5 |
| Confl. Peds. (#/hr) | | | | | | | | | 1 | 1 | | |
| Confl. Bikes (#/hr) | | | | | | 8 | | | 8 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Perm | NA | | Perm | NA | | Prot | NA | Perm | Prot | NA | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | | | | 2 | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | | 5 | 2 | 2 | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Minimum Split (s) | 22.5 | 22.5 | | 22.5 | 22.5 | | 8.5 | 22.5 | 22.5 | 8.5 | 22.5 | |
| Total Split (s) | 22.5 | 22.5 | | 22.5 | 22.5 | | 9.9 | 44.0 | 44.0 | 8.5 | 42.6 | |
| Total Split (%) | 30.0% | 30.0% | | 30.0% | 30.0% | | 13.2% | 58.7% | 58.7% | 11.3% | 56.8% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lag | Lag | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | Yes | Yes | Yes | |
| Recall Mode | None | None | | None | None | | None | Min | Min | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 75 |
| Actuated Cycle Length: 50.6 |
| Natural Cycle: 75 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 3: Fanita Parkway & Ganley Road

Year 2035 + Proj PM (Mitigated)
3: Fanita Parkway & Ganley Road
Fanita Ranch
06/05/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 5 | 5 | 20 | 63 | 5 | 5 | 25 | 775 | 103 | 5 | 389 | 5 |
| Future Volume (veh/h) | 5 | 5 | 20 | 63 | 5 | 5 | 25 | 775 | 103 | 5 | 389 | 5 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.95 | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 5 | 5 | 22 | 68 | 5 | 5 | 27 | 842 | 112 | 5 | 423 | 5 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 121 | 21 | 78 | 288 | 59 | 59 | 46 | 1087 | 897 | 10 | 2016 | 24 |
| Arrive On Green | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.03 | 0.58 | 0.58 | 0.01 | 0.56 | 0.56 |
| Sat Flow, veh/h | 210 | 291 | 1102 | 1383 | 835 | 835 | 1781 | 1870 | 1544 | 1781 | 3597 | 42 |
| Grp Volume(v), veh/h | 32 | 0 | 0 | 68 | 0 | 10 | 27 | 842 | 112 | 5 | 209 | 219 |
| Grp Sat Flow(s),veh/h/ln | 1603 | 0 | 0 | 1383 | 0 | 1669 | 1781 | 1870 | 1544 | 1781 | 1777 | 1863 |
| Q Serve(g_s), s | 0.3 | 0.0 | 0.0 | 0.9 | 0.0 | 0.2 | 0.6 | 13.5 | 1.3 | 0.1 | 2.3 | 2.3 |
| Cycle Q Clear(g_c), s | 0.7 | 0.0 | 0.0 | 1.7 | 0.0 | 0.2 | 0.6 | 13.5 | 1.3 | 0.1 | 2.3 | 2.3 |
| Prop In Lane | 0.16 | | 0.69 | 1.00 | | 0.50 | 1.00 | | 1.00 | 1.00 | | 0.02 |
| Lane Grp Cap(c), veh/h | 220 | 0 | 0 | 288 | 0 | 119 | 46 | 1087 | 897 | 10 | 996 | 1044 |
| V/C Ratio(X) | 0.15 | 0.00 | 0.00 | 0.24 | 0.00 | 0.08 | 0.58 | 0.77 | 0.12 | 0.52 | 0.21 | 0.21 |
| Avail Cap(c_a), veh/h | 833 | 0 | 0 | 822 | 0 | 763 | 244 | 1875 | 1548 | 181 | 1718 | 1801 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 17.3 | 0.0 | 0.0 | 17.7 | 0.0 | 17.1 | 19.0 | 6.3 | 3.7 | 19.5 | 4.3 | 4.3 |
| Incr Delay (d2), s/veh | 0.3 | 0.0 | 0.0 | 0.4 | 0.0 | 0.3 | 11.1 | 1.2 | 0.1 | 37.2 | 0.1 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.3 | 0.0 | 0.0 | 0.6 | 0.0 | 0.1 | 0.4 | 3.0 | 0.2 | 0.1 | 0.5 | 0.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 17.6 | 0.0 | 0.0 | 18.1 | 0.0 | 17.4 | 30.1 | 7.5 | 3.8 | 56.8 | 4.4 | 4.4 |
| LnGrp LOS | B | A | A | B | A | B | C | A | A | E | A | A |
| Approach Vol, veh/h | | 32 | | | 78 | | | 981 | | | 433 | |
| Approach Delay, s/veh | | 17.6 | | | 18.0 | | | 7.7 | | | 5.0 | |
| Approach LOS | | B | | | B | | | A | | | A | |

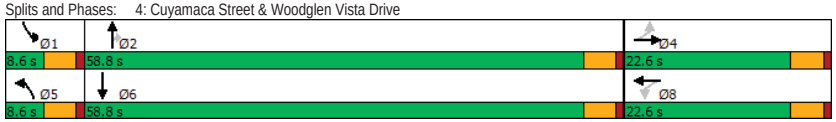
| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 4.7 | 27.4 | | 7.3 | 5.5 | 26.6 | | 7.3 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 4.0 | 39.5 | | 18.0 | 5.4 | 38.1 | | 18.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.1 | 15.5 | | 2.7 | 2.6 | 4.3 | | 3.7 | | | | |
| Green Ext Time (p_c), s | 0.0 | 7.4 | | 0.1 | 0.0 | 2.7 | | 0.1 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 7.7 | |
| HCM 6th LOS | A | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 5 | 10 | 115 | 5 | 15 | 10 | 742 | 240 | 5 | 360 | 5 |
| Future Volume (vph) | 0 | 5 | 10 | 115 | 5 | 15 | 10 | 742 | 240 | 5 | 360 | 5 |
| Confl. Peds. (#/hr) | 3 | | 2 | 2 | | 3 | 1 | | 4 | 4 | | 1 |
| Confl. Bikes (#/hr) | | | 1 | | | | | | 1 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | | NA | | Perm | NA | | Prot | NA | Perm | Prot | NA | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | | | | 2 | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | | 5 | 2 | 2 | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Minimum Split (s) | 22.5 | 22.5 | | 22.5 | 22.5 | | 8.5 | 22.5 | 22.5 | 8.5 | 22.5 | |
| Total Split (s) | 22.6 | 22.6 | | 22.6 | 22.6 | | 8.6 | 58.8 | 58.8 | 8.6 | 58.8 | |
| Total Split (%) | 25.1% | 25.1% | | 25.1% | 25.1% | | 9.6% | 65.3% | 65.3% | 9.6% | 65.3% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | | | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | | 4.5 | | | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lag | Lag | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | Yes | Yes | Yes | |
| Recall Mode | None | None | | None | None | | None | Min | Min | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 90 |
| Actuated Cycle Length: 58.6 |
| Natural Cycle: 70 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 4: Cuyamaca Street & Woodglen Vista Drive








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 5 | 10 | 115 | 5 | 15 | 10 | 742 | 240 | 5 | 360 | 5 |
| Future Volume (veh/h) | 0 | 5 | 10 | 115 | 5 | 15 | 10 | 742 | 240 | 5 | 360 | 5 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 0.99 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 5 | 11 | 125 | 5 | 16 | 11 | 807 | 261 | 5 | 391 | 5 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 0 | 76 | 167 | 314 | 12 | 22 | 20 | 1039 | 859 | 10 | 1012 | 13 |
| Arrive On Green | 0.00 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.01 | 0.56 | 0.56 | 0.01 | 0.55 | 0.55 |
| Sat Flow, veh/h | 0 | 513 | 1128 | 1146 | 80 | 151 | 1781 | 1870 | 1547 | 1781 | 1842 | 24 |
| Grp Volume(v), veh/h | 0 | 0 | 16 | 146 | 0 | 0 | 11 | 807 | 261 | 5 | 0 | 396 |
| Grp Sat Flow(s),veh/h/ln | 0 | 0 | 1641 | 1377 | 0 | 0 | 1781 | 1870 | 1547 | 1781 | 0 | 1865 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.4 | 4.4 | 0.0 | 0.0 | 0.3 | 15.6 | 4.2 | 0.1 | 0.0 | 5.6 |
| Cycle Q Clear(g_c), s | 0.0 | 0.0 | 0.4 | 4.7 | 0.0 | 0.0 | 0.3 | 15.6 | 4.2 | 0.1 | 0.0 | 5.6 |
| Prop In Lane | 0.00 | | 0.69 | 0.86 | | 0.11 | 1.00 | | 1.00 | 1.00 | | 0.01 |
| Lane Grp Cap(c), veh/h | 0 | 0 | 242 | 348 | 0 | 0 | 20 | 1039 | 859 | 10 | 0 | 1025 |
| V/C Ratio(X) | 0.00 | 0.00 | 0.07 | 0.42 | 0.00 | 0.00 | 0.54 | 0.78 | 0.30 | 0.52 | 0.00 | 0.39 |
| Avail Cap(c_a), veh/h | 0 | 0 | 642 | 693 | 0 | 0 | 158 | 2194 | 1815 | 158 | 0 | 2188 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 0.0 | 0.0 | 17.0 | 18.9 | 0.0 | 0.0 | 22.8 | 8.0 | 5.5 | 23.0 | 0.0 | 6.0 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 0.1 | 0.8 | 0.0 | 0.0 | 20.6 | 1.3 | 0.2 | 37.7 | 0.0 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.0 | 0.1 | 1.4 | 0.0 | 0.0 | 0.2 | 4.1 | 0.9 | 0.1 | 0.0 | 1.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 0.0 | 17.1 | 19.7 | 0.0 | 0.0 | 43.4 | 9.3 | 5.7 | 60.6 | 0.0 | 6.2 |
| LnGrp LOS | A | A | B | B | A | A | D | A | A | E | A | A |
| Approach Vol, veh/h | | 16 | | | 146 | | | 1079 | | | 401 | |
| Approach Delay, s/veh | | 17.1 | | | 19.7 | | | 8.8 | | | 6.9 | |
| Approach LOS | | B | | | B | | | A | | | A | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 4.7 | 30.2 | | 11.3 | 5.0 | 29.9 | | 11.3 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 4.1 | 54.3 | | 18.1 | 4.1 | 54.3 | | 18.1 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.1 | 17.6 | | 2.4 | 2.3 | 7.6 | | 6.7 | | | | |
| Green Ext Time (p_c), s | 0.0 | 8.1 | | 0.0 | 0.0 | 2.6 | | 0.5 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 9.4 | |
| HCM 6th LOS | A | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 5 | 5 | 5 | 105 | 10 | 5 | 15 | 977 | 110 | 5 | 485 | 0 |
| Future Volume (vph) | 5 | 5 | 5 | 105 | 10 | 5 | 15 | 977 | 110 | 5 | 485 | 0 |
| Confl. Peds. (#/hr) | 3 | | 2 | 2 | | 3 | 1 | | 5 | 5 | | 1 |
| Confl. Bikes (#/hr) | | | | | | 1 | | | 2 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Perm | NA | | Perm | NA | | Prot | NA | | Prot | NA | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | 22.5 | 22.5 | | 22.5 | 22.5 | | 8.5 | 22.5 | | 8.5 | 22.5 | |
| Total Split (s) | 22.6 | 22.6 | | 22.6 | 22.6 | | 8.6 | 28.8 | | 8.6 | 28.8 | |
| Total Split (%) | 37.7% | 37.7% | | 37.7% | 37.7% | | 14.3% | 48.0% | | 14.3% | 48.0% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | | | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | | 4.5 | | | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 45.9 |
| Natural Cycle: 60 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 6: Cuyamaca Street & El Nopal

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 5 | 5 | 5 | 105 | 10 | 5 | 15 | 977 | 110 | 5 | 485 | 0 |
| Future Volume (veh/h) | 5 | 5 | 5 | 105 | 10 | 5 | 15 | 977 | 110 | 5 | 485 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 0.99 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 5 | 5 | 5 | 114 | 11 | 5 | 16 | 1062 | 120 | 5 | 527 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 174 | 108 | 74 | 354 | 16 | 7 | 29 | 1565 | 177 | 10 | 1694 | 0 |
| Arrive On Green | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.02 | 0.49 | 0.49 | 0.01 | 0.48 | 0.00 |
| Sat Flow, veh/h | 310 | 835 | 572 | 1273 | 123 | 56 | 1781 | 3208 | 362 | 1781 | 3647 | 0 |
| Grp Volume(v), veh/h | 15 | 0 | 0 | 130 | 0 | 0 | 16 | 588 | 594 | 5 | 527 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1716 | 0 | 0 | 1452 | 0 | 0 | 1781 | 1777 | 1794 | 1781 | 1777 | 0 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.0 | 2.8 | 0.0 | 0.0 | 0.3 | 9.1 | 9.1 | 0.1 | 3.3 | 0.0 |
| Cycle Q Clear(g_c), s | 0.3 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 0.3 | 9.1 | 9.1 | 0.1 | 3.3 | 0.0 |
| Prop In Lane | 0.33 | | 0.33 | 0.88 | | 0.04 | 1.00 | | 0.20 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 357 | 0 | 0 | 377 | 0 | 0 | 29 | 867 | 875 | 10 | 1694 | 0 |
| V/C Ratio(X) | 0.04 | 0.00 | 0.00 | 0.34 | 0.00 | 0.00 | 0.55 | 0.68 | 0.68 | 0.52 | 0.31 | 0.00 |
| Avail Cap(c_a), veh/h | 954 | 0 | 0 | 915 | 0 | 0 | 204 | 1206 | 1217 | 204 | 2412 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | 13.7 | 0.0 | 0.0 | 14.9 | 0.0 | 0.0 | 17.5 | 7.0 | 7.0 | 17.8 | 5.8 | 0.0 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 0.0 | 0.5 | 0.0 | 0.0 | 14.9 | 0.9 | 0.9 | 37.0 | 0.1 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.1 | 0.0 | 0.0 | 0.9 | 0.0 | 0.0 | 0.2 | 2.0 | 2.0 | 0.1 | 0.7 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 13.7 | 0.0 | 0.0 | 15.4 | 0.0 | 0.0 | 32.4 | 8.0 | 8.0 | 54.7 | 5.9 | 0.0 |
| LnGrp LOS | B | A | A | B | A | A | C | A | A | D | A | A |
| Approach Vol, veh/h | | 15 | | | 130 | | | 1198 | | | 532 | |
| Approach Delay, s/veh | | 13.7 | | | 15.4 | | | 8.3 | | | 6.3 | |
| Approach LOS | | B | | | B | | | A | | | A | |

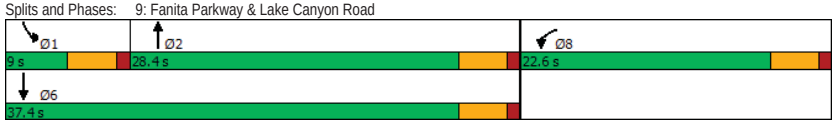
| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 4.7 | 22.0 | | 9.1 | 5.1 | 21.6 | | 9.1 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 4.1 | 24.3 | | 18.1 | 4.1 | 24.3 | | 18.1 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.1 | 11.1 | | 2.3 | 2.3 | 5.3 | | 5.0 | | | | |
| Green Ext Time (p_c), s | 0.0 | 6.3 | | 0.0 | 0.0 | 3.3 | | 0.5 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 8.3 | |
| HCM 6th LOS | A | |

| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 53 | 76 | 870 | 93 | 36 | 457 |
| Future Volume (vph) | 53 | 76 | 870 | 93 | 36 | 457 |
| Confl. Peds. (#/hr) | 45 | 41 | | 1 | 1 | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | | NA | | Prot | NA |
| Protected Phases | 8 | | 2 | | 1 | 6 |
| Permitted Phases | | | | | | |
| Detector Phase | 8 | | 2 | | 1 | 6 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | | 4.0 | | 4.0 | 4.0 |
| Minimum Split (s) | 22.5 | | 22.5 | | 8.5 | 22.5 |
| Total Split (s) | 22.6 | | 28.4 | | 9.0 | 37.4 |
| Total Split (%) | 37.7% | | 47.3% | | 15.0% | 62.3% |
| Yellow Time (s) | 3.5 | | 3.5 | | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | | 1.0 | | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | | 4.5 | | 4.5 | 4.5 |
| Lead/Lag | | | Lag | | Lead | |
| Lead-Lag Optimize? | | | Yes | | Yes | |
| Recall Mode | None | | Min | | None | Min |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 43.9 |
| Natural Cycle: 60 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 9: Fanita Parkway & Lake Canyon Road






Year 2035 + Proj PM (Mitigated)
9: Fanita Parkway & Lake Canyon Road
Fanita Ranch
06/05/2019

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 53 | 76 | 870 | 93 | 36 | 457 |
| Future Volume (veh/h) | 53 | 76 | 870 | 93 | 36 | 457 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | | 1.00 | 1.00 | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | No | | | No |
| Adj Sat Flow, veh/h/ln | 1870 | 1900 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 58 | 83 | 946 | 101 | 39 | 497 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 0 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 158 | 143 | 1487 | 159 | 65 | 2254 |
| Arrive On Green | 0.09 | 0.09 | 0.46 | 0.46 | 0.04 | 0.63 |
| Sat Flow, veh/h | 1781 | 1610 | 3332 | 346 | 1781 | 3647 |
| Grp Volume(v), veh/h | 58 | 83 | 519 | 528 | 39 | 497 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1610 | 1777 | 1808 | 1781 | 1777 |
| Q Serve(g_s), s | 1.0 | 1.6 | 7.2 | 7.2 | 0.7 | 1.9 |
| Cycle Q Clear(g_c), s | 1.0 | 1.6 | 7.2 | 7.2 | 0.7 | 1.9 |
| Prop In Lane | 1.00 | 1.00 | | 0.19 | 1.00 | |
| Lane Grp Cap(c), veh/h | 158 | 143 | 816 | 830 | 65 | 2254 |
| V/C Ratio(X) | 0.37 | 0.58 | 0.64 | 0.64 | 0.60 | 0.22 |
| Avail Cap(c_a), veh/h | 993 | 897 | 1307 | 1330 | 247 | 3599 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 13.9 | 14.2 | 6.7 | 6.7 | 15.4 | 2.5 |
| Incr Delay (d2), s/veh | 1.4 | 3.7 | 0.8 | 0.8 | 8.5 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.4 | 0.6 | 1.3 | 1.3 | 0.4 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 15.4 | 17.9 | 7.5 | 7.5 | 24.0 | 2.6 |
| LnGrp LOS | B | B | A | A | C | A |
| Approach Vol, veh/h | 141 | | 1047 | | | 536 |
| Approach Delay, s/veh | 16.9 | | 7.5 | | | 4.1 |
| Approach LOS | B | | A | | | A |

| Timer - Assigned Phs | 1 | 2 | | | 6 | 8 |
|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.7 | 19.4 | | | 25.1 | 7.4 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 4.5 | 23.9 | | | 32.9 | 18.1 |
| Max Q Clear Time (g_c+I1), s | 2.7 | 9.2 | | | 3.9 | 3.6 |
| Green Ext Time (p_c), s | 0.0 | 5.6 | | | 3.3 | 0.3 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 7.2 |
| HCM 6th LOS | A |

| Notes |
|---|
| User approved volume balancing among the lanes for turning movement. |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 10 | 60 | 5 | 5 | 10 | 1102 | 65 | 5 | 570 | 5 |
| Future Volume (vph) | 0 | 0 | 10 | 60 | 5 | 5 | 10 | 1102 | 65 | 5 | 570 | 5 |
| Confl. Peds. (#/hr) | 2 | | 2 | 2 | | 2 | 3 | | 5 | 5 | | 3 |
| Confl. Bikes (#/hr) | | | 3 | | | 2 | | | 3 | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | | NA | | Perm | NA | | Prot | NA | | Prot | NA | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Minimum Split (s) | 22.5 | 22.5 | | 22.5 | 22.5 | | 8.5 | 22.5 | | 8.5 | 22.5 | |
| Total Split (s) | 22.6 | 22.6 | | 22.6 | 22.6 | | 8.6 | 28.8 | | 8.6 | 28.8 | |
| Total Split (%) | 37.7% | 37.7% | | 37.7% | 37.7% | | 14.3% | 48.0% | | 14.3% | 48.0% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | | | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | | 4.5 | | | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 45.9 |
| Natural Cycle: 60 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 12: Cuyamaca Street & Beck Drive

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 10 | 60 | 5 | 5 | 10 | 1102 | 65 | 5 | 570 | 5 |
| Future Volume (veh/h) | 0 | 0 | 10 | 60 | 5 | 5 | 10 | 1102 | 65 | 5 | 570 | 5 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 0.99 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 0 | 11 | 65 | 5 | 5 | 11 | 1198 | 71 | 5 | 620 | 5 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 0 | 0 | 120 | 285 | 7 | 7 | 21 | 1774 | 105 | 10 | 1861 | 15 |
| Arrive On Green | 0.00 | 0.00 | 0.08 | 0.08 | 0.08 | 0.08 | 0.01 | 0.52 | 0.52 | 0.01 | 0.52 | 0.52 |
| Sat Flow, veh/h | 0 | 0 | 1549 | 1132 | 87 | 87 | 1781 | 3403 | 201 | 1781 | 3612 | 29 |
| Grp Volume(v), veh/h | 0 | 0 | 11 | 75 | 0 | 0 | 11 | 625 | 644 | 5 | 305 | 320 |
| Grp Sat Flow(s),veh/h/ln | 0 | 0 | 1549 | 1306 | 0 | 0 | 1781 | 1777 | 1828 | 1781 | 1777 | 1864 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.2 | 1.8 | 0.0 | 0.0 | 0.2 | 8.9 | 8.9 | 0.1 | 3.4 | 3.4 |
| Cycle Q Clear(g_c), s | 0.0 | 0.0 | 0.2 | 2.0 | 0.0 | 0.0 | 0.2 | 8.9 | 8.9 | 0.1 | 3.4 | 3.4 |
| Prop In Lane | 0.00 | | 1.00 | 0.87 | | 0.07 | 1.00 | | 0.11 | 1.00 | | 0.02 |
| Lane Grp Cap(c), veh/h | 0 | 0 | 120 | 298 | 0 | 0 | 21 | 926 | 953 | 10 | 915 | 960 |
| V/C Ratio(X) | 0.00 | 0.00 | 0.09 | 0.25 | 0.00 | 0.00 | 0.53 | 0.67 | 0.68 | 0.52 | 0.33 | 0.33 |
| Avail Cap(c_a), veh/h | 0 | 0 | 822 | 944 | 0 | 0 | 214 | 1265 | 1301 | 214 | 1265 | 1327 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 0.0 | 0.0 | 14.6 | 15.5 | 0.0 | 0.0 | 16.8 | 6.0 | 6.0 | 16.9 | 4.8 | 4.8 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 0.3 | 0.4 | 0.0 | 0.0 | 19.6 | 0.9 | 0.8 | 36.9 | 0.2 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.0 | 0.0 | 0.1 | 0.5 | 0.0 | 0.0 | 0.2 | 1.6 | 1.7 | 0.1 | 0.7 | 0.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 0.0 | 0.0 | 14.9 | 16.0 | 0.0 | 0.0 | 36.3 | 6.9 | 6.9 | 53.8 | 5.1 | 5.0 |
| LnGrp LOS | A | A | B | B | A | A | D | A | A | D | A | A |
| Approach Vol, veh/h | | 11 | | | 75 | | | 1280 | | | 630 | |
| Approach Delay, s/veh | | 14.9 | | | 16.0 | | | 7.1 | | | 5.4 | |
| Approach LOS | | B | | | B | | | A | | | A | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 4.7 | 22.3 | | 7.2 | 4.9 | 22.1 | | 7.2 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 4.1 | 24.3 | | 18.1 | 4.1 | 24.3 | | 18.1 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.1 | 10.9 | | 2.2 | 2.2 | 5.4 | | 4.0 | | | | |
| Green Ext Time (p_c), s | 0.0 | 6.9 | | 0.0 | 0.0 | 3.7 | | 0.2 | | | | |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 7.0 | |
| HCM 6th LOS | A | |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 25 | 1743 | 0 | 0 | 355 | 741 | 0 | 5 | 640 | 0 | 0 | 0 |
| Future Volume (vph) | 25 | 1743 | 0 | 0 | 355 | 741 | 0 | 5 | 640 | 0 | 0 | 0 |
| Confl. Peds. (#/hr) | | | 6 | | | | | | | | | |
| Confl. Bikes (#/hr) | | | | | | 4 | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 |
| Shared Lane Traffic (%) | | | | | | 10% | | | 50% | | | |
| Turn Type | Prot | NA | | | NA | Perm | | NA | Perm | | | |
| Protected Phases | 5 | 2 | | | 6 | | | 8 | | | | |
| Permitted Phases | | | | | | 6 | 8 | | 8 | | | |
| Detector Phase | 5 | 2 | | | 6 | 6 | 8 | 8 | 8 | | | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 10.0 | | | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | | | |
| Minimum Split (s) | 11.7 | 38.6 | | | 28.4 | 28.4 | 43.1 | 43.1 | 43.1 | | | |
| Total Split (s) | 13.0 | 56.9 | | | 43.9 | 43.9 | 43.1 | 43.1 | 43.1 | | | |
| Total Split (%) | 13.0% | 56.9% | | | 43.9% | 43.9% | 43.1% | 43.1% | 43.1% | | | |
| Yellow Time (s) | 3.7 | 4.1 | | | 4.4 | 4.4 | 4.1 | 4.1 | 4.1 | | | |
| All-Red Time (s) | 1.0 | 1.0 | | | 1.0 | 1.0 | 2.0 | 2.0 | 2.0 | | | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | | 0.0 | 0.0 | | 0.0 | 0.0 | | | |
| Total Lost Time (s) | 4.7 | 5.1 | | | 5.4 | 5.4 | | 6.1 | 6.1 | | | |
| Lead/Lag | Lead | | | | Lag | Lag | | | | | | |
| Lead-Lag Optimize? | Yes | | | | Yes | Yes | | | | | | |
| Recall Mode | None | Min | | | Min | Min | None | None | None | | | |

**Intersection Summary**

Cycle Length: 100
Actuated Cycle Length: 88.7
Natural Cycle: 105
Control Type: Actuated-Uncoordinated

Splits and Phases: 17: SR-52 WB Ramps & Mast Blvd

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 25 | 1743 | 0 | 0 | 355 | 741 | 0 | 5 | 640 | 0 | 0 | 0 |
| Future Volume (veh/h) | 25 | 1743 | 0 | 0 | 355 | 741 | 0 | 5 | 640 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.99 | 1.00 | | 1.00 | | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.99 | 1.00 | | | |
| Work Zone On Approach | | No | | | No | | | No | | | | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 0 | 0 | 1870 | 1945 | 1870 | 1870 | 1870 | | | |
| Adj Flow Rate, veh/h | 27 | 1895 | 0 | 0 | 394 | 800 | 0 | 0 | 699 | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | |
| Percent Heavy Veh, % | 2 | 2 | 0 | 0 | 2 | 2 | 2 | 2 | 2 | | | |
| Cap, veh/h | 70 | 2144 | 0 | 0 | 947 | 1645 | 0 | 472 | 809 | | | |
| Arrive On Green | 0.04 | 0.60 | 0.00 | 0.00 | 0.51 | 0.51 | 0.00 | 0.00 | 0.26 | | | |
| Sat Flow, veh/h | 1781 | 3647 | 0 | 0 | 1870 | 3252 | 0 | 1848 | 3170 | | | |
| Grp Volume(v), veh/h | 27 | 1895 | 0 | 0 | 394 | 800 | 0 | 0 | 699 | | | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 0 | 0 | 1870 | 1626 | 0 | 1848 | 1585 | | | |
| Q Serve(g_s), s | 1.2 | 36.9 | 0.0 | 0.0 | 10.7 | 13.1 | 0.0 | 0.0 | 17.1 | | | |
| Cycle Q Clear(g_c), s | 1.2 | 36.9 | 0.0 | 0.0 | 10.7 | 13.1 | 0.0 | 0.0 | 17.1 | | | |
| Prop In Lane | 1.00 | | 0.00 | 0.00 | | 1.00 | 0.00 | | 1.00 | | | |
| Lane Grp Cap(c), veh/h | 70 | 2144 | 0 | 0 | 947 | 1645 | 0 | 472 | 809 | | | |
| V/C Ratio(X) | 0.39 | 0.88 | 0.00 | 0.00 | 0.42 | 0.49 | 0.00 | 0.00 | 0.86 | | | |
| Avail Cap(c_a), veh/h | 182 | 2264 | 0 | 0 | 947 | 1645 | 0 | 841 | 1443 | | | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | | | |
| Uniform Delay (d), s/veh | 38.1 | 13.7 | 0.0 | 0.0 | 12.6 | 13.2 | 0.0 | 0.0 | 28.9 | | | |
| Incr Delay (d2), s/veh | 1.3 | 4.4 | 0.0 | 0.0 | 0.3 | 0.2 | 0.0 | 0.0 | 1.1 | | | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| %ile BackOfQ(50%),veh/ln | 0.5 | 13.2 | 0.0 | 0.0 | 4.1 | 4.3 | 0.0 | 0.0 | 6.4 | | | |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 39.4 | 18.1 | 0.0 | 0.0 | 12.9 | 13.4 | 0.0 | 0.0 | 30.0 | | | |
| LnGrp LOS | D | B | A | A | B | B | A | A | C | | | |
| Approach Vol, veh/h | | 1922 | | | 1194 | | | 699 | | | | |
| Approach Delay, s/veh | | 18.4 | | | 13.2 | | | 30.0 | | | | |
| Approach LOS | | B | | | B | | | C | | | | |
| Timer - Assigned Phs | | 2 | | | 5 | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 54.4 | | | 7.9 | 46.5 | | 26.9 | | | | |
| Change Period (Y+Rc), s | | * 5.4 | | | * 4.7 | 5.4 | | 6.1 | | | | |
| Max Green Setting (Gmax), s | | * 52 | | | * 8.3 | 38.5 | | 37.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 38.9 | | | 3.2 | 15.1 | | 19.1 | | | | |
| Green Ext Time (p_c), s | | 10.2 | | | 0.0 | 6.3 | | 1.6 | | | | |

**Intersection Summary**

| | | |
|---|---|---|
| HCM 6th Ctrl Delay | 18.9 | |
| HCM 6th LOS | B | |

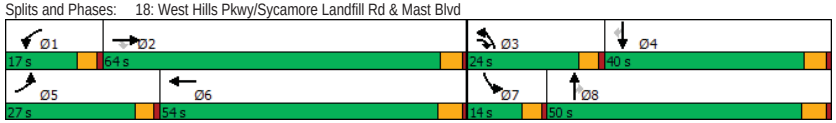
**Notes**

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 150 | 1713 | 520 | 218 | 706 | 80 | 280 | 45 | 509 | 75 | 10 | 110 |
| Future Volume (vph) | 150 | 1713 | 520 | 218 | 706 | 80 | 280 | 45 | 509 | 75 | 10 | 110 |
| Confl. Peds. (#/hr) | | | 12 | | | | | | | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | pm+ov | Prot | NA | | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | | | | 8 | | | 4 |
| Detector Phase | 5 | 2 | 3 | 1 | 6 | | 3 | 8 | 8 | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 10.0 | 7.0 | 4.0 | 10.0 | | 7.0 | 10.0 | 10.0 | 4.0 | 10.0 | 10.0 |
| Minimum Split (s) | 20.0 | 34.9 | 20.0 | 8.4 | 35.2 | | 20.0 | 33.4 | 33.4 | 8.4 | 34.9 | 34.9 |
| Total Split (s) | 27.0 | 64.0 | 24.0 | 17.0 | 54.0 | | 24.0 | 50.0 | 50.0 | 14.0 | 40.0 | 40.0 |
| Total Split (%) | 18.6% | 44.1% | 16.6% | 11.7% | 37.2% | | 16.6% | 34.5% | 34.5% | 9.7% | 27.6% | 27.6% |
| Yellow Time (s) | 3.4 | 3.9 | 3.4 | 3.4 | 4.2 | | 3.4 | 4.4 | 4.4 | 3.4 | 3.9 | 3.9 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.4 | 4.9 | 4.4 | 4.4 | 5.2 | | 4.4 | 5.4 | 5.4 | 4.4 | 4.9 | 4.9 |
| Lead/Lag | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | Min | None | None | Min | | None | None | None | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 145 |
| Actuated Cycle Length: 130.5 |
| Natural Cycle: 115 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 18: West Hills Pkwy/Sycamore Landfill Rd & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 150 | 1713 | 520 | 218 | 706 | 80 | 280 | 45 | 509 | 75 | 10 | 110 |
| Future Volume (veh/h) | 150 | 1713 | 520 | 218 | 706 | 80 | 280 | 45 | 509 | 75 | 10 | 110 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 163 | 1862 | 565 | 237 | 767 | 83 | 304 | 49 | 498 | 82 | 11 | 113 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 187 | 2095 | 807 | 283 | 1812 | 195 | 355 | 587 | 498 | 102 | 502 | 424 |
| Arrive On Green | 0.11 | 0.41 | 0.41 | 0.08 | 0.39 | 0.39 | 0.10 | 0.31 | 0.31 | 0.06 | 0.27 | 0.27 |
| Sat Flow, veh/h | 1781 | 5106 | 1571 | 3456 | 4680 | 503 | 3456 | 1870 | 1585 | 1781 | 1870 | 1578 |
| Grp Volume(v), veh/h | 163 | 1862 | 565 | 237 | 557 | 293 | 304 | 49 | 498 | 82 | 11 | 113 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1702 | 1571 | 1728 | 1702 | 1780 | 1728 | 1870 | 1585 | 1781 | 1870 | 1578 |
| Q Serve(g_s), s | 12.8 | 48.1 | 38.9 | 9.6 | 17.0 | 17.2 | 12.3 | 2.6 | 44.6 | 6.5 | 0.6 | 8.0 |
| Cycle Q Clear(g_c), s | 12.8 | 48.1 | 38.9 | 9.6 | 17.0 | 17.2 | 12.3 | 2.6 | 44.6 | 6.5 | 0.6 | 8.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.28 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 187 | 2095 | 807 | 283 | 1318 | 689 | 355 | 587 | 498 | 102 | 502 | 424 |
| V/C Ratio(X) | 0.87 | 0.89 | 0.70 | 0.84 | 0.42 | 0.43 | 0.86 | 0.08 | 1.00 | 0.80 | 0.02 | 0.27 |
| Avail Cap(c_a), veh/h | 283 | 2124 | 816 | 306 | 1318 | 689 | 477 | 587 | 498 | 120 | 502 | 424 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 62.6 | 38.9 | 26.3 | 64.3 | 31.9 | 31.9 | 62.7 | 34.3 | 48.7 | 66.2 | 38.2 | 40.9 |
| Incr Delay (d2), s/veh | 11.8 | 5.1 | 2.8 | 15.6 | 0.5 | 0.9 | 8.9 | 0.1 | 40.6 | 23.6 | 0.0 | 0.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 6.4 | 20.5 | 14.4 | 4.8 | 7.0 | 7.5 | 5.7 | 1.2 | 22.7 | 3.6 | 0.3 | 3.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 74.4 | 44.0 | 29.2 | 79.9 | 32.4 | 32.8 | 71.7 | 34.4 | 89.3 | 89.8 | 38.2 | 41.3 |
| LnGrp LOS | E | D | C | E | C | C | E | C | F | F | D | D |
| Approach Vol, veh/h | | 2590 | | | 1087 | | | 851 | | | 206 | |
| Approach Delay, s/veh | | 42.7 | | | 42.8 | | | 79.8 | | | 60.4 | |
| Approach LOS | | D | | | D | | | E | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 16.1 | 63.5 | 19.0 | 43.6 | 19.3 | 60.2 | 12.5 | 50.0 |
| Change Period (Y+Rc), s | 4.4 | * 5.2 | 4.4 | * 5.4 | 4.4 | 5.2 | 4.4 | 5.4 |
| Max Green Setting (Gmax), s | 12.6 | * 59 | 19.6 | * 35 | 22.6 | 48.8 | 9.6 | 44.6 |
| Max Q Clear Time (g_c+I1), s | 11.6 | 50.1 | 14.3 | 10.0 | 14.8 | 19.2 | 8.5 | 46.6 |
| Green Ext Time (p_c), s | 0.0 | 8.2 | 0.3 | 0.4 | 0.1 | 11.1 | 0.0 | 0.0 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 50.2 | |
| HCM 6th LOS | D | |

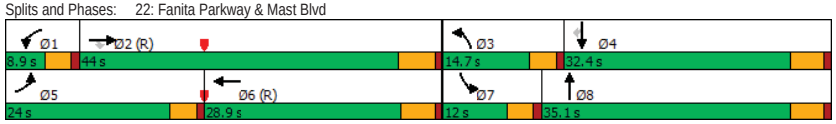
| Notes |
|---|
| * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier. |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 631 | 1119 | 70 | 40 | 508 | 113 | 80 | 269 | 50 | 97 | 155 | 316 |
| Future Volume (vph) | 631 | 1119 | 70 | 40 | 508 | 113 | 80 | 269 | 50 | 97 | 155 | 316 |
| Confl. Peds. (#/hr) | | | 12 | | | 1 | | | 3 | | | 5 |
| Confl. Bikes (#/hr) | | | | | | 5 | | | 1 | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | | | | | | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | | 4.0 | 7.0 | | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 27.5 | 27.5 | 8.2 | 28.1 | | 8.2 | 35.1 | | 8.2 | 28.1 | 28.1 |
| Total Split (s) | 24.0 | 44.0 | 44.0 | 8.9 | 28.9 | | 14.7 | 35.1 | | 12.0 | 32.4 | 32.4 |
| Total Split (%) | 24.0% | 44.0% | 44.0% | 8.9% | 28.9% | | 14.7% | 35.1% | | 12.0% | 32.4% | 32.4% |
| Yellow Time (s) | 3.2 | 4.5 | 4.5 | 3.2 | 4.1 | | 3.2 | 4.1 | | 3.2 | 4.1 | 4.1 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 5.5 | 5.5 | 4.2 | 5.1 | | 4.2 | 5.1 | | 4.2 | 5.1 | 5.1 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | C-Max | C-Max | None | C-Max | | None | None | | None | None | None |

**Intersection Summary**

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 14.1 (14%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 22: Fanita Parkway & Mast Blvd








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 631 | 1119 | 70 | 40 | 508 | 113 | 80 | 269 | 50 | 97 | 155 | 316 |
| Future Volume (veh/h) | 631 | 1119 | 70 | 40 | 508 | 113 | 80 | 269 | 50 | 97 | 155 | 316 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 686 | 1216 | 76 | 43 | 552 | 123 | 87 | 292 | 54 | 105 | 168 | 343 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 684 | 1667 | 734 | 55 | 869 | 193 | 111 | 362 | 67 | 131 | 463 | 670 |
| Arrive On Green | 0.20 | 0.47 | 0.47 | 0.01 | 0.10 | 0.10 | 0.06 | 0.24 | 0.24 | 0.07 | 0.25 | 0.25 |
| Sat Flow, veh/h | 3456 | 3554 | 1565 | 1781 | 2880 | 639 | 1781 | 1531 | 283 | 1781 | 1870 | 2702 |
| Grp Volume(v), veh/h | 686 | 1216 | 76 | 43 | 340 | 335 | 87 | 0 | 346 | 105 | 168 | 343 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1565 | 1781 | 1777 | 1743 | 1781 | 0 | 1814 | 1781 | 1870 | 1351 |
| Q Serve(g_s), s | 19.8 | 27.6 | 2.7 | 2.4 | 18.4 | 18.5 | 4.8 | 0.0 | 18.0 | 5.8 | 7.4 | 10.9 |
| Cycle Q Clear(g_c), s | 19.8 | 27.6 | 2.7 | 2.4 | 18.4 | 18.5 | 4.8 | 0.0 | 18.0 | 5.8 | 7.4 | 10.9 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.37 | 1.00 | | 0.16 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 684 | 1667 | 734 | 55 | 536 | 526 | 111 | 0 | 429 | 131 | 463 | 670 |
| V/C Ratio(X) | 1.00 | 0.73 | 0.10 | 0.79 | 0.63 | 0.64 | 0.78 | 0.00 | 0.81 | 0.80 | 0.36 | 0.51 |
| Avail Cap(c_a), veh/h | 684 | 1667 | 734 | 84 | 536 | 526 | 187 | 0 | 544 | 139 | 511 | 738 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.65 | 0.65 | 0.65 | 0.69 | 0.69 | 0.69 | 0.96 | 0.00 | 0.96 | 0.99 | 0.99 | 0.99 |
| Uniform Delay (d), s/veh | 40.1 | 21.4 | 14.8 | 49.2 | 39.7 | 39.8 | 46.2 | 0.0 | 36.0 | 45.6 | 31.1 | 32.4 |
| Incr Delay (d2), s/veh | 28.4 | 1.9 | 0.2 | 13.3 | 3.9 | 4.1 | 8.3 | 0.0 | 12.4 | 24.9 | 1.5 | 1.9 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 10.8 | 11.0 | 0.9 | 1.3 | 9.3 | 9.2 | 2.3 | 0.0 | 9.1 | 3.4 | 3.4 | 3.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 68.5 | 23.3 | 15.0 | 62.5 | 43.6 | 43.8 | 54.5 | 0.0 | 48.5 | 70.5 | 32.6 | 34.4 |
| LnGrp LOS | F | C | B | E | D | D | D | A | D | E | C | C |
| Approach Vol, veh/h | | 1978 | | | 718 | | | 433 | | | 616 | |
| Approach Delay, s/veh | | 38.6 | | | 44.8 | | | 49.7 | | | 40.0 | |
| Approach LOS | | D | | | D | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.3 | 52.4 | 10.4 | 29.9 | 24.0 | 35.7 | 11.6 | 28.7 |
| Change Period (Y+Rc), s | * 4.2 | 5.5 | * 4.2 | 5.1 | * 4.2 | * 5.5 | * 4.2 | 5.1 |
| Max Green Setting (Gmax), s | * 4.7 | 38.5 | * 11 | 27.3 | * 20 | * 24 | * 7.8 | 30.0 |
| Max Q Clear Time (g_c+I1), s | 4.4 | 29.6 | 6.8 | 12.9 | 21.8 | 20.5 | 7.8 | 20.0 |
| Green Ext Time (p_c), s | 0.0 | 7.6 | 0.0 | 4.6 | 0.0 | 2.2 | 0.0 | 2.9 |

**Intersection Summary**

| | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 41.3 | |
| HCM 6th LOS | | D | |

**Notes**

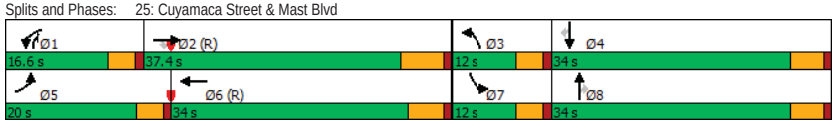
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 599 | 910 | 310 | 353 | 385 | 100 | 275 | 648 | 541 | 110 | 377 | 243 |
| Future Volume (vph) | 599 | 910 | 310 | 353 | 385 | 100 | 275 | 648 | 541 | 110 | 377 | 243 |
| Confl. Peds. (#/hr) | | | 11 | | | 3 | | | | | | 3 |
| Confl. Bikes (#/hr) | | | 2 | | | 2 | | | | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | | Prot | NA | pm+ov | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | 1 | 7 | 4 | |
| Permitted Phases | | | 2 | | | | | | 8 | | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | | 3 | 8 | 1 | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | | 4.0 | 7.0 | 4.0 | 4.0 | 7.0 | 7.0 |
| Minimum Split (s) | 8.2 | 34.3 | 34.3 | 8.2 | 32.3 | | 8.2 | 33.1 | 8.2 | 8.2 | 34.0 | 34.0 |
| Total Split (s) | 20.0 | 37.4 | 37.4 | 16.6 | 34.0 | | 12.0 | 34.0 | 16.6 | 12.0 | 34.0 | 34.0 |
| Total Split (%) | 20.0% | 37.4% | 37.4% | 16.6% | 34.0% | | 12.0% | 34.0% | 16.6% | 12.0% | 34.0% | 34.0% |
| Yellow Time (s) | 3.2 | 5.3 | 5.3 | 3.2 | 4.3 | | 3.2 | 4.1 | 3.2 | 3.2 | 4.0 | 4.0 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.2 | 6.3 | 6.3 | 4.2 | 5.3 | | 4.2 | 5.1 | 4.2 | 4.2 | 5.0 | 5.0 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | C-Min | C-Min | None | C-Min | | None | None | None | None | None | None |

**Intersection Summary**

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 21 (21%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 105
Control Type: Actuated-Coordinated

Splits and Phases: 25: Cuyamaca Street & Mast Blvd






Year 2035 + Proj PM (Mitigated)
25: Cuyamaca Street & Mast Blvd

Fanita Ranch
06/05/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 599 | 910 | 310 | 353 | 385 | 100 | 275 | 648 | 541 | 110 | 377 | 243 |
| Future Volume (veh/h) | 599 | 910 | 310 | 353 | 385 | 100 | 275 | 648 | 541 | 110 | 377 | 243 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 1.00 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 651 | 989 | 337 | 384 | 418 | 109 | 299 | 704 | 588 | 120 | 410 | 264 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 546 | 1105 | 481 | 429 | 771 | 199 | 270 | 1027 | 655 | 139 | 1027 | 451 |
| Arrive On Green | 0.05 | 0.10 | 0.10 | 0.12 | 0.28 | 0.28 | 0.08 | 0.29 | 0.29 | 0.08 | 0.29 | 0.29 |
| Sat Flow, veh/h | 3456 | 3554 | 1547 | 3456 | 2785 | 719 | 3456 | 3554 | 1585 | 1781 | 3554 | 1560 |
| Grp Volume(v), veh/h | 651 | 989 | 337 | 384 | 265 | 262 | 299 | 704 | 588 | 120 | 410 | 264 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1547 | 1728 | 1777 | 1727 | 1728 | 1777 | 1585 | 1781 | 1777 | 1560 |
| Q Serve(g_s), s | 15.8 | 27.5 | 21.1 | 11.0 | 12.7 | 12.9 | 7.8 | 17.6 | 28.9 | 6.7 | 9.3 | 14.5 |
| Cycle Q Clear(g_c), s | 15.8 | 27.5 | 21.1 | 11.0 | 12.7 | 12.9 | 7.8 | 17.6 | 28.9 | 6.7 | 9.3 | 14.5 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.42 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 546 | 1105 | 481 | 429 | 492 | 478 | 270 | 1027 | 655 | 139 | 1027 | 451 |
| V/C Ratio(X) | 1.19 | 0.89 | 0.70 | 0.90 | 0.54 | 0.55 | 1.11 | 0.69 | 0.90 | 0.86 | 0.40 | 0.59 |
| Avail Cap(c_a), veh/h | 546 | 1105 | 481 | 429 | 510 | 496 | 270 | 1027 | 655 | 139 | 1031 | 452 |
| HCM Platoon Ratio | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.51 | 0.51 | 0.51 | 0.96 | 0.96 | 0.96 | 0.16 | 0.16 | 0.16 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 47.4 | 43.3 | 40.4 | 43.2 | 30.7 | 30.8 | 46.1 | 31.5 | 27.4 | 45.6 | 28.6 | 30.4 |
| Incr Delay (d2), s/veh | 95.9 | 6.2 | 4.3 | 19.8 | 4.0 | 4.3 | 58.3 | 0.3 | 3.1 | 38.0 | 0.4 | 2.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 14.5 | 13.9 | 9.3 | 5.7 | 5.8 | 5.7 | 5.5 | 7.3 | 12.9 | 4.4 | 3.9 | 5.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 143.3 | 49.5 | 44.7 | 62.9 | 34.7 | 35.1 | 104.4 | 31.9 | 30.5 | 83.6 | 29.0 | 32.9 |
| LnGrp LOS | F | D | D | E | C | D | F | C | C | F | C | C |
| Approach Vol, veh/h | | 1977 | | | 911 | | | 1591 | | | 794 | |
| Approach Delay, s/veh | | 79.6 | | | 46.7 | | | 45.0 | | | 38.5 | |
| Approach LOS | | E | | | D | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 16.6 | 37.4 | 12.0 | 34.0 | 20.0 | 34.0 | 12.0 | 34.0 |
| Change Period (Y+Rc), s | * 4.2 | 6.3 | * 4.2 | * 5.1 | * 4.2 | * 6.3 | * 4.2 | 5.1 |
| Max Green Setting (Gmax), s | * 12 | 31.1 | * 7.8 | * 29 | * 16 | * 29 | * 7.8 | 28.9 |
| Max Q Clear Time (g_c+I1), s | 13.0 | 29.5 | 9.8 | 16.5 | 17.8 | 14.9 | 8.7 | 30.9 |
| Green Ext Time (p_c), s | 0.0 | 1.3 | 0.0 | 4.3 | 0.0 | 3.2 | 0.0 | 0.0 |

**Intersection Summary**

| | |
|---|---|
| HCM 6th Ctrl Delay | 57.3 |
| HCM 6th LOS | E |

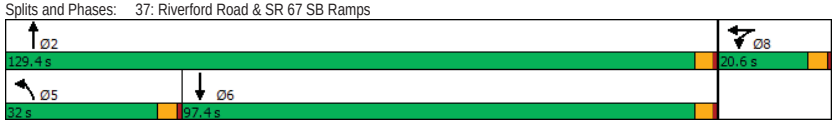
**Notes**

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 0 | 20 | 0 | 144 | 300 | 856 | 0 | 0 | 297 | 800 |
| Future Volume (vph) | 0 | 0 | 0 | 20 | 0 | 144 | 300 | 856 | 0 | 0 | 297 | 800 |
| Confl. Peds. (#/hr) | | | | | | | | | 1 | 1 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | | | | Split | NA | | Prot | NA | | | NA | |
| Protected Phases | | | | 8 | 8 | | 5 | 2 | | | 6 | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | | | | 8 | 8 | | 5 | 2 | | | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | | | 4.0 | 4.0 | | 4.0 | 4.0 | | | 4.0 | |
| Minimum Split (s) | | | | 20.5 | 20.5 | | 8.5 | 20.5 | | | 20.5 | |
| Total Split (s) | | | | 20.6 | 20.6 | | 32.0 | 129.4 | | | 97.4 | |
| Total Split (%) | | | | 13.7% | 13.7% | | 21.3% | 86.3% | | | 64.9% | |
| Yellow Time (s) | | | | 3.5 | 3.5 | | 3.5 | 3.5 | | | 3.5 | |
| All-Red Time (s) | | | | 1.0 | 1.0 | | 1.0 | 1.0 | | | 1.0 | |
| Lost Time Adjust (s) | | | | | 0.0 | | 0.0 | 0.0 | | | 0.0 | |
| Total Lost Time (s) | | | | | 4.5 | | 4.5 | 4.5 | | | 4.5 | |
| Lead/Lag | | | | | | | Lead | | | | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | | | | Yes | |
| Recall Mode | | | | None | None | | None | Min | | | Min | |

| Intersection Summary |
|---|
| Cycle Length: 150 |
| Actuated Cycle Length: 143 |
| Natural Cycle: 150 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 37: Riverford Road & SR 67 SB Ramps








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 20 | 0 | 144 | 300 | 856 | 0 | 0 | 297 | 800 |
| Future Volume (veh/h) | 0 | 0 | 0 | 20 | 0 | 144 | 300 | 856 | 0 | 0 | 297 | 800 |
| Initial Q (Qb), veh | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | | | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | | | | 1900 | 1870 | 1900 | 1870 | 1870 | 0 | 0 | 1870 | 1870 |
| Adj Flow Rate, veh/h | | | | 22 | 0 | 142 | 326 | 930 | 0 | 0 | 323 | 783 |
| Peak Hour Factor | | | | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | | | | 0 | 2 | 0 | 2 | 2 | 0 | 0 | 2 | 2 |
| Cap, veh/h | | | | 23 | 0 | 150 | 327 | 1557 | 0 | 0 | 300 | 727 |
| Arrive On Green | | | | 0.11 | 0.00 | 0.11 | 0.18 | 0.83 | 0.00 | 0.00 | 0.62 | 0.62 |
| Sat Flow, veh/h | | | | 216 | 0 | 1393 | 1781 | 1870 | 0 | 0 | 484 | 1174 |
| Grp Volume(v), veh/h | | | | 164 | 0 | 0 | 326 | 930 | 0 | 0 | 0 | 1106 |
| Grp Sat Flow(s),veh/h/ln | | | | 1609 | 0 | 0 | 1781 | 1870 | 0 | 0 | 0 | 1659 |
| Q Serve(g_s), s | | | | 15.2 | 0.0 | 0.0 | 27.4 | 24.8 | 0.0 | 0.0 | 0.0 | 92.9 |
| Cycle Q Clear(g_c), s | | | | 15.2 | 0.0 | 0.0 | 27.4 | 24.8 | 0.0 | 0.0 | 0.0 | 92.9 |
| Prop In Lane | | | | 0.13 | | 0.87 | 1.00 | | 0.00 | 0.00 | | 0.71 |
| Lane Grp Cap(c), veh/h | | | | 173 | 0 | 0 | 327 | 1557 | 0 | 0 | 0 | 1027 |
| V/C Ratio(X) | | | | 0.95 | 0.00 | 0.00 | 1.00 | 0.60 | 0.00 | 0.00 | 0.00 | 1.08 |
| Avail Cap(c_a), veh/h | | | | 173 | 0 | 0 | 327 | 1557 | 0 | 0 | 0 | 1027 |
| HCM Platoon Ratio | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | | | | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | | | | 66.5 | 0.0 | 0.0 | 61.2 | 4.2 | 0.0 | 0.0 | 0.0 | 28.6 |
| Incr Delay (d2), s/veh | | | | 53.7 | 0.0 | 0.0 | 49.3 | 0.6 | 0.0 | 0.0 | 0.0 | 51.0 |
| Initial Q Delay(d3),s/veh | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | | | | 8.8 | 0.0 | 0.0 | 16.9 | 7.9 | 0.0 | 0.0 | 0.0 | 49.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | 120.3 | 0.0 | 0.0 | 110.5 | 4.8 | 0.0 | 0.0 | 0.0 | 79.6 |
| LnGrp LOS | | | | F | A | A | F | A | A | A | A | F |
| Approach Vol, veh/h | | | | | 164 | | | 1256 | | | 1106 | |
| Approach Delay, s/veh | | | | | 120.3 | | | 32.2 | | | 79.6 | |
| Approach LOS | | | | | F | | | C | | | E | |

| Timer - Assigned Phs | 2 | | 5 | 6 | | 8 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 129.4 | | 32.0 | 97.4 | | 20.6 | | | | | | |
| Change Period (Y+Rc), s | 4.5 | | 4.5 | 4.5 | | 4.5 | | | | | | |
| Max Green Setting (Gmax), s | 124.9 | | 27.5 | 92.9 | | 16.1 | | | | | | |
| Max Q Clear Time (g_c+I1), s | 26.8 | | 29.4 | 94.9 | | 17.2 | | | | | | |
| Green Ext Time (p_c), s | 10.2 | | 0.0 | 0.0 | | 0.0 | | | | | | |

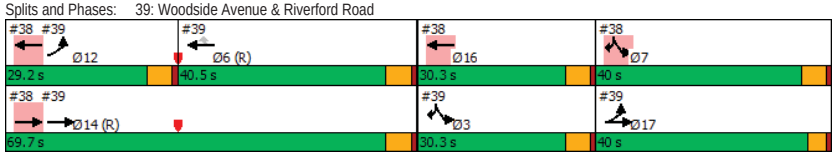
| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 58.7 | |
| HCM 6th LOS | E | |

| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR | Ø7 | Ø12 | Ø14 | Ø16 | Ø17 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | |
| Traffic Volume (vph) | 730 | 740 | 110 | 376 | 237 | 40 | | | | | |
| Future Volume (vph) | 730 | 740 | 110 | 376 | 237 | 40 | | | | | |
| Confl. Peds. (#/hr) | | | | | | 2 | | | | | |
| Confl. Bikes (#/hr) | | | | 2 | | 1 | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | | | | |
| Shared Lane Traffic (%) | | | | | | | | | | | |
| Turn Type | Prot | NA | NA | Perm | Prot | Prot | | | | | |
| Protected Phases | 12 17 | 14 17 | 6 | | 3 | 3 | 7 | 12 | 14 | 16 | 17 |
| Permitted Phases | | | | 6 | | | | | | | |
| Detector Phase | 12 17 | 14 17 | 6 | 6 | 3 | 3 | | | | | |
| Switch Phase | | | | | | | | | | | |
| Minimum Initial (s) | | | 5.0 | 5.0 | 5.0 | 5.0 | 8.0 | 5.0 | 4.0 | 2.0 | 5.0 |
| Minimum Split (s) | | | 29.3 | 29.3 | 30.3 | 30.3 | 27.3 | 24.3 | 20.0 | 20.0 | 9.2 |
| Total Split (s) | | | 40.5 | 40.5 | 30.3 | 30.3 | 40.0 | 29.2 | 69.7 | 30.3 | 40.0 |
| Total Split (%) | | | 28.9% | 28.9% | 21.6% | 21.6% | 29% | 21% | 50% | 22% | 29% |
| Yellow Time (s) | | | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 | 3.2 |
| All-Red Time (s) | | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | | | 0.0 | 0.0 | 0.0 | 0.0 | | | | | |
| Total Lost Time (s) | | | 5.3 | 5.3 | 5.3 | 5.3 | | | | | |
| Lead/Lag | | | Lag | Lag | | | | Lead | | | |
| Lead-Lag Optimize? | | | Yes | Yes | | | | Yes | | | |
| Recall Mode | | | C-Max | C-Max | None | None | Max | None | C-Max | None | None |

**Intersection Summary**

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 0 (0%), Referenced to phase 6:WBT and 14:EBT, Start of Green
Natural Cycle: 125
Control Type: Actuated-Coordinated

Splits and Phases: 39: Woodside Avenue & Riverford Road






Year 2035 + Proj PM (Mitigated)
39: Woodside Avenue & Riverford Road
Fanita Ranch
06/05/2019

| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 730 | 740 | 110 | 376 | 237 | 40 |
| Future Volume (vph) | 730 | 740 | 110 | 376 | 237 | 40 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 5.3 | 5.3 | 5.3 | 5.3 | 5.3 | 5.3 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frpb, ped/bikes | 1.00 | 1.00 | 1.00 | 0.98 | 1.00 | 1.00 |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 1.00 | 1.00 | 1.00 | 0.85 | 1.00 | 0.85 |
| Flt Protected | 0.95 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (prot) | 1770 | 1863 | 1863 | 1547 | 1770 | 1583 |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 |
| Satd. Flow (perm) | 1770 | 1863 | 1863 | 1547 | 1770 | 1583 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 793 | 804 | 120 | 409 | 258 | 43 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 302 | 0 | 27 |
| Lane Group Flow (vph) | 793 | 804 | 120 | 107 | 258 | 16 |
| Confl. Peds. (#/hr) | | | | | | 2 |
| Confl. Bikes (#/hr) | | | | 2 | | 1 |
| Turn Type | Prot | NA | NA | Perm | Prot | Prot |
| Protected Phases | 12 17 | 14 17 | 6 | | 3 | 3 |
| Permitted Phases | | | | 6 | | |
| Actuated Green, G (s) | 65.6 | 106.1 | 35.2 | 35.2 | 23.3 | 23.3 |
| Effective Green, g (s) | 61.4 | 101.9 | 35.2 | 35.2 | 23.3 | 23.3 |
| Actuated g/C Ratio | 0.44 | 0.73 | 0.25 | 0.25 | 0.17 | 0.17 |
| Clearance Time (s) | | | 5.3 | 5.3 | 5.3 | 5.3 |
| Vehicle Extension (s) | | | 3.0 | 3.0 | 3.0 | 3.0 |
| Lane Grp Cap (vph) | 776 | 1355 | 468 | 388 | 294 | 263 |
| v/s Ratio Prot | c0.45 | c0.43 | 0.06 | | c0.15 | 0.01 |
| v/s Ratio Perm | | | | 0.07 | | |
| v/c Ratio | 1.02 | 0.59 | 0.26 | 0.28 | 0.88 | 0.06 |
| Uniform Delay, d1 | 39.3 | 9.1 | 41.9 | 42.2 | 57.0 | 49.1 |
| Progression Factor | 0.36 | 0.16 | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | 31.6 | 0.5 | 1.3 | 1.8 | 24.2 | 0.1 |
| Delay (s) | 45.7 | 1.9 | 43.2 | 43.9 | 81.1 | 49.2 |
| Level of Service | D | A | D | D | F | D |
| Approach Delay (s) | | 23.7 | 43.8 | | 76.6 | |
| Approach LOS | | C | D | | E | |

**Intersection Summary**

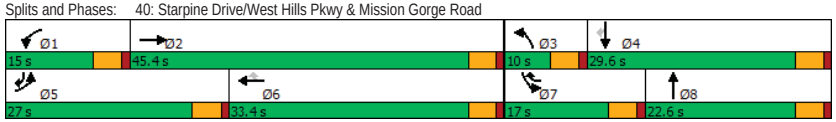
| | | | |
|---|---|---|---|
| HCM 2000 Control Delay | 34.6 | HCM 2000 Level of Service | C |
| HCM 2000 Volume to Capacity ratio | 0.89 | | |
| Actuated Cycle Length (s) | 140.0 | Sum of lost time (s) | 21.2 |
| Intersection Capacity Utilization | 72.6% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 631 | 880 | 85 | 85 | 485 | 280 | 30 | 40 | 60 | 260 | 60 | 405 |
| Future Volume (vph) | 631 | 880 | 85 | 85 | 485 | 280 | 30 | 40 | 60 | 260 | 60 | 405 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | 1 |
| Confl. Bikes (#/hr) | | | 5 | | | 6 | | | | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Shared Lane Traffic (%) | | | | | | 18% | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | pm+ov | Prot | NA | | Prot | NA | pm+ov |
| Protected Phases | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 5 |
| Permitted Phases | | | | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | | 1 | 6 | 7 | 3 | 8 | | 7 | 4 | 5 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 8.5 | 29.5 | | 8.5 | 29.5 | 8.5 | 8.5 | 22.5 | | 8.5 | 29.5 | 8.5 |
| Total Split (s) | 27.0 | 45.4 | | 15.0 | 33.4 | 17.0 | 10.0 | 22.6 | | 17.0 | 29.6 | 27.0 |
| Total Split (%) | 27.0% | 45.4% | | 15.0% | 33.4% | 17.0% | 10.0% | 22.6% | | 17.0% | 29.6% | 27.0% |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | | Lead | Lag | Lead |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | Min | | None | Min | None | None | None | | None | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 76.6 |
| Natural Cycle: 90 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 40: Starpine Drive/West Hills Pkwy & Mission Gorge Road








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 631 | 880 | 85 | 85 | 485 | 280 | 30 | 40 | 60 | 260 | 60 | 405 |
| Future Volume (veh/h) | 631 | 880 | 85 | 85 | 485 | 280 | 30 | 40 | 60 | 260 | 60 | 405 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 1.00 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 686 | 957 | 92 | 92 | 568 | 277 | 33 | 43 | 65 | 283 | 65 | 440 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 857 | 1372 | 132 | 119 | 894 | 559 | 50 | 68 | 103 | 407 | 358 | 1210 |
| Arrive On Green | 0.25 | 0.42 | 0.42 | 0.07 | 0.24 | 0.24 | 0.03 | 0.10 | 0.10 | 0.12 | 0.19 | 0.19 |
| Sat Flow, veh/h | 3456 | 3267 | 314 | 1781 | 3741 | 1557 | 1781 | 672 | 1016 | 3456 | 1870 | 2705 |
| Grp Volume(v), veh/h | 686 | 520 | 529 | 92 | 568 | 277 | 33 | 0 | 108 | 283 | 65 | 440 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1805 | 1781 | 1870 | 1557 | 1781 | 0 | 1688 | 1728 | 1870 | 1353 |
| Q Serve(g_s), s | 11.4 | 14.7 | 14.7 | 3.1 | 8.4 | 8.5 | 1.1 | 0.0 | 3.8 | 4.8 | 1.8 | 6.7 |
| Cycle Q Clear(g_c), s | 11.4 | 14.7 | 14.7 | 3.1 | 8.4 | 8.5 | 1.1 | 0.0 | 3.8 | 4.8 | 1.8 | 6.7 |
| Prop In Lane | 1.00 | | 0.17 | 1.00 | | 1.00 | 1.00 | | 0.60 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 857 | 746 | 758 | 119 | 894 | 559 | 50 | 0 | 172 | 407 | 358 | 1210 |
| V/C Ratio(X) | 0.80 | 0.70 | 0.70 | 0.77 | 0.64 | 0.50 | 0.66 | 0.00 | 0.63 | 0.69 | 0.18 | 0.36 |
| Avail Cap(c_a), veh/h | 1268 | 1185 | 1204 | 305 | 1763 | 921 | 160 | 0 | 498 | 704 | 766 | 1799 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 21.6 | 14.6 | 14.6 | 28.1 | 20.9 | 15.4 | 29.5 | 0.0 | 26.4 | 26.0 | 20.8 | 11.5 |
| Incr Delay (d2), s/veh | 2.3 | 1.2 | 1.2 | 10.0 | 0.8 | 0.7 | 13.9 | 0.0 | 3.7 | 2.1 | 0.2 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 4.0 | 4.6 | 4.6 | 1.5 | 3.2 | 2.8 | 0.7 | 0.0 | 1.6 | 1.9 | 0.7 | 1.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 24.0 | 15.8 | 15.8 | 38.2 | 21.7 | 16.1 | 43.4 | 0.0 | 30.2 | 28.1 | 21.0 | 11.7 |
| LnGrp LOS | C | B | B | D | C | B | D | A | C | C | C | B |
| Approach Vol, veh/h | | 1735 | | | 937 | | | 141 | | | 788 | |
| Approach Delay, s/veh | | 19.0 | | | 21.7 | | | 33.3 | | | 18.4 | |
| Approach LOS | | B | | | C | | | C | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 8.6 | 30.2 | 6.2 | 16.3 | 19.7 | 19.1 | 11.7 | 10.7 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 10.5 | 40.9 | 5.5 | 25.1 | 22.5 | 28.9 | 12.5 | 18.1 |
| Max Q Clear Time (g_c+I1), s | 5.1 | 16.7 | 3.1 | 8.7 | 13.4 | 10.5 | 6.8 | 5.8 |
| Green Ext Time (p_c), s | 0.1 | 6.2 | 0.0 | 1.9 | 1.8 | 4.1 | 0.5 | 0.4 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 20.1 |
| HCM 6th LOS | C |

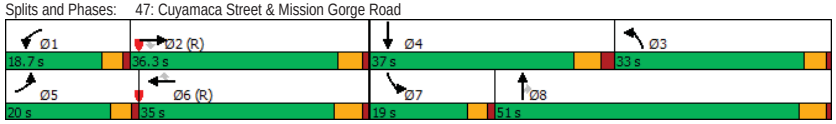
| Notes |
|---|
| User approved volume balancing among the lanes for turning movement. |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 413 | 733 | 350 | 293 | 540 | 221 | 735 | 1080 | 356 | 348 | 901 | 239 |
| Future Volume (vph) | 413 | 733 | 350 | 293 | 540 | 221 | 735 | 1080 | 356 | 348 | 901 | 239 |
| Confl. Peds. (#/hr) | | | 31 | | | 31 | | | 34 | | | 23 |
| Confl. Bikes (#/hr) | | | 4 | | | 2 | | | 3 | | | 4 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | 8 | | | |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 3 | 8 | 8 | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | 10.0 | 4.0 | 7.0 | 7.0 | 4.0 | 15.0 | |
| Minimum Split (s) | 19.0 | 34.8 | 34.8 | 8.2 | 34.3 | 34.3 | 8.2 | 38.0 | 38.0 | 8.2 | 37.0 | |
| Total Split (s) | 20.0 | 36.3 | 36.3 | 18.7 | 35.0 | 35.0 | 33.0 | 51.0 | 51.0 | 19.0 | 37.0 | |
| Total Split (%) | 16.0% | 29.0% | 29.0% | 15.0% | 28.0% | 28.0% | 26.4% | 40.8% | 40.8% | 15.2% | 29.6% | |
| Yellow Time (s) | 3.2 | 3.8 | 3.8 | 3.2 | 4.3 | 4.3 | 3.2 | 4.0 | 4.0 | 3.2 | 4.0 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 2.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.2 | 4.8 | 4.8 | 4.2 | 5.3 | 5.3 | 4.2 | 5.0 | 5.0 | 4.2 | 6.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lag | Lag | Lag | Lead | Lead | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | |
| Recall Mode | None | C-Min | C-Min | None | C-Min | C-Min | None | None | None | None | None | |

**Intersection Summary**

Cycle Length: 125
Actuated Cycle Length: 125
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green, Master Intersection
Natural Cycle: 120
Control Type: Actuated-Coordinated

Splits and Phases: 47: Cuyamaca Street & Mission Gorge Road








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 413 | 733 | 350 | 293 | 540 | 221 | 735 | 1080 | 356 | 348 | 901 | 239 |
| Future Volume (veh/h) | 413 | 733 | 350 | 293 | 540 | 221 | 735 | 1080 | 356 | 348 | 901 | 239 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.95 | 1.00 | | 0.95 | 1.00 | | 0.96 | 1.00 | | 0.96 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 449 | 797 | 380 | 318 | 587 | 240 | 799 | 1174 | 387 | 378 | 979 | 260 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 437 | 1279 | 376 | 370 | 1181 | 347 | 796 | 1330 | 569 | 409 | 986 | 261 |
| Arrive On Green | 0.13 | 0.25 | 0.25 | 0.11 | 0.23 | 0.23 | 0.23 | 0.37 | 0.37 | 0.12 | 0.25 | 0.25 |
| Sat Flow, veh/h | 3456 | 5106 | 1503 | 3456 | 5106 | 1501 | 3456 | 3554 | 1521 | 3456 | 3976 | 1053 |
| Grp Volume(v), veh/h | 449 | 797 | 380 | 318 | 587 | 240 | 799 | 1174 | 387 | 378 | 838 | 401 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1702 | 1503 | 1728 | 1702 | 1501 | 1728 | 1777 | 1521 | 1728 | 1702 | 1625 |
| Q Serve(g_s), s | 15.8 | 17.3 | 18.2 | 11.3 | 12.5 | 18.3 | 28.8 | 38.6 | 26.7 | 13.5 | 30.7 | 30.8 |
| Cycle Q Clear(g_c), s | 15.8 | 17.3 | 18.2 | 11.3 | 12.5 | 18.3 | 28.8 | 38.6 | 26.7 | 13.5 | 30.7 | 30.8 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.65 |
| Lane Grp Cap(c), veh/h | 437 | 1279 | 376 | 370 | 1181 | 347 | 796 | 1330 | 569 | 409 | 844 | 403 |
| V/C Ratio(X) | 1.03 | 0.62 | 1.01 | 0.86 | 0.50 | 0.69 | 1.00 | 0.88 | 0.68 | 0.92 | 0.99 | 1.00 |
| Avail Cap(c_a), veh/h | 437 | 1287 | 379 | 401 | 1213 | 357 | 796 | 1330 | 569 | 409 | 844 | 403 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.22 | 0.22 | 0.22 | 0.85 | 0.85 | 0.85 | 0.40 | 0.40 | 0.40 | 0.79 | 0.79 | 0.79 |
| Uniform Delay (d), s/veh | 54.6 | 41.6 | 15.9 | 54.9 | 41.7 | 44.0 | 48.1 | 36.5 | 32.8 | 54.5 | 46.9 | 46.9 |
| Incr Delay (d2), s/veh | 27.7 | 0.5 | 24.1 | 12.9 | 1.3 | 9.3 | 21.0 | 3.2 | 1.5 | 22.1 | 25.7 | 38.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 8.4 | 7.2 | 8.6 | 5.5 | 5.3 | 7.6 | 14.5 | 16.9 | 9.9 | 7.1 | 15.8 | 16.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 82.3 | 42.1 | 40.0 | 67.8 | 43.0 | 53.2 | 69.1 | 39.8 | 34.3 | 76.6 | 72.6 | 85.6 |
| LnGrp LOS | F | D | F | E | D | D | F | D | C | E | E | F |
| Approach Vol, veh/h | | 1626 | | | 1145 | | | 2360 | | | 1617 | |
| Approach Delay, s/veh | | 52.7 | | | 52.0 | | | 48.8 | | | 76.7 | |
| Approach LOS | | D | | | D | | | D | | | E | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 17.6 | 36.6 | 33.8 | 37.0 | 20.0 | 34.2 | 19.0 | 51.8 |
| Change Period (Y+Rc), s | * 4.2 | * 5.3 | 5.0 | * 6 | * 4.2 | 5.3 | * 4.2 | 5.0 |
| Max Green Setting (Gmax), s | * 15 | * 32 | 28.8 | * 31 | * 16 | 29.7 | * 15 | 46.0 |
| Max Q Clear Time (g_c+I1), s | 13.3 | 20.2 | 30.8 | 32.8 | 17.8 | 20.3 | 15.5 | 40.6 |
| Green Ext Time (p_c), s | 0.1 | 8.5 | 0.0 | 0.0 | 0.0 | 4.6 | 0.0 | 4.5 |

**Intersection Summary**

| | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 57.0 | |
| HCM 6th LOS | | E | |

**Notes**

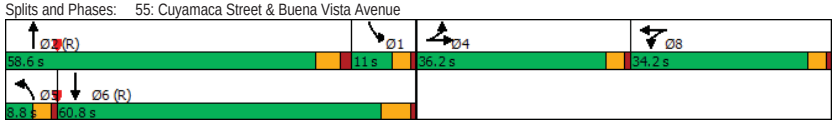
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 30 | 20 | 50 | 350 | 5 | 100 | 30 | 1849 | 250 | 80 | 1688 | 20 |
| Future Volume (vph) | 30 | 20 | 50 | 350 | 5 | 100 | 30 | 1849 | 250 | 80 | 1688 | 20 |
| Confl. Peds. (#/hr) | | | 5 | | | 11 | | | 14 | | | 3 |
| Confl. Bikes (#/hr) | | | 1 | | | 1 | | | 2 | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Shared Lane Traffic (%) | | | | 33% | | | | | | | | |
| Turn Type | Split | NA | | Split | NA | | Prot | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | | 4.0 | 4.0 | | 4.0 | 10.0 | | 4.0 | 10.0 | |
| Minimum Split (s) | 36.2 | 36.2 | | 34.2 | 34.2 | | 8.2 | 24.0 | | 8.2 | 24.0 | |
| Total Split (s) | 36.2 | 36.2 | | 34.2 | 34.2 | | 8.8 | 58.6 | | 11.0 | 60.8 | |
| Total Split (%) | 25.9% | 25.9% | | 24.4% | 24.4% | | 6.3% | 41.9% | | 7.9% | 43.4% | |
| Yellow Time (s) | 3.2 | 3.2 | | 3.2 | 3.2 | | 3.2 | 4.0 | | 3.2 | 4.9 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 2.0 | | 1.0 | 1.1 | |
| Lost Time Adjust (s) | | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | | 4.2 | | 4.2 | 4.2 | | 4.2 | 6.0 | | 4.2 | 6.0 | |
| Lead/Lag | | | | | | | Lead | Lead | | Lag | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | | None | C-Min | | None | C-Min | |

**Intersection Summary**

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 96 (69%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 145
Control Type: Actuated-Coordinated

Splits and Phases: 55: Cuyamaca Street & Buena Vista Avenue








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 30 | 20 | 50 | 350 | 5 | 100 | 30 | 1849 | 250 | 80 | 1688 | 20 |
| Future Volume (veh/h) | 30 | 20 | 50 | 350 | 5 | 100 | 30 | 1849 | 250 | 80 | 1688 | 20 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.97 | 1.00 | | 0.96 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 33 | 22 | 51 | 244 | 195 | 104 | 33 | 2010 | 259 | 87 | 1835 | 21 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 47 | 32 | 73 | 343 | 218 | 117 | 42 | 1714 | 217 | 347 | 2911 | 33 |
| Arrive On Green | 0.09 | 0.09 | 0.09 | 0.19 | 0.19 | 0.19 | 0.05 | 0.75 | 0.75 | 0.19 | 0.56 | 0.56 |
| Sat Flow, veh/h | 520 | 347 | 803 | 1781 | 1134 | 605 | 1781 | 4563 | 578 | 1781 | 5202 | 60 |
| Grp Volume(v), veh/h | 106 | 0 | 0 | 244 | 0 | 299 | 33 | 1491 | 778 | 87 | 1200 | 656 |
| Grp Sat Flow(s),veh/h/ln | 1670 | 0 | 0 | 1781 | 0 | 1739 | 1781 | 1702 | 1738 | 1781 | 1702 | 1858 |
| Q Serve(g_s), s | 8.6 | 0.0 | 0.0 | 17.9 | 0.0 | 23.5 | 2.6 | 52.6 | 52.6 | 5.8 | 33.6 | 33.6 |
| Cycle Q Clear(g_c), s | 8.6 | 0.0 | 0.0 | 17.9 | 0.0 | 23.5 | 2.6 | 52.6 | 52.6 | 5.8 | 33.6 | 33.6 |
| Prop In Lane | 0.31 | | 0.48 | 1.00 | | 0.35 | 1.00 | | 0.33 | 1.00 | | 0.03 |
| Lane Grp Cap(c), veh/h | 153 | 0 | 0 | 343 | 0 | 335 | 42 | 1279 | 653 | 347 | 1905 | 1040 |
| V/C Ratio(X) | 0.69 | 0.00 | 0.00 | 0.71 | 0.00 | 0.89 | 0.79 | 1.17 | 1.19 | 0.25 | 0.63 | 0.63 |
| Avail Cap(c_a), veh/h | 382 | 0 | 0 | 382 | 0 | 373 | 59 | 1279 | 653 | 347 | 1905 | 1040 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 0.67 | 0.67 | 0.67 | 0.39 | 0.39 | 0.39 |
| Uniform Delay (d), s/veh | 61.7 | 0.0 | 0.0 | 52.9 | 0.0 | 55.1 | 66.3 | 17.4 | 17.4 | 47.7 | 21.0 | 21.0 |
| Incr Delay (d2), s/veh | 2.1 | 0.0 | 0.0 | 4.2 | 0.0 | 20.1 | 17.6 | 80.7 | 96.6 | 0.1 | 0.6 | 1.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 3.8 | 0.0 | 0.0 | 8.5 | 0.0 | 12.2 | 1.3 | 23.2 | 26.5 | 2.6 | 13.2 | 14.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 63.8 | 0.0 | 0.0 | 57.1 | 0.0 | 75.2 | 83.9 | 98.1 | 114.0 | 47.8 | 21.6 | 22.1 |
| LnGrp LOS | E | A | A | E | A | E | F | F | F | D | C | C |
| Approach Vol, veh/h | | 106 | | | 543 | | | 2302 | | | 1943 | |
| Approach Delay, s/veh | | 63.8 | | | 67.0 | | | 103.3 | | | 22.9 | |
| Approach LOS | | E | | | E | | | F | | | C | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 33.2 | 58.6 | | 17.0 | 7.5 | 84.3 | | 31.2 | | | | |
| Change Period (Y+Rc), s | 6.0 | * 6 | | * 4.2 | * 4.2 | * 6 | | 4.2 | | | | |
| Max Green Setting (Gmax), s | 6.8 | * 53 | | * 32 | * 4.6 | * 55 | | 30.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 7.8 | 54.6 | | 10.6 | 4.6 | 35.6 | | 25.5 | | | | |
| Green Ext Time (p_c), s | 0.0 | 0.0 | | 0.3 | 0.0 | 15.3 | | 0.8 | | | | |

**Intersection Summary**

| | | |
|---|---|---|
| HCM 6th Ctrl Delay | 66.5 | |
| HCM 6th LOS | E | |

**Notes**

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

## Arterial Level of Service: NB Cuyamaca Street

| Cross Street | Arterial Class | Flow Speed | Running Time | Signal Delay | Travel Time (s) | Dist (mi) | Arterial Speed | Arterial LOS |
|---|---|---|---|---|---|---|---|---|
| Buena Vista Avenue | III | 35 | 11.0 | 22.0 | 33.0 | 0.08 | 8.9 | F |
| Mission Gorge Road | III | 35 | 30.0 | 36.2 | 66.2 | 0.25 | 13.6 | E |
| Total | III | | 41.0 | 58.2 | 99.2 | 0.33 | 12.0 | E |

## Arterial Level of Service: SB Cuyamaca Street

| Cross Street | Arterial Class | Flow Speed | Running Time | Signal Delay | Travel Time (s) | Dist (mi) | Arterial Speed | Arterial LOS |
|---|---|---|---|---|---|---|---|---|
| Mission Gorge Road | III | 35 | 36.8 | 54.7 | 91.5 | 0.31 | 12.1 | E |
| Buena Vista Avenue | III | 35 | 30.0 | 15.8 | 45.8 | 0.25 | 19.7 | C |
| Total | III | | 66.8 | 70.5 | 137.3 | 0.56 | 14.6 | D |





## Arterial Level of Service: NB Cuyamaca Street

| Cross Street | Arterial Class | Flow Speed | Running Time | Signal Delay | Travel Time (s) | Dist (mi) | Arterial Speed | Arterial LOS |
|---|---|---|---|---|---|---|---|---|
| Buena Vista Avenue | III | 35 | 10.8 | 179.5 | 190.3 | 0.08 | 1.5 | F |
| Mission Gorge Road | III | 35 | 30.0 | 135.0 | 165.0 | 0.25 | 5.5 | F |
| Total | III | | 40.8 | 314.5 | 355.3 | 0.33 | 3.3 | F |

## Arterial Level of Service: SB Cuyamaca Street

| Cross Street | Arterial Class | Flow Speed | Running Time | Signal Delay | Travel Time (s) | Dist (mi) | Arterial Speed | Arterial LOS |
|---|---|---|---|---|---|---|---|---|
| Mission Gorge Road | III | 35 | 36.8 | 51.3 | 88.1 | 0.31 | 12.5 | E |
| Buena Vista Avenue | III | 35 | 30.0 | 26.5 | 56.5 | 0.25 | 15.9 | D |
| Total | III | | 66.8 | 77.8 | 144.6 | 0.56 | 13.9 | E |

## Arterial Level of Service: NB Cuyamaca Street

| Cross Street | Arterial Class | Flow Speed | Running Time | Signal Delay | Travel Time (s) | Dist (mi) | Arterial Speed | Arterial LOS |
|---|---|---|---|---|---|---|---|---|
| Buena Vista Avenue | III | 35 | 11.0 | 21.8 | 32.8 | 0.08 | 8.9 | F |
| Mission Gorge Road | III | 35 | 30.0 | 16.5 | 46.5 | 0.25 | 19.4 | C |
| Total | III | | 41.0 | 38.3 | 79.3 | 0.33 | 15.1 | D |

## Arterial Level of Service: SB Cuyamaca Street

| Cross Street | Arterial Class | Flow Speed | Running Time | Signal Delay | Travel Time (s) | Dist (mi) | Arterial Speed | Arterial LOS |
|---|---|---|---|---|---|---|---|---|
| Mission Gorge Road | III | 35 | 36.8 | 54.8 | 91.6 | 0.31 | 12.0 | E |
| Buena Vista Avenue | III | 35 | 30.0 | 8.6 | 38.6 | 0.25 | 23.3 | C |
| Total | III | | 66.8 | 63.4 | 130.2 | 0.56 | 15.4 | D |





## Arterial Level of Service: NB Cuyamaca Street

| Cross Street | Arterial Class | Flow Speed | Running Time | Signal Delay | Travel Time (s) | Dist (mi) | Arterial Speed | Arterial LOS |
|---|---|---|---|---|---|---|---|---|
| Buena Vista Avenue | III | 35 | 10.8 | 30.6 | 41.4 | 0.08 | 6.9 | F |
| Mission Gorge Road | III | 35 | 30.0 | 54.4 | 84.4 | 0.25 | 10.7 | E |
| Total | III | | 40.8 | 85.0 | 125.8 | 0.33 | 9.4 | F |

## Arterial Level of Service: SB Cuyamaca Street

| Cross Street | Arterial Class | Flow Speed | Running Time | Signal Delay | Travel Time (s) | Dist (mi) | Arterial Speed | Arterial LOS |
|---|---|---|---|---|---|---|---|---|
| Mission Gorge Road | III | 35 | 36.8 | 53.1 | 89.9 | 0.31 | 12.3 | E |
| Buena Vista Avenue | III | 35 | 30.0 | 26.1 | 56.1 | 0.25 | 16.1 | D |
| Total | III | | 66.8 | 79.2 | 146.0 | 0.56 | 13.7 | E |

# APPENDIX Y

## TIMING FOR MAGNOLIA AVENUE EXTENSION ANALYSIS

# APPENDIX Y

## 1.0 TIMING FOR MAGNOLIA AVENUE EXTENSION

The Proposed Project analysis contained in this report assumes the connections of Fanita Parkway, Cuyamaca Street, and Magnolia Avenue would all provide access to Fanita Ranch. An analysis was conducted to determine the timing for construction of Magnolia Avenue as another north/south route. Until Magnolia Avenue is extended to Cuyamaca Street, it is expected that Project trips would reroute through residential streets such as Princess Joann Road and Woodglen Vista Drive. The following sub-sections provide the results of this analysis.

### 1.1 Network Conditions

This analysis assumes the Project proposed Two-Lane Collector configuration of the future connection of Cuyamaca Street between the Project site and Chaparral Drive using the LOS E capacity of 15,000 ADT. Magnolia Avenue was not assumed to be constructed from the future section of Cuyamaca Street to its existing terminus just north of Princess Joann Road.

The analysis provided in this section evaluates the operations specific to the Cuyamaca Street and Magnolia Avenue corridors, where a change in Project trips would occur. The locations affected are listed below:

| *Intersections* | *Street Segments* |
|---|---|
| 1. Princess Joann Road / Cuyamaca Street *(future)* | **Princess Joann Road** |
| 2. Princess Joann Road / Magnolia Avenue | 1. Cuyamaca Street to Magnolia Avenue |
| 4. Woodglen Vista Drive / Cuyamaca Street | **Woodglen Vista Drive** |
| 5. Woodglen Vista Drive / Magnolia Avenue | 2. Cuyamaca Street to Magnolia Avenue |
| 6. El Nopal / Cuyamaca Street | **El Nopal** |
| 7. El Nopal / Magnolia Avenue | 3. Cuyamaca Street to Magnolia Avenue |
| 12. Beck Drive / Cuyamaca Street | **Mast Boulevard** |
| 13. 2nd Street / Magnolia Avenue | 12. Cuyamaca Street to Magnolia Avenue |
| 14. Carefree Drive / Magnolia Avenue | **Cuyamaca Street** |
| 25. Mast Boulevard / Cuyamaca Street | 42. Project Site to Magnolia Avenue *(future)* |
| 26. Mast Boulevard / Park Center Drive | 43. Magnolia Avenue to Princess Joann Road *(future)* |
| 27. Mast Boulevard / Magnolia Avenue | 44. Princess Joann Road to Chaparral Drive *(future)* |
| | 45. Chaparral Drive to Woodglen Vista Drive |
| | 46. Woodglen Vista Drive to El Nopal |
| | 47. El Nopal to Mast Boulevard |
| | **Magnolia Avenue** |
| | 54. Cuyamaca Street to Princess Joann Road *(future)* |
| | 55. Princess Joann Road to Woodglen Vista Drive |
| | 56. Woodglen Vista Drive to El Nopal |
| | 57. El Nopal to Mast Boulevard |

## 1.2 Traffic Volumes

Until Magnolia Avenue is connected, Project trips on Cuyamaca Street destined to Magnolia Avenue would divert to Magnolia Avenue via Princess Joanne Road and Woodglen Vista Drive which could result in more cut-through trips on these residential collector streets. The Project distribution without the connection of Magnolia Avenue is depicted in ***Appendix Figure 1***. ***Appendix Figure 2*** shows the Project traffic volumes without this connection. *All figures are provided at the end of this section.*

The Existing + Project condition was analyzed, without the connection of Magnolia Avenue. This scenario was selected to identify the timeframe for which the Magnolia Avenue connection would be needed. ***Appendix Figure 3*** depicts the Existing + Project (No Magnolia Avenue Extension) traffic volumes.

## 1.3 Existing + Project (No Magnolia Avenue Extension) Analysis

### 1.3.1 *Peak Hour Intersection Operations*

***Table 1*** summarizes the Existing + Project intersection operations without the Magnolia Avenue Extension. As seen in *Table 1*, the following intersections are calculated to operate at LOS E or F with the addition of Project traffic, without the connection of Magnolia Avenue:

- **Intersection #4. Woodglen Vista Drive / Cuyamaca Street – LOS F (AM/PM peak hours)**
- **Intersection #6. El Nopal / Cuyamaca Street – LOS F (AM/PM peak hours)**
- **Intersection #12. Beck Drive / Cuyamaca Street – LOS F (AM/PM peak hours)**
- **Intersection #25. Mast Boulevard / Cuyamaca Street – LOS E (AM peak hour)**

Based on the established significance criteria, **four (4) significant direct impacts** were calculated with the addition of Project traffic at the study area locations above since the Project-induced change in delay is greater than 2.0 seconds for LOS E or F operating intersections.

These impacts are also calculated to occur under the proposed Project condition with the connection of Magnolia Avenue.

The Existing + Project (No Magnolia Avenue Extension) peak hour intersection calculation worksheets are provided at the end of this section.

### 1.3.2 *Daily Segment Operations*

***Table 2*** summarizes the Existing + Project street segment operations without the Magnolia Avenue Extension. As seen in *Table 2*, the following street segments are calculated to operate at LOS E or F with the addition of Project traffic, without the connection of Magnolia Avenue:

- Segment #41. Cuyamaca Street from Project Site to Magnolia Avenue – LOS E
- Segment #42. Cuyamaca Street from Magnolia Avenue to Princess Joann Road – LOS E
- **Segment #43. Cuyamaca Street from Princess Joann Road to Chaparral Drive – LOS E**
- **Segment #44. Cuyamaca Street from Chaparral Drive to Woodglen Vista Drive – LOS E**
- **Segment #45. Cuyamaca Street from Woodglen Vista Drive to El Nopal – LOS F**
- **Segment #46. Cuyamaca Street from El Nopal to Mast Boulevard – LOS F**

Based on the established significance criteria, **four (4) significant direct impacts** were calculated with the addition of Project traffic at study area locations above since the Project-induced change in V/C is greater than 0.02 for LOS E or F operating street segments. The significant impact on Segment #46 is also calculated to occur under the proposed Project condition with the connection of Magnolia Avenue. When Magnolia Avenue is extended, the remaining three significant impacts would be avoided.

## 1.4 Conclusions

Based on the analysis presented above, it is recommended that the construction of the Magnolia Avenue extension is completed as a Project Design Feature prior to construction of the 1,500$^{th}$ equivalent dwelling unit as an alternative route to Cuyamaca Street.

TABLE 1
EXISTING + PROJECT INTERSECTION OPERATIONS
(NO MAGNOLIA AVENUE EXTENSION)

| Intersection | Jur. | Control Type | Peak Hour | Existing | | Existing + Project (No Magnolia Ave Extension) | | Δ [c] Delay | Sig? |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Delay [a] | LOS [b] | Delay | LOS | | |
| 1. Princess Joann Road / Cuyamaca Street *(future intersection)* | Santee | DNE/ MSSC | AM | — | — | 11.3 | B | — | No |
| | | | PM | — | — | 18.9 | C | — | |
| 2. Princess Joann Road / Magnolia Avenue | Santee | AWSC | AM | 7.6 | A | 8.1 | A | 0.5 | No |
| | | | PM | 7.9 | A | 8.7 | A | 0.8 | |
| 4. Woodglen Vista Drive / Cuyamaca Street | Santee | AWSC | AM | 8.9 | A | **120.5** | **F** | **111.6** | **Yes** |
| | | | PM | 9.0 | A | **220.8** | **F** | **211.8** | |
| 5. Woodglen Vista Drive / Magnolia Avenue | Santee | Signal | AM | 11.9 | B | 14.4 | B | 2.5 | No |
| | | | PM | 10.7 | B | 11.9 | B | 1.2 | |
| 6. El Nopal / Cuyamaca Street | Santee | AWSC | AM | 12.0 | B | **174.3** | **F** | **162.3** | **Yes** |
| | | | PM | 11.8 | B | **221.8** | **F** | **210.0** | |
| 7. El Nopal / Magnolia Avenue | Santee | Signal | AM | 23.9 | C | 29.4 | C | 5.5 | No |
| | | | PM | 18.3 | B | 21.3 | C | 3.0 | |
| 12. Beck Drive / Cuyamaca Street | Santee | AWSC | AM | 22.4 | C | **297.7** | **F** | **275.3** | **Yes** |
| | | | PM | 13.3 | B | **183.7** | **F** | **170.4** | |
| 13. 2nd Street / Magnolia Avenue | Santee | Signal | AM | 8.0 | A | 8.0 | A | 0.0 | No |
| | | | PM | 6.6 | A | 6.7 | A | 0.1 | |
| 14. Carefree Drive / Magnolia Avenue | Santee | Signal | AM | 17.4 | B | 20.3 | C | 2.9 | No |
| | | | PM | 9.2 | A | 9.6 | A | 0.4 | |
| 25. Mast Boulevard / Cuyamaca Street | Santee | Signal | AM | 36.9 | D | **72.4** | **E** | **35.5** | **Yes** |
| | | | PM | 33.3 | C | 50.7 | D | 17.4 | |
| 26. Mast Boulevard / Park Center Drive | Santee | Signal | AM | 7.1 | A | 7.2 | A | 0.1 | No |
| | | | PM | 8.7 | A | 8.7 | A | 0.0 | |
| 27. Mast Boulevard / Magnolia Avenue | Santee | Signal | AM | 32.9 | C | 37.5 | D | 4.6 | No |
| | | | PM | 26.8 | C | 28.6 | C | 1.8 | |

***Footnotes:***
a. Average delay expressed in seconds per vehicle.
b. Level of Service
c. Δ denotes the increase in delay due to Project.

***General Notes:***
1. Sig = Significant impact, yes or no.
2. Jur. = Jurisdiction

| SIGNALIZED | | UNSIGNALIZED | |
|---|---|---|---|
| DELAY/LOS THRESHOLDS | | DELAY/LOS THRESHOLDS | |
| Delay | LOS | Delay | LOS |
| 0.0 ≤ 10.0 | A | 0.0 ≤ 10.0 | A |
| 10.1 to 20.0 | B | 10.1 to 15.0 | B |
| 20.1 to 35.0 | C | 15.1 to 25.0 | C |
| 35.1 to 55.0 | D | 25.1 to 35.0 | D |
| 55.1 to 80.0 | E | 35.1 to 50.0 | E |
| ≥ 80.1 | F | ≥ 50.1 | F |

TABLE 2
EXISTING + PROJECT SEGMENT OPERATIONS
(NO MAGNOLIA AVENUE EXTENSION)

| Street Segment | Jur. | Existing Capacity (LOS E) [a] | Existing | | | Existing + Project (No Magnolia Ave Extension) | | | Project Volumes | Δ [e] V/C | Sig? | Direct Impact With Magnolia Ave Extension? [f] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ADT [b] | LOS [c] | V/C [d] | ADT | LOS | V/C | | | | |
| **Princess Joann Road** | | | | | | | | | | | | |
| 1. Cuyamaca St to Magnolia Ave | Santee | 8,000 | 530 | A | 0.066 | 1,840 | A | 0.230 | 1,310 | 0.164 | No | No |
| **Woodglen Vista Drive** | | | | | | | | | | | | |
| 2. Cuyamaca St to Magnolia Ave | Santee | 8,000 | 1,700 | A | 0.213 | 3,010 | B | 0.376 | 1,310 | 0.163 | No | No |
| **El Nopal** | | | | | | | | | | | | |
| 3. Cuyamaca St to Magnolia Ave | Santee | 8,000 | 3,780 | C | 0.473 | 6,410 | D | 0.801 | 2,630 | 0.328 | No | No |
| **Mast Boulevard** | | | | | | | | | | | | |
| 12. Cuyamaca St to Magnolia Ave | Santee | 40,000 | 18,490 | B | 0.462 | 19,280 | B | 0.482 | 790 | 0.020 | No | No |
| **Cuyamaca Street** | | | | | | | | | | | | |
| 41. Project Site to Magnolia Ave [g] | Santee | DNE/ 15,000 | — | — | — | 13,920 | E | 0.928 | 13,920 | — | — | No [h] |
| 42. Magnolia Ave to Princess Joann Rd [g] | Santee | DNE/ 15,000 | — | — | — | 13,920 | E | 0.928 | 13,920 | — | — | No [h] |
| 43. Princess Joann Rd to Chaparral Dr [g] | Santee | DNE/ 15,000 | — | — | — | **13,920** | **E** | **0.928** | **13,920** | **0.928** | **Yes** | No |
| 44. Chaparral Dr to Woodglen Vista Dr | Santee | 15,000 | 670 | A | 0.045 | **13,280** | **E** | **0.885** | **12,610** | **0.840** | **Yes** | No |
| 45. Woodglen Vista Dr to El Nopal | Santee | 15,000 | 4,360 | A | 0.291 | **15,660** | **F** | **1.044** | **11,300** | **0.753** | **Yes** | No |
| 46. El Nopal to Mast Blvd | Santee | 15,000 | 8,860 | C | 0.591 | **17,530** | **F** | **1.169** | **8,670** | **0.578** | **Yes** | **Yes** |
| **Magnolia Avenue** | | | | | | | | | | | | |
| 54. Cuyamaca St to Princess Joann Rd | Santee | DNE | — | — | — | — | — | — | — | — | — | No |
| 55. Princess Joann Rd to Woodglen Vista Dr | Santee | 40,000 | 2,020 | A | 0.051 | 3,330 | A | 0.083 | 1,310 | 0.032 | No | No |
| 56. Woodglen Vista Dr to El Nopal | Santee | 40,000 | 9,030 | A | 0.226 | 11,660 | A | 0.292 | 2,630 | 0.066 | No | No |
| 57. El Nopal to Mast Blvd | Santee | 40,000 | 13,690 | A | 0.342 | 16,320 | B | 0.408 | 2,630 | 0.066 | No | No |

*(Continued on Next Page)*

TABLE 2
EXISTING + PROJECT SEGMENT OPERATIONS
(NO MAGNOLIA AVENUE EXTENSION)

| Street Segment | Jur. | Existing Capacity (LOS E) [a] | Existing | | | Existing + Project (No Magnolia Ave Extension) | | | Project Volumes | Δ [e] V/C | Sig? | Direct Impact With Magnolia Ave Extension? [f] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ADT [b] | LOS [c] | V/C [d] | ADT | LOS | V/C | | | | |
| *(Continued from Previous Page)* | | | | | | | | | | | | |

***Footnotes:***

a. Capacities based on City of Santee and County of San Diego Roadway Classification & LOS tables (See *Appendix A*).
b. Average Daily Traffic
c. Level of Service
d. Volume to Capacity ratio
e. Δ denotes a Project-induced increase in the Volume to Capacity ratio
f. See *Table 8–2* in the main body of the report for the Existing + Project (with Magnolia Avenue Extension) analysis.
g. The 15,000 ADT capacity for the existing sections of Cuyamaca Street was continued along this future section providing access to the Project.
h. The intersection operations at both ends of the Cuyamaca Street road segment between the Project Site and Princess Joann Road report LOS C or better operations. Therefore, adequate operations are expected along this roadway.

***General Notes:***

1. Sig = Significant impact, yes or no.
2. DNE, "—" = Does not exist.

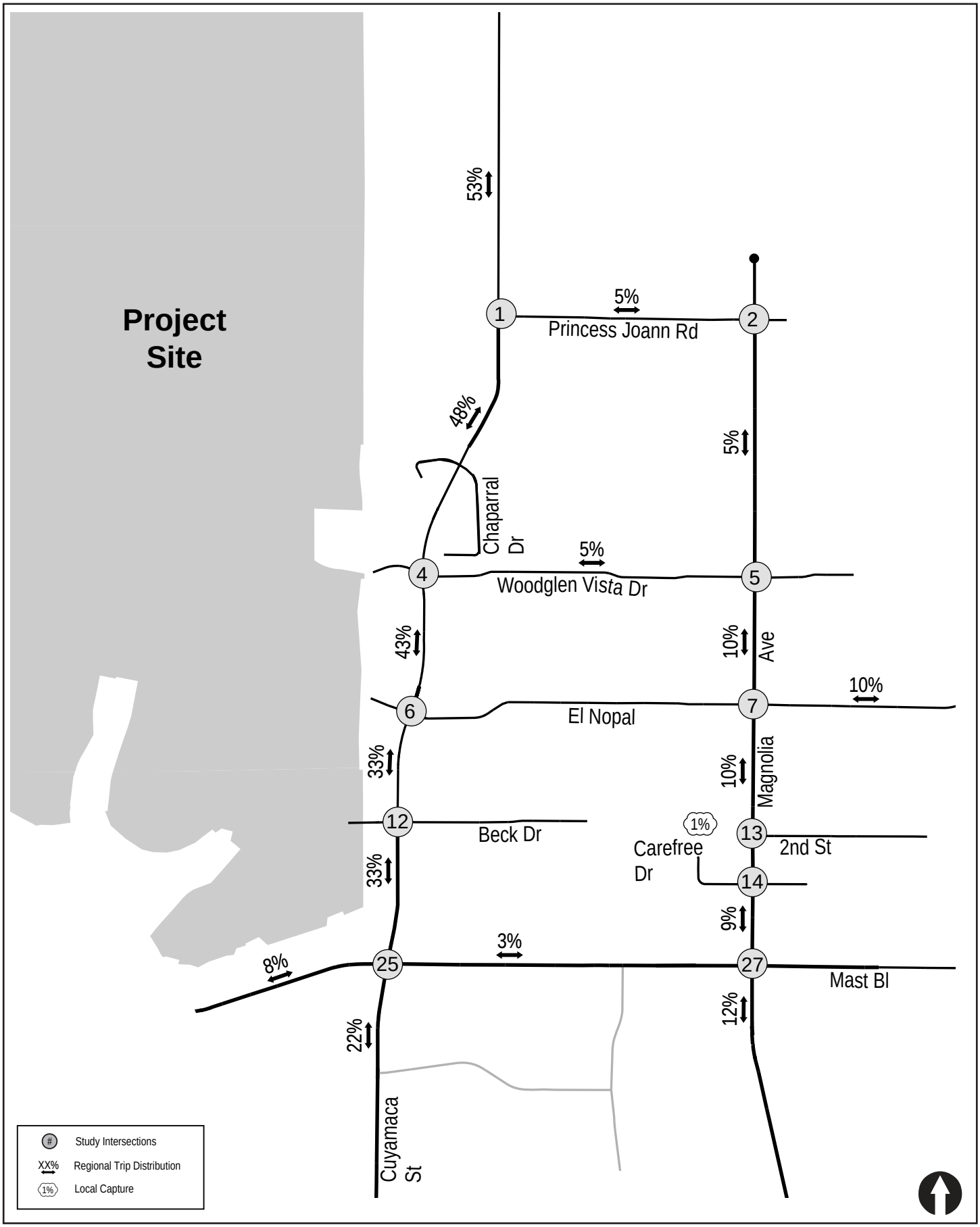



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**Figure 13-1**

## Project Trip Distribution
**(Without Magnolia Avenue Extension)**

FANITA RANCH

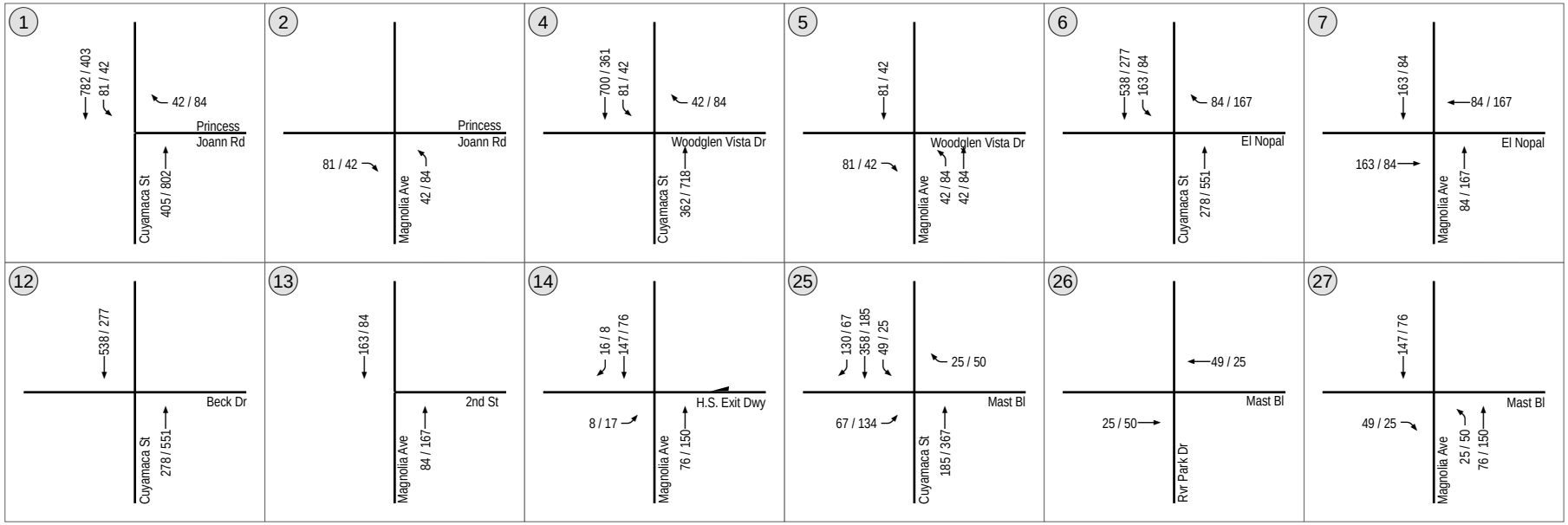


**Figure 13-2**

# Project Traffic Volumes

**(Without Magnolia Avenue Extension)**

**AM / PM Peak Hours**

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(#) Study Intersections

AM / PM → AM / PM Intersection Peak Hour Volumes

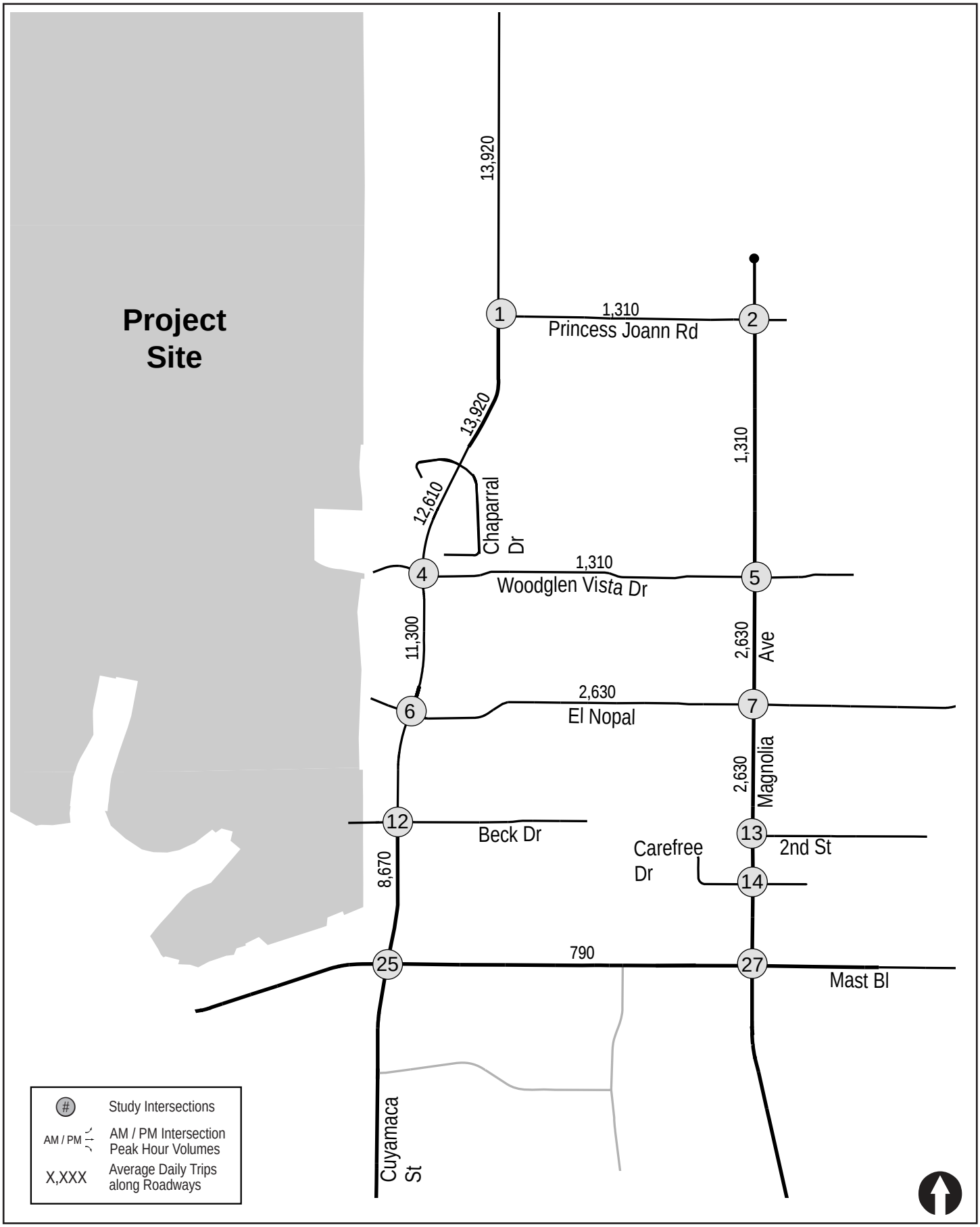


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**Figure 13-2**

## Project Traffic Volumes
**(Without Magnolia Avenue Extension)**

FANITA RANCH

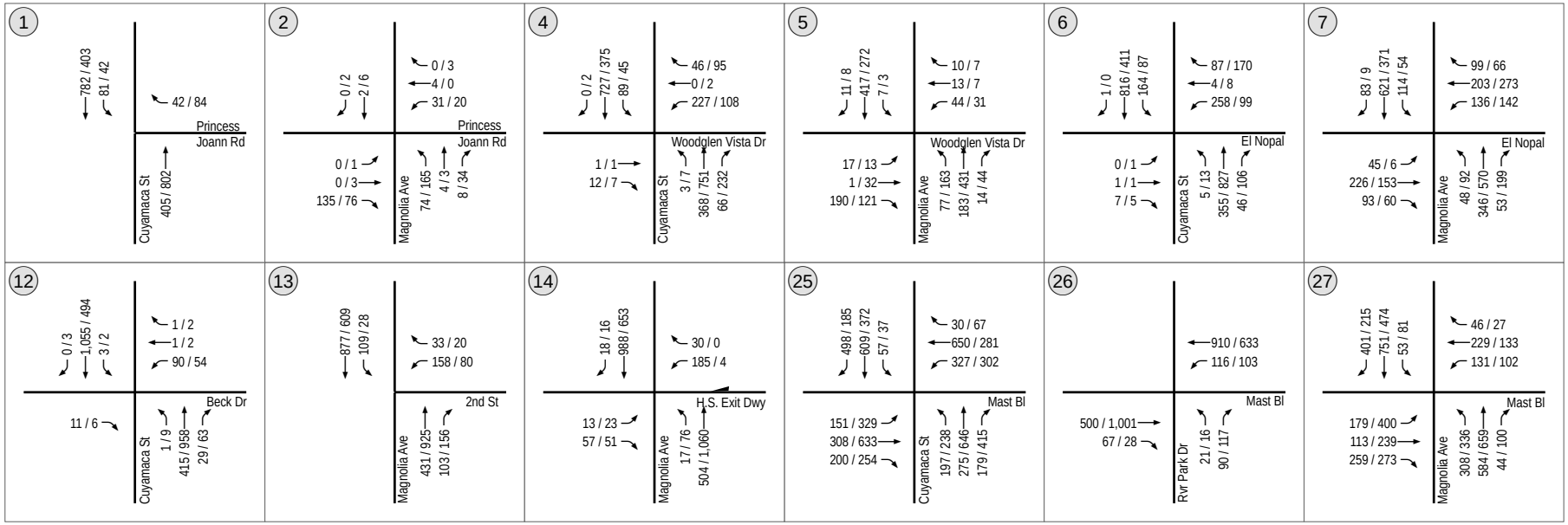


**Figure 13-3**

# Existing + Project Traffic Volumes

**(Without Magnolia Avenue Extension)**

**AM / PM Peak Hours**

FANITA RANCH

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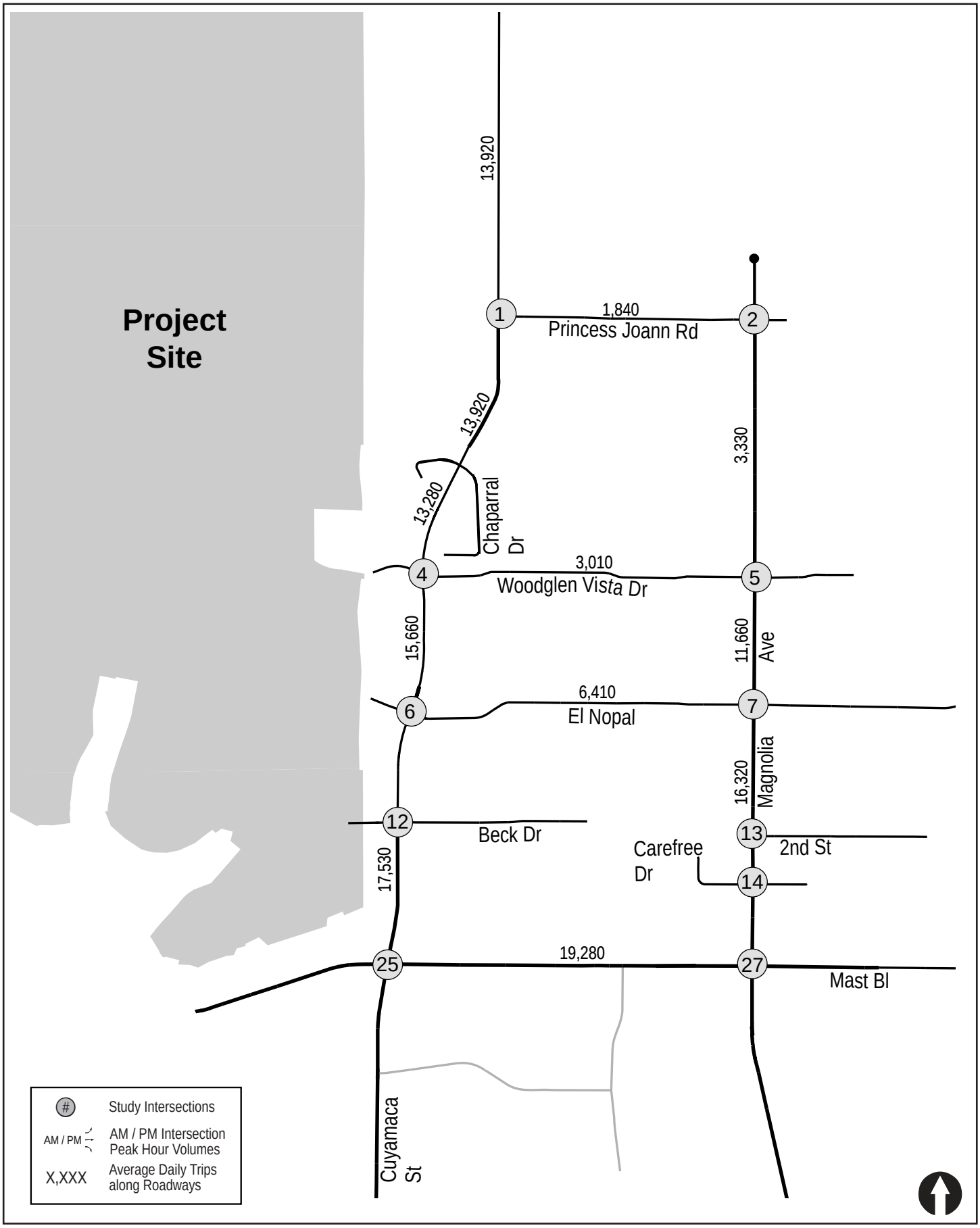
Date: 10/16/18

(#) Study Intersections

AM / PM → AM / PM Intersection Peak Hour Volumes

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Date: 05/08/19

**Figure 13-3**

## Existing + Project Traffic Volumes

**(Without Magnolia Avenue Extension)**

FANITA RANCH

| Intersection | |
|---|---|
| Int Delay, s/veh | 0.9 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 0 | 42 | 405 | 0 | 81 | 782 |
| Future Vol, veh/h | 0 | 42 | 405 | 0 | 81 | 782 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | 150 | 50 | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 46 | 440 | 0 | 88 | 850 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 1466 | 440 | 0 | 0 | 440 | 0 |
| Stage 1 | 440 | - | - | - | - | - |
| Stage 2 | 1026 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | - | - | 4.12 | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | - | - | 2.218 | - |
| Pot Cap-1 Maneuver | 141 | 617 | - | - | 1120 | - |
| Stage 1 | 649 | - | - | - | - | - |
| Stage 2 | 346 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 130 | 617 | - | - | 1120 | - |
| Mov Cap-2 Maneuver | 130 | - | - | - | - | - |
| Stage 1 | 598 | - | - | - | - | - |
| Stage 2 | 346 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 11.3 | 0 | 0.8 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | SBL | SBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 617 | 1120 | - |
| HCM Lane V/C Ratio | - | - | 0.074 | 0.079 | - |
| HCM Control Delay (s) | - | - | 11.3 | 8.5 | - |
| HCM Lane LOS | - | - | B | A | - |
| HCM 95th %tile Q(veh) | - | - | 0.2 | 0.3 | - |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 8.1 |
| Intersection LOS | A |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 135 | 31 | 4 | 0 | 74 | 4 | 8 | 0 | 2 | 0 |
| Future Vol, veh/h | 0 | 0 | 135 | 31 | 4 | 0 | 74 | 4 | 8 | 0 | 2 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 147 | 34 | 4 | 0 | 80 | 4 | 9 | 0 | 2 | 0 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 3 | 3 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 3 | 3 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 3 | 3 | 1 | 1 |
| HCM Control Delay | 7.7 | 8.4 | 8.7 | 7.8 |
| HCM LOS | A | A | A | A |

| Lane | NBLn1 | NBLn2 | NBLn3 | EBLn1 | WBLn1 | SBLn1 | SBLn2 | SBLn3 |
|---|---|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 0% | 89% | 0% | 0% | 0% |
| Vol Thru, % | 0% | 100% | 0% | 0% | 11% | 100% | 100% | 100% |
| Vol Right, % | 0% | 0% | 100% | 100% | 0% | 0% | 0% | 0% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 74 | 4 | 8 | 135 | 35 | 0 | 2 | 0 |
| LT Vol | 74 | 0 | 0 | 0 | 31 | 0 | 0 | 0 |
| Through Vol | 0 | 4 | 0 | 0 | 4 | 0 | 2 | 0 |
| RT Vol | 0 | 0 | 8 | 135 | 0 | 0 | 0 | 0 |
| Lane Flow Rate | 80 | 4 | 9 | 147 | 38 | 0 | 2 | 0 |
| Geometry Grp | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| Degree of Util (X) | 0.122 | 0.006 | 0.01 | 0.168 | 0.056 | 0 | 0.003 | 0 |
| Departure Headway (Hd) | 5.463 | 4.961 | 4.259 | 4.128 | 5.344 | 5.061 | 5.061 | 5.061 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 659 | 724 | 844 | 873 | 673 | 0 | 710 | 0 |
| Service Time | 3.173 | 2.671 | 1.968 | 1.832 | 3.05 | 2.773 | 2.773 | 2.773 |
| HCM Lane V/C Ratio | 0.121 | 0.006 | 0.011 | 0.168 | 0.056 | 0 | 0.003 | 0 |
| HCM Control Delay | 8.9 | 7.7 | 7 | 7.7 | 8.4 | 7.8 | 7.8 | 7.8 |
| HCM Lane LOS | A | A | A | A | A | N | A | N |
| HCM 95th-tile Q | 0.4 | 0 | 0 | 0.6 | 0.2 | 0 | 0 | 0 |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 20.5 |
| Intersection LOS | F |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 1 | 12 | 227 | 0 | 46 | 3 | 368 | 66 | 89 | 727 | 0 |
| Future Vol, veh/h | 0 | 1 | 12 | 227 | 0 | 46 | 3 | 368 | 66 | 89 | 727 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 1 | 13 | 247 | 0 | 50 | 3 | 400 | 72 | 97 | 790 | 0 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay | 11.8 | 20.3 | 39.4 | 199.2 |
| HCM LOS | B | C | E | F |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 83% | 100% | 0% |
| Vol Thru, % | 0% | 85% | 8% | 0% | 0% | 100% |
| Vol Right, % | 0% | 15% | 92% | 17% | 0% | 0% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 3 | 434 | 13 | 273 | 89 | 727 |
| LT Vol | 3 | 0 | 0 | 227 | 89 | 0 |
| Through Vol | 0 | 368 | 1 | 0 | 0 | 727 |
| RT Vol | 0 | 66 | 12 | 46 | 0 | 0 |
| Lane Flow Rate | 3 | 472 | 14 | 297 | 97 | 790 |
| Geometry Grp | 7 | 7 | 2 | 2 | 7 | 7 |
| Degree of Util (X) | 0.007 | 0.861 | 0.03 | 0.573 | 0.189 | 1.429 |
| Departure Headway (Hd) | 7.725 | 7.101 | 8.557 | 7.606 | 7.022 | 6.511 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 466 | 514 | 421 | 478 | 510 | 561 |
| Service Time | 5.425 | 4.801 | 6.557 | 5.606 | 4.783 | 4.271 |
| HCM Lane V/C Ratio | 0.006 | 0.918 | 0.033 | 0.621 | 0.19 | 1.408 |
| HCM Control Delay | 10.5 | 39.6 | 11.8 | 20.3 | 11.4 | 222.2 |
| HCM Lane LOS | B | E | B | C | B | F |
| HCM 95th-tile Q | 0 | 9.1 | 0.1 | 3.5 | 0.7 | 37.3 |

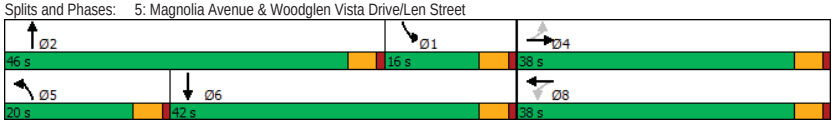




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 17 | 1 | 190 | 44 | 13 | 10 | 77 | 183 | 14 | 7 | 417 | 11 |
| Future Volume (vph) | 17 | 1 | 190 | 44 | 13 | 10 | 77 | 183 | 14 | 7 | 417 | 11 |
| Confl. Peds. (#/hr) | | | 95 | | | 4 | | | 15 | | | 95 |
| Confl. Bikes (#/hr) | | | 1 | | | 1 | | | | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Perm | NA | | Perm | NA | | Prot | NA | | Prot | NA | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 26.5 | 26.5 | | 26.5 | 26.5 | | 11.5 | 22.5 | | 11.5 | 22.5 | |
| Total Split (s) | 38.0 | 38.0 | | 38.0 | 38.0 | | 20.0 | 46.0 | | 16.0 | 42.0 | |
| Total Split (%) | 38.0% | 38.0% | | 38.0% | 38.0% | | 20.0% | 46.0% | | 16.0% | 42.0% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | | | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lead | | Lag | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 40.7 |
| Natural Cycle: 65 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 5: Magnolia Avenue & Woodglen Vista Drive/Len Street



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 17 | 1 | 190 | 44 | 13 | 10 | 77 | 183 | 14 | 7 | 417 | 11 |
| Future Volume (veh/h) | 17 | 1 | 190 | 44 | 13 | 10 | 77 | 183 | 14 | 7 | 417 | 11 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.90 | 0.95 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 0.82 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 18 | 1 | 207 | 48 | 14 | 11 | 84 | 199 | 15 | 8 | 453 | 12 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 606 | 2 | 457 | 297 | 84 | 45 | 176 | 898 | 67 | 223 | 1037 | 27 |
| Arrive On Green | 0.32 | 0.32 | 0.32 | 0.32 | 0.32 | 0.32 | 0.10 | 0.27 | 0.27 | 0.13 | 0.30 | 0.30 |
| Sat Flow, veh/h | 1382 | 7 | 1422 | 532 | 260 | 141 | 1781 | 3344 | 250 | 1781 | 3514 | 93 |
| Grp Volume(v), veh/h | 18 | 0 | 208 | 73 | 0 | 0 | 84 | 105 | 109 | 8 | 228 | 237 |
| Grp Sat Flow(s),veh/h/ln | 1382 | 0 | 1429 | 933 | 0 | 0 | 1781 | 1777 | 1817 | 1781 | 1777 | 1830 |
| Q Serve(g_s), s | 0.0 | 0.0 | 5.5 | 0.7 | 0.0 | 0.0 | 2.1 | 2.2 | 2.2 | 0.2 | 4.9 | 5.0 |
| Cycle Q Clear(g_c), s | 0.4 | 0.0 | 5.5 | 6.2 | 0.0 | 0.0 | 2.1 | 2.2 | 2.2 | 0.2 | 4.9 | 5.0 |
| Prop In Lane | 1.00 | | 1.00 | 0.66 | | 0.15 | 1.00 | | 0.14 | 1.00 | | 0.05 |
| Lane Grp Cap(c), veh/h | 606 | 0 | 460 | 426 | 0 | 0 | 176 | 477 | 488 | 223 | 525 | 540 |
| V/C Ratio(X) | 0.03 | 0.00 | 0.45 | 0.17 | 0.00 | 0.00 | 0.48 | 0.22 | 0.22 | 0.04 | 0.44 | 0.44 |
| Avail Cap(c_a), veh/h | 1137 | 0 | 1009 | 911 | 0 | 0 | 582 | 1554 | 1589 | 432 | 1404 | 1446 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 11.1 | 0.0 | 12.8 | 12.3 | 0.0 | 0.0 | 20.2 | 13.5 | 13.5 | 18.2 | 13.5 | 13.5 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 0.7 | 0.2 | 0.0 | 0.0 | 2.0 | 0.2 | 0.2 | 0.1 | 0.6 | 0.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.1 | 0.0 | 1.6 | 0.5 | 0.0 | 0.0 | 0.9 | 0.7 | 0.8 | 0.1 | 1.6 | 1.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 11.1 | 0.0 | 13.5 | 12.5 | 0.0 | 0.0 | 22.2 | 13.7 | 13.7 | 18.3 | 14.1 | 14.1 |
| LnGrp LOS | B | A | B | B | A | A | C | B | B | B | B | B |
| Approach Vol, veh/h | | 226 | | | 73 | | | 298 | | | 473 | |
| Approach Delay, s/veh | | 13.3 | | | 12.5 | | | 16.1 | | | 14.2 | |
| Approach LOS | | B | | | B | | | B | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 10.4 | 17.2 | | 19.8 | 9.2 | 18.5 | | 19.8 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 11.5 | 41.5 | | 33.5 | 15.5 | 37.5 | | 33.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.2 | 4.2 | | 7.5 | 4.1 | 7.0 | | 8.2 | | | | |
| Green Ext Time (p_c), s | 0.0 | 1.2 | | 1.6 | 0.1 | 2.7 | | 0.4 | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 14.4 | |
| HCM 6th LOS | | B | |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 74.3 |
| Intersection LOS | F |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 1 | 7 | 258 | 4 | 87 | 5 | 355 | 46 | 164 | 816 | 1 |
| Future Vol, veh/h | 0 | 1 | 7 | 258 | 4 | 87 | 5 | 355 | 46 | 164 | 816 | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 1 | 8 | 280 | 4 | 95 | 5 | 386 | 50 | 178 | 887 | 1 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |

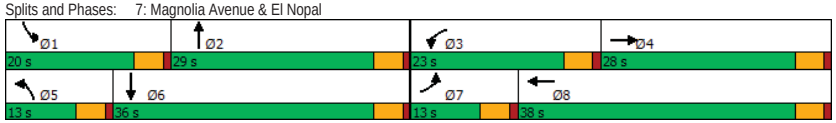
| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay | 12.4 | 28 | 40.3 | 283.2 |
| HCM LOS | B | D | E | F |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 74% | 100% | 0% |
| Vol Thru, % | 0% | 89% | 12% | 1% | 0% | 100% |
| Vol Right, % | 0% | 11% | 88% | 25% | 0% | 0% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 5 | 401 | 8 | 349 | 164 | 817 |
| LT Vol | 5 | 0 | 0 | 258 | 164 | 0 |
| Through Vol | 0 | 355 | 1 | 4 | 0 | 816 |
| RT Vol | 0 | 46 | 7 | 87 | 0 | 1 |
| Lane Flow Rate | 5 | 436 | 9 | 379 | 178 | 888 |
| Geometry Grp | 7 | 7 | 2 | 2 | 7 | 7 |
| Degree of Util (X) | 0.011 | 0.849 | 0.019 | 0.722 | 0.365 | 1.692 |
| Departure Headway (Hd) | 8.371 | 7.77 | 9.208 | 7.621 | 7.373 | 6.86 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 430 | 471 | 391 | 478 | 487 | 533 |
| Service Time | 6.071 | 5.47 | 7.208 | 5.621 | 5.14 | 4.626 |
| HCM Lane V/C Ratio | 0.012 | 0.926 | 0.023 | 0.793 | 0.366 | 1.666 |
| HCM Control Delay | 11.2 | 40.7 | 12.4 | 28 | 14.4 | 337.1 |
| HCM Lane LOS | B | E | B | D | B | F |
| HCM 95th-tile Q | 0 | 8.5 | 0.1 | 5.8 | 1.7 | 51.4 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 45 | 226 | 93 | 136 | 203 | 99 | 48 | 346 | 53 | 114 | 621 | 83 |
| Future Volume (vph) | 45 | 226 | 93 | 136 | 203 | 99 | 48 | 346 | 53 | 114 | 621 | 83 |
| Confl. Peds. (#/hr) | | | | | | 2 | | | | | | |
| Confl. Bikes (#/hr) | | | 2 | | | 2 | | | 1 | | | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | | Prot | NA | |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 11.5 | 26.5 | | 11.5 | 25.5 | | 11.5 | 22.5 | | 11.5 | 22.5 | |
| Total Split (s) | 13.0 | 28.0 | | 23.0 | 38.0 | | 13.0 | 29.0 | | 20.0 | 36.0 | |
| Total Split (%) | 13.0% | 28.0% | | 23.0% | 38.0% | | 13.0% | 29.0% | | 20.0% | 36.0% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | | None | Max | | None | Max | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 88.7 |
| Natural Cycle: 75 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 7: Magnolia Avenue & El Nopal






Existing + Proj AM (No Magnolia)
7: Magnolia Avenue & El Nopal
Fanita Ranch
06/07/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 45 | 226 | 93 | 136 | 203 | 99 | 48 | 346 | 53 | 114 | 621 | 83 |
| Future Volume (veh/h) | 45 | 226 | 93 | 136 | 203 | 99 | 48 | 346 | 53 | 114 | 621 | 83 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.98 | 1.00 | | 0.99 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 49 | 246 | 101 | 148 | 221 | 108 | 52 | 376 | 58 | 124 | 675 | 90 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 103 | 286 | 117 | 187 | 325 | 159 | 106 | 1102 | 168 | 158 | 1215 | 162 |
| Arrive On Green | 0.06 | 0.23 | 0.23 | 0.10 | 0.28 | 0.28 | 0.06 | 0.36 | 0.36 | 0.09 | 0.39 | 0.39 |
| Sat Flow, veh/h | 1781 | 1254 | 515 | 1781 | 1179 | 576 | 1781 | 3084 | 472 | 1781 | 3142 | 418 |
| Grp Volume(v), veh/h | 49 | 0 | 347 | 148 | 0 | 329 | 52 | 215 | 219 | 124 | 381 | 384 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1769 | 1781 | 0 | 1756 | 1781 | 1777 | 1778 | 1781 | 1777 | 1783 |
| Q Serve(g_s), s | 2.2 | 0.0 | 15.3 | 6.6 | 0.0 | 13.6 | 2.3 | 7.2 | 7.3 | 5.6 | 13.6 | 13.7 |
| Cycle Q Clear(g_c), s | 2.2 | 0.0 | 15.3 | 6.6 | 0.0 | 13.6 | 2.3 | 7.2 | 7.3 | 5.6 | 13.6 | 13.7 |
| Prop In Lane | 1.00 | | 0.29 | 1.00 | | 0.33 | 1.00 | | 0.27 | 1.00 | | 0.23 |
| Lane Grp Cap(c), veh/h | 103 | 0 | 403 | 187 | 0 | 483 | 106 | 635 | 635 | 158 | 687 | 690 |
| V/C Ratio(X) | 0.48 | 0.00 | 0.86 | 0.79 | 0.00 | 0.68 | 0.49 | 0.34 | 0.34 | 0.78 | 0.55 | 0.56 |
| Avail Cap(c_a), veh/h | 186 | 0 | 510 | 405 | 0 | 722 | 186 | 635 | 635 | 339 | 687 | 690 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 37.2 | 0.0 | 30.2 | 35.6 | 0.0 | 26.3 | 37.1 | 19.1 | 19.2 | 36.3 | 19.5 | 19.5 |
| Incr Delay (d2), s/veh | 3.4 | 0.0 | 11.6 | 7.3 | 0.0 | 1.7 | 3.5 | 1.4 | 1.5 | 8.1 | 3.2 | 3.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.0 | 0.0 | 7.7 | 3.2 | 0.0 | 5.8 | 1.1 | 3.0 | 3.1 | 2.7 | 5.7 | 5.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 40.6 | 0.0 | 41.8 | 42.9 | 0.0 | 28.0 | 40.6 | 20.6 | 20.7 | 44.5 | 22.7 | 22.7 |
| LnGrp LOS | D | A | D | D | A | C | D | C | C | D | C | C |
| Approach Vol, veh/h | | 396 | | | 477 | | | 486 | | | 889 | |
| Approach Delay, s/veh | | 41.7 | | | 32.6 | | | 22.8 | | | 25.8 | |
| Approach LOS | | D | | | C | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 11.7 | 33.6 | 13.1 | 23.0 | 9.3 | 36.0 | 9.2 | 26.9 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 15.5 | 24.5 | 18.5 | 23.5 | 8.5 | 31.5 | 8.5 | 33.5 |
| Max Q Clear Time (g_c+I1), s | 7.6 | 9.3 | 8.6 | 17.3 | 4.3 | 15.7 | 4.2 | 15.6 |
| Green Ext Time (p_c), s | 0.2 | 2.1 | 0.3 | 1.1 | 0.0 | 4.1 | 0.0 | 2.0 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | 29.4 | |
| HCM 6th LOS | C | |

Fanita Ranch
N:\2462\Analysis\Intersections\Synchro\No Magnolia\3 Existing + Proj AM.syn

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 97.7 |
| Intersection LOS | F |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 11 | 90 | 1 | 1 | 1 | 415 | 29 | 3 | 1055 | 0 |
| Future Vol, veh/h | 0 | 0 | 11 | 90 | 1 | 1 | 1 | 415 | 29 | 3 | 1055 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 12 | 98 | 1 | 1 | 1 | 451 | 32 | 3 | 1147 | 0 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 3 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 3 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 3 | 2 | 1 | 1 |
| HCM Control Delay | 11.5 | 14.5 | 21.8 | 441.3 |
| HCM LOS | B | B | C | F |

| Lane | NBLn1 | NBLn2 | NBLn3 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 0% | 98% | 100% | 0% |
| Vol Thru, % | 0% | 100% | 0% | 0% | 1% | 0% | 100% |
| Vol Right, % | 0% | 0% | 100% | 100% | 1% | 0% | 0% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 1 | 415 | 29 | 11 | 92 | 3 | 1055 |
| LT Vol | 1 | 0 | 0 | 0 | 90 | 3 | 0 |
| Through Vol | 0 | 415 | 0 | 0 | 1 | 0 | 1055 |
| RT Vol | 0 | 0 | 29 | 11 | 1 | 0 | 0 |
| Lane Flow Rate | 1 | 451 | 32 | 12 | 100 | 3 | 1147 |
| Geometry Grp | 7 | 7 | 7 | 7 | 7 | 8 | 8 |
| Degree of Util (X) | 0.002 | 0.704 | 0.043 | 0.023 | 0.215 | 0.006 | 1.936 |
| Departure Headway (Hd) | 6.884 | 6.373 | 5.659 | 8.606 | 9.295 | 6.582 | 6.078 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 523 | 573 | 637 | 418 | 389 | 540 | 596 |
| Service Time | 4.584 | 4.073 | 3.359 | 6.306 | 6.995 | 4.372 | 3.868 |
| HCM Lane V/C Ratio | 0.002 | 0.787 | 0.05 | 0.029 | 0.257 | 0.006 | 1.924 |
| HCM Control Delay | 9.6 | 22.8 | 8.6 | 11.5 | 14.5 | 9.4 | 442.5 |
| HCM Lane LOS | A | C | A | B | B | A | F |
| HCM 95th-tile Q | 0 | 5.6 | 0.1 | 0.1 | 0.8 | 0 | 74 |

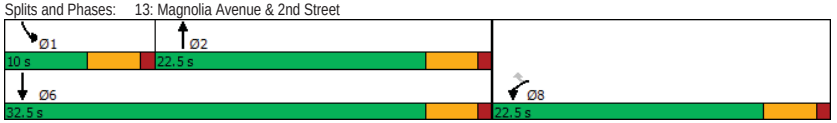




| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 158 | 33 | 431 | 103 | 109 | 877 |
| Future Volume (vph) | 158 | 33 | 431 | 103 | 109 | 877 |
| Confl. Peds. (#/hr) | | 4 | | 11 | | |
| Confl. Bikes (#/hr) | | | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | 0% | | | 0% |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | NA | | Prot | NA |
| Protected Phases | 8 | | 2 | | 1 | 6 |
| Permitted Phases | | 8 | | | | |
| Detector Phase | 8 | 8 | 2 | | 1 | 6 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | | 8.5 | 20.5 |
| Total Split (s) | 22.5 | 22.5 | 22.5 | | 10.0 | 32.5 |
| Total Split (%) | 40.9% | 40.9% | 40.9% | | 18.2% | 59.1% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Lead/Lag | | | Lag | | Lead | |
| Lead-Lag Optimize? | | | Yes | | Yes | |
| Recall Mode | None | None | Min | | None | Min |

| Intersection Summary |
|---|
| Cycle Length: 55 |
| Actuated Cycle Length: 40.7 |
| Natural Cycle: 55 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 13: Magnolia Avenue & 2nd Street



| Movement | WBL | WBR | NBT | NBR | SBL | SBT | |
|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | |
| Traffic Volume (veh/h) | 158 | 33 | 431 | 103 | 109 | 877 | |
| Future Volume (veh/h) | 158 | 33 | 431 | 103 | 109 | 877 | |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | | 0.98 | 1.00 | | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Work Zone On Approach | No | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | |
| Adj Flow Rate, veh/h | 172 | 36 | 468 | 112 | 118 | 953 | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | |
| Cap, veh/h | 256 | 228 | 879 | 209 | 150 | 1949 | |
| Arrive On Green | 0.14 | 0.14 | 0.31 | 0.31 | 0.08 | 0.55 | |
| Sat Flow, veh/h | 1781 | 1585 | 2931 | 674 | 1781 | 3647 | |
| Grp Volume(v), veh/h | 172 | 36 | 292 | 288 | 118 | 953 | |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 1777 | 1735 | 1781 | 1777 | |
| Q Serve(g_s), s | 2.7 | 0.6 | 4.0 | 4.0 | 1.9 | 4.8 | |
| Cycle Q Clear(g_c), s | 2.7 | 0.6 | 4.0 | 4.0 | 1.9 | 4.8 | |
| Prop In Lane | 1.00 | 1.00 | | 0.39 | 1.00 | | |
| Lane Grp Cap(c), veh/h | 256 | 228 | 551 | 538 | 150 | 1949 | |
| V/C Ratio(X) | 0.67 | 0.16 | 0.53 | 0.54 | 0.79 | 0.49 | |
| Avail Cap(c_a), veh/h | 1098 | 977 | 1095 | 1069 | 335 | 3406 | |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Uniform Delay (d), s/veh | 11.9 | 11.0 | 8.3 | 8.3 | 13.1 | 4.1 | |
| Incr Delay (d2), s/veh | 3.1 | 0.3 | 0.8 | 0.8 | 8.7 | 0.2 | |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| %ile BackOfQ(50%),veh/ln | 1.0 | 0.2 | 0.9 | 0.9 | 0.9 | 0.3 | |
| Unsig. Movement Delay, s/veh | | | | | | | |
| LnGrp Delay(d),s/veh | 14.9 | 11.3 | 9.1 | 9.2 | 21.8 | 4.3 | |
| LnGrp LOS | B | B | A | A | C | A | |
| Approach Vol, veh/h | 208 | | 580 | | | 1071 | |
| Approach Delay, s/veh | 14.3 | | 9.1 | | | 6.2 | |
| Approach LOS | B | | A | | | A | |

| Timer - Assigned Phs | 1 | 2 | | | | 6 | 8 |
|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.0 | 13.6 | | | | 20.5 | 8.7 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 5.5 | 18.0 | | | | 28.0 | 18.0 |
| Max Q Clear Time (g_c+I1), s | 3.9 | 6.0 | | | | 6.8 | 4.7 |
| Green Ext Time (p_c), s | 0.0 | 2.6 | | | | 6.5 | 0.5 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 8.0 |
| HCM 6th LOS | A |

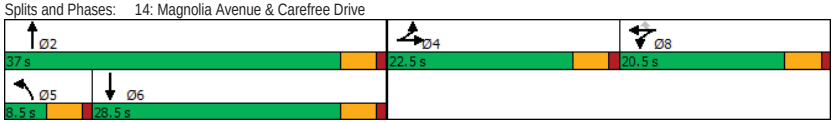




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 13 | 0 | 57 | 185 | 0 | 30 | 17 | 504 | 0 | 0 | 988 | 18 |
| Future Volume (vph) | 13 | 0 | 57 | 185 | 0 | 30 | 17 | 504 | 0 | 0 | 988 | 18 |
| Confl. Peds. (#/hr) | | | 115 | | | | | | 13 | | | 18 |
| Confl. Bikes (#/hr) | | | | | | | | | | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | 50% | | | | | | | | |
| Turn Type | Split | NA | | Split | NA | Perm | Prot | NA | | | NA | |
| Protected Phases | 4 | 4 | | 8 | 8 | | 5 | 2 | | | 6 | |
| Permitted Phases | | | | | | 8 | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | 8 | 5 | 2 | | | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | | 4.0 | |
| Minimum Split (s) | 22.5 | 22.5 | | 20.5 | 20.5 | 20.5 | 8.5 | 22.5 | | | 22.5 | |
| Total Split (s) | 22.5 | 22.5 | | 20.5 | 20.5 | 20.5 | 8.5 | 37.0 | | | 28.5 | |
| Total Split (%) | 28.1% | 28.1% | | 25.6% | 25.6% | 25.6% | 10.6% | 46.3% | | | 35.6% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | 0.0 | |
| Total Lost Time (s) | | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | | 4.5 | |
| Lead/Lag | | | | | | | Lead | | | | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | | | | Yes | |
| Recall Mode | None | None | | None | None | None | None | Min | | | Min | |

| Intersection Summary |
|---|
| Cycle Length: 80 |
| Actuated Cycle Length: 53.2 |
| Natural Cycle: 80 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 14: Magnolia Avenue & Carefree Drive



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 13 | 0 | 57 | 185 | 0 | 30 | 17 | 504 | 0 | 0 | 988 | 18 |
| Future Volume (veh/h) | 13 | 0 | 57 | 185 | 0 | 30 | 17 | 504 | 0 | 0 | 988 | 18 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.84 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.95 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 0 | 0 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 14 | 0 | 62 | 201 | 0 | 33 | 18 | 548 | 0 | 0 | 1074 | 20 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 0 | 0 | 2 | 2 |
| Cap, veh/h | 55 | 0 | 242 | 342 | 0 | 152 | 31 | 1632 | 0 | 0 | 1300 | 24 |
| Arrive On Green | 0.21 | 0.00 | 0.21 | 0.10 | 0.00 | 0.10 | 0.02 | 0.46 | 0.00 | 0.00 | 0.36 | 0.36 |
| Sat Flow, veh/h | 257 | 0 | 1137 | 3563 | 0 | 1585 | 1781 | 3647 | 0 | 0 | 3659 | 66 |
| Grp Volume(v), veh/h | 76 | 0 | 0 | 201 | 0 | 33 | 18 | 548 | 0 | 0 | 535 | 559 |
| Grp Sat Flow(s),veh/h/ln | 1393 | 0 | 0 | 1781 | 0 | 1585 | 1781 | 1777 | 0 | 0 | 1777 | 1855 |
| Q Serve(g_s), s | 2.6 | 0.0 | 0.0 | 3.1 | 0.0 | 1.1 | 0.6 | 5.7 | 0.0 | 0.0 | 15.9 | 15.9 |
| Cycle Q Clear(g_c), s | 2.6 | 0.0 | 0.0 | 3.1 | 0.0 | 1.1 | 0.6 | 5.7 | 0.0 | 0.0 | 15.9 | 15.9 |
| Prop In Lane | 0.18 | | 0.82 | 1.00 | | 1.00 | 1.00 | | 0.00 | 0.00 | | 0.04 |
| Lane Grp Cap(c), veh/h | 296 | 0 | 0 | 342 | 0 | 152 | 31 | 1632 | 0 | 0 | 648 | 676 |
| V/C Ratio(X) | 0.26 | 0.00 | 0.00 | 0.59 | 0.00 | 0.22 | 0.58 | 0.34 | 0.00 | 0.00 | 0.83 | 0.83 |
| Avail Cap(c_a), veh/h | 431 | 0 | 0 | 980 | 0 | 436 | 123 | 1986 | 0 | 0 | 733 | 765 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 19.1 | 0.0 | 0.0 | 25.2 | 0.0 | 24.3 | 28.4 | 10.1 | 0.0 | 0.0 | 16.8 | 16.8 |
| Incr Delay (d2), s/veh | 0.5 | 0.0 | 0.0 | 1.6 | 0.0 | 0.7 | 16.1 | 0.1 | 0.0 | 0.0 | 7.0 | 6.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.8 | 0.0 | 0.0 | 1.3 | 0.0 | 0.4 | 0.4 | 1.8 | 0.0 | 0.0 | 6.6 | 6.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 19.5 | 0.0 | 0.0 | 26.8 | 0.0 | 25.0 | 44.5 | 10.2 | 0.0 | 0.0 | 23.8 | 23.5 |
| LnGrp LOS | B | A | A | C | A | C | D | B | A | A | C | C |
| Approach Vol, veh/h | | 76 | | | 234 | | | 566 | | | 1094 | |
| Approach Delay, s/veh | | 19.5 | | | 26.5 | | | 11.3 | | | 23.7 | |
| Approach LOS | | B | | | C | | | B | | | C | |

| Timer - Assigned Phs | | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | | 31.2 | | 16.9 | 5.5 | 25.7 | | 10.1 | | | | |
| Change Period (Y+Rc), s | | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | | 32.5 | | 18.0 | 4.0 | 24.0 | | 16.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 7.7 | | 4.6 | 2.6 | 17.9 | | 5.1 | | | | |
| Green Ext Time (p_c), s | | 3.5 | | 0.3 | 0.0 | 3.3 | | 0.6 | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | 20.3 | |
| HCM 6th LOS | | C | |

**Notes**

User approved volume balancing among the lanes for turning movement.

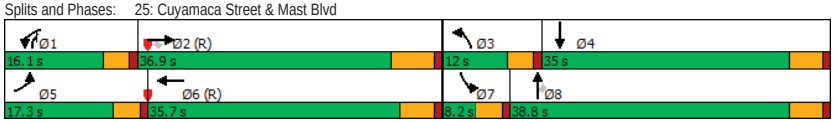




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 151 | 308 | 200 | 327 | 650 | 30 | 197 | 275 | 179 | 57 | 609 | 498 |
| Future Volume (vph) | 151 | 308 | 200 | 327 | 650 | 30 | 197 | 275 | 179 | 57 | 609 | 498 |
| Confl. Peds. (#/hr) | | | 8 | | | 5 | | | 3 | | | 3 |
| Confl. Bikes (#/hr) | | | 4 | | | 1 | | | 3 | | | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | | Prot | NA | pm+ov | Prot | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | 1 | 7 | 4 | |
| Permitted Phases | | | 2 | | | | | | 8 | | | |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | | 3 | 8 | 1 | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | | 4.0 | 7.0 | 4.0 | 4.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 34.3 | 34.3 | 8.2 | 32.3 | | 8.2 | 33.1 | 8.2 | 8.2 | 34.0 | |
| Total Split (s) | 17.3 | 36.9 | 36.9 | 16.1 | 35.7 | | 12.0 | 38.8 | 16.1 | 8.2 | 35.0 | |
| Total Split (%) | 17.3% | 36.9% | 36.9% | 16.1% | 35.7% | | 12.0% | 38.8% | 16.1% | 8.2% | 35.0% | |
| Yellow Time (s) | 3.2 | 5.3 | 5.3 | 3.2 | 4.3 | | 3.2 | 4.1 | 3.2 | 3.2 | 4.0 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.2 | 6.3 | 6.3 | 4.2 | 5.3 | | 4.2 | 5.1 | 4.2 | 4.2 | 5.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | |
| Recall Mode | None | C-Min | C-Min | None | C-Min | | None | None | None | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 31 (31%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 95 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 25: Cuyamaca Street & Mast Blvd



Existing + Proj AM (No Magnolia)
25: Cuyamaca Street & Mast Blvd

Fanita Ranch
06/07/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 151 | 308 | 200 | 327 | 650 | 30 | 197 | 275 | 179 | 57 | 609 | 498 |
| Future Volume (veh/h) | 151 | 308 | 200 | 327 | 650 | 30 | 197 | 275 | 179 | 57 | 609 | 498 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 164 | 335 | 217 | 355 | 707 | 33 | 214 | 299 | 195 | 62 | 662 | 541 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 195 | 1084 | 473 | 411 | 1086 | 51 | 270 | 1201 | 715 | 71 | 555 | 449 |
| Arrive On Green | 0.11 | 0.31 | 0.31 | 0.12 | 0.31 | 0.31 | 0.08 | 0.34 | 0.34 | 0.04 | 0.30 | 0.30 |
| Sat Flow, veh/h | 1781 | 3554 | 1549 | 3456 | 3454 | 161 | 3456 | 3554 | 1559 | 1781 | 1849 | 1498 |
| Grp Volume(v), veh/h | 164 | 335 | 217 | 355 | 364 | 376 | 214 | 299 | 195 | 62 | 636 | 567 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1549 | 1728 | 1777 | 1838 | 1728 | 1777 | 1559 | 1781 | 1777 | 1570 |
| Q Serve(g_s), s | 9.0 | 7.2 | 11.3 | 10.1 | 17.6 | 17.7 | 6.1 | 6.1 | 7.8 | 3.5 | 30.0 | 30.0 |
| Cycle Q Clear(g_c), s | 9.0 | 7.2 | 11.3 | 10.1 | 17.6 | 17.7 | 6.1 | 6.1 | 7.8 | 3.5 | 30.0 | 30.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.09 | 1.00 | | 1.00 | 1.00 | | 0.95 |
| Lane Grp Cap(c), veh/h | 195 | 1084 | 473 | 411 | 559 | 578 | 270 | 1201 | 715 | 71 | 533 | 471 |
| V/C Ratio(X) | 0.84 | 0.31 | 0.46 | 0.86 | 0.65 | 0.65 | 0.79 | 0.25 | 0.27 | 0.87 | 1.19 | 1.20 |
| Avail Cap(c_a), veh/h | 233 | 1087 | 474 | 411 | 559 | 578 | 270 | 1201 | 715 | 71 | 533 | 471 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 0.94 | 0.94 | 0.94 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 43.7 | 26.7 | 28.1 | 43.3 | 29.5 | 29.6 | 45.3 | 23.9 | 16.9 | 47.7 | 35.0 | 35.0 |
| Incr Delay (d2), s/veh | 17.7 | 0.7 | 3.2 | 15.5 | 5.5 | 5.3 | 13.9 | 0.2 | 0.3 | 62.3 | 104.3 | 110.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 4.8 | 3.1 | 4.5 | 5.1 | 8.0 | 8.3 | 3.1 | 2.5 | 2.7 | 2.7 | 27.9 | 25.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 61.3 | 27.4 | 31.3 | 58.8 | 35.0 | 34.8 | 59.2 | 24.1 | 17.1 | 110.1 | 139.3 | 145.5 |
| LnGrp LOS | E | C | C | E | C | C | E | C | B | F | F | F |
| Approach Vol, veh/h | | 716 | | | 1095 | | | 708 | | | 1265 | |
| Approach Delay, s/veh | | 36.3 | | | 42.7 | | | 32.8 | | | 140.6 | |
| Approach LOS | | D | | | D | | | C | | | F | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 16.1 | 36.8 | 12.0 | 35.1 | 15.2 | 37.7 | 8.2 | 38.9 |
| Change Period (Y+Rc), s | * 4.2 | 6.3 | * 4.2 | * 5.1 | * 4.2 | * 6.3 | * 4.2 | 5.1 |
| Max Green Setting (Gmax), s | * 12 | 30.6 | * 7.8 | * 30 | * 13 | * 30 | * 4 | 33.7 |
| Max Q Clear Time (g_c+I1), s | 12.1 | 13.3 | 8.1 | 32.0 | 11.0 | 19.7 | 5.5 | 9.8 |
| Green Ext Time (p_c), s | 0.0 | 3.8 | 0.0 | 0.0 | 0.0 | 3.9 | 0.0 | 3.7 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 72.4 |
| HCM 6th LOS | E |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Existing + Proj AM (No Magnolia)
26: Park Center Drive & Mast Blvd

Fanita Ranch
06/07/2019

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 500 | 67 | 116 | 910 | 21 | 90 |
| Future Volume (vph) | 500 | 67 | 116 | 910 | 21 | 90 |
| Confl. Peds. (#/hr) | | 17 | | | | 29 |
| Confl. Bikes (#/hr) | | 3 | | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | NA | | Prot | NA | Prot | Perm |
| Protected Phases | 2 | | 1 | 6 | 8 | |
| Permitted Phases | | | | | | 8 |
| Detector Phase | 2 | | 1 | 6 | 8 | 8 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 22.5 | | 8.5 | 20.5 | 22.5 | 22.5 |
| Total Split (s) | 23.2 | | 14.3 | 37.5 | 22.5 | 22.5 |
| Total Split (%) | 38.7% | | 23.8% | 62.5% | 37.5% | 37.5% |
| Yellow Time (s) | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lag | | Lead | | | |
| Lead-Lag Optimize? | Yes | | Yes | | | |
| Recall Mode | Min | | None | Min | None | None |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 41.1 |
| Natural Cycle: 55 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 26: Park Center Drive & Mast Blvd

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 500 | 67 | 116 | 910 | 21 | 90 |
| Future Volume (veh/h) | 500 | 67 | 116 | 910 | 21 | 90 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | 0.95 | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 543 | 73 | 126 | 989 | 23 | 98 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 1054 | 141 | 162 | 2094 | 156 | 138 |
| Arrive On Green | 0.34 | 0.34 | 0.09 | 0.59 | 0.09 | 0.09 |
| Sat Flow, veh/h | 3222 | 419 | 1781 | 3647 | 1781 | 1585 |
| Grp Volume(v), veh/h | 307 | 309 | 126 | 989 | 23 | 98 |
| Grp Sat Flow(s),veh/h/ln | 1777 | 1770 | 1781 | 1777 | 1781 | 1585 |
| Q Serve(g_s), s | 3.9 | 3.9 | 1.9 | 4.4 | 0.3 | 1.7 |
| Cycle Q Clear(g_c), s | 3.9 | 3.9 | 1.9 | 4.4 | 0.3 | 1.7 |
| Prop In Lane | | 0.24 | 1.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 598 | 596 | 162 | 2094 | 156 | 138 |
| V/C Ratio(X) | 0.51 | 0.52 | 0.78 | 0.47 | 0.15 | 0.71 |
| Avail Cap(c_a), veh/h | 1194 | 1189 | 627 | 4214 | 1152 | 1025 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 7.4 | 7.4 | 12.4 | 3.3 | 11.7 | 12.4 |
| Incr Delay (d2), s/veh | 0.7 | 0.7 | 7.9 | 0.2 | 0.4 | 6.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.8 | 0.8 | 0.9 | 0.0 | 0.1 | 0.7 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 8.1 | 8.1 | 20.3 | 3.4 | 12.2 | 18.8 |
| LnGrp LOS | A | A | C | A | B | B |
| Approach Vol, veh/h | 616 | | | 1115 | 121 | |
| Approach Delay, s/veh | 8.1 | | | 5.3 | 17.6 | |
| Approach LOS | A | | | A | B | |

| Timer - Assigned Phs | 1 | 2 | | | | 6 | 8 |
|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.0 | 13.9 | | | | 20.9 | 6.9 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 9.8 | 18.7 | | | | 33.0 | 18.0 |
| Max Q Clear Time (g_c+I1), s | 3.9 | 5.9 | | | | 6.4 | 3.7 |
| Green Ext Time (p_c), s | 0.1 | 2.9 | | | | 7.4 | 0.3 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 7.0 |
| HCM 6th LOS | A |

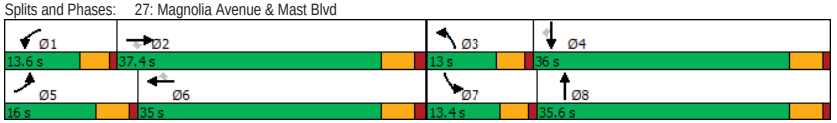




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 179 | 113 | 259 | 131 | 229 | 46 | 308 | 584 | 44 | 53 | 751 | 401 |
| Future Volume (vph) | 179 | 113 | 259 | 131 | 229 | 46 | 308 | 584 | 44 | 53 | 751 | 401 |
| Confl. Peds. (#/hr) | | | 14 | | | 31 | | | 11 | | | 8 |
| Confl. Bikes (#/hr) | | | 5 | | | 5 | | | 3 | | | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 11.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 9.0 | | 7.0 | 9.0 | 9.0 |
| Minimum Split (s) | 16.0 | 34.5 | 34.5 | 11.5 | 34.5 | 34.5 | 11.5 | 35.0 | | 11.5 | 36.0 | 36.0 |
| Total Split (s) | 16.0 | 37.4 | 37.4 | 13.6 | 35.0 | 35.0 | 13.0 | 35.6 | | 13.4 | 36.0 | 36.0 |
| Total Split (%) | 16.0% | 37.4% | 37.4% | 13.6% | 35.0% | 35.0% | 13.0% | 35.6% | | 13.4% | 36.0% | 36.0% |
| Yellow Time (s) | 4.0 | 4.0 | 4.0 | 3.5 | 4.0 | 4.0 | 3.5 | 4.0 | | 3.5 | 4.0 | 4.0 |
| All-Red Time (s) | 1.0 | 1.5 | 1.5 | 1.0 | 1.5 | 1.5 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 5.0 | 5.5 | 5.5 | 4.5 | 5.5 | 5.5 | 4.5 | 5.0 | | 4.5 | 5.0 | 5.0 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | Min | Min | None | Min | Min | None | Min | | None | Min | Min |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 76.8 |
| Natural Cycle: 100 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 27: Magnolia Avenue & Mast Blvd



Existing + Proj AM (No Magnolia)
27: Magnolia Avenue & Mast Blvd

Fanita Ranch
06/07/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 179 | 113 | 259 | 131 | 229 | 46 | 308 | 584 | 44 | 53 | 751 | 401 |
| Future Volume (veh/h) | 179 | 113 | 259 | 131 | 229 | 46 | 308 | 584 | 44 | 53 | 751 | 401 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.94 | 1.00 | | 0.98 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 195 | 123 | 282 | 142 | 249 | 50 | 335 | 635 | 48 | 58 | 816 | 436 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 424 | 924 | 399 | 174 | 815 | 343 | 330 | 1213 | 92 | 107 | 1163 | 508 |
| Arrive On Green | 0.12 | 0.26 | 0.26 | 0.10 | 0.23 | 0.23 | 0.10 | 0.36 | 0.36 | 0.06 | 0.33 | 0.33 |
| Sat Flow, veh/h | 3456 | 3554 | 1534 | 1781 | 3554 | 1496 | 3456 | 3343 | 252 | 1781 | 3554 | 1553 |
| Grp Volume(v), veh/h | 195 | 123 | 282 | 142 | 249 | 50 | 335 | 337 | 346 | 58 | 816 | 436 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1534 | 1781 | 1777 | 1496 | 1728 | 1777 | 1818 | 1781 | 1777 | 1553 |
| Q Serve(g_s), s | 4.7 | 2.4 | 14.8 | 6.9 | 5.2 | 2.4 | 8.5 | 13.3 | 13.3 | 2.8 | 17.8 | 23.4 |
| Cycle Q Clear(g_c), s | 4.7 | 2.4 | 14.8 | 6.9 | 5.2 | 2.4 | 8.5 | 13.3 | 13.3 | 2.8 | 17.8 | 23.4 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.14 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 424 | 924 | 399 | 174 | 815 | 343 | 330 | 645 | 660 | 107 | 1163 | 508 |
| V/C Ratio(X) | 0.46 | 0.13 | 0.71 | 0.82 | 0.31 | 0.15 | 1.01 | 0.52 | 0.52 | 0.54 | 0.70 | 0.86 |
| Avail Cap(c_a), veh/h | 428 | 1275 | 551 | 182 | 1179 | 496 | 330 | 645 | 660 | 178 | 1239 | 541 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 36.3 | 25.2 | 29.8 | 39.3 | 28.4 | 27.3 | 40.2 | 22.3 | 22.3 | 40.6 | 26.1 | 28.0 |
| Incr Delay (d2), s/veh | 0.9 | 0.1 | 3.0 | 21.6 | 0.3 | 0.2 | 53.1 | 0.8 | 0.8 | 1.6 | 1.7 | 12.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.9 | 1.0 | 5.5 | 4.0 | 2.2 | 0.8 | 5.9 | 5.3 | 5.4 | 1.2 | 7.3 | 9.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 37.2 | 25.3 | 32.8 | 60.9 | 28.6 | 27.5 | 93.3 | 23.0 | 23.0 | 42.2 | 27.8 | 40.4 |
| LnGrp LOS | D | C | C | E | C | C | F | C | C | D | C | D |
| Approach Vol, veh/h | | 600 | | | 441 | | | 1018 | | | 1310 | |
| Approach Delay, s/veh | | 32.7 | | | 38.9 | | | 46.1 | | | 32.6 | |
| Approach LOS | | C | | | D | | | D | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 13.2 | 28.6 | 13.0 | 34.1 | 15.9 | 25.9 | 9.8 | 37.3 |
| Change Period (Y+Rc), s | 4.5 | 5.5 | 4.5 | 5.0 | 5.0 | 5.5 | 4.5 | 5.0 |
| Max Green Setting (Gmax), s | 9.1 | 31.9 | 8.5 | 31.0 | 11.0 | 29.5 | 8.9 | 30.6 |
| Max Q Clear Time (g_c+I1), s | 8.9 | 16.8 | 10.5 | 25.4 | 6.7 | 7.2 | 4.8 | 15.3 |
| Green Ext Time (p_c), s | 0.0 | 1.8 | 0.0 | 3.2 | 0.3 | 2.0 | 0.0 | 3.5 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 37.5 |
| HCM 6th LOS | D |

| Intersection | |
|---|---|
| Int Delay, s/veh | 1.5 |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Vol, veh/h | 0 | 84 | 802 | 0 | 42 | 403 |
| Future Vol, veh/h | 0 | 84 | 802 | 0 | 42 | 403 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | 150 | 50 | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 91 | 872 | 0 | 46 | 438 |

| Major/Minor | Minor1 | | Major1 | | Major2 | |
|---|---|---|---|---|---|---|
| Conflicting Flow All | 1402 | 872 | 0 | 0 | 872 | 0 |
| Stage 1 | 872 | - | - | - | - | - |
| Stage 2 | 530 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | - | - | 4.12 | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | - | - | 2.218 | - |
| Pot Cap-1 Maneuver | 154 | 350 | - | - | 773 | - |
| Stage 1 | 409 | - | - | - | - | - |
| Stage 2 | 590 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 145 | 350 | - | - | 773 | - |
| Mov Cap-2 Maneuver | 145 | - | - | - | - | - |
| Stage 1 | 384 | - | - | - | - | - |
| Stage 2 | 590 | - | - | - | - | - |

| Approach | WB | NB | SB |
|---|---|---|---|
| HCM Control Delay, s | 18.9 | 0 | 0.9 |
| HCM LOS | C | | |

| Minor Lane/Major Mvmt | NBT | NBR | WBLn1 | SBL | SBT |
|---|---|---|---|---|---|
| Capacity (veh/h) | - | - | 350 | 773 | - |
| HCM Lane V/C Ratio | - | - | 0.261 | 0.059 | - |
| HCM Control Delay (s) | - | - | 18.9 | 9.9 | - |
| HCM Lane LOS | - | - | C | A | - |
| HCM 95th %tile Q(veh) | - | - | 1 | 0.2 | - |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 8.9 |
| Intersection LOS | A |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 1 | 3 | 76 | 20 | 0 | 3 | 165 | 3 | 34 | 0 | 6 | 2 |
| Future Vol, veh/h | 1 | 3 | 76 | 20 | 0 | 3 | 165 | 3 | 34 | 0 | 6 | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 1 | 3 | 83 | 22 | 0 | 3 | 179 | 3 | 37 | 0 | 7 | 2 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 3 | 3 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 3 | 3 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 3 | 3 | 1 | 1 |
| HCM Control Delay | 7.7 | 8.5 | 9.4 | 7.6 |
| HCM LOS | A | A | A | A |

| Lane | NBLn1 | NBLn2 | NBLn3 | EBLn1 | WBLn1 | SBLn1 | SBLn2 | SBLn3 |
|---|---|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 1% | 87% | 0% | 0% | 0% |
| Vol Thru, % | 0% | 100% | 0% | 4% | 0% | 100% | 100% | 0% |
| Vol Right, % | 0% | 0% | 100% | 95% | 13% | 0% | 0% | 100% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 165 | 3 | 34 | 80 | 23 | 0 | 6 | 2 |
| LT Vol | 165 | 0 | 0 | 1 | 20 | 0 | 0 | 0 |
| Through Vol | 0 | 3 | 0 | 3 | 0 | 0 | 6 | 0 |
| RT Vol | 0 | 0 | 34 | 76 | 3 | 0 | 0 | 2 |
| Lane Flow Rate | 179 | 3 | 37 | 87 | 25 | 0 | 7 | 2 |
| Geometry Grp | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| Degree of Util (X) | 0.261 | 0.004 | 0.041 | 0.108 | 0.038 | 0 | 0.009 | 0.003 |
| Departure Headway (Hd) | 5.235 | 4.734 | 4.033 | 4.478 | 5.533 | 5.003 | 5.003 | 4.3 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 678 | 746 | 873 | 805 | 651 | 0 | 718 | 835 |
| Service Time | 3.03 | 2.529 | 1.827 | 2.179 | 3.237 | 2.717 | 2.717 | 2.014 |
| HCM Lane V/C Ratio | 0.264 | 0.004 | 0.042 | 0.108 | 0.038 | 0 | 0.01 | 0.002 |
| HCM Control Delay | 9.9 | 7.5 | 7 | 7.7 | 8.5 | 7.7 | 7.8 | 7 |
| HCM Lane LOS | A | A | A | A | A | N | A | A |
| HCM 95th-tile Q | 1 | 0 | 0.1 | 0.4 | 0.1 | 0 | 0 | 0 |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 20.8 |
| Intersection LOS | F |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 1 | 7 | 108 | 2 | 95 | 7 | 751 | 232 | 45 | 375 | 2 |
| Future Vol, veh/h | 0 | 1 | 7 | 108 | 2 | 95 | 7 | 751 | 232 | 45 | 375 | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 1 | 8 | 117 | 2 | 103 | 8 | 816 | 252 | 49 | 408 | 2 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay | 11.7 | 15.8 | 349.7 | 22 |
| HCM LOS | B | C | F | C |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 53% | 100% | 0% |
| Vol Thru, % | 0% | 76% | 12% | 1% | 0% | 99% |
| Vol Right, % | 0% | 24% | 88% | 46% | 0% | 1% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 7 | 983 | 8 | 205 | 45 | 377 |
| LT Vol | 7 | 0 | 0 | 108 | 45 | 0 |
| Through Vol | 0 | 751 | 1 | 2 | 0 | 375 |
| RT Vol | 0 | 232 | 7 | 95 | 0 | 2 |
| Lane Flow Rate | 8 | 1068 | 9 | 223 | 49 | 410 |
| Geometry Grp | 7 | 7 | 2 | 2 | 7 | 7 |
| Degree of Util (X) | 0.014 | 1.734 | 0.017 | 0.401 | 0.089 | 0.689 |
| Departure Headway (Hd) | 6.519 | 5.843 | 8.547 | 7.72 | 7.342 | 6.825 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 552 | 630 | 421 | 470 | 491 | 533 |
| Service Time | 4.219 | 3.543 | 6.547 | 5.72 | 5.042 | 4.525 |
| HCM Lane V/C Ratio | 0.014 | 1.695 | 0.021 | 0.474 | 0.1 | 0.769 |
| HCM Control Delay | 9.3 | 352.1 | 11.7 | 15.8 | 10.8 | 23.3 |
| HCM Lane LOS | A | F | B | C | B | C |
| HCM 95th-tile Q | 0 | 62.9 | 0.1 | 1.9 | 0.3 | 5.3 |

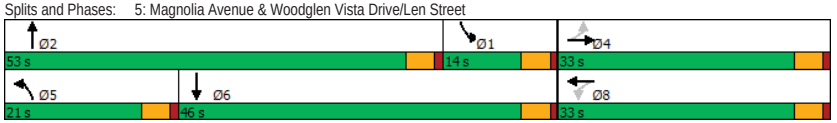




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 13 | 32 | 121 | 31 | 7 | 7 | 163 | 431 | 44 | 3 | 272 | 8 |
| Future Volume (vph) | 13 | 32 | 121 | 31 | 7 | 7 | 163 | 431 | 44 | 3 | 272 | 8 |
| Confl. Peds. (#/hr) | 4 | | 6 | 6 | | 4 | 8 | | | | | 8 |
| Confl. Bikes (#/hr) | | | 5 | | | 4 | | | 4 | | | 5 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Perm | NA | | Perm | NA | | Prot | NA | | Prot | NA | |
| Protected Phases | | 4 | | | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | | 8 | | | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 26.5 | 26.5 | | 26.5 | 26.5 | | 11.5 | 22.5 | | 11.5 | 22.5 | |
| Total Split (s) | 33.0 | 33.0 | | 33.0 | 33.0 | | 21.0 | 53.0 | | 14.0 | 46.0 | |
| Total Split (%) | 33.0% | 33.0% | | 33.0% | 33.0% | | 21.0% | 53.0% | | 14.0% | 46.0% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | | | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | Lead | Lead | | Lag | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 41.7 |
| Natural Cycle: 65 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 5: Magnolia Avenue & Woodglen Vista Drive/Len Street



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 13 | 32 | 121 | 31 | 7 | 7 | 163 | 431 | 44 | 3 | 272 | 8 |
| Future Volume (veh/h) | 13 | 32 | 121 | 31 | 7 | 7 | 163 | 431 | 44 | 3 | 272 | 8 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 0.99 | | 0.97 | 0.99 | | 0.98 | 1.00 | | 0.96 | 1.00 | | 0.95 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 14 | 35 | 132 | 34 | 8 | 8 | 177 | 468 | 48 | 3 | 296 | 9 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 536 | 70 | 264 | 283 | 66 | 33 | 297 | 940 | 96 | 189 | 806 | 24 |
| Arrive On Green | 0.21 | 0.21 | 0.21 | 0.21 | 0.21 | 0.21 | 0.17 | 0.29 | 0.29 | 0.11 | 0.23 | 0.23 |
| Sat Flow, veh/h | 1388 | 336 | 1267 | 506 | 317 | 157 | 1781 | 3241 | 331 | 1781 | 3516 | 107 |
| Grp Volume(v), veh/h | 14 | 0 | 167 | 50 | 0 | 0 | 177 | 256 | 260 | 3 | 149 | 156 |
| Grp Sat Flow(s),veh/h/ln | 1388 | 0 | 1603 | 979 | 0 | 0 | 1781 | 1777 | 1795 | 1781 | 1777 | 1845 |
| Q Serve(g_s), s | 0.0 | 0.0 | 3.1 | 0.1 | 0.0 | 0.0 | 3.1 | 4.1 | 4.1 | 0.1 | 2.4 | 2.4 |
| Cycle Q Clear(g_c), s | 0.2 | 0.0 | 3.1 | 3.2 | 0.0 | 0.0 | 3.1 | 4.1 | 4.1 | 0.1 | 2.4 | 2.4 |
| Prop In Lane | 1.00 | | 0.79 | 0.68 | | 0.16 | 1.00 | | 0.18 | 1.00 | | 0.06 |
| Lane Grp Cap(c), veh/h | 536 | 0 | 334 | 381 | 0 | 0 | 297 | 516 | 521 | 189 | 407 | 423 |
| V/C Ratio(X) | 0.03 | 0.00 | 0.50 | 0.13 | 0.00 | 0.00 | 0.60 | 0.50 | 0.50 | 0.02 | 0.37 | 0.37 |
| Avail Cap(c_a), veh/h | 1407 | 0 | 1339 | 1217 | 0 | 0 | 862 | 2526 | 2552 | 496 | 2161 | 2245 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 10.8 | 0.0 | 11.9 | 11.1 | 0.0 | 0.0 | 13.1 | 10.0 | 10.1 | 13.7 | 11.1 | 11.1 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 1.2 | 0.2 | 0.0 | 0.0 | 1.9 | 0.7 | 0.7 | 0.0 | 0.6 | 0.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.1 | 0.0 | 1.0 | 0.3 | 0.0 | 0.0 | 1.1 | 1.1 | 1.1 | 0.0 | 0.7 | 0.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 10.8 | 0.0 | 13.1 | 11.2 | 0.0 | 0.0 | 15.1 | 10.8 | 10.8 | 13.7 | 11.6 | 11.6 |
| LnGrp LOS | B | A | B | B | A | A | B | B | B | B | B | B |
| Approach Vol, veh/h | | 181 | | | 50 | | | 693 | | | 308 | |
| Approach Delay, s/veh | | 12.9 | | | 11.2 | | | 11.9 | | | 11.6 | |
| Approach LOS | | B | | | B | | | B | | | B | |

| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 8.1 | 14.4 | | 11.6 | 10.2 | 12.3 | | 11.6 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 9.5 | 48.5 | | 28.5 | 16.5 | 41.5 | | 28.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.1 | 6.1 | | 5.1 | 5.1 | 4.4 | | 5.2 | | | | |
| Green Ext Time (p_c), s | 0.0 | 3.1 | | 1.1 | 0.3 | 1.7 | | 0.2 | | | | |

| Intersection Summary | | | |
|---|---|---|---|
| HCM 6th Ctrl Delay | | | 11.9 |
| HCM 6th LOS | | | B |





| Intersection | |
|---|---|
| Intersection Delay, s/veh | 21.8 |
| Intersection LOS | F |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 1 | 1 | 5 | 99 | 8 | 170 | 13 | 827 | 106 | 87 | 411 | 0 |
| Future Vol, veh/h | 1 | 1 | 5 | 99 | 8 | 170 | 13 | 827 | 106 | 87 | 411 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 1 | 1 | 5 | 108 | 9 | 185 | 14 | 899 | 115 | 95 | 447 | 0 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |

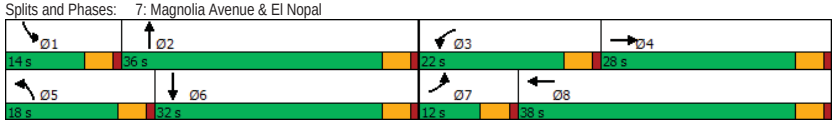
| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 2 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 2 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 2 | 2 | 1 | 1 |
| HCM Control Delay | 12.7 | 19.9 | 383.3 | 30.4 |
| HCM LOS | B | C | F | D |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 14% | 36% | 100% | 0% |
| Vol Thru, % | 0% | 89% | 14% | 3% | 0% | 100% |
| Vol Right, % | 0% | 11% | 71% | 61% | 0% | 0% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 13 | 933 | 7 | 277 | 87 | 411 |
| LT Vol | 13 | 0 | 1 | 99 | 87 | 0 |
| Through Vol | 0 | 827 | 1 | 8 | 0 | 411 |
| RT Vol | 0 | 106 | 5 | 170 | 0 | 0 |
| Lane Flow Rate | 14 | 1014 | 8 | 301 | 95 | 447 |
| Geometry Grp | 7 | 7 | 2 | 2 | 7 | 7 |
| Degree of Util (X) | 0.028 | 1.812 | 0.016 | 0.549 | 0.184 | 0.806 |
| Departure Headway (Hd) | 7.024 | 6.432 | 9.523 | 7.791 | 7.905 | 7.389 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 510 | 568 | 378 | 467 | 457 | 496 |
| Service Time | 4.759 | 4.167 | 7.523 | 5.791 | 5.605 | 5.089 |
| HCM Lane V/C Ratio | 0.027 | 1.785 | 0.021 | 0.645 | 0.208 | 0.901 |
| HCM Control Delay | 10 | 388.5 | 12.7 | 19.9 | 12.4 | 34.2 |
| HCM Lane LOS | A | F | B | C | B | D |
| HCM 95th-tile Q | 0.1 | 62.5 | 0 | 3.2 | 0.7 | 7.6 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 6 | 153 | 60 | 142 | 273 | 66 | 92 | 570 | 199 | 54 | 371 | 9 |
| Future Volume (vph) | 6 | 153 | 60 | 142 | 273 | 66 | 92 | 570 | 199 | 54 | 371 | 9 |
| Confl. Peds. (#/hr) | | | | | | | | | | | | |
| Confl. Bikes (#/hr) | | | 1 | | | 1 | | | 3 | | | 5 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | | Prot | NA | | Prot | NA | | Prot | NA | |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | | | | | | | | | | |
| Detector Phase | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | |
| Minimum Split (s) | 11.5 | 26.5 | | 11.5 | 25.5 | | 11.5 | 22.5 | | 11.5 | 22.5 | |
| Total Split (s) | 12.0 | 28.0 | | 22.0 | 38.0 | | 18.0 | 36.0 | | 14.0 | 32.0 | |
| Total Split (%) | 12.0% | 28.0% | | 22.0% | 38.0% | | 18.0% | 36.0% | | 14.0% | 32.0% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | Lead | Lag | | Lead | Lag | | Lead | Lag | | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes | |
| Recall Mode | None | None | | None | None | | None | Min | | None | Min | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 75 |
| Natural Cycle: 75 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 7: Magnolia Avenue & El Nopal








| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 6 | 153 | 60 | 142 | 273 | 66 | 92 | 570 | 199 | 54 | 371 | 9 |
| Future Volume (veh/h) | 6 | 153 | 60 | 142 | 273 | 66 | 92 | 570 | 199 | 54 | 371 | 9 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 7 | 166 | 65 | 154 | 297 | 72 | 100 | 620 | 216 | 59 | 403 | 10 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 23 | 226 | 88 | 201 | 402 | 97 | 171 | 846 | 294 | 131 | 1084 | 27 |
| Arrive On Green | 0.01 | 0.18 | 0.18 | 0.11 | 0.28 | 0.28 | 0.10 | 0.33 | 0.33 | 0.07 | 0.31 | 0.31 |
| Sat Flow, veh/h | 1781 | 1274 | 499 | 1781 | 1450 | 352 | 1781 | 2575 | 896 | 1781 | 3541 | 88 |
| Grp Volume(v), veh/h | 7 | 0 | 231 | 154 | 0 | 369 | 100 | 428 | 408 | 59 | 202 | 211 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1773 | 1781 | 0 | 1802 | 1781 | 1777 | 1694 | 1781 | 1777 | 1852 |
| Q Serve(g_s), s | 0.2 | 0.0 | 7.2 | 4.9 | 0.0 | 10.9 | 3.1 | 12.4 | 12.5 | 1.9 | 5.2 | 5.2 |
| Cycle Q Clear(g_c), s | 0.2 | 0.0 | 7.2 | 4.9 | 0.0 | 10.9 | 3.1 | 12.4 | 12.5 | 1.9 | 5.2 | 5.2 |
| Prop In Lane | 1.00 | | 0.28 | 1.00 | | 0.20 | 1.00 | | 0.53 | 1.00 | | 0.05 |
| Lane Grp Cap(c), veh/h | 23 | 0 | 314 | 201 | 0 | 499 | 171 | 584 | 557 | 131 | 544 | 567 |
| V/C Ratio(X) | 0.31 | 0.00 | 0.74 | 0.77 | 0.00 | 0.74 | 0.58 | 0.73 | 0.73 | 0.45 | 0.37 | 0.37 |
| Avail Cap(c_a), veh/h | 228 | 0 | 712 | 533 | 0 | 1032 | 411 | 957 | 912 | 289 | 835 | 871 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 28.6 | 0.0 | 22.8 | 25.2 | 0.0 | 19.2 | 25.3 | 17.4 | 17.4 | 26.0 | 15.9 | 15.9 |
| Incr Delay (d2), s/veh | 7.3 | 0.0 | 3.4 | 6.0 | 0.0 | 2.2 | 3.1 | 1.8 | 1.9 | 2.4 | 0.4 | 0.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.1 | 0.0 | 3.1 | 2.3 | 0.0 | 4.5 | 1.4 | 4.6 | 4.4 | 0.8 | 1.9 | 2.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 35.9 | 0.0 | 26.1 | 31.2 | 0.0 | 21.4 | 28.5 | 19.2 | 19.3 | 28.3 | 16.3 | 16.3 |
| LnGrp LOS | D | A | C | C | A | C | C | B | B | C | B | B |
| Approach Vol, veh/h | | 238 | | | 523 | | | 936 | | | 472 | |
| Approach Delay, s/veh | | 26.4 | | | 24.3 | | | 20.2 | | | 17.8 | |
| Approach LOS | | C | | | C | | | C | | | B | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 8.8 | 23.7 | 11.1 | 14.9 | 10.1 | 22.4 | 5.3 | 20.7 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 9.5 | 31.5 | 17.5 | 23.5 | 13.5 | 27.5 | 7.5 | 33.5 |
| Max Q Clear Time (g_c+I1), s | 3.9 | 14.5 | 6.9 | 9.2 | 5.1 | 7.2 | 2.2 | 12.9 |
| Green Ext Time (p_c), s | 0.0 | 4.7 | 0.3 | 1.1 | 0.1 | 2.1 | 0.0 | 2.4 |

| Intersection Summary | | |
|---|---|---|
| HCM 6th Ctrl Delay | | 21.3 |
| HCM 6th LOS | | C |

| Intersection | |
|---|---|
| Intersection Delay, s/veh | 183.7 |
| Intersection LOS | F |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 0 | 0 | 6 | 54 | 2 | 2 | 9 | 958 | 63 | 2 | 494 | 3 |
| Future Vol, veh/h | 0 | 0 | 6 | 54 | 2 | 2 | 9 | 958 | 63 | 2 | 494 | 3 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 0 | 7 | 59 | 2 | 2 | 10 | 1041 | 68 | 2 | 537 | 3 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|---|---|---|---|---|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 2 | 3 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 2 | 3 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 3 | 2 | 1 | 1 |
| HCM Control Delay | 10.8 | 13 | 255.9 | 56.5 |
| HCM LOS | B | B | F | F |

| Lane | NBLn1 | NBLn2 | NBLn3 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
|---|---|---|---|---|---|---|---|
| Vol Left, % | 100% | 0% | 0% | 0% | 93% | 100% | 0% |
| Vol Thru, % | 0% | 100% | 0% | 0% | 3% | 0% | 99% |
| Vol Right, % | 0% | 0% | 100% | 100% | 3% | 0% | 1% |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 9 | 958 | 63 | 6 | 58 | 2 | 497 |
| LT Vol | 9 | 0 | 0 | 0 | 54 | 2 | 0 |
| Through Vol | 0 | 958 | 0 | 0 | 2 | 0 | 494 |
| RT Vol | 0 | 0 | 63 | 6 | 2 | 0 | 3 |
| Lane Flow Rate | 10 | 1041 | 68 | 7 | 63 | 2 | 540 |
| Geometry Grp | 7 | 7 | 7 | 7 | 7 | 8 | 8 |
| Degree of Util (X) | 0.016 | 1.56 | 0.089 | 0.013 | 0.14 | 0.004 | 0.956 |
| Departure Headway (Hd) | 5.899 | 5.394 | 4.687 | 8.038 | 8.892 | 7.753 | 7.245 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 604 | 677 | 760 | 448 | 406 | 464 | 502 |
| Service Time | 3.657 | 3.151 | 2.444 | 5.738 | 6.592 | 5.453 | 4.945 |
| HCM Lane V/C Ratio | 0.017 | 1.538 | 0.089 | 0.016 | 0.155 | 0.004 | 1.076 |
| HCM Control Delay | 8.8 | 274.5 | 7.9 | 10.8 | 13 | 10.5 | 56.7 |
| HCM Lane LOS | A | F | A | B | B | B | F |
| HCM 95th-tile Q | 0 | 53.5 | 0.3 | 0 | 0.5 | 0 | 12.1 |





| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 80 | 20 | 925 | 156 | 28 | 609 |
| Future Volume (vph) | 80 | 20 | 925 | 156 | 28 | 609 |
| Confl. Peds. (#/hr) | | 8 | | 6 | | |
| Confl. Bikes (#/hr) | | | | 5 | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | 0% | | | 0% |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | Prot | Perm | NA | | Prot | NA |
| Protected Phases | 8 | | 2 | | 1 | 6 |
| Permitted Phases | | 8 | | | | |
| Detector Phase | 8 | 8 | 2 | | 1 | 6 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | | 8.5 | 20.5 |
| Total Split (s) | 22.6 | 22.6 | 28.4 | | 9.0 | 37.4 |
| Total Split (%) | 37.7% | 37.7% | 47.3% | | 15.0% | 62.3% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 |
| Lead/Lag | | | Lag | | Lead | |
| Lead-Lag Optimize? | | | Yes | | Yes | |
| Recall Mode | None | None | Min | | None | Min |

| Intersection Summary |
|---|
| Cycle Length: 60 |
| Actuated Cycle Length: 43.1 |
| Natural Cycle: 60 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 13: Magnolia Avenue & 2nd Street

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 80 | 20 | 925 | 156 | 28 | 609 |
| Future Volume (veh/h) | 80 | 20 | 925 | 156 | 28 | 609 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 | | 0.97 | 1.00 | |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | No | | | No |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 87 | 22 | 1005 | 170 | 30 | 662 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 135 | 120 | 1498 | 253 | 52 | 2337 |
| Arrive On Green | 0.08 | 0.08 | 0.50 | 0.50 | 0.03 | 0.66 |
| Sat Flow, veh/h | 1781 | 1585 | 3119 | 511 | 1781 | 3647 |
| Grp Volume(v), veh/h | 87 | 22 | 590 | 585 | 30 | 662 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 1777 | 1760 | 1781 | 1777 |
| Q Serve(g_s), s | 1.6 | 0.4 | 8.5 | 8.5 | 0.6 | 2.6 |
| Cycle Q Clear(g_c), s | 1.6 | 0.4 | 8.5 | 8.5 | 0.6 | 2.6 |
| Prop In Lane | 1.00 | 1.00 | | 0.29 | 1.00 | |
| Lane Grp Cap(c), veh/h | 135 | 120 | 880 | 871 | 52 | 2337 |
| V/C Ratio(X) | 0.64 | 0.18 | 0.67 | 0.67 | 0.58 | 0.28 |
| Avail Cap(c_a), veh/h | 955 | 850 | 1258 | 1246 | 237 | 3464 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 15.2 | 14.6 | 6.4 | 6.4 | 16.2 | 2.4 |
| Incr Delay (d2), s/veh | 5.0 | 0.7 | 0.9 | 0.9 | 9.8 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.7 | 0.2 | 1.4 | 1.4 | 0.3 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 20.2 | 15.3 | 7.3 | 7.4 | 26.0 | 2.5 |
| LnGrp LOS | C | B | A | A | C | A |
| Approach Vol, veh/h | 109 | | 1175 | | | 692 |
| Approach Delay, s/veh | 19.2 | | 7.3 | | | 3.5 |
| Approach LOS | B | | A | | | A |

| Timer - Assigned Phs | 1 | 2 | | | | 6 | 8 |
|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 5.5 | 21.2 | | | | 26.7 | 7.1 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 4.5 | 23.9 | | | | 32.9 | 18.1 |
| Max Q Clear Time (g_c+I1), s | 2.6 | 10.5 | | | | 4.6 | 3.6 |
| Green Ext Time (p_c), s | 0.0 | 6.2 | | | | 4.6 | 0.2 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 6.7 |
| HCM 6th LOS | A |

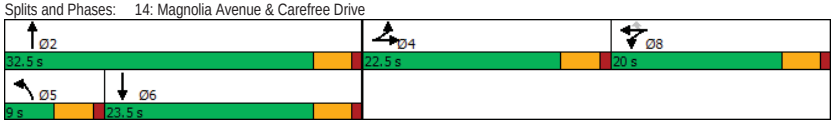




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 23 | 0 | 51 | 4 | 0 | 0 | 76 | 1060 | 0 | 0 | 653 | 16 |
| Future Volume (vph) | 23 | 0 | 51 | 4 | 0 | 0 | 76 | 1060 | 0 | 0 | 653 | 16 |
| Confl. Peds. (#/hr) | | | 22 | | | | | | 8 | | | 12 |
| Confl. Bikes (#/hr) | | | 4 | | | | | | | | | 6 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | 50% | | | | | | | | |
| Turn Type | Split | NA | | Split | NA | Perm | Prot | NA | | | NA | |
| Protected Phases | 4 | 4 | | 8 | 8 | | 5 | 2 | | | 6 | |
| Permitted Phases | | | | | | 8 | | | | | | |
| Detector Phase | 4 | 4 | | 8 | 8 | 8 | 5 | 2 | | | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | | 4.0 | |
| Minimum Split (s) | 22.5 | 22.5 | | 20.0 | 20.0 | 20.0 | 8.5 | 22.5 | | | 22.5 | |
| Total Split (s) | 22.5 | 22.5 | | 20.0 | 20.0 | 20.0 | 9.0 | 32.5 | | | 23.5 | |
| Total Split (%) | 30.0% | 30.0% | | 26.7% | 26.7% | 26.7% | 12.0% | 43.3% | | | 31.3% | |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | | 1.0 | |
| Lost Time Adjust (s) | | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | 0.0 | |
| Total Lost Time (s) | | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | | 4.5 | |
| Lead/Lag | | | | | | | Lead | | | | Lag | |
| Lead-Lag Optimize? | | | | | | | Yes | | | | Yes | |
| Recall Mode | None | None | | None | None | None | None | Min | | | Min | |

| Intersection Summary |
|---|
| Cycle Length: 75 |
| Actuated Cycle Length: 42.7 |
| Natural Cycle: 75 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 14: Magnolia Avenue & Carefree Drive



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 23 | 0 | 51 | 4 | 0 | 0 | 76 | 1060 | 0 | 0 | 653 | 16 |
| Future Volume (veh/h) | 23 | 0 | 51 | 4 | 0 | 0 | 76 | 1060 | 0 | 0 | 653 | 16 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.92 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.96 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 0 | 0 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 25 | 0 | 55 | 4 | 0 | 0 | 83 | 1152 | 0 | 0 | 710 | 17 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 0 | 0 | 2 | 2 |
| Cap, veh/h | 52 | 0 | 115 | 16 | 0 | 7 | 112 | 1819 | 0 | 0 | 1148 | 27 |
| Arrive On Green | 0.11 | 0.00 | 0.11 | 0.00 | 0.00 | 0.00 | 0.06 | 0.51 | 0.00 | 0.00 | 0.32 | 0.32 |
| Sat Flow, veh/h | 484 | 0 | 1065 | 3563 | 0 | 1585 | 1781 | 3647 | 0 | 0 | 3636 | 85 |
| Grp Volume(v), veh/h | 80 | 0 | 0 | 4 | 0 | 0 | 83 | 1152 | 0 | 0 | 356 | 371 |
| Grp Sat Flow(s),veh/h/ln | 1549 | 0 | 0 | 1781 | 0 | 1585 | 1781 | 1777 | 0 | 0 | 1777 | 1850 |
| Q Serve(g_s), s | 1.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.6 | 8.4 | 0.0 | 0.0 | 6.1 | 6.1 |
| Cycle Q Clear(g_c), s | 1.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.6 | 8.4 | 0.0 | 0.0 | 6.1 | 6.1 |
| Prop In Lane | 0.31 | | 0.69 | 1.00 | | 1.00 | 1.00 | | 0.00 | 0.00 | | 0.05 |
| Lane Grp Cap(c), veh/h | 168 | 0 | 0 | 16 | 0 | 7 | 112 | 1819 | 0 | 0 | 576 | 599 |
| V/C Ratio(X) | 0.48 | 0.00 | 0.00 | 0.26 | 0.00 | 0.00 | 0.74 | 0.63 | 0.00 | 0.00 | 0.62 | 0.62 |
| Avail Cap(c_a), veh/h | 776 | 0 | 0 | 1536 | 0 | 683 | 223 | 2768 | 0 | 0 | 939 | 978 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 15.1 | 0.0 | 0.0 | 17.8 | 0.0 | 0.0 | 16.6 | 6.3 | 0.0 | 0.0 | 10.3 | 10.3 |
| Incr Delay (d2), s/veh | 2.1 | 0.0 | 0.0 | 8.5 | 0.0 | 0.0 | 9.3 | 0.4 | 0.0 | 0.0 | 1.1 | 1.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.8 | 1.4 | 0.0 | 0.0 | 1.7 | 1.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 17.2 | 0.0 | 0.0 | 26.3 | 0.0 | 0.0 | 25.9 | 6.7 | 0.0 | 0.0 | 11.4 | 11.3 |
| LnGrp LOS | B | A | A | C | A | A | C | A | A | A | B | B |
| Approach Vol, veh/h | | 80 | | | 4 | | | 1235 | | | 727 | |
| Approach Delay, s/veh | | 17.2 | | | 26.3 | | | 8.0 | | | 11.3 | |
| Approach LOS | | B | | | C | | | A | | | B | |

| Timer - Assigned Phs | 2 | 4 | 5 | 6 | 8 |
|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 22.9 | 8.4 | 6.8 | 16.1 | 4.7 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 28.0 | 18.0 | 4.5 | 19.0 | 15.5 |
| Max Q Clear Time (g_c+I1), s | 10.4 | 3.7 | 3.6 | 8.1 | 2.0 |
| Green Ext Time (p_c), s | 7.5 | 0.3 | 0.0 | 3.2 | 0.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 9.6 |
| HCM 6th LOS | A |

**Notes**

User approved volume balancing among the lanes for turning movement.

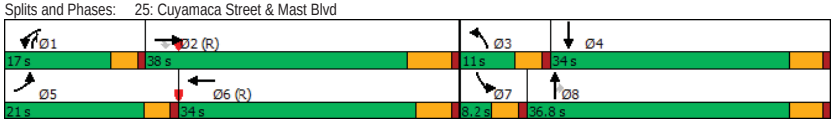




| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 329 | 633 | 254 | 302 | 281 | 67 | 238 | 646 | 415 | 37 | 372 | 185 |
| Future Volume (vph) | 329 | 633 | 254 | 302 | 281 | 67 | 238 | 646 | 415 | 37 | 372 | 185 |
| Confl. Peds. (#/hr) | | | 11 | | | 3 | | | | | | 3 |
| Confl. Bikes (#/hr) | | | 2 | | | 2 | | | | | | 1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | | Prot | NA | pm+ov | Prot | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | 1 | 7 | 4 | |
| Permitted Phases | | | 2 | | | | | | 8 | | | |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | | 3 | 8 | 1 | 7 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 4.0 | 10.0 | 10.0 | 4.0 | 10.0 | | 4.0 | 7.0 | 4.0 | 4.0 | 7.0 | |
| Minimum Split (s) | 8.2 | 34.3 | 34.3 | 8.2 | 32.3 | | 8.2 | 33.1 | 8.2 | 8.2 | 34.0 | |
| Total Split (s) | 21.0 | 38.0 | 38.0 | 17.0 | 34.0 | | 11.0 | 36.8 | 17.0 | 8.2 | 34.0 | |
| Total Split (%) | 21.0% | 38.0% | 38.0% | 17.0% | 34.0% | | 11.0% | 36.8% | 17.0% | 8.2% | 34.0% | |
| Yellow Time (s) | 3.2 | 5.3 | 5.3 | 3.2 | 4.3 | | 3.2 | 4.1 | 3.2 | 3.2 | 4.0 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.2 | 6.3 | 6.3 | 4.2 | 5.3 | | 4.2 | 5.1 | 4.2 | 4.2 | 5.0 | |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lead | Lead | Lag | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | |
| Recall Mode | None | C-Min | C-Min | None | C-Min | | None | None | None | None | None | |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 100 |
| Offset: 21 (21%), Referenced to phase 2:EBT and 6:WBT, Start of Green |
| Natural Cycle: 105 |
| Control Type: Actuated-Coordinated |

Splits and Phases: 25: Cuyamaca Street & Mast Blvd



Existing + Proj PM (No Magnolia)
25: Cuyamaca Street & Mast Blvd

Fanita Ranch
06/07/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 329 | 633 | 254 | 302 | 281 | 67 | 238 | 646 | 415 | 37 | 372 | 185 |
| Future Volume (veh/h) | 329 | 633 | 254 | 302 | 281 | 67 | 238 | 646 | 415 | 37 | 372 | 185 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 1.00 | 1.00 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 358 | 688 | 276 | 328 | 305 | 73 | 259 | 702 | 451 | 40 | 404 | 201 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 299 | 1296 | 565 | 394 | 884 | 208 | 235 | 1047 | 648 | 51 | 586 | 288 |
| Arrive On Green | 0.17 | 0.36 | 0.36 | 0.11 | 0.31 | 0.31 | 0.07 | 0.29 | 0.29 | 0.03 | 0.26 | 0.26 |
| Sat Flow, veh/h | 1781 | 3554 | 1550 | 3456 | 2844 | 669 | 3456 | 3554 | 1585 | 1781 | 2295 | 1127 |
| Grp Volume(v), veh/h | 358 | 688 | 276 | 328 | 189 | 189 | 259 | 702 | 451 | 40 | 311 | 294 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1777 | 1550 | 1728 | 1777 | 1737 | 1728 | 1777 | 1585 | 1781 | 1777 | 1645 |
| Q Serve(g_s), s | 16.8 | 15.2 | 13.8 | 9.3 | 8.2 | 8.4 | 6.8 | 17.4 | 23.5 | 2.2 | 15.8 | 16.2 |
| Cycle Q Clear(g_c), s | 16.8 | 15.2 | 13.8 | 9.3 | 8.2 | 8.4 | 6.8 | 17.4 | 23.5 | 2.2 | 15.8 | 16.2 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.39 | 1.00 | | 1.00 | 1.00 | | 0.68 |
| Lane Grp Cap(c), veh/h | 299 | 1296 | 565 | 394 | 552 | 540 | 235 | 1047 | 648 | 51 | 453 | 420 |
| V/C Ratio(X) | 1.20 | 0.53 | 0.49 | 0.83 | 0.34 | 0.35 | 1.10 | 0.67 | 0.70 | 0.79 | 0.69 | 0.70 |
| Avail Cap(c_a), veh/h | 299 | 1296 | 565 | 442 | 552 | 540 | 235 | 1127 | 683 | 71 | 515 | 477 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 0.98 | 0.98 | 0.98 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 41.6 | 25.0 | 24.5 | 43.4 | 26.6 | 26.7 | 46.6 | 31.0 | 24.4 | 48.3 | 33.6 | 33.8 |
| Incr Delay (d2), s/veh | 116.2 | 1.6 | 3.0 | 10.3 | 1.6 | 1.8 | 88.8 | 1.7 | 3.3 | 21.2 | 4.1 | 4.8 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 16.8 | 6.4 | 5.3 | 4.4 | 3.6 | 3.6 | 5.8 | 7.5 | 9.0 | 1.3 | 7.1 | 6.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 157.8 | 26.6 | 27.5 | 53.6 | 28.2 | 28.4 | 135.4 | 32.6 | 27.7 | 69.5 | 37.7 | 38.5 |
| LnGrp LOS | F | C | C | D | C | C | F | C | C | E | D | D |
| Approach Vol, veh/h | | 1322 | | | 706 | | | 1412 | | | 645 | |
| Approach Delay, s/veh | | 62.3 | | | 40.1 | | | 49.9 | | | 40.0 | |
| Approach LOS | | E | | | D | | | D | | | D | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 15.6 | 42.8 | 11.0 | 30.6 | 21.0 | 37.4 | 7.0 | 34.6 |
| Change Period (Y+Rc), s | * 4.2 | 6.3 | * 4.2 | * 5.1 | * 4.2 | * 6.3 | * 4.2 | 5.1 |
| Max Green Setting (Gmax), s | * 13 | 31.7 | * 6.8 | * 29 | * 17 | * 29 | * 4 | 31.7 |
| Max Q Clear Time (g_c+I1), s | 11.3 | 17.2 | 8.8 | 18.2 | 18.8 | 10.4 | 4.2 | 25.5 |
| Green Ext Time (p_c), s | 0.1 | 6.5 | 0.0 | 3.9 | 0.0 | 2.5 | 0.0 | 4.0 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 50.7 |
| HCM 6th LOS | D |

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Existing + Proj PM (No Magnolia)
26: Park Center Drive & Mast Blvd

Fanita Ranch
06/07/2019

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 1001 | 28 | 103 | 633 | 16 | 117 |
| Future Volume (vph) | 1001 | 28 | 103 | 633 | 16 | 117 |
| Confl. Peds. (#/hr) | | 12 | | | | 20 |
| Confl. Bikes (#/hr) | | 4 | | | | 8 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | |
| Mid-Block Traffic (%) | 0% | | | 0% | 0% | |
| Shared Lane Traffic (%) | | | | | | |
| Turn Type | NA | | Prot | NA | Prot | Perm |
| Protected Phases | 2 | | 1 | 6 | 8 | |
| Permitted Phases | | | | | | 8 |
| Detector Phase | 2 | | 1 | 6 | 8 | 8 |
| Switch Phase | | | | | | |
| Minimum Initial (s) | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 |
| Minimum Split (s) | 22.5 | | 8.5 | 20.5 | 22.5 | 22.5 |
| Total Split (s) | 55.0 | | 20.0 | 75.0 | 25.0 | 25.0 |
| Total Split (%) | 55.0% | | 20.0% | 75.0% | 25.0% | 25.0% |
| Yellow Time (s) | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lag | | Lead | | | |
| Lead-Lag Optimize? | Yes | | Yes | | | |
| Recall Mode | Min | | None | Min | None | None |

| Intersection Summary |
|---|
| Cycle Length: 100 |
| Actuated Cycle Length: 58 |
| Natural Cycle: 60 |
| Control Type: Semi Act-Uncoord |

Splits and Phases: 26: Park Center Drive & Mast Blvd

Existing + Proj PM (No Magnolia)
26: Park Center Drive & Mast Blvd

Fanita Ranch
06/07/2019

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 1001 | 28 | 103 | 633 | 16 | 117 |
| Future Volume (veh/h) | 1001 | 28 | 103 | 633 | 16 | 117 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | | 0.96 | 1.00 | | 1.00 | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No | | | No | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 1088 | 30 | 112 | 688 | 17 | 127 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 1705 | 47 | 147 | 2397 | 194 | 172 |
| Arrive On Green | 0.48 | 0.48 | 0.08 | 0.67 | 0.11 | 0.11 |
| Sat Flow, veh/h | 3622 | 97 | 1781 | 3647 | 1781 | 1585 |
| Grp Volume(v), veh/h | 548 | 570 | 112 | 688 | 17 | 127 |
| Grp Sat Flow(s),veh/h/ln | 1777 | 1849 | 1781 | 1777 | 1781 | 1585 |
| Q Serve(g_s), s | 9.6 | 9.6 | 2.6 | 3.2 | 0.4 | 3.2 |
| Cycle Q Clear(g_c), s | 9.6 | 9.6 | 2.6 | 3.2 | 0.4 | 3.2 |
| Prop In Lane | | 0.05 | 1.00 | | 1.00 | 1.00 |
| Lane Grp Cap(c), veh/h | 859 | 894 | 147 | 2397 | 194 | 172 |
| V/C Ratio(X) | 0.64 | 0.64 | 0.76 | 0.29 | 0.09 | 0.74 |
| Avail Cap(c_a), veh/h | 2163 | 2250 | 665 | 6038 | 880 | 783 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 8.0 | 8.0 | 18.6 | 2.7 | 16.6 | 17.9 |
| Incr Delay (d2), s/veh | 0.8 | 0.8 | 7.8 | 0.1 | 0.2 | 6.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.3 | 2.4 | 1.2 | 0.2 | 0.1 | 1.3 |
| Unsig. Movement Delay, s/veh | | | | | | |
| LnGrp Delay(d),s/veh | 8.8 | 8.8 | 26.5 | 2.8 | 16.8 | 24.0 |
| LnGrp LOS | A | A | C | A | B | C |
| Approach Vol, veh/h | 1118 | | | 800 | 144 | |
| Approach Delay, s/veh | 8.8 | | | 6.1 | 23.1 | |
| Approach LOS | A | | | A | C | |

| Timer - Assigned Phs | 1 | 2 | | | | 6 | 8 |
|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 7.9 | 24.6 | | | | 32.5 | 9.0 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | | | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 15.5 | 50.5 | | | | 70.5 | 20.5 |
| Max Q Clear Time (g_c+I1), s | 4.6 | 11.6 | | | | 5.2 | 5.2 |
| Green Ext Time (p_c), s | 0.2 | 8.5 | | | | 5.1 | 0.3 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 8.7 |
| HCM 6th LOS | A |

HCM 6th Signalized Intersection Summary
N:\2462\Analysis\Intersections\Synchro\No Magnolia\4 Existing + Proj PM.syn

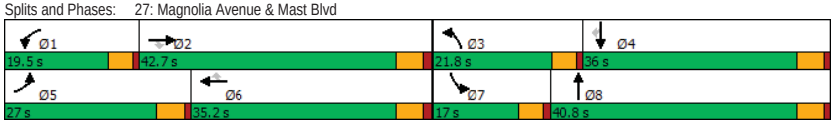
Existing + Proj PM (No Magnolia)
27: Magnolia Avenue & Mast Blvd

Fanita Ranch
06/07/2019

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 400 | 239 | 273 | 102 | 133 | 27 | 336 | 659 | 100 | 81 | 474 | 215 |
| Future Volume (vph) | 400 | 239 | 273 | 102 | 133 | 27 | 336 | 659 | 100 | 81 | 474 | 215 |
| Confl. Peds. (#/hr) | | | 14 | | | 20 | | | 3 | | | 24 |
| Confl. Bikes (#/hr) | | | 1 | | | 4 | | | 2 | | | 6 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Growth Factor | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Heavy Vehicles (%) | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| Bus Blockages (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parking (#/hr) | | | | | | | | | | | | |
| Mid-Block Traffic (%) | | 0% | | | 0% | | | 0% | | | 0% | |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 5 | 2 | | 1 | 6 | | 3 | 8 | | 7 | 4 | |
| Permitted Phases | | | 2 | | | 6 | | | | | | 4 |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 3 | 8 | | 7 | 4 | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 11.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 9.0 | | 7.0 | 9.0 | 9.0 |
| Minimum Split (s) | 16.0 | 34.5 | 34.5 | 11.5 | 34.5 | 34.5 | 11.5 | 35.0 | | 11.5 | 36.0 | 36.0 |
| Total Split (s) | 27.0 | 42.7 | 42.7 | 19.5 | 35.2 | 35.2 | 21.8 | 40.8 | | 17.0 | 36.0 | 36.0 |
| Total Split (%) | 22.5% | 35.6% | 35.6% | 16.3% | 29.3% | 29.3% | 18.2% | 34.0% | | 14.2% | 30.0% | 30.0% |
| Yellow Time (s) | 4.0 | 4.0 | 4.0 | 3.5 | 4.0 | 4.0 | 3.5 | 4.0 | | 3.5 | 4.0 | 4.0 |
| All-Red Time (s) | 1.0 | 1.5 | 1.5 | 1.0 | 1.5 | 1.5 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 5.0 | 5.5 | 5.5 | 4.5 | 5.5 | 5.5 | 4.5 | 5.0 | | 4.5 | 5.0 | 5.0 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | Min | Min | None | Min | Min | None | Min | | None | Min | Min |

| Intersection Summary |
|---|
| Cycle Length: 120 |
| Actuated Cycle Length: 84 |
| Natural Cycle: 100 |
| Control Type: Actuated-Uncoordinated |

Splits and Phases: 27: Magnolia Avenue & Mast Blvd




Timings
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Existing + Proj PM (No Magnolia) — Fanita Ranch

27: Magnolia Avenue & Mast Blvd — 06/07/2019

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 400 | 239 | 273 | 102 | 133 | 27 | 336 | 659 | 100 | 81 | 474 | 215 |
| Future Volume (veh/h) | 400 | 239 | 273 | 102 | 133 | 27 | 336 | 659 | 100 | 81 | 474 | 215 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.97 | 1.00 | | 0.95 | 1.00 | | 0.98 | 1.00 | | 0.96 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 435 | 260 | 297 | 111 | 145 | 29 | 365 | 716 | 109 | 88 | 515 | 234 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 568 | 992 | 430 | 145 | 674 | 287 | 461 | 973 | 148 | 135 | 917 | 391 |
| Arrive On Green | 0.16 | 0.28 | 0.28 | 0.08 | 0.19 | 0.19 | 0.13 | 0.32 | 0.32 | 0.08 | 0.26 | 0.26 |
| Sat Flow, veh/h | 3456 | 3554 | 1541 | 1781 | 3554 | 1510 | 3456 | 3084 | 469 | 1781 | 3554 | 1515 |
| Grp Volume(v), veh/h | 435 | 260 | 297 | 111 | 145 | 29 | 365 | 412 | 413 | 88 | 515 | 234 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1541 | 1781 | 1777 | 1510 | 1728 | 1777 | 1777 | 1781 | 1777 | 1515 |
| Q Serve(g_s), s | 9.5 | 4.5 | 13.5 | 4.8 | 2.7 | 1.2 | 8.0 | 16.3 | 16.3 | 3.8 | 9.9 | 10.6 |
| Cycle Q Clear(g_c), s | 9.5 | 4.5 | 13.5 | 4.8 | 2.7 | 1.2 | 8.0 | 16.3 | 16.3 | 3.8 | 9.9 | 10.6 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.26 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 568 | 992 | 430 | 145 | 674 | 287 | 461 | 560 | 560 | 135 | 917 | 391 |
| V/C Ratio(X) | 0.77 | 0.26 | 0.69 | 0.77 | 0.21 | 0.10 | 0.79 | 0.74 | 0.74 | 0.65 | 0.56 | 0.60 |
| Avail Cap(c_a), veh/h | 968 | 1682 | 730 | 340 | 1343 | 571 | 761 | 810 | 810 | 283 | 1402 | 598 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 31.4 | 22.0 | 25.3 | 35.4 | 26.9 | 26.3 | 33.0 | 24.0 | 24.0 | 35.3 | 25.3 | 25.6 |
| Incr Delay (d2), s/veh | 2.6 | 0.2 | 2.4 | 3.2 | 0.2 | 0.2 | 1.2 | 2.0 | 2.0 | 2.0 | 0.5 | 1.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 3.9 | 1.8 | 4.8 | 2.1 | 1.1 | 0.4 | 3.3 | 6.5 | 6.6 | 1.6 | 3.9 | 3.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 34.0 | 22.2 | 27.7 | 38.6 | 27.1 | 26.5 | 34.2 | 26.0 | 26.0 | 37.2 | 25.8 | 27.0 |
| LnGrp LOS | C | C | C | D | C | C | C | C | C | D | C | C |
| Approach Vol, veh/h | | 992 | | | 285 | | | 1190 | | | 837 | |
| Approach Delay, s/veh | | 29.0 | | | 31.5 | | | 28.5 | | | 27.4 | |
| Approach LOS | | C | | | C | | | C | | | C | |

| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Phs Duration (G+Y+Rc), s | 10.9 | 27.4 | 15.0 | 25.3 | 17.9 | 20.4 | 10.5 | 29.8 |
| Change Period (Y+Rc), s | 4.5 | 5.5 | 4.5 | 5.0 | 5.0 | 5.5 | 4.5 | 5.0 |
| Max Green Setting (Gmax), s | 15.0 | 37.2 | 17.3 | 31.0 | 22.0 | 29.7 | 12.5 | 35.8 |
| Max Q Clear Time (g_c+I1), s | 6.8 | 15.5 | 10.0 | 12.6 | 11.5 | 4.7 | 5.8 | 18.3 |
| Green Ext Time (p_c), s | 0.1 | 3.2 | 0.4 | 3.9 | 1.4 | 1.1 | 0.0 | 4.6 |

| Intersection Summary | |
|---|---|
| HCM 6th Ctrl Delay | 28.6 |
| HCM 6th LOS | C |

HCM 6th Signalized Intersection Summary

N:\2462\Analysis\Intersections\Synchro\No Magnolia\4 Existing + Proj PM.syn

# APPENDIX Z

## STATE ROUTE 52 PROJECT STUDY REPORT – PROJECT DEVELOPMENT SUPPORT – JANUARY 2020

11-SD-52-PM 7.4/PM 14.9
43012 – 1117000177 - 1351
Private Funding
January 2020

# Project Study Report-Project Development Support (PSR-PDS)

## Request Approval of a Locally Funded Project to proceed to PA&ED Phase

On Route SR-52

Between I-15

And Mission Gorge Road Undercrossing

SUBMITTED BY:

Michael Crull, NCM Engineering Corporation
Consultant Design Manager

CONCURRED BY:

Jeff O'Connor, HomeFed Corporation
Project Sponsor, Accepts risks identified in this PSR-PDS and attached risk register

CONCURRED BY:

Bruce April, Deputy District Director, Environmental

APPROVAL RECOMMENDED:

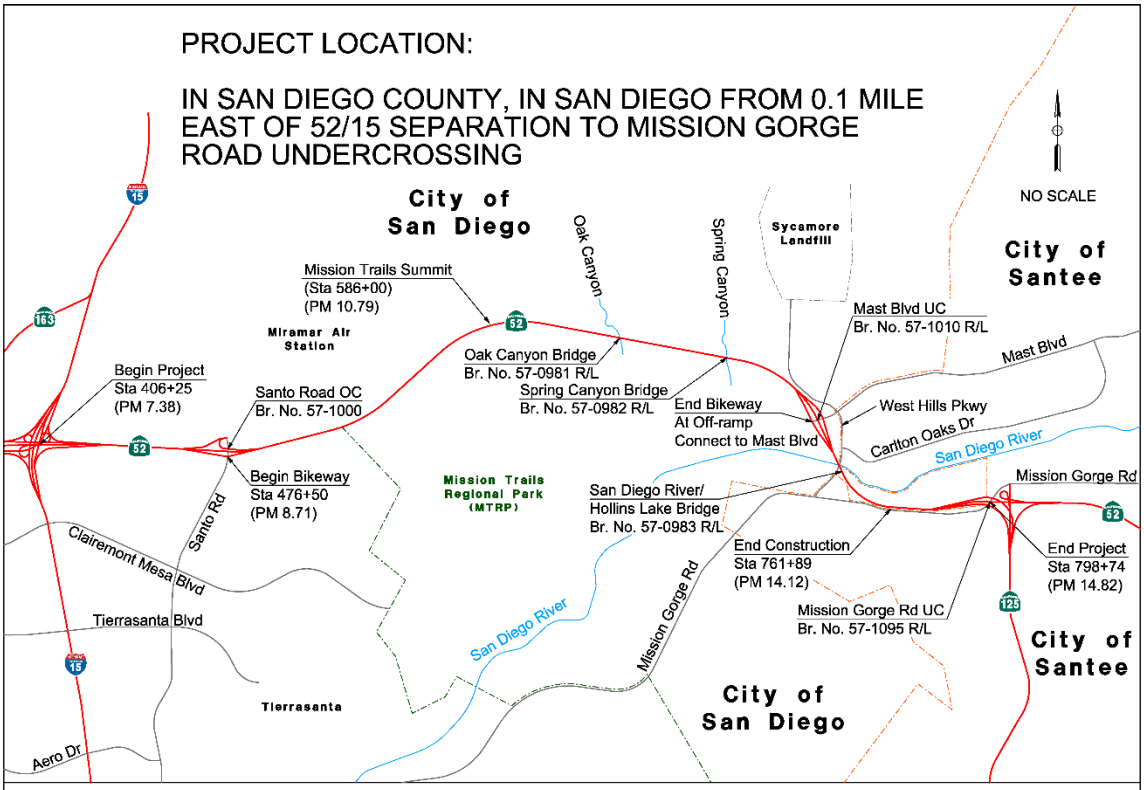
Brooke Emery, Project Manager

APPROVAL RECOMMENDED:

Karen Jewel, SR-52 Corridor Project Director

APPROVED:

Gustavo Dallarda, District Director (Acting) *Date*




# SR-52 OPERATIONAL IMPROVEMENTS PROJECT

## VICINITY MAP

This project study report-project development support has been prepared under the direction of the following registered civil engineer. The registered civil engineer attests to the technical information contained herein and the engineering data upon which recommendations, conclusions, and decisions are based.

January 23, 2020

**NICHOLAS HAIGH, P.E.** *DATE*
*REGISTERED CIVIL ENGINEER*

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# 1. INTRODUCTION

State Route 52 (SR-52) is a major east-west freeway providing East County San Diego communities with access to and from the City of San Diego and locations north and south. Current levels of congestion in the AM and PM peak periods affect the reliability of service on this freeway and delay travel times. Heavy congestion on SR-52 has a ripple effect on surrounding roadways, degrading conditions and increasing overall congestion in the region. Future traffic projections indicate that these conditions will worsen unless improvements are implemented on SR-52.

The project limits are from the Mission Gorge Road Undercrossing at SR-52 to SR-52 at the I-15 connector and includes the SR-52/Mast Boulevard Interchange. The two build alternatives generally include converting the existing westbound freeway shoulder into a truck-climbing lane/auxiliary lane, and converting the existing concrete barrier separated two-way bike path to the westbound freeway shoulder. Both alternatives are capacity increasing and will improve freeway operations along SR-52.

A Class IV Bikeway (Separated Bikeway) facility will be constructed on the eastbound side of the freeway to replace the existing two-way bike path. Over the existing Oak Canyon and Spring Canyon Bridges, the separated bikeway will be cantilevered from the bridge deck.

At the SR-52/Mast Boulevard interchange, ramp improvements and freeway restriping are proposed to improve freeway operations in the westbound and eastbound directions. Freeway restriping would include the eastbound San Diego River Bridge where the number of lanes would be increased from two to three lanes.

The build alternatives also include the addition of an auxiliary lane along eastbound SR-52 between Interstate 15 (I-15) and Santo Road. The proposed auxiliary lane begins at the connector from southbound I-15 onto eastbound SR-52 and ends at the off-ramp from eastbound SR-52 to Santo Road. An additional segment of new lane will also be constructed on westbound SR-52 between the off- and on-ramps of Santo Road to allow for through movements. Constructing this lane segment will require a retaining wall beneath the Santo Road Overcrossing.

The second build alternative will include restriping the westbound San Diego River Bridge to three lanes. In this configuration, the lane drop west of the SR-52/Mission Gorge Road interchange will be removed, and the three existing mainline lanes at the SR-52/Mission Gorge Road interchange will be extended to connect to the SR-52/ Mast Boulevard interchange, where the proposed truck-climbing lane will begin.

| | |
|---|---|
| **Project Limits** | 11-SD-52<br>PM 7.4/PM 14.9 |
| **Number of Alternatives** | 3 |
| **Programmable Project Alternative** | Alternative 2: Base Project<br>Alternative 3: Phased Project |
| **Capital Outlay Support Estimate for PA&ED, PS&E and Construction** | Alternative 2: $12.8 M (escalated)*<br>Alternative 3: $13.4 M (escalated)* |
| **Capital Outlay Construction Cost Range** | Alternative 2: $30.7-$34.4 M (current to escalated)*<br>Alternative 3: $32.5-$36.4 M (current to escalated)* |
| **Capital Outlay Right-of-Way Cost Range** | $0 M |
| **Activity Category** | Freeway Improvements |
| **Funding Source** | Mix of private, federal, state, and local funding |
| **Type of Facility** | 4-6 Lane Freeway |
| **Number of Structures** | 4 |
| **Anticipated Environmental Determination or Document** | Initial Study with proposed Negative Declaration (ND) or Mitigated ND and Complex Environmental Assessment with proposed Finding of No Significant Impact |
| **Legal Description** | In San Diego County, in San Diego from 0.1 mile east of 52/15 separation to Mission Gorge Road Undercrossing |
| **Project Development Category** | 4A |

**Please note*: Costs are escalated at 4.2% annually to December 2021, the mid-point of the estimated construction schedule.

The remaining support, right of way and construction components of the project are preliminary estimates and are not suitable for programming purposes. It is anticipated that funding for the Project Approval/Environmental Document (PA&ED), final design, and construction phases will be a combination of developer contributions and grants from federal, state and/or local agencies and programs. If the project is included in a future FTIP, a Supplemental PSR or Project Report could serve as the programming document for the remaining support and capital components of the project. A Project Report will serve as approval of the "selected" alternative.

## 2. BACKGROUND

SR-52 is a regionally significant east-west freeway with termini at its junctions with Interstate 5 (I-5) to the west and State Route 67 to the east and includes intermediate connections to I-15, SR-163 and I-805. SR-52 is approximately 17 miles in length and generally comprised of four to six general purpose lanes including auxiliary lanes to facilitate traffic entering and exiting the freeway. A concrete barrier-separated,

two-way bike path is included on the north side of SR-52 between Mast Boulevard and Santo Road. Within the study limits, the profile of SR-52 is defined by the Mission Trails Summit that limits the speed of heavy trucks on the ascent.

The project initiation and approval document (PSR-PDS) is sponsored by a private developer, HomeFed Corporation, who is working in close coordination with the California Department of Transportation, District 11 (Caltrans). It is anticipated that funding for the Project Approval/Environmental Document (PA&ED), final design, and construction phases will be a combination of developer contributions and grants from federal, state and/or local agencies and programs.

Local agency involvement includes the City of Santee who sponsored the SR-52 Corridor Study in 2016 to explore potential solutions to address congestion issues on SR-52. The Technical Working Group for that Study included the cities of El Cajon, La Mesa, San Diego, and Santee. Regional agency involvement included Caltrans, San Diego Association of Governments (SANDAG), and San Diego Metropolitan Transit System (MTS).

The proposed project has not previously been programmed or funded. Funding for future phases beyond the PA&ED will be determined in the next phase.

Context-Sensitive Solutions

Caltrans encourages and uses context-sensitive solutions in transportation policy, planning, and design. A context-sensitive solution is an approach to the development of transportation facilities that considers, maintains, and enhances the physical setting and community's scenic, aesthetic, historic, and environmental resources while maintaining safety and mobility. The concept of context-sensitive solutions overlaps with the concept of complete streets, which encourages the development of transportation facilities that maintain and enhance the safety and mobility of all users and modes of transportation. As with the development of complete streets, the development of context-sensitive solutions involves all stakeholders in the community.

Caltrans' policies on context-sensitive solutions include the Director's Policy on Context Sensitive Solutions (DP-22) and the Deputy Directive on Accommodating Non-Motorized Travel (DD-64-R2). DP-22 states that it is the policy of Caltrans to develop context-sensitive solutions for all its facilities. DD-64-R2 directs the use of complete streets concepts in the development of transportation facilities. Thus, the application of both complete streets concepts and context-sensitive solutions is the standard for all transportation facilities.

*Context*

The context for this project includes the predominance of open space adjacent to the facility (Mission Trails Regional Park and MCAS Miramar), the primary use of the facility as a local connector for daily commuters and regional commerce,

and the impact of the facility's operational deficiencies on businesses and residents in East County.

The existing bicycle route adjacent to the shoulder of the freeway is a unique segment of the County's network, defined by the absence of intermediate destinations or connections for 4.6 miles and by its scenic views of the open space between Santo Road and Mast Boulevard.

*Scenic and Aesthetic Resources*

Between PM 9.5 and PM 13.0, SR-52 is designated by Caltrans as a State Scenic Highway. Its qualifying features include the open space of Mission Trails Regional Park, the Mission Trails Summit, Spring Canyon, Sycamore Canyon, and the unique views of riparian woodlands and coastal sage and chaparral environments, which highlight San Diego's diverse natural habitats.

*Environmental Resources*

Environmental resources from the project's adjacent natural habitats include sensitive bird species and vernal pools. Studies performed during the PA&ED will determine what biological resources exist specifically within the project limits, Spring Canyon, and Sycamore Canyon, and the extent to which they may be impacted.

*Historic Resources*

Archaeological, paleontological, and cultural resources are an important part of the project's context, especially given the expanse of adjacent open area preserved by the Mission Trails Regional Park. The Kumeyaay are the local indigenous population that historically inhabited the region surrounding the project study area, and archaeological and cultural resources from their inhabitance exist within the region. There is potential to encounter these resources within the project area as well. Furthermore, there is a high potential for the presence of paleontological resources within the project limits; however, the limited amount of grading and earthwork proposed by the alternatives reduces the chance for negative impacts. Appropriate studies will be performed during the PA&ED to ensure these various resources are identified and protected.

*Solutions*

The project is focused on addressing the needs of the community by implementing operational improvements that will reduce congestion, preserve environmental, scenic, and historic resources, and enhance mobility for both motorists and non-motorized travelers.

## 3. PURPOSE AND NEED

Purpose:

The purpose of the project is to improve traffic operations and reduce congestion on State Route 52 from I-15 to the Mission Gorge Road Undercrossing, including the SR-52/Mast Boulevard Interchange, and to reduce congestion at bottleneck locations. The project includes the objectives of enhancing multi-modal efforts, such as mobility of bicyclists, and minimizing environmental impacts to the extent practicable.

Need:

The need for the project is due to the substantial delays experienced by peak hour motorists travelling on SR-52 between I-15 and the Mission Gorge Road Undercrossing due to operational deficiencies.

## 4. TRAFFIC ENGINEERING STUDIES

The purpose of the traffic engineering performance assessment (TEPA) is to perform a high-level analysis of readily available traffic data that summarizes the operational performance of the existing facility. The findings and recommendations in the Final TEPA, dated December 17, 2019, support the purpose-and-need statement and the scope of the proposed alternatives. These findings can also be found in this section.

Peak Hour Level of Service (LOS)

Level of Service (LOS) was used in the traffic analysis as a quantitative and qualitative description of the severity of congestion.

**Table 4-1** below summarizes the freeway segment level of service definitions.

**Table 4-1: Caltrans District 11 - Freeway Segment Level of Service Definitions**

| LOS | V/C | Congestion / Delay | Traffic Description |
|---|---|---|---|
| **Used for Freeways, Expressways and Conventional Highways** | | | |
| A | <0.41 | None | Free flow |
| B | 0.42-0.62 | None | Free to stable flow, light to moderate volumes. |
| C | 0.63-0.80 | None to minimal | Stable flow, moderate volumes, freedom to maneuver noticeably restricted. |
| D | 0.81-0.92 | Minimal to substantial | Approaches unstable flow, heavy volumes, very limited freedom to maneuver. |
| E | 0.93-1.00 | Significant | Extremely unstable flow, maneuverability and psychological comfort extremely poor. |
| **Used for Freeways and Expressways** | | | |
| F(0) | 1.01-1.25 | Considerable 0-1 hour delay | Forces flow, heavy congestion, long queues form behind breakdown points, stop and go. |
| F(1) | 1.26-1.35 | Severe 1-2 hour delay | Very heavy congestion, very long queues. |
| F(2) | 1.36-1.45 | Very Severe 2-3 hour delay | Extremely heavy congestion, longer queues, more numerous breakdown points, longer stop period. |
| F(3) | >1.46 | Extremely Severe: 3+ hours of delay | Gridlock |

*Source: Traffic Engineering Performance Assessment (TEPA), December 17, 2019*

The procedure for calculating freeway LOS involves the estimation of volume to capacity (V/C) ratio using the following equation:

$$V/C = \frac{\text{(Daily Volume * Peak Hour Percent * Directional Factor * Truck Factor)}}{\text{Capacity}}$$

Notes:

a. Daily Volume = Annual Average Daily Traffic (AADT)
b. Peak Hour Percent = Percentage of ADT occurring during the peak hour.
c. Directional Factor = Percentage of peak hour traffic occurring in peak direction.
d. Truck Factor = Truck/terrain factor to represent influence of heavy vehicles & grades.
e. Capacity = 2,000 vehicles/lane/hour/lane for mainline, and 1,200 for auxiliary lanes.

Peak Hour Freeway Mainline Segment Levels of Service

**Table 4-2** below shows a summary of the existing freeway mainline operations for the three (3) eastbound segments and three (3) westbound segments in the SR-52 study area.

**Table 4-2: Existing Freeway Mainline Operations**

| Freeway Segment | Dir | # of lanes [a] | Volumes [b] | Peak Hour Volume | | V/C [c] | | LOS [d] | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | AM | PM | AM | PM | AM | PM |
| **State Route 52** | | | | | | | | | |
| I-15 to Santo Road | EB | 3M | 98,000 | 2,288 | 5,758 | 0.381 | 0.960 | A | **E** |
| | WB | 3M+1A | | 6,767 | 3,036 | 0.940 | 0.422 | **E** | B |
| Santo Road to Mast Boulevard | EB | 3M | 94,000 | 2,064 | 5,793 | 0.344 | 0.965 | A | **E** |
| | WB | 3M | | 6,168 | 2,527 | 1.028 | 0.421 | **F** | B |
| Mast Boulevard to SR-125 | EB | 2M | 82,000 | 1,357 | 4,838 | 0.339 | 1.210 | A | **F** |
| | WB | 2M | | 4,284 | 2,309 | 1.071 | 0.577 | **F** | B |

*Source: Traffic Engineering Performance Assessment (TEPA), December 17, 2019*

Footnotes:

a. Lane geometry taken from PeMS lane configurations at corresponding postmile.
b. Source: Caltrans Traffic Census Program, 2015
c. V/C = (Peak Hour Volume/Hourly Capacity)
d. LOS = Level of Service

General Note:

1. M = Mainline
2. A = Auxiliary
3. **BOLD** and shaded text indicates freeway mainline operates at LOS E or F during given peak hour

The table above shows that each of the freeway mainline segments operate at LOS E or F in the westbound direction during the AM peak hour and operate at LOS E or F in the eastbound direction during the PM peak hour. In the off-peak hours the freeway mainline operates at LOS B or better.

Peak Hour Intersection Levels of Service

**Table 4-3** below shows a summary of the existing peak hour intersection operations for the five (5) key signalized and unsignalized intersections in the study area.

**Table 4-3: Existing Intersection Operations**

| Intersection | Control Type | Peak Hour | Existing | |
|---|---|---|---|---|
| | | | Delay [a] | LOS [b] |
| 1. Santo Road/ SR-52 WB Ramps | OWSC [C] | AM<br>PM | 9.2<br>9.1 | A<br>A |
| 2. Santo Road/ SR-52 EB Ramps | TWSC [C] | AM<br>PM | 13.6<br>10.7 | B<br>B |
| 3. Mast Boulevard/ SR-52 EB Ramps | Signal | AM<br>PM | 9.5<br>13.1 | A<br>B |
| 4. Mast Boulevard/ SR-52 WB Ramps | Signal | AM<br>PM | 17.4<br>10.9 | B<br>B |
| 5. Mast Boulevard/ West Hills Parkway | Signal | AM<br>PM | 46.4<br>44.8 | D<br>D |

*Source: Traffic Engineering Performance Assessment (TEPA), December 17, 2019*

Footnotes:

a. Average delay expressed in seconds per vehicle.
b. Level of Service.
c. OWSC – One-Way Stop Controlled intersection. Minor street right turn delay reported.
d. TWSC – Two-Way Stop-Controlled intersection. Worst case movement delay reported. At this intersection the adjacent (not opposing) approaches are stop-controlled.

| SIGNALIZED DELAY/LOS THRESHOLDS | | UNSIGNALIZED DELAY/LOS THRESHOLDS | |
|---|---|---|---|
| Delay | LOS | Delay | LOS |
| 0.0 ≤ 10.0 | A | 0.0 ≤ 10.0 | A |
| 10.1 to 20.0 | B | 10.1 to 15.0 | B |
| 20.1 to 35.0 | C | 15.1 to 25.0 | C |
| 35.1 to 55.0 | D | 25.1 to 35.0 | D |
| 55.1 to 80.0 | E | 35.1 to 50.0 | E |
| ≥ 80.1 | F | ≥ 50.1 | F |

The table above shows that all study area intersections are calculated to currently operate at LOS D or better during peak hours.

Freeway Merge/Diverge Operations

**Table 4-4** below shows a summary of the existing merge/diverge operations for the eight (8) on/off-ramp locations at the Santo Road and Mast Boulevard interchanges.

**Table 4-4: Existing Ramp Merge/ Diverge Operations**

| Ramp Merge / Diverge Location | Peak Hour | Volume | | | Density (pc/m/ln)[a] | LOS |
|---|---|---|---|---|---|---|
| | | Mainline Before Merge / Diverge | Ramp | Mainline After Merge / Diverge | | |
| **Santo Road Interchange** | | | | | | |
| *Ramp Merge* | | | | | | |
| Santo Road to SR-52 EB | AM | 1,888 | 176 | 2,064 | 13.4 | B |
| (3 Mainline lanes / 1-lane On-Ramp) | PM | 5,110 | 683 | 5,793 | 33.9 | D |
| Santo Road to SR-52 WB | AM | 5,906 | 861 | 6,767 | N/A [b] | - |
| (3 Mainline lanes / 1-lane On-Ramp) | PM | 2,790 | 246 | 3,036 | N/A [b] | - |
| *Ramp Diverge* | | | | | | |
| SR-52 EB to Santo Road | AM | 2,288 | 222 | 2,066 | 15.3 | B |
| (3 Mainline lanes / 1-lane Off-Ramp) | PM | 5,758 | 216 | 5,542 | 32.8 | D |
| SR-52 WB to Santo Road | AM | 6,168 | 207 | 5,961 | 34.5 | D |
| (3 Mainline lanes / 1-lane Off-Ramp) | PM | 2,527 | 193 | 2,334 | 16.7 | B |
| **Mast Boulevard Interchange** | | | | | | |
| *Ramp Merge* | | | | | | |
| Mast Boulevard to SR-52 EB | AM | 1,156 | 201 | 1,357 | 13.9 | B |
| (2 Mainline lanes / 1-lane On-Ramp) | PM | 4,631 | 207 | 4,838 | **43.9** | **F** |
| Mast Boulevard to SR-52 WB | AM | 4,212 | 1,956 | 6,168 | N/A [c] | - |
| (2 Mainline lanes / 1-lane On-Ramp) | PM | 2,238 | 289 | 2,527 | N/A [c] | - |
| *Ramp Diverge* | | | | | | |
| SR-52 EB to Mast Boulevard | AM | 2,064 | 265 | 1,799 | 14.0 | B |
| (3 Mainline lanes / 1-lane Off-Ramp) | PM | 5,793 | 1,245 | 4,548 | 34.7 | D |
| SR-52 WB to Mast Boulevard | AM | 4,284 | 25 | 4,259 | **40.4** | **F** |
| (2 Mainline lanes / 1-lane Off-Ramp) | PM | 2,309 | 326 | 1,983 | 21.7 | C |

*Source: Traffic Engineering Performance Assessment (TEPA), December 17, 2019*

Footnotes:

a. (pc/m/ln) = "passenger cars/ mile/ lane"
b. N/A – Merge does not apply. On-ramp joins WB SR-52 as auxiliary lane to I-15
c. N/A – Merge does not apply. On-ramp joins WB SR-52 as 3rd mainline lane

General Note:

1. **BOLD** and shaded text indicates merge/diverge operations that operate at LOS E or F.
2. Ramp volumes for the Mast Boulevard Interchange are based on intersection counts conducted in 2015.

The table on the previous page shows that the following two (2) ramp locations currently operate at LOS F:

- (Merge): Mast Boulevard to SR-52 EB – PM peak hour (LOS F)
- (Diverge): SR-52 WB to Mast Boulevard – AM peak hour (LOS F)

Conclusion

The HCM-methodology analyses completed for the five (5) local intersections along the Santo Road and Mast Boulevard corridors, adjacent to the SR-52 freeway show LOS D or better operations for the Existing conditions.

The six (6) SR-52 freeway mainline segments between I-15 and SR-125 operate at LOS E or worse in the peak commuter directions during both peak periods for Existing conditions.

Of the eight (8) freeway merge/diverge locations analyzed at the Santo Road and Mast Boulevard interchanges, two (2) locations operate at LOS F during the peak periods in the Existing condition.

Scope and Magnitude of the Traffic Operations Analysis Report

Per Caltrans Project Development Procedures Manual and TEPA requirements, a Scope of Work of the Traffic Operations Analysis Report (TOAR) has been prepared and included in **Attachment J**.

## 5. DEFICIENCIES

Based on the existing conditions analysis, the following deficiencies have been identified and are discussed further in this section.

In the westbound (WB) direction, motorists along SR-52 experience substantial delays caused by operational deficiencies, **bottlenecks** and congestion in the AM peak hour at the following locations:

- At the freeway mainline segment between I-15 to Santo Road, 6,767 peak hour vehicles result in a LOS of E.
- At the freeway mainline segment between Santo Road to Mast Boulevard, 6,168 peak hour vehicles result in a LOS of F.
- At the freeway mainline segment between Mast Boulevard to SR-125, 4,284 peak hour vehicles result in a LOS of F.
- The diverge area of SR-52 WB to Mast Boulevard currently operates at LOS of F.

In the eastbound (EB) direction, motorists along SR-52 experience substantial delays caused by operational deficiencies, **bottlenecks** and congestion in the PM peak hour at the following locations:

- At the freeway mainline segment between I-15 to Santo Road, 5,758 peak hour vehicles result in a LOS of E.
- At the freeway mainline segment between Santo Road to Mast Boulevard, 5,793 peak hour vehicles result in a LOS of E.
- At the freeway mainline segment between Mast Boulevard to SR-125, 4,838 peak hour vehicles result in a LOS of F.
- The merge area of Mast Boulevard to SR-52 EB results in an LOS of F.

Transit

There are no bus routes along the corridor at this time; however, transit improvements will be considered as a future option for motorists in the PA&ED phase.

## 6. CORRIDOR AND SYSTEM COORDINATION

SR-52 is an eastbound/westbound (EB/WB) freeway that provides access to I-5, I-805, I-15, SR-163, SR-125, and SR-67 for the communities of Clairemont, Kearny Mesa, Tierrasanta, Santee and Lakeside. The route begins at I-5 and ends at SR-67.

Within the project's limits south of SR-52, the City of San Diego General Plan designates land use as Commercial and Residential in the community of Tierrasanta, and Parks and Open Space with the Mission Trails Regional Park. North of SR-52, land use is limited to Military Use (MCAS Miramar) and Parks and Open Space at Mission Trails Regional Park.

SR-52 is included in the State Freeway and Expressway System and is designated as a state scenic highway in California Streets and Highways Code Section 263.1.

Regional planning efforts include SANDAG's *San Diego Forward: The Regional Plan*, dated October 2015, that includes construction of 2 reversible managed lanes on SR-52 between I-15 and SR-125 and widening SR-52 to 6 mainline lanes between Mast Boulevard and SR-125. It also includes plans for the construction of a continuous SR-52 bikeway between the Coastal Rail Trail and the San Diego River Trail (see the *Complete Streets* section of this PSR-PDS for further context). In addition, Caltrans' *Transportation Concept Report, State Route 52, District 11, September 2015*, identified the bottleneck caused by the loss of a lane eastbound of Mast Boulevard.

Local planning efforts include the City of Santee's *SR-52 Corridor Study* completed in 2017. The purpose of the Corridor Study was to identify operational improvements to SR-52 in the near term in anticipation of the larger planned widening and managed lanes project identified in *San Diego Forward: The Regional Plan*.

The proposed SR-52 operational improvements included in this PID have considered these planned and proposed local projects. Caltrans will coordinate with SANDAG during the next update to *San Diego Forward: The Regional Plan* regarding the incorporation of the proposed SR-52 operational improvements and how they will fit into the draft framework of SANDAG's new vision for the region.

## 7. ALTERNATIVES

Alternative 1 – No Build

The "No-Build" alternative assumes that no improvements will be constructed on SR-52. Congestion and poor operational performance will continue to increase as East County develops, with increasingly adverse impacts to the City of Santee. Worsening congestion will make the implementation of local planning efforts increasingly difficult.

Alternative 2 – Base Project

Alternative 2 represents a context-sensitive design solution that equitably addresses all users of the facility, namely motorists, truck drivers, and bicyclists (pedestrians are expressly prohibited from the facility, and there are no current transit routes). It features:

- Widening of the westbound on-ramp from Mast Boulevard to SR-52 to a 2-lane ramp that will continue as the 3rd mainline lane and a 4th lane, the truck climbing lane, which is dropped at I-15
- Replacing the existing shoulder along westbound SR-52 with a truck-climbing lane/auxiliary lane from Mast Boulevard (Station 701+91/PM 13.0) to Santo Road (483+45/PM 8.9)
- Adding a through lane from the off-ramp to Santo Road to the on-ramp from Santo Road, including a retaining wall under the Santo Road Overcrossing
- Extend eastbound SR-52 auxiliary lane from southbound I-15 connector (Station 406+25/PM 7.4) to the Santo Road eastbound off-ramp (Station 462+86/PM 8.5)
- Adding a two-way Class IV Bikeway (Separated Bikeway) on the south side of SR-52 (eastbound side) from Santo Road to Mast Boulevard
- Cantilever a 10-foot-wide lightweight separated bikeway off the Oak Canyon and Spring Canyon bridges along eastbound SR-52
- Restripe eastbound SR-52 from 2 lanes to 3 lanes from Mast Boulevard to just east of the San Diego River Bridge, including restriping the bridge

*Bicycle Facility*

Alternative 2 will construct a new 10-foot to 12-foot wide Class IV Bikeway (Separated Bikeway) by relocating the existing concrete barrier-separated, two-way bike path adjacent to the westbound SR-52 shoulder to along the eastbound SR-52 shoulder. This process will take advantage of the graded hinge adjacent to the

existing shoulder of eastbound SR-52, which eliminates the cost of significant earthwork and grading. The new separated bikeway will have the same termini as the existing, from Santo Road at station 476+50 (PM 8.7) to Mast Boulevard at station 717+37 (PM 13.3) and will be paved with hot mix asphalt (HMA). The bikeway will be of a standard design and will prohibit use by pedestrians, as the existing bike path does.

The existing two-way bike path is physically separated from vehicular traffic by a concrete barrier, Type K. This barrier will be removed and, if feasible, recycled or salvaged. A standard permanent barrier will be constructed along eastbound SR-52 to separate the proposed bikeway from vehicular traffic. Its design will take into account the latest standards by Caltrans District 11 for bicycle barriers, including height, materials, and aesthetics.

*Structures*

The new Class IV bikeway will traverse the Oak Canyon and Spring Canyon Bridges. Due to environmental, seismic and structural design considerations, a lightweight material was selected for a bikeway that will be cantilevered from the existing bridge superstructure. The bikeway on the bridges will be 10 feet in width in accordance with Caltrans' *Highway Design Manual* standard 1003.1 (3).

*Truck-Climbing Lane/Auxiliary Lanes*

With the bike path moved from the westbound to eastbound shoulder, the existing pavement will be used to stripe a truck-climbing lane from station 701+91 (PM 13.0) to the summit at station 586+00 (PM 10.8). Thereafter it transitions to an auxiliary lane on the downhill for trucks and slow vehicles to regain speed, weave, and transition into the main lanes as needed. The truck-climbing/auxiliary lane ends at station 483+45 (PM 8.9), at Santo Road.

The new truck-climbing lane will not need to be repaved as the existing pavement section is constructed for a general-purpose lane, because the pavement was used as a freeway lane prior to being converted into a bike path. Taking advantage of the suitable pavement section is another cost-saving measure for this alternative.

Additionally, Alternative 2 will add an auxiliary lane along eastbound SR-52 from the southbound I-15 connector at station 406+25 (PM 7.4) to the eastbound off-ramp to Santo Road at station 462+86 (PM 8.5). This auxiliary lane will allow slow-moving vehicles on the loop connector to gain speed and weave more easily.

*Ramp Improvements*

The on-ramp from Mast Boulevard to westbound SR-52 will be widened to a two-lane ramp that will join SR-52 as the third mainline lane and the truck-climbing lane, which is dropped at I-15.

*Restriping and Additional Through Lanes*

Restriping the mainline lanes is proposed at the existing San Diego River Bridge, in the eastbound direction, from two to three mainline lanes. Additionally, Alternative 2 proposes to connect the new truck-climbing/auxiliary lane over the summit to the existing westbound auxiliary lane from Santo Road to I-15. This new segment of lane would create a through lane at this interchange.

Final striping alternatives will be further refined in the PA&ED phase.

*Retaining Walls and Sound Barriers*

Constructing a through-lane segment at Santo Road would require a retaining wall underneath the Santo Road Overcrossing. A low retaining wall is required for eastbound SR-52 west of Mast Boulevard to reduce grading impacts. A limited length of low retaining wall is required alongside the proposed auxiliary lane between the northbound I-15 to eastbound SR-52 connector and the eastbound Santo Road off-ramp, to reduce grading impacts to environmentally sensitive areas.

The need for sound walls and noise berms will be studied in the PA&ED.

Alternative 3 – Phased Project

Alternative 3 includes all improvements included in Alternative 2, plus:

- Restriping westbound SR-52 from just east of the San Diego River Bridge (from approximate Station 780+60/PM 14.6) to Mast Boulevard. This could be included in Alternative 2 and will be revisited in the Project Report.
- Restriping the merge at the Mast Boulevard westbound on-ramp (possible options will be studied in the PA&ED, and may include merging the 2 ramp lanes to 1 lane prior to the on-ramp's connection to SR-52 or merging the 1st ramp lane with the 3rd mainline lane)

Design Standards Risk Assessment

During the future project phases, the nonstandard features for the build alternative will be re-evaluated based on the latest revisions of the Highway Design Manual.

The following **Table 7-1**, nonstandard design features have been evaluated by Caltrans staff and assigned a probability rating and justification:

| Table 7-1: Design Standards Risk Assessment | | | | | |
|---|---|---|---|---|---|
| **Location ID** | **Build Alternative** | **Design Standard from Highway Design Manual Tables 82.1A & 82.1B** | **Location[2] (Station Range)** | **Probability of Nonstandard Design Feature Approval (None, Low, Medium, High)** | **Justification for Probability Rating** |
| A3 | 2 | **201.1 & 203.1 Horizontal Stopping Sight Distance** | 734+45 to 749+50 EB San Diego River Br | Medium | Additional studies needed to determine appropriate design options along EB San Diego River Bridge structure to improve proposed Horizontal Stopping Sight Distance. |
| B1 | 2 | **202.2 Standards for Superelevation** | 680+53 to 685+60 EB Spring Cyn Br. | High | Existing nonstandard feature to remain in place. To make this feature standard, the EB Spring Canyon Bridge would require full reconstruction. |
| B2 | 2 | **202.2 Standards for Superelevation** | 702+76 to 709+07 EB Mast UC | High | Existing nonstandard feature to remain in place. To make this feature standard, the EB Mast UC would require full reconstruction. |
| B3 | 2 | **202.2 Standards for Superelevation** | 709+07 to 713+76 EB East of Mast UC | High | Existing nonstandard feature to remain in place. To make this feature standard, the EB SR-52 roadway and adjacent bridge structures would require full reconstruction. |
| C1 | 2 | **301.1 Lane Width** | 623+00 to 647+00 WB Oak Cyn Br. | Medium | Existing WB Oak Canyon Bridge structure should be evaluated before a 4th through lane is proposed within the existing bridge width. |
| C2 | 2 | **301.1 Lane Width** | 626+28 to 644+48 EB Oak Cyn Br. | Medium | Additional bridge design options for the EB Oak Canyon Bridge structure should be considered, including additional bridge widening and/or bridge rail replacement. |
| C3 | 2 | **301.1 Lane Width** | 662+00 to 688+00 WB Spring Cyn Br | Medium | Existing WB Spring Canyon Bridge structure should be evaluated before a 4th through lane is proposed within the existing bridge width. |
| C4 | 2 | **301.1 Lane Width** | 664+66 to 702+00 EB Spring Cyn Br | Medium | Additional bridge design options for the EB Spring Canyon Bridge structure should be considered, including additional bridge widening and/or bridge rail replacement. |
| C5 | 2 | **301.1 Lane Width** | 702+00 to 761+50 EB Mast UC and SD River Br | Medium | Existing Mast Blvd UC and San Diego River Bridge structures should be evaluated before a 3rd through lane is proposed within the existing bridge width. |

| Table 7-1: Design Standards Risk Assessment | | | | | |
|---|---|---|---|---|---|
| **Location ID** | **Build Alternative** | **Design Standard from Highway Design Manual Tables 82.1A & 82.1B** | **Location[2] (Station Range)** | **Probability of Nonstandard Design Feature Approval (None, Low, Medium, High)** | **Justification for Probability Rating** |
| D1 | 2 | **302.1 Shoulder Width (EB Lt)** | 405+00 to 620+31 EB Inside Shoulder | High | Existing nonstandard feature to remain. No work proposed to the inside shoulder. |
| D2 | 2 | **302.1 Shoulder Width (EB Lt Transition)** | 620+31 to 639+00 EB Oak Cyn Br | Medium | Additional bridge design options for the EB Oak Canyon Bridge structure should be considered, including additional bridge widening and/or bridge rail replacement. |
| D3 | 2 | **302.1 Shoulder Width (WB Rt)** | 623+00 to 647+00 WB Oak Cyn Br | Medium | Existing WB Oak Canyon Bridge structure should be evaluated before a 4th through lane and narrow outside shoulder is proposed within the existing bridge width. |
| D4 | 2 | **302.1 Shoulder Width (EB Rt)** | 626+28 to 644+47 EB Oak Cyn Br | Medium | Additional bridge design options for the EB Oak Canyon Bridge structure should be considered, including additional bridge widening and/or bridge rail replacement. |
| D5 | 2 | **302.1 Shoulder Width (WB Lt)** | 631+16 to 647+00 WB Oak Cyn Br | Medium | Existing WB Oak Canyon Bridge structure should be evaluated before a 4th through lane and narrow outside shoulder is proposed within the existing bridge width. |
| D5A | 2 | **302.1 Shoulder Width (WB Rt)** | 662+00 to 688+00 WB Spring Cyn Br | Medium | Existing WB Spring Canyon Bridge structure should be evaluated before a 4th through lane and narrow shoulder is proposed within the existing bridge width. |
| D6 | 2 | **302.1 Shoulder Width (EB Rt)** | 664+66 to 681+55 EB Spring Cyn Br | Medium | Additional bridge design options for the EB Spring Canyon Bridge structure should be considered, including additional bridge widening and/or bridge rail replacement. |
| D7 | 2 | **302.1 Shoulder Width (EB Lt)** | 667+47 to 678+55 EB Spring Cyn Br | Medium | Additional bridge design options for the EB Spring Canyon Bridge structure should be considered, including additional bridge widening and/or bridge rail replacement. |
| D8 | 2 | **302.1 Shoulder Width (WB Lt)** | 670+15 to 680+59 WB Spring Cyn Br | Medium | Existing WB Spring Canyon Bridge structure should be evaluated before a 4th through lane and narrow shoulder is proposed within the existing bridge width. |

| Table 7-1: Design Standards Risk Assessment | | | | | |
|---|---|---|---|---|---|
| **Location ID** | **Build Alternative** | **Design Standard from Highway Design Manual Tables 82.1A & 82.1B** | **Location[2] (Station Range)** | **Probability of Nonstandard Design Feature Approval (None, Low, Medium, High)** | **Justification for Probability Rating** |
| D9 | 2 | **302.1 Shoulder Width (EB Lt)** | 702+76 to 761+39 EB Mast Blvd UC | Medium | Existing Mast Blvd UC structure should be evaluated before a 3rd through lane is proposed within the existing bridge width. |
| D10 | 2 | **302.1 Shoulder Width (EB Rt)** | 713+62 to 718+37 EB Mast Blvd UC | Medium | Existing Mast Blvd UC structure should be evaluated before a 3rd through lane is proposed within the existing bridge width. |
| D11 | 2 | **302.1 Shoulder Width (EB Rt)** | 728+54 to 761+77 EB San Diego River Br | Medium | Existing San Diego River Bridge structure should be evaluated before a 3rd through lane is proposed within the existing bridge width. |
| E1 | 2 | **309.1 Horizontal Clearances** | 550+87 to 620+31 EB Inside Shoulder | High | Existing nonstandard horizonal clearance feature to remain. No work proposed to the inside shoulder. |
| E2 | 2 | **309.1 Horizontal Clearances (EB Lt)** | 620+31 to 639+00 EB Oak Canyon Br | Medium | Proposed nonstandard horizonal clearance at transition from existing standard shoulder width connecting to proposed nonstandard shoulder width along median barrier and EB Oak Canyon Bridge existing bridge railing. |
| E3 | 2 | **309.1 Horizontal Clearances (WB Rt)** | 631+16 to 638+97 WB Oak Canyon Br | Medium | Proposed nonstandard horizonal clearance along bridge railing on WB Oak Canyon Bridge due to proposed nonstandard shoulder width. |
| E4 | 2 | **309.1 Horizontal Clearances (EB Rt)** | 626+28 to 644+47 EB Oak Canyon Br | Medium | Proposed nonstandard horizonal clearance along bridge railing on EB Oak Canyon Bridge due to proposed nonstandard shoulder width. |
| E5 | 2 | **309.1 Horizontal Clearances (WB Lt)** | 631+16 to 640+77 WB Oak Canyon Br | Medium | Proposed nonstandard horizonal clearance along bridge railing on WB Oak Canyon Bridge due to proposed nonstandard shoulder width. |
| E5A | 2 | **309.1 Horizontal Clearances (WB Rt)** | 670+15 to 678+55 WB Spring Canyon Br | Medium | Proposed nonstandard horizonal clearance along bridge railing on WB Spring Canyon Bridge due to proposed nonstandard shoulder width. |
| E6 | 2 | **309.1 Horizontal Clearances (EB Rt)** | 664+66 to 681+55 EB Spring Canyon Br | Medium | Proposed nonstandard horizonal clearance along bridge railing on EB Spring Canyon Bridge due to proposed nonstandard shoulder width. |

| Table 7-1: Design Standards Risk Assessment | | | | | |
|---|---|---|---|---|---|
| **Location ID** | **Build Alternative** | **Design Standard from Highway Design Manual Tables 82.1A & 82.1B** | **Location[2] (Station Range)** | **Probability of Nonstandard Design Feature Approval (None, Low, Medium, High)** | **Justification for Probability Rating** |
| E7 | 2 | **309.1 Horizontal Clearances (EB Lt)** | 667+47 to 678+55 EB Spring Canyon Br | Medium | Proposed nonstandard horizonal clearance along bridge railing on EB Spring Canyon Bridge due to proposed nonstandard shoulder width. |
| E8 | 2 | **309.1 Horizontal Clearances (WB Lt)** | 670+15 to 680+59 WB Spring Canyon Br | Medium | Proposed nonstandard horizonal clearance along bridge railing on WB Spring Canyon Bridge due to proposed nonstandard shoulder width. |
| E9 | 2 | **309.1 Horizontal Clearances** | 702+76 to750+00 EB Left Shoulder at Mast UC and SD River Bridge | Medium | Proposed nonstandard horizonal clearance along bridge railing on EB Mast Blvd UC and San Diego River Bridge due to proposed nonstandard shoulder width. |
| E10 | 2 | **309.1 Horizontal Clearances** | 716+07 to 718+37 EB Right Shoulder at Mast UC to EB On-ramp | Medium | Proposed nonstandard horizonal clearance along bridge railing on EB Mast Blvd UC due to proposed nonstandard shoulder width. |
| E11 | 2 | **309.1 Horizontal Clearances** | 728+54 to 750+00 EB Right Shoulder from Mast on-ramp to SD River Br | Medium | Proposed nonstandard horizonal clearance along bridge railing on San Diego River Bridge due to proposed nonstandard shoulder width. |
| **Alternative 3 has the same design exceptions as Alternative 2 (above) with the addition of the following:** | | | | | |
| A4 | 3 | **201.1&203.1 Horizontal Stopping Sight Distance** | 742+00 to 760+40 WB San Diego River Br | Medium | Additional studies needed to determine appropriate design options along EB San Diego River Bridge structure. |
| C6 | 3 | **301.1 Lane Width** | 708+94 to 762+20 WB | Medium | Existing Mast Blvd UC and San Diego River Bridge structure should be evaluated before a 3rd through lane is proposed within the existing bridge widths. |
| D12 | 3 | **302.1 Shoulder Width (WB Rt)** | 708+18 to 762+05 WB | Medium | Existing Mast Blvd UC and San Diego River Bridge structure should be evaluated before a 3rd through lane and nonstandard shoulder widths are proposed within the existing bridge widths. |

| Table 7-1: Design Standards Risk Assessment | | | | | |
|---|---|---|---|---|---|
| **Location ID** | **Build Alternative** | **Design Standard from Highway Design Manual Tables 82.1A & 82.1B** | **Location[2] (Station Range)** | **Probability of Nonstandard Design Feature Approval (None, Low, Medium, High)** | **Justification for Probability Rating** |
| D13 | 3 | **302.1 Shoulder Width (WB Lt)** | 716+27 to 762+05 WB | Medium | Existing Mast Blvd UC and San Diego River Bridge structure should be evaluated before a 3rd through lane and nonstandard shoulder widths are proposed within the existing bridge widths |
| E12 | 3 | **309.1 Horizontal Clearances** | 716+34 to 753+22 WB | Medium | Proposed nonstandard horizonal clearance along bridge railing on Mast Blvd UC and San Diego River Bridge structure due to proposed nonstandard shoulder widths. |
| E13 | 3 | **309.1 Horizontal Clearances** | 716+27 to 753+22 WB | Medium | Proposed nonstandard horizonal clearance along bridge railing on Mast Blvd UC and San Diego River Bridge structure due to proposed nonstandard shoulder widths |

## 8. ADDITIONAL CONSIDERATIONS

Complete Streets

Deputy Directive 64-R2 directs Caltrans to apply the concepts of complete streets to the State Highway System. A transportation facility is a complete street if it has been planned and designed to enhance safety and mobility *for all modes of transportation*. The concepts of complete streets can be implemented in various ways according to the project context and needs of the facility.

The alternatives being studied focus on enhancing safety and mobility for motorists, truck drivers, and bicyclists. Transit vehicles and pedestrians are not serviced by this route and are therefore not a focus for the implementation of complete streets concepts. There are no local bus routes that use this facility, and pedestrians are prohibited from entering the bike path.

The *2015 Regional Plan* prepared by SANDAG plans for the addition of Bus Rapid Transit Route 870, which will connect Santee and El Cajon to the University City community in San Diego via SR-52 during peak hours only. Additionally, SANDAG plans for the addition of Bus Rapid Transit Route 890, which, via SR-52, will link Santee and El Cajon to Sorrento Mesa, a major employment center north of SR-52 and west of Interstate 805.

The *San Diego Regional Bicycle Plan: Riding to 2050*, adopted by SANDAG in 2010, proposes to extend the existing bike path between Santo Road and Mast Boulevard in both directions along SR-52 as a Class I facility. At the western terminus, the plan proposes a Class I bike path to extend west of Santo Road along SR-52 to connect to the Coastal Rail Trail. At the eastern terminus, the plan proposes a Class I bike path southeast of Mast Boulevard along West Hills Parkway, where it would connect with the existing Class I bike path through Mission Trails Regional Park (San Diego River Trail).

Climate Change Considerations

*Reduction of Greenhouse Gas Emissions*

Executive Order B-30-15 aims to establish a GHG Reduction target of 40 percent below 1990 levels by the year 2030. This applies to all state agencies (including Caltrans) with jurisdiction over sources of GHG emissions. The order requires state agencies to consider Climate Change in planning and investment decisions in all SHOPP projects. It also employs "full life-cycle cost accounting to evaluate and compare infrastructure investments and alternatives." Both climate change mitigation (GHG Reduction) and adaptation measures that respond to climate risks are identified below, and must be implemented where appropriate and feasible. Further considerations on climate change mitigation and reduction of GHG emissions will be evaluated during the PA&ED phase.

Where available, it is recommended that material within a local radius of the project area and/or locally available building material be utilized to reduce GHG emissions.

The following items should be considered:

- Reduction of roadway construction/demolition waste
- Energy efficient construction methodologies
- Water efficient construction methodologies
- Fuel efficient measures both for construction equipment and traffic management during delays or detours.
- Improve operational efficiency
- Inclusion/implementation of complete streets elements

The purpose of the proposed project, which is capacity increasing, is to improve operational performance of the facility. Construction emissions are unavoidable, but will be reduced to the extent possible through planning and implementation of best practices throughout the project delivery process.

*Adaptation Measures*

To meet the requirements of SB 1's Sustainability Provision 2030 (e), where feasible, this project will incorporate elements that bolster the asset's resiliency and ability to

adapt to climate change. Potential climate change stressors include changing temperatures, wildfires, and changing levels of precipitation. Given the project's elevation, stressors like storm surge and rising sea levels are less of a risk to the project.

Within the Southern California region generally, climate change is anticipated to cause warmer temperatures on average, wider seasonal temperature changes, more frequent and longer heat waves, less precipitation, and greater vulnerability to drought. Consequently, the region will be at a greater risk of experiencing wildfires.

The consequences of these risks may include poorer performance of the pavement material, increased need for pavement rehabilitation, slope instability, and difficulty with construction and maintenance activities. Increased temperatures and greater daily temperature variability may strain the proposed lightweight cantilevered bike lane and warp railings. For the bicycle facility, the consequences of these risks may include a decrease in the number of bicyclists due to their likelihood for experiencing heat stress.

Determining the risk priority level must consider both the likelihood of occurrence and the magnitude of the risk's consequence. Climate change is anticipated to occur over the next several decades, with a high likelihood of occurrence. Despite this, the project's risk priority level is relatively low compared to Caltrans' other assets, because the risks do not have major or catastrophic consequences and are not a direct threat to the safety of the facility's users. Risk mitigation (i.e. the elements of the project that bolster resiliency and the ability to adapt) should be proportional to the risk priority level.

Risk mitigation and adaptation measures will be considered in more detail in the PA&ED. Special consideration will be given to the impact of climate change on the project's selected materials (pavement, metal railing, and lightweight bridge deck) to reduce the damage caused by significant temperature changes.

Broadband and Advanced Technologies

*Fiber Optic Communications System*

California Governor's Executive Order S-23-06, "Twenty-First Century Government," directed the establishment of the California Broadband Task Force, of which Caltrans is a member, to bring together public and private stakeholders to remove barriers to broadband access, identify opportunities for increased broadband adoption, and enable the access to and deployment of new advanced communication technologies.

Wired broadband refers to any facility, including copper and fiber optic cabling, that uses wide bandwidth to transmit voice, data, and/or video signals. It is not anticipated wired broadband will be accommodated on this project as no broadband provider has contacted the utility coordinator showing interest within the project

limits. However, if a need is determined, broadband may be included, pending fund availability.

*Fueling Opportunities for Zero-Emission Vehicles*

Fueling opportunities for zero-emission vehicles are not included in this project because no assets that could accommodate these fueling opportunities are located within the project limits.

*Vehicle-to-Infrastructure (V2I)*

Vehicle-to-infrastructure (V2I) technologies enable the dynamic transfer of data between vehicles and elements of the roadway infrastructure, offering safety, mobility, and environmental benefits. V2I devices can provide real-time information to drivers, passengers, bicyclists, and pedestrians through connected vehicles, cell phones, or other devices. They also allow infrastructure to accept information from these sources.

The following 18 locations have been identified as opportunities for V2I technology:

| Loc. | Post Mile | Location | Feature |
|---|---|---|---|
| 1-16 | 7.4 to 14.9 | 2 per mile (for 7.6 miles) | Stand alone |
| 17 | 13.3 | Westbound at Mast Boulevard | Signal |
| 18 | 13.3 | Eastbound at Mast Boulevard | Signal |

This project could accommodate V2I communications by installing cellular network devices, Dedicated Short Range Communications (DSRC) devices, or other communications devices where feasible, if funding were available. If installed, the back-office system development and part of the communications backhaul infrastructure necessary for the installed V2I devices would also need to be included.

*Integrated Corridor Management (ICM)*

As traffic grows and funding becomes limited along with the introduction of autonomous vehicles, Caltrans is trying to be proactive and take a leadership role in developing a foundation for the infrastructure that will communicate with vehicles in the future. Caltrans is currently collaborating with FHWA and local agencies to implement these technologies; however, at this time, nothing is planned for the SR-52 corridor within the project study area.

ICM aims to improve travel time reliability and predictability, help manage congestion, and empower travelers through better information and more choices through all facilities and modes.

ICM typically provides the following benefits to transportation management in a corridor:

- Establishes relationships and fosters collaboration between corridor agencies
- Integration of multi-modal data within the identified corridor
- Standardized data collection, performance analysis, and increased information sharing
- Improved interoperability between ITS infrastructure across jurisdictions
- Corridor specific system management strategies and response plans
- Dynamically managed congestion and optimized throughput

ICM elements will be further evaluated in the next phase of the project with Caltrans and the City of Santee.

Air Quality Conformity

Air quality modeling should be performed for the PA&ED, and the PS&E should provide measures to abate air pollution during construction.

Constructability Issues and Construction Staging

To improve constructability of the project, a staged or phased approached may be taken with construction to limit impact to road users. The following suggested phasing for Alternative 3 – Phased Project is considered:

- Phase 1 – EB Bike Path from Santo Rd to Mast Blvd and Cantilever Decks
- Phase 2A – WB Truck Climbing Lane and Downhill Aux Lane to east of Santo Rd
- Phase 2B – WB Aux Lane extend to Santo Rd Off-ramp
- Phase 3 – EB 3rd Lane Across San Diego River Bridge
- Phase 4 – WB Aux Lane Through Santo Rd Interchange (Through Lane)
- Phase 5 – EB Aux Lane from I-15 NB Direct Connector to EB Santo Rd Off-ramp
- Phase 6 – EB Aux Lane from SB I-15 Loop Connector to I-15 NB Connector Gore
- Phase 7 – WB 3rd Lane Across San Diego River Bridge

Environmental Justice (Title VI Considerations)

The basis for incorporating environmental justice is Executive Order 12898, which requires that federal agencies achieve "environmental justice … by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations…" By extension, through the Title VI Program developed by the Federal Transit Administration (FTA), Caltrans is required to incorporate environmental justice into its projects.

The approach for achieving environmental justice depends on the nature of the communities impacted by the proposed project. The two communities adjacent to the project are the City of Santee and Tierrasanta, a community within the City of San Diego. Neither of the adjacent communities has a minority population or low-income population as defined by the Title VI Program. Since the proposed facility does not

adversely impact communities with minority or low-income populations, there is no concern of failure to meet the goals of environmental justice.

Recycled and Alternative Materials

Recycled and alternative materials are known to reduce greenhouse gas emissions. The use of these materials should be assessed during the PA&ED phase.

Salvaging and Recycling

All existing overhead signs and metal beam guard railings that require removal and replacement have potential for salvaging or recycling. Existing freeway and ramp pavement to be removed to facilitate lane additions may be crushed, graded and re-used as pavement foundation materials. The existing temporary concrete railing (Type K) removed from the westbound bike lane may be re-used on other projects as it becomes property of the contractor.

## 9. RIGHT-OF-WAY

The proposed project is fully encompassed within the State's existing right-of-way for SR-52. No additional right-of-way acquisition is required. Caltrans resources are anticipated for coordinating with local radio station KFMB in protecting or relocating their private radio cables.

Utilities

Existing utilities within the project limits include a San Diego Gas and Electric Company 6-inch high pressure gas line crossing west of Santo Road, and an underground 12-kilovolt (kV) electric line in the Santo Road Overcrossing Bridge; three San Diego County Water Authority water pipelines (one 84-inch-diameter and two 71-inch diameter); one City of San Diego water pipeline; an AT&T telephone line; and private radio cables (KFMB).

Railroad

There are no railroad facilities within the project limits.

## 10. STAKEHOLDER INVOLVEMENT

Stakeholder involvement was conducted during the SR-52 Corridor Study. The public outreach efforts for that Corridor Study were intended to build consensus between local residents, jurisdictions, businesses and other members of the public. The outreach consisted of a webpage, email and social media, and two public workshops (one in Santee, and the other in Tierrasanta). The public's primary concern was the topic of "Freeway Capacity." The proposed project will provide the congestion relief in the near term to address stakeholder concerns.

## 11. ENVIRONMENTAL COMPLIANCE

Based on past experience with similar actions and information provided by reviewers to date, the PEAR anticipates the environmental document needed for this project will be an Initial Study (IS)/Mitigated Negative Declaration (MND) and Environmental Assessment (EA)/Finding of No Significant Impact (FONSI). This document level has been selected based on the environmental constraints present in the project study area and the potential for the project to cause significant environmental impacts. Caltrans will serve as the NEPA lead agency under its assumption of responsibility pursuant to 23 USC 327. Caltrans will also serve as the lead agency under CEQA. The environmental technical reports and IS/MND and EA/FONSI will take approximately 12 months to prepare and process for final certification/approval, including time for substantive review by environmental division staff with Caltrans. Any changes in scope will require further project review and reassessment of the level of environmental documentation.

The following environmental considerations may affect project delivery and require unusual, exceptional, or extended environmental processes.

*Biological Resources*: Natural Environmental Studies (NES) were completed for SR 52 Managed Lanes and Inside Widening Projects (2007 and 2008), which covered SR 52 from Interstate 805 (I-805) to SR 125 and a 300-foot buffer area. Updated biological surveys will be needed for permanent and temporary impact areas associated with the proposed project during project approval and environmental document (PA&ED). Vegetation clearing should occur outside of the typical breeding season for raptors and migratory birds (February 15 through August 31). Grading and construction activities planned during the breeding season could affect the project schedule.

*Cultural/Historic Resources*: There is a potential for cultural resources to be present within the project limits. A cultural resources field survey should be completed for the undisturbed areas. In the unlikely event that cultural resources are identified in the undisturbed areas, then design changes may be required to avoid cultural resources or to implement Secretary of the Interior Standards (SOIS) for preserving historic resources. If it is determined that impacts on these properties could occur, then a Finding of Effect under Section 106 will be required. Depending on the level of

impact on the resource and complexity of developing measures to address the impact, this documentation and evaluation could adversely affect the project schedule.

*Paleontological Resources*: There is high potential for paleontological resources to be present within portions of the project limits.

*Hazardous Materials/Waste*: Surveys and testing for aerially deposited lead (ADL) will be required. Boring through concrete and pavement may be needed if historical data are not available. A Lead Compliance Plan shall be developed for workers handling hazardous or non-hazardous soil as well as removal/application of any hazardous or non-hazardous lead-based paint, thermoplastic, painted traffic stripe, and/or pavement marking. Asbestos testing will be required for work associated with cantilevering on bridges. Also, contaminated excess soil may increase project cost if disposal is required. Hazardous materials disposal may also be needed for treated wood, sign lighting, and asbestos in concreted/bridges, which could also increase project cost.

It is not anticipated that Section 401 Water Quality Certification, Section 404 Permit, and Section 1602 Streambed Alteration Agreement will be required because the work proposed will be entirely within the existing Caltrans ROW and outside of jurisdictional wetlands and waters.

*Permits and Approvals:* All construction activities within the Caltrans ROW must conform to the requirements of the NPDES Stormwater Statewide Storm Water Permit Order No. 2012-011-DWQ, as amended by Order No. WQ 2014-006-EXEC, Order No. WQ 2014-0077-DWQ, and Order No. WQ 2015-0036-EXEC (Conformed 04/07/15). Projects that disturb one or more acres of soil or are part of a larger common plan of development that disturbs one or more acres must meet the requirements of the General Permit for Discharges of Storm Water Associated with Construction Activity (Statewide Construction General Permit Order No. 2009-0009-DWQ).

It is anticipated that the proposed project will require an informal consultation with the U.S. Fish and Wildlife Service (USFWS) regarding the coastal California gnatcatcher (*Polioptila californica californica*).

## 12. FUNDING

This project is not eligible for Federal-aid funding until it is adopted into the Regional Plan.

Several possible funding sources have been identified including Federal-Aid, SHOPP, and Congested Corridors; and although not programmed or guaranteed, some combination of them may cover the cost of construction.

A private developer, HomeFed Corporation, will fund the cost of the PA&ED and PS&E phases.

Capital Outlay Project Estimate

The level of detail available to develop the capital outlay project estimates shown in **Table 12-1** below and in **Attachment C** is only accurate to within the ranges shown therein and is useful for long-range planning purposes only. The capital outlay project estimates should not be used to program or commit State-programmed capital outlay funds.

**Table 12-1: Capital Outlay Project Estimate**

| Alternative | Range of Estimate |
|---|---|
| 1 | $0 |
| 2 | $30.7 M to $34.4 M |
| 3 | $32.5 M to $36.4 M |

Capital Outlay Support Estimate

Capital outlay support estimate for programming consultant and Caltrans oversight for the PA&ED and PS&E for this project is $6.2 M for Alternative 2 and $6.4 M for Alternative 3. These estimates do not include Caltrans right-of-way support and construction support.

## 13. DELIVERY SCHEDULE

**Table 13-1: Delivery Schedule**

| Project Milestones | | Scheduled Delivery Date (Month/Year) |
|---|---|---|
| BEGIN ENVIRONMENTAL | M020 | 1/2019* |
| CIRCULATE DPR & DED EXTERNALLY | M120 | 8/2020 |
| PA & ED | M200 | 12/2020 |
| PS&E TO DISTRICT OFFICE ENGINEER | M377 | 8/2021 |
| READY TO LIST | M460 | 12/2021 |
| APPROVE CONTRACT | M500 | 3/2022 |

*Project Sponsor's begin environmental date.

Following the identification of funding, construction could begin as soon as 2021/2022.

## 14. RISKS

A risk register was developed at the inception of the study and updated as needed to reflect the latest understanding of risks to the project and to incorporate discussions during the PDT meetings. This summary will focus primarily on risks that are specific to this project.

Environmental

A change in the type of required environmental document is a major threat to the schedule and would represent a significant cost increase. Adequate coordination between the environmental team and the designers is required to ensure that the type of document does not escalate. The project's budget and schedule rely on the current assumption for the required environmental document, and the feasibility of the project would be at risk if it escalated.

Lower-priority risks in the environmental category include a potential shadowing effect from the proposed cantilevered bike lanes on the Oak Canyon and Spring Canyon Bridges, visual concerns, and impacts to endangered species during construction. The primary risk is that if these factors are left unaddressed, the project may experience substantial delays and project cost increases as issues arise. The response action for these risks includes adequate coordination, planning and mitigation measures.

Design

Most of the high-priority risks associated with design arise from the ability for certain key features of design to receive their required approvals. These key features include the use of lightweight material for the construction of the cantilevered bikeway, the proposed connection of the cantilevered bikeway to the existing bridge decks, and the use of the existing pavement for the proposed truck-climbing and auxiliary lane. To avoid significant cost increases, close coordination will be required for obtaining timely approvals.

Construction

There are near-surface conductive cables between the radio antennas, which have the risk of being severed during construction. Losses from damage to the cables would increase the cost of the project; however, adequate coordination with radio station owners and the positive location of utilities prior to construction (potholing) will sufficiently mitigate the risk.

Right of Way

There are existing private radio cables owned by local radio station KFMB, as well as three San Diego County Water Authority water pipelines (one 84-inch-diameter and two 71-inch diameter). Potential impacts to these utilities will require continued coordination with the owners. While the probability of impacts would be relatively low, the potential impact would be high in both time and cost to the project.

## 15. EXTERNAL AGENCY COORDINATION

Federal Highway Administration (FHWA)

This project is considered to be an Assigned Project in accordance with the current Federal Highway Administration (FHWA) and Department of Transportation (Caltrans) Joint Stewardship and Oversight Agreement.

Federal-aid may be pursued to fund future components of the project.

The project requires the following coordination:

*US Fish and Wildlife Service* – Informal Consultation

## 16. PROJECT REVIEWS

| | | | |
|---|---|---|---|
| Traffic and Safety Operations | *Brian Hadley, PE* | Date | 8/8/2018 |
| Traffic and Safety Operations | *May Alsheikh, PE* | Date | 5/8/2019 |
| Project Manager | *Brooke Emery, PE* | Date | 1/2/2020 |
| District Division Chief, Design | *Harwell Ontoy, PE* | Date | 3/21/2019 |
| Deputy District Director Environmental | *Bruce April* | Date | 1/2/2020 |
| Corridor Director | *Karen Jewel, PE* | Date | 1/2/2020 |
| Environmental | *Shay Lynn Harrison* | Date | 1/2/2020 |
| Environmental | *Emery McCaffery* | Date | 1/2/2020 |
| Design Manager | *Christopher Scott* | Date | 1/2/2020 |
| Project Engineer | *Duy Ton, PE* | Date | 8/8/2018 |

## 17. PROJECT PERSONNEL

| *Name* | *Title* | *Phone #* |
|---|---|---|
| Brooke Emery, PE | Caltrans Project Manager | (619) 688-6495 |
| May Alsheikh, PE | Traffic and Safety Operations | (619) 688-3284 |
| Domenic Lupo, PE | Project Manager | (619) 610-7736 |
| Carolyn Crull, PE | Deputy Project Manager | (619) 610-7763 |
| Michael Crull, PE | Design Manager | (858) 414-7803 |
| Jeff O'Connor | Project Proponent | (760) 420-8307 |
| Pedro Orso-Delgado, PE | Project Coordinator and Advisor | (619) 598-2063 |
| Krista Ellis | Environmental Lead | (619) 610-7792 |
| Barbara Bartholomae | Project Planner | (619) 610-7733 |
| Nicholas Haigh, PE | Project Engineer (Freeway) | (619) 490-9567 |
| Keith Gazaway, PE | Project Engineer (Structures) | (619) 831-4600 |
| K. C. Yellapu, PE | Project Engineer (Traffic) | (858) 300-8800 |

## 18. ATTACHMENTS (NUMBER OF PAGES)

A. Location map (1)
B. Layouts (5)
C. 11-page cost estimates (preliminary) (22)
D. Typical cross sections (3)
E. Preliminary environmental analysis report (26)
F. Transportation Planning scoping information sheet (8)
G. Right-of-way conceptual cost estimate (5)
H. Risk register (4)
I. Stormwater Data Report—signed cover sheet (1)
J. State Route 52 Operational Improvements Traffic Operational Analysis – Scope of Work (10)

# Attachment A

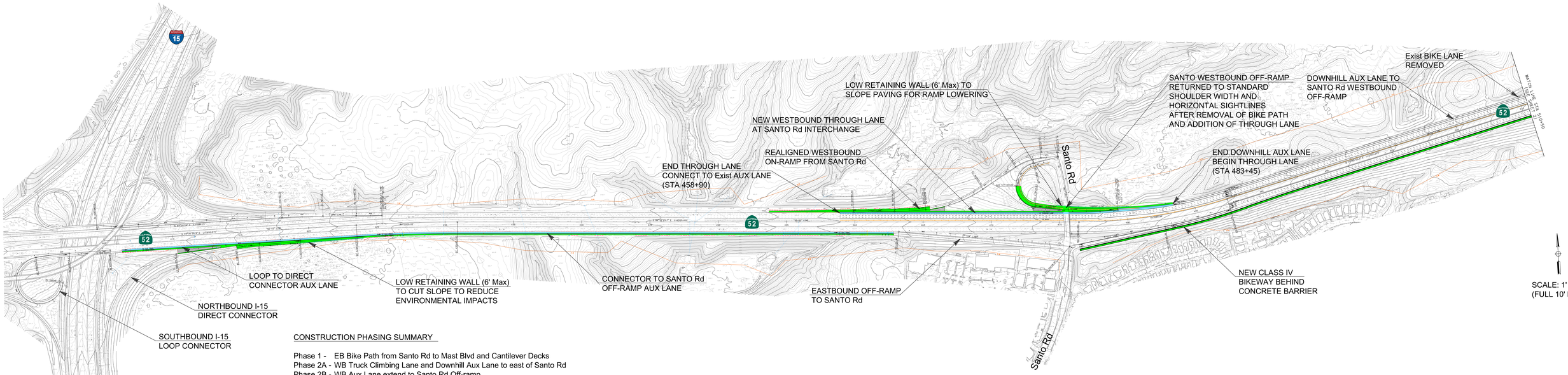
Location Map

# SR-52 OPERATIONAL IMPROVEMENTS PROJECT

## PSR-PDS ATTACHMENT A - LOCATION MAP

# Attachment B

Layouts




CONSTRUCTION PHASING SUMMARY

Phase 1 - EB Bike Path from Santo Rd to Mast Blvd and Cantilever Decks
Phase 2A - WB Truck Climbing Lane and Downhill Aux Lane to east of Santo Rd
Phase 2B - WB Aux Lane extend to Santo Rd Off-ramp
Phase 3 - EB 3rd Lane Across San Diego River Bridge
Phase 4 - WB Aux Lane Through Santo Rd Interchange (Through Lane)
Phase 5 - EB Aux Lane from I-15 NB Direct Connector to EB Santo Rd Off-ramp
Phase 6 - EB Aux Lane from SB I-15 Loop Connector to I-15 NB Connector Gore
Phase 7 - WB 3rd Lane Across San Diego River Bridge

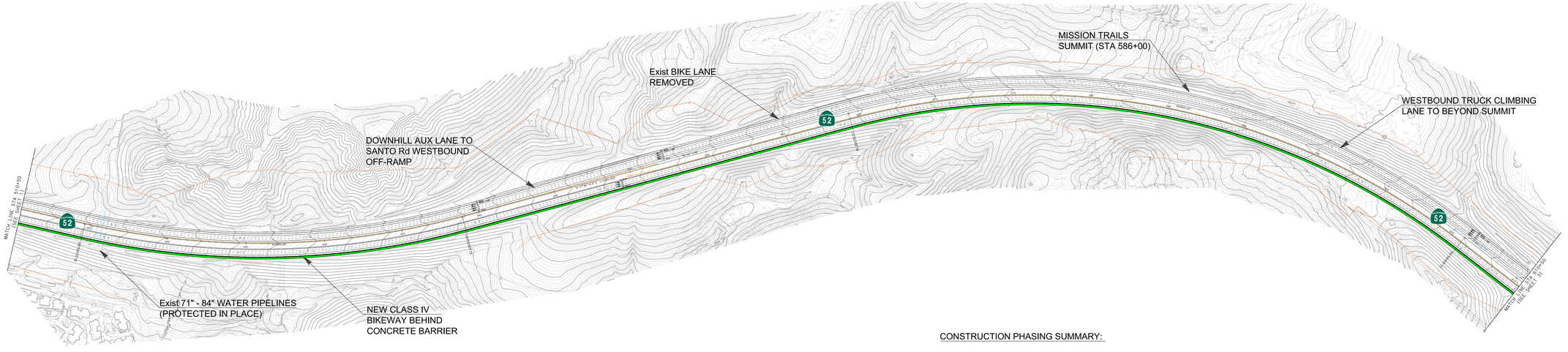
# CONCEPT STUDY ONLY
# NOT FOR CONSTRUCTION

NCM AECOM Caltrans

# SR-52 OPERATIONAL IMPROVEMENTS PROJECT
## PSR-PDS ATTACHMENT B - LAYOUTS

ALT 2 & 3 (SHEET 1 OF 4)

DATE: MAY 6, 2019




SCALE: 1' = 100'
(FULL 10' PLOT)

CONCEPT STUDY ONLY
NOT FOR CONSTRUCTION

CONSTRUCTION PHASING SUMMARY:

Phase 1 - EB Bike Path from Santo Rd to Mast Blvd and Cantilever Decks
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Phase 7 - WB 3rd Lane Across San Diego River Bridge

SCALE 1"=100'

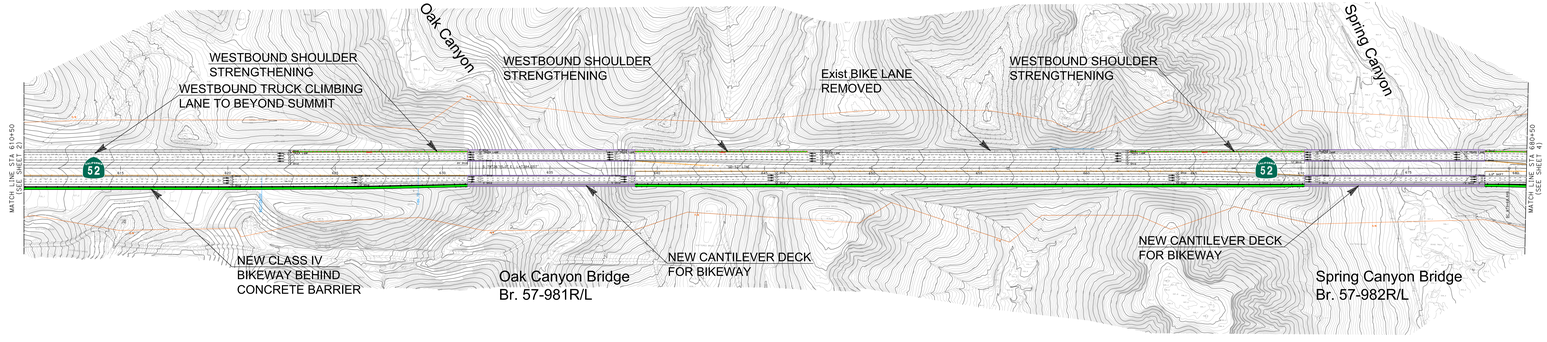
NCM AECOM Caltrans

CITY OF SEATTLE CALIFORNIA INCORPORATED 1850

SR-52 OPERATIONAL
IMPROVEMENTS PROJECT
PSR-PDS ATTACHMENT B - LAYOUTS

ALT 2 & 3 (SHEET 2 OF 4)

DATE: MAY 6, 2019




SCALE: 1' = 100'
(FULL 10' PLOT)

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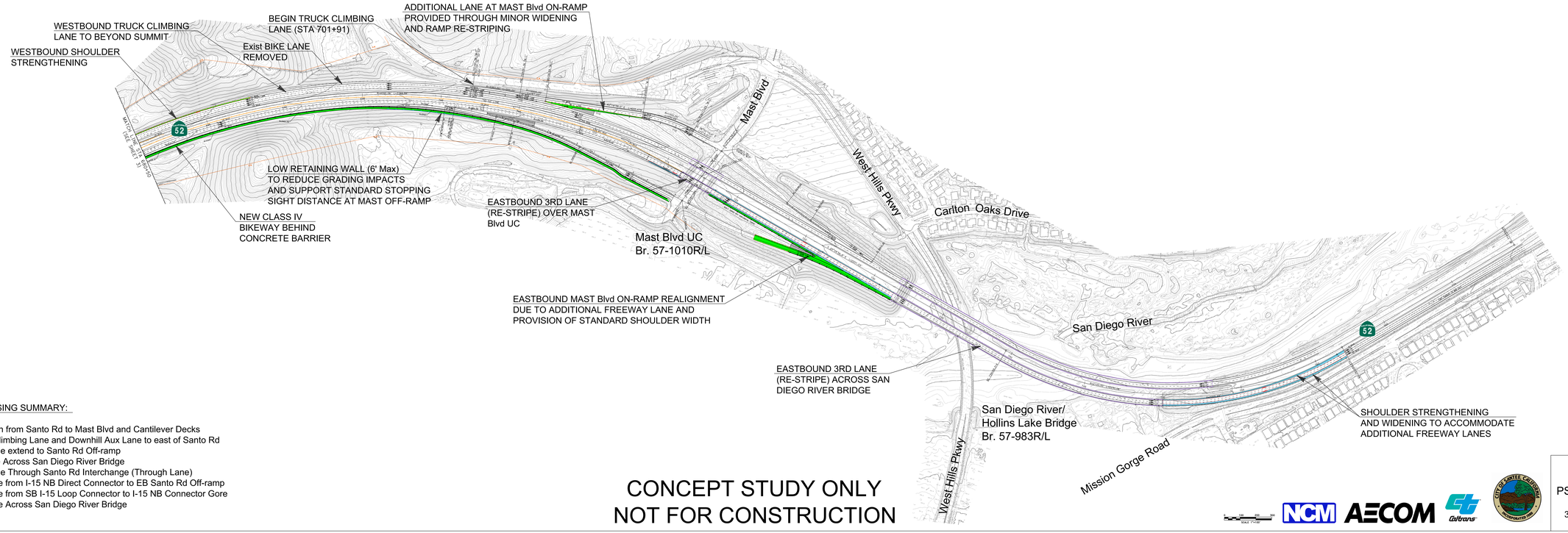
SR-52 OPERATIONAL IMPROVEMENTS PROJECT
PSR-PDS ATTACHMENT B - LAYOUTS
ALT 2 & 3 (SHEET 3 OF 4)
DATE: MAY 6, 2019




SCALE: 1' = 100'
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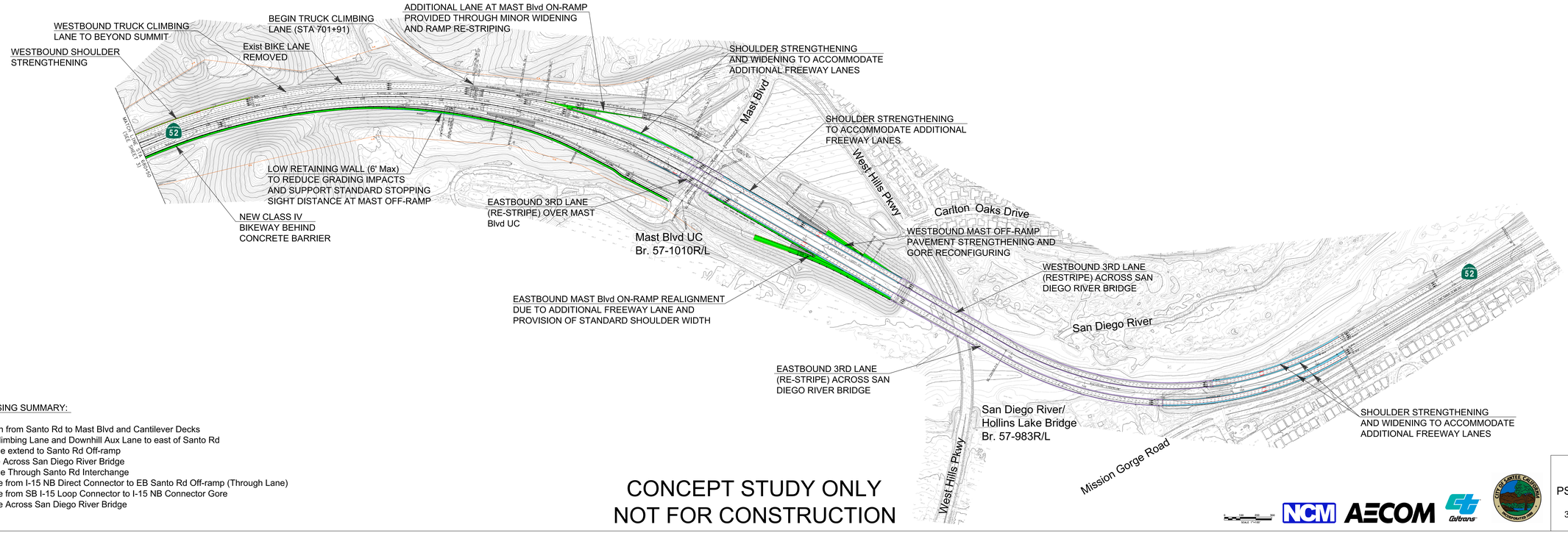
CONCEPT STUDY ONLY
NOT FOR CONSTRUCTION

NCM AECOM Caltrans

SR-52 OPERATIONAL IMPROVEMENTS PROJECT
PSR-PDS ATTACHMENT B - LAYOUTS
ALT 2 (SHEET 4 OF 4) -
3-LANE EB & 2-LANE WB SD RIVER BRIDGE
DATE: MAY 6, 2019

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NCM AECOM Caltrans

SR-52 OPERATIONAL IMPROVEMENTS PROJECT
PSR-PDS ATTACHMENT B - LAYOUTS
ALT 3 (SHEET 4 OF 4) -
3-LANE EB & 3-LANE WB SD RIVER BRIDGE
DATE: MAY 6, 2019

# Attachment C

11-Page Cost Estimates (Preliminary)

# *11- PAGE ESTIMATE (PRELIMINARY)*

***EA: 11-43012K PID: 1117000177***

**Type of Estimate :** Project Study Report - Project Development Support (PSR-PDS)

**Program Code :**

**Project Limits :** On SR-52 between I-15 and Mission Gorge Road Undercrossing (PM 7.4 to PM 14.9)

**Description:** **SR-52 Operational Improvements Project**

**Scope :** WB Truck Climbing Lane and EB Bike Lane with Additional lane over San Diego River Bridge and Additional EB and WB Lanes Between I-15 and Santo Road

**Alternative :** **Conceptual Alternative 2 - 3 EB Lanes on SD River Bridge**

| | Current Cost | Escalated Cost |
|---|---|---|
| ROADWAY ITEMS | $ 25,464,800.00 | $ 28,515,205.00 |
| STRUCTURE ITEMS | $ 5,245,000.00 | $ 5,873,294.00 |
| SUBTOTAL CONSTRUCTION COST | $ 30,709,800.00 | $ 34,388,499.00 |
| RIGHT OF WAY | $ - | $ - |
| **TOTAL CAPITAL COST** | **$ 30,710,000.00** | **$ 34,389,000.00** |

| | | |
|---|---|---|
| AECOM PSR-PDS/PA&ED SUPPORT (6.8% | $ 2,088,280.00 | * |
| CALTRANS PR&ED OVERSIGHT | $ 500,000.00 | * |
| AECOM PS&E SUPPORT (10%) | $ 3,071,000.00 | * |
| CALTRANS PS&E OVERSIGHT | $ 500,000.00 | * |
| RIGHT OF WAY SUPPORT | $ 20,000.00 | |
| CONSTRUCTION SUPPORT | $ 6,600,000.00 | * |
| **TOTAL SUPPORT COST** | **$ 12,779,280.00** | |

*** AECOM AND CALTRANS SUPPORT WILL BE DETERMINED THROUGH THE HIA**

| | | |
|---|---|---|
| **TOTAL PROJECT COST** | **$ 30,750,000.00** | **$ 47,200,000.00** |

| | month | year |
|---|---|---|
| Date (Month/Year) of Estimate | 3 | / 2019 |
| Estimated Date (Month/Year) of Mid-Construction | 12 | / 2021 |
| Number of Months of Escalation | 33 | |
| Number of Years of Escalation | 2.75 | |
| *If Project has been programmed enter* Programmed Amount | $ | - |
| Number of Working Days | 360 | |
| Number of Plant Establishment Days | N/A | |

***Estimated Project Schedule***

| | |
|---|---|
| *PSR-PDS (PID) Approval* | 3 / 2019 |
| *PR+ED Approval* | 1 / 2020 |
| *PS&E* | 12 / 2020 |
| *RTL* | 3 / 2021 |
| *Begin Construction* | 6 / 2021 |

**Reviewed By District O.E.**

**Leon G. Edmonds - District 11 Office Engineer** **Date** (619) 688-6735 **Phone**

**Approved by Project Manager**

**Brooke Emery - Project Manage** **Date** (619) 688-6495 **Phone**

Escalation rates used in this estimate for Highway Construction Capital Costs are 4.2% compounded annually to Construction year. The decision to use 4.2% for this estimate was as per the direction of Cost Estimating Forum due to SB-1 funding. The coded contract items are per 2015 Bid Items. (REV 08/29/18)

## I. ROADWAY ITEMS

| Section | | | | Cost |
|---|---|---|---|---|
| 1 | **Earthwork** | | $ | 1,345,800 |
| 2 | **Structural Section** | | $ | 6,086,100 |
| 3 | **Drainage** | | $ | 400,000 |
| 4 | **Specialty Items** | | $ | 4,045,300 |
| 5 | **Environmental** | | $ | 943,900 |
| | **5A** Environmental Mitigation | $ 381,000 | | |
| | **5B** Landscape and Irrigation | $ - | | |
| | **5C** Erosion Control | $ 164,820 | | |
| | **5D** NPDES | $ 398,000 | | |
| 6 | **Traffic Items** | | $ | 1,739,300 |
| | **6A** Electrical | $ 550,000 | | |
| | **6B** Signing and Striping | $ 337,210 | | |
| | **6C** Traffic Management Plan | $ 52,000 | | |
| | **6D** Traffic Control | $ 800,000 | | |
| 7 | **Detours** | | $ | - |
| 8 | **Minor Items** | | $ | 1,456,100 |
| 9 | **Roadway Mobilization** | | $ | 1,601,700 |
| 10 | **Supplemental Work** | | $ | 1,147,900 |
| 11 | **State Furnished** | | $ | 755,200 |
| 12 | **Contingencies** | | $ | 4,880,400 |
| 13 | **Overhead** | | $ | 1,063,100 |

| **TOTAL ROADWAY ITEMS** | **$** | **25,464,800** |
|---|---|---|

| | | | |
|---|---|---|---|
| **Estimate Prepared By :** | 12/16/2019 | (619) 490-9567 |
| **Nicholas Haigh, P.E. Project Engineer** | **Date** | **Phone** |
| **Estimate Reviewed By :** | 12/16/2019 | (858) 414-7803 |
| **Michael Crull, P.E. Project Manager** | **Date** | **Phone** |

**By signing this estimate you are attesting that you have discussed your project with all functional units and have incorporated all their comments or have discussed with them why they will not be incorporated.**

## SECTION 1 EARTHWORK

| Item code | | Unit | Quantity | | Unit Price ($) | | | Cost | Unit |
|---|---|---|---|---|---|---|---|---|---|
| 190101 | Roadway Excavation | CY | 33,687 | x | 30.00 | = | $ | 1,010,610 | |
| 192053 | Structure Excavation (Type Z-2) (ADL) | CY | 0 | x | | = | $ | - | |
| 194001 | Ditch Excavation | CY | 55 | x | 150.00 | = | $ | 8,250 | |
| 19801X | Imported Borrow | CY/TON | 0 | x | | = | $ | - | |
| 192037 | Structure Excavation (Retaining Wall) | CY | 1,843 | x | 60.00 | = | $ | 110,580 | |
| 193013 | Structure Backfill (Retaining Wall) | CY | 854 | x | 110.00 | = | $ | 93,940 | |
| 193031 | Pervious Backfill Material (Retaining Wall) | CY | 403 | x | 120.00 | = | $ | 48,360 | |
| 160102 | Clearing & Grubbing | ACRE | 18 | x | 3,000.00 | = | $ | 54,000 | |
| 170101 | Develop Water Supply | LS | 1 | x | 20,000.00 | = | $ | 20,000 | |
| 19801X | Imported Borrow | CY/TON | 0 | x | | = | $ | - | |
| 210130 | Duff | ACRE | 0 | x | | = | $ | - | |

**TOTAL EARTHWORK SECTION ITEMS $ 1,345,800**

## Section 2 STRUCTURAL SECTION

| Item code | | Unit | Quantity | | Unit Price ($) | | | Cost | Unit |
|---|---|---|---|---|---|---|---|---|---|
| 401050 | Jointed Plain Concrete Pavement | CY | 5,081 | x | 285.00 | = | $ | 1,448,085.00 | |
| 400050 | Continuously Reinforced Concrete Pavement | CY | 0 | x | | = | $ | - | |
| 519080 | Joint Seal | LF | 13,362 | x | 10.00 | = | $ | 133,620 | |
| 404093 | Seal Isolation Joint | LF | 0 | x | | = | $ | - | |
| 413117 | Seal Concrete Pavement Joint (Silicone) | LF | 0 | x | | = | $ | - | |
| 413118 | Seal Pavement Joint (Asphalt Rubber) | LF | 0 | x | | = | $ | - | |
| 280010 | Rapid Strength Concrete Base | CY | 0 | x | | = | $ | - | |
| 410096 | Drill and Bond (Dowel Bar) | EA | 5,726 | x | 30.00 | = | $ | 171,780 | |
| 390132 | Hot Mix Asphalt (Type A) | TON | 18,447 | x | 140.00 | = | $ | 2,582,580 | |
| 390401 | Hot Mix Asphalt-Open Graded (OGFC) | TON | 2,344 | x | 125.00 | = | $ | 293,000 | |
| 39300X | Geosynthetic Pavement Interlayer (Type X) | SQYD | 0 | x | | = | $ | - | |
| 260203 | Class 2 Aggregate Base | CY | 20,467 | x | 45.00 | = | $ | 921,015 | |
| 290201 | Asphalt Treated Permeable Base | CY | 0 | x | | = | $ | - | |
| 250401 | Class 4 Aggregate Subbase | CY | 0 | x | | = | $ | - | |
| 374002 | Asphaltic Emulsion (Fog Seal Coat) | LS | 1 | x | 2,000.00 | = | $ | 2,000 | |
| 397005 | Tack Coat | TON | 2 | x | 2,000.00 | = | $ | 4,000 | |
| 377501 | Slurry Seal | TON | 0 | x | | = | $ | - | |
| 3750XX | Screenings (Type XX) | TON | 0 | x | | = | $ | - | |
| 374492 | Asphaltic Emulsion (Polymer Modified) | TON | 0 | x | | = | $ | - | |
| 370001 | Sand Cover (Seal) | TON | 0 | x | | = | $ | - | |
| 731530 | Minor Concrete (Textured Paving) | CY | 549 | x | 600.00 | = | $ | 329,400 | |
| 731502 | Minor Concrete (Miscellaneous Construction) | CY | 200 | x | 500.00 | = | $ | 100,000 | |
| 394075 | Place Hot Mix Asphalt Dike (Type E) | LF | 11,695 | x | 2.00 | = | $ | 23,390 | |
| 150771 | Remove Asphalt Concrete Dike | LF | 0 | x | | = | $ | - | |
| 420201 | Grind Existing Concrete Pavement | SQYD | 5,938 | x | 13.00 | = | $ | 77,194 | |
| 150860 | Remove Base and Surfacing | CY | 0 | x | | = | $ | - | |
| 390095 | Replace Asphalt Concrete Surfacing | CY | 0 | x | | = | $ | - | |
| 15312X | Remove Concrete | LF/CY/LS | 0 | x | | = | $ | - | |
| 394090 | Place Hot Mix Asphalt (Miscellaneous Area) | SQYD | 0 | x | | = | $ | - | |
| 153103 | Cold Plane Asphalt Concrete Pavement | SQYD | 0 | x | | = | $ | - | |
| 39405X | Shoulder Rumble Strip (HMA, X-In Indentations) | STA | 0 | x | | = | $ | - | |
| 413113 | Repair Spalled Joints, Polyester Grout | SQYD | 0 | x | | = | $ | - | |
| 420102 | Groove Existing Concrete Pavement | SQYD | 0 | x | | = | $ | - | |
| 390136 | Minor Hot Mix Asphalt | TON | 0 | x | | = | $ | - | |
| 394095 | Roadside Paving (Miscellaneous Areas) | SQYD | 0 | x | | = | $ | - | |

**TOTAL STRUCTURAL SECTION ITEMS $ 6,086,100**

## SECTION 3 DRAINAGE

| Item code | | Unit | Quantity | | Price | | Amount | Unit |
|---|---|---|---|---|---|---|---|---|
| 15080X | Remove Culvert | EA/LF | 0 | x | | = | $ - | |
| 150820 | Modify Inlet | EA | 50 | x | 4,000.00 | = | $ 200,000 | |
| 155232 | Sand Backfill | CY | 0 | x | | = | $ - | |
| 15020X | Abandon Culvert | EA/LF | 0 | x | | = | $ - | |
| 152430 | Adjust Inlet | LF | 0 | x | | = | $ - | |
| 155003 | Cap Inlet | EA | 0 | x | | = | $ - | |
| 510501 | Minor Concrete | CY | 0 | x | | = | $ - | |
| 510502 | Minor Concrete (Minor Structure) | CY | 0 | x | | = | $ - | |
| 5105XX | Minor Concrete (Type XX) | CY | 0 | x | | = | $ - | |
| 620XXX | XX" Alternative Pipe Culvert (Type X) | LF | 0 | x | | = | $ - | |
| 6411XX | XX" Plastic Pipe | LF | 0 | x | | = | $ - | |
| 650022 | 30" Reinforced Concrete Pipe | LF | 0 | x | | = | $ - | |
| 650026 | 36" Reinforced Concrete Pipe | LF | 0 | x | | = | $ - | |
| 68XXXX | XX" Plastic Pipe (Edge Drain) | LF | 0 | x | | = | $ - | |
| 69011X | XX" Corrugated Steel Pipe Down drain (0.XXX" Thicl | LF | 0 | x | | = | $ - | |
| 70321X | XX" Corrugated Steel Pipe Inlet (0.XXX" Thick) | LF | 0 | x | | = | $ - | |
| 70XXXX | XX" Corrugated Steel Pipe Riser (0.XXX" Thick | LF | 0 | x | | = | $ - | |
| 7050XX | XX" Steel Flared End Section | EA | 0 | x | | = | $ - | |
| 703233 | Grated Line Drain | LF | 0 | x | | = | $ - | |
| 72XXXX | Rock Slope Protection (Type and Method) | CY/TON | 0 | x | | = | $ - | |
| 72901X | Rock Slope Protection Fabric (Class X) | SQYD | 0 | x | | = | $ - | |
| 721420 | Concrete (Ditch Lining) | CY | 0 | x | | = | $ - | |
| 721430 | Concrete (Channel Lining) | CY | 0 | x | | = | $ - | |
| 750001 | Miscellaneous Iron and Steel | LB | 0 | x | | = | $ - | |
| XXXXXX | Additional Drainage | LS | 1 | x | 200,000.00 | = | $ 200,000 | |

**TOTAL DRAINAGE ITEMS $ 400,000**

## SECTION 4 SPECIALTY ITEMS

| Item code | | Unit | Quantity | | Unit Price ($) | | Cost | Unit |
|---|---|---|---|---|---|---|---|---|
| 080050 | Progress Schedule (Critical Path Method) | LS | 0 | x | | = | $ - | |
| 582001 | Sound Wall (Masonry Block) | SQFT | 0 | x | | = | $ - | |
| 510530 | Minor Concrete (Wall) | CY | 0 | x | | = | $ - | |
| 15325X | Remove Sound Wall | LF/LS | 0 | x | | = | $ - | |
| 070300 | Lead Compliance Plan | LS | 1 | x | 20,000.00 | = | $ 20,000 | Yellow line remo |
| 141120 | Treated Wood Waste | LB | 12,000 | x | 0.50 | = | $ 6,000 | |
| 153229 | Remove Concrete Barrier (Type K) | LF | 22,580 | x | 5.00 | = | $ 112,900 | |
| 150662 | Remove Metal Beam Guard Railing | LF | 3,714 | x | 20.00 | = | $ 74,280 | TBB removal |
| 150668 | Remove Flared End Section | EA | 0 | x | | = | $ - | |
| 800360 | Chain Link Fence (Type CL-6) | LF | 586 | x | 30.00 | = | $ 17,580 | |
| 80XXXX | XX" Chain Link Gate (Type CL-6) | EA | 0 | x | | = | $ - | |
| 832005 | Metal Beam Guard Railing | LF | 150 | x | 40.00 | = | $ 6,000 | |
| 839301 | Single Thrie Beam Barrier | LF | 0 | x | | = | $ - | |
| 839310 | Double Thrie Beam Barrier | LF | 0 | x | | = | $ - | |
| 839521 | Cable Railing | LF | 1,005 | x | 30.00 | = | $ 30,150 | |
| 8395XX | Terminal System (Type CAT) | EA | 0 | x | | = | $ - | |
| 839585 | Alternative Flared Terminal System | EA | 0 | x | | = | $ - | |
| 839584 | Alternative In-line Terminal System | EA | 8 | x | 4,250.00 | = | $ 34,000 | |
| 4906XX | CIDH Concrete Piling *(Insert Diameter)* | LF | 0 | x | | = | $ - | |
| 839604 | Crash Cushion (REACT 9CBB) | EA | 2 | x | 60,000.00 | = | $ 120,000 | |
| 839640 | Concrete Barrier (Type 60M) | LF | 22,258 | x | 120.00 | = | $ 2,670,960 | |
| 839640A | Concrete Barrier (Type 60M(Mod)) | LF | 1,755 | x | 200.00 | = | $ 351,000 | |
| 839643 | Concrete Barrier (Type 60MD) | LF | 1,004 | x | 100.00 | = | $ 100,400 | |
| 520103 | Bar Reinforced Steel (Retaining Wall) | LB | 39,608 | x | 1.50 | = | $ 59,412 | |
| 510060 | Structural Concrete, Retaining Wall | CY | 766 | x | 550.00 | = | $ 421,300 | |
| 513553 | Retaining Wall (Masonry Wall) | SQFT | 0 | x | | = | $ - | |
| 511035 | Architectural Treatment | SQFT | 0 | x | | = | $ - | |
| 598001 | Anti-Graffiti Coating | SQFT | | x | | = | $ - | |
| 203070 | Rock Stain | SQFT | 0 | x | | = | $ - | |
| 5136XX | Reinforced Concrete Crib Wall (Type X) | SQFT | 0 | x | | = | $ - | |
| 839543 | Transition Railing (Type WB-31) | EA | 4 | x | 4,275.00 | = | $ 17,100 | |
| 597601 | Prepare and Stain Concrete | SQFT | 0 | x | | = | $ - | |
| 839561 | Rail Tensioning Assembly | EA | 0 | x | | = | $ - | |
| 839581 | End Anchor Assembly (Type SFT) | EA | 4 | x | 1,050.00 | = | $ 4,200 | |

**TOTAL SPECIALTY ITEMS $ 4,045,300**

## Section 5 ENVIRONMENTAL

### 5A - ENVIRONMENTAL MITIGATION

| Item code | | Unit | Quantity | | Price | | Amount | Unit |
|---|---|---|---|---|---|---|---|---|
| XXXXXX | Environmental Monitoring (12 months construction) | LS | 1 | x | 225,000.00 | = | $ 225,000 | |
| 141000 | Temporary Fence (Type ESA) | LF | 26,000 | x | 6.00 | = | $ 156,000 | |

*Subtotal Environmental* *$ 381,000*

### 5B - LANDSCAPE AND IRRIGATION

| Item code | | Unit | Quantity | | Price | | Amount |
|---|---|---|---|---|---|---|---|
| 200001 | Highway Planting | LS | 0 | x | | = | $ - |
| 208000 | Irrigation System | LS | 0 | x | | = | $ - |
| 204099 | Plant Establishment Work | LS | 0 | x | | = | $ - |
| 204101 | Extend Plant Establishment Work | LS | 0 | x | | = | $ - |
| 20XXXX | Follow-up Landscape Project | LS | 0 | x | | = | $ - |
| 150685 | Remove Irrigation Facility | LS | 0 | x | | = | $ - |
| 20XXXX | Maintain Existing (Irrigation or Planted Areas) | LS | 0 | x | | = | $ - |
| 206400 | Check and Test Existing Irrigation Facilities | LS | 0 | x | | = | $ - |
| 21011X | Imported Topsoil (X) | CY/TON | 0 | x | | = | $ - |
| 20XXXX | Rock Blanket, Rock Mulch, DG, Gravel Mulch | SQFT/SQYD | 0 | x | | = | $ - |
| 200122 | Weed Germination | SQYD | 0 | x | | = | $ - |
| 208304 | Water Meter | EA | 0 | x | | = | $ - |
| 2087XX | XX" Conduit (Use for Irrigation x-overs) | LF | 0 | x | | = | $ - |
| 20890X | Extend X" Conduit *(Use for Extension of Irrigation x-overs)* | LF | 0 | x | | = | $ - |

*Subtotal Landscape and Irrigation* *$ -*

### 5C - EROSION CONTROL

| Item code | | Unit | Quantity | | Price | | Amount | Unit |
|---|---|---|---|---|---|---|---|---|
| 210010 | Move In/Move Out (Erosion Control) | EA | 4 | x | 1,000.00 | = | $ 4,000 | |
| 210350 | Fiber Rolls | LF | 50,000 | x | 3.00 | = | $ 150,000 | |
| 210360 | Compost Sock | LF | 0 | x | | = | $ - | |
| 2102XX | Rolled Erosion Control Product (X) | SQFT | 0 | x | | = | $ - | |
| 21025X | Bonded Fiber Matrix | SQFT/ACRE | 0 | x | | = | $ - | |
| 210300 | Hydromulch | SQFT | 0 | x | | = | $ - | |
| 210420 | Straw | SQFT | 0 | x | | = | $ - | |
| 210430 | Hydroseed | SQFT | 54,100 | x | 0.20 | = | $ 10,820 | |
| 210600 | Compost | SQFT | 0 | x | | = | $ - | |
| 210630 | Incorporate Materials | SQFT | 0 | x | | = | $ - | |

*Subtotal Environmental* *$ 164,820*

### 5D - NPDES

| Item code | | Unit | Quantity | | Price | | Amount | Unit |
|---|---|---|---|---|---|---|---|---|
| 130300 | Prepare SWPPP | LS | 1 | x | 20,000.00 | = | $ 20,000 | |
| 130200 | Prepare WPCP | LS | 0 | x | | = | $ - | |
| 130100 | Job Site Management | LS | 1 | x | 50,000.00 | = | $ 50,000 | |
| 130330 | Storm Water Annual Report | EA | 0 | x | | = | $ - | |
| 130310 | Rain Event Action Plan (REAP) | EA | 1 | x | 1,000.00 | = | $ 1,000 | |
| 130320 | Storm Water Sampling and Analysis Day | EA | 0 | x | | = | $ - | |
| 130520 | Temporary Hydraulic Mulch | SQYD | 0 | x | | = | $ - | |
| 130550 | Temporary Hydroseed | SQYD | 0 | x | | = | $ - | |
| 130505 | Move-In/Move-Out (Temporary Erosion Control) | EA | 4 | x | 1,000.00 | = | $ 4,000 | |
| 130640 | Temporary Fiber Roll | LF | 50,000 | x | 3.00 | = | $ 150,000 | |
| 130900 | Temporary Concrete Washout | EA | 8 | x | 5,000.00 | = | $ 40,000 | |
| 130710 | Temporary Construction Entrance | EA | 8 | x | 6,000.00 | = | $ 48,000 | |
| 130610 | Temporary Check Dam | LF | 0 | x | | = | $ - | |
| 130620 | Temporary Drainage Inlet Protection | EA | 100 | x | 350.00 | = | $ 35,000 | |
| 130730 | Street Sweeping | LS | 1 | x | 50,000.00 | = | $ 50,000 | |
| **Supplemental Work for NPDES** | | | | | | | | |
| 066595 | Water Pollution Control Maintenance Sharing* | LS | 1 | x | 10,000.00 | = | $ 10,000 | |
| 066596 | Additional Water Pollution Control** | LS | 1 | x | 5,000.00 | = | $ 5,000 | |
| 066597 | Storm Water Sampling and Analysis*** | LS | 1 | x | 5,000.00 | = | $ 5,000 | |

*Subtotal NPDES (Without Supplemental Work)* *$ 398,000*

*Applies to all SWPPPs and those WPCPs with sediment control or soil stabilization BMPs.

**Applies to both SWPPPs and WPCP projects.

*** Applies only to project with SWPPPs.

**TOTAL ENVIRONMENTAL $ 943,900**

## Section 6 TRAFFIC ITEMS

### 6A - Traffic Electrical

| Item code | | Unit | Quantity | | Unit Price ($) | | | Cost | Unit |
|---|---|---|---|---|---|---|---|---|---|
| 860402 | Lighting (City Street) | LS | 0 | x | | = | $ | - | |
| 860420 | Lighting (Bridge Soffit) | LS | 0 | x | | = | $ | - | |
| 860990 | Closed Circuit Television System | LS | 0 | x | | = | $ | - | |
| 86110X | Ramp Metering System (Location X) | LS | 0 | x | | = | $ | - | |
| 86070X | Interconnection Conduit and Cable | LF/LS | 0 | x | | = | $ | - | |
| 5602XX | Furnish Sign Structure (Type X) | EA | 6 | x | 50,000.00 | = | $ | 300,000 | |
| 5602XX | Install Sign Structure (Type X) | EA | 6 | x | 20,000.00 | = | $ | 120,000 | |
| 498040 | XX" CIDHC Pile (Sign Foundation) | LF | 0 | x | | = | $ | - | |
| 86080X | Inductive Loop Detectors | EA/LS | 0 | x | | = | $ | - | |
| 8609XX | Traffic Monitoring Station (Type X) | LS | 0 | x | | = | $ | - | |
| 15075X | Remove Sign Structure | EA | 6 | x | 20,000.00 | = | $ | 120,000 | |
| 151581 | Reconstruct Sign Structure | EA | 0 | x | | = | $ | - | |
| 152641 | Modify Sign Structure | EA | 0 | x | | = | $ | - | |
| 860090 | Maintain Existing Traffic Management System Elements During Construction | LS | 1 | x | 10,000.00 | = | $ | 10,000 | |

*Subtotal Traffic Electrical* *$ 550,000*

### 6B - Traffic Signing and Striping

| Item code | | Unit | Quantity | | Unit Price ($) | | | Cost | Unit |
|---|---|---|---|---|---|---|---|---|---|
| 566011 | Roadside Sign - One Post | EA | 20 | x | 300.00 | = | $ | 6,000 | |
| 566012 | Roadside Sign - Two Post | EA | 20 | x | 500.00 | = | $ | 10,000 | |
| 560248 | Furnish Single Sheet Aluminum Sign (0.063" unframed) | SQFT | 0 | x | | = | $ | - | |
| 568016 | Install Sign Panel on Existing Frame | SQFT | 0 | x | | = | $ | - | |
| 150711 | Remove Painted Traffic Stripe | LF | 120,000 | x | 0.40 | = | $ | 48,000 | |
| 141101 | Remove Yellow Painted Traffic Stripe (Hazardous Waste) | LF | 0 | x | | = | $ | - | |
| 150712 | Remove Painted Pavement Marking | SQFT | 0 | x | | = | $ | - | |
| 150742 | Remove Roadside Sign | EA | 20 | x | 150.00 | = | $ | 3,000 | |
| 152320 | Reset Roadside Sign | EA | 0 | x | | = | $ | - | |
| 152390 | Relocate Roadside Sign | EA | 0 | x | | = | $ | - | |
| 820105 | Delineator (Special) - barrier mounted | EA | 1,255 | x | 20.00 | = | $ | 25,100 | |
| 810230 | Pavement Marker (Retroreflective) | EA | 1,930 | x | 4.00 | = | $ | 7,720 | |
| 846007 | 6" Thermoplastic Traffic Stripe (Enhanced Wet Night Visibility | LF | 80,900 | x | 0.85 | = | $ | 68,765 | |
| 846009 | 8" Thermoplastic Traffic Stripe (Enhanced Wet Night Visibility | LF | 7,300 | x | 1.25 | = | $ | 9,125 | |
| 847092A | 6" Traffic Stripe Tape with Contrast (Broken 36-12) (Warranty | LF | 59,000 | x | 2.50 | = | $ | 147,500 | |
| 840515 | Thermoplastic Pavement Marking | SQFT | 200 | x | 10.00 | = | $ | 2,000 | |
| 120090 | Construction Area Signs | LS | 1 | x | 10,000.00 | = | $ | 10,000 | |

*Subtotal Traffic Signing and Striping* *$ 337,210*

### 6C - Traffic Management Plan

| Item code | | Unit | Quantity | | Unit Price ($) | | | Cost | Unit |
|---|---|---|---|---|---|---|---|---|---|
| 128651 | Portable Changeable Message Signs | EA | 8 | x | 6,500.00 | = | $ | 52,000 | |

*Subtotal Traffic Management Plan* *$ 52,000*

### 6D - Stage Construction and Traffic Handling

| Item code | | Unit | Quantity | | Unit Price ($) | | | Cost |
|---|---|---|---|---|---|---|---|---|
| 120199 | Traffic Plastic Drum | EA | 0 | x | | = | $ | - |
| 12016X | Channelizer (Type X) | EA | 0 | x | | = | $ | - |
| 120120 | Type III Barricade | EA | 0 | x | | = | $ | - |
| 129100 | Temporary Crash Cushion Module | EA | 0 | x | | = | $ | - |
| 120100 | Traffic Control System | LS | 1 | x | 800,000.00 | = | $ | 800,000 |
| 129110 | Temporary Crash Cushion | EA | 0 | x | | = | $ | - |
| 129000 | Temporary Railing (Type K) | LF | 0 | x | | = | $ | - |
| 120149 | Temporary Pavement Marking (Paint) | SQFT | 0 | x | | = | $ | - |
| 82010X | Delineator (Class X) | EA | 0 | x | | = | $ | - |

*Subtotal Stage Construction and Traffic Handling* *$ 800,000*

**TOTAL TRAFFIC ITEMS $ 1,739,300**

## Section 7 DETOURS*

| Item code | | Unit | Quantity | | Unit Price ($) | | Cost |
|---|---|---|---|---|---|---|---|
| 190101 | Roadway Excavation | CY | 0 | x | | = $ | - |
| 19801X | Imported Borrow | CY/TON | 0 | x | | = $ | - |
| 390132 | Hot Mix Asphalt (Type A) | TON | 0 | x | | = $ | - |
| 26020X | Class 2 Aggregate Base | TON/CY | 0 | x | | = $ | - |
| 250401 | Class 4 Aggregate Subbase | CY | 0 | x | | = $ | - |
| 130620 | Temporary Drainage Inlet Protection | EA | 0 | x | | = $ | - |
| 129000 | Temporary Railing (Type K) | LF | 0 | x | | = $ | - |
| 128601 | Temporary Signal System | LS | 0 | x | | = $ | - |
| 120149 | Temporary Pavement Marking (Paint) | SQFT | 0 | x | | = $ | - |
| 80010X | Temporary Fence (Type X) | LF | 0 | x | | = $ | - |

* Includes constructing, maintaining, and removal

**TOTAL DETOURS $ -**

## Section 8 MINOR ITEMS (Use Appropriate percentage between 5%-10%)

Total of Section 1-7 14,560,400 x 10% = $ 1,456,040

**TOTAL MINOR ITEMS $ 1,456,100**

## Section 9 ROADWAY MOBILIZATION*

| Item code | | | | | | | |
|---|---|---|---|---|---|---|---|
| 999990 | Total Section 1-8 | $ | 16,016,500 | x | 10% | = | $ 1,601,650 |

**TOTAL MOBILIZATION $ 1,601,700**

* For Project less than 50 Working Days "Mobilization" is not required as a separate contract item, however contract item prices should take into consideration mobilization as part of the price.

Note: If the building portion of the project is greater than 50% of the total project cost, then mobilization is not included.

## Section 10 SUPPLEMENTAL WORK

Total Section 1-8 = $ 16,016,500 5% = $ 800,825

| Item code | | Unit | Quantity | | Unit Price ($) | | Cost |
|---|---|---|---|---|---|---|---|
| 066670 | Payment Adjustments For Price Index Fluctuations | LS | 1 | x | 106,000.00 | = $ | 106,000 |
| 066094 | Value Analysis | LS | 0 | x | | = $ | - |
| 066070 | Maintain Traffic | LS | 1 | x | 156,000.00 | = $ | 156,000 |
| 066919 | Dispute Resolution Board | LS | 1 | x | 15,000.00 | = $ | 15,000 |
| 066921 | Dispute Resolution Advisor | LS | 0 | x | | = $ | - |
| 066015 | Federal Trainee Program | LS | 0 | x | | = $ | - |
| 066610 | Partnering | LS | 1 | x | 50,000.00 | = $ | 50,000 |
| 066204 | Remove Rock and Debris | LS | 0 | x | | = $ | - |
| 066222 | Locate Existing Crossover | LS | 0 | x | | = $ | - |

***NPDES*** *Supplemental Work specified in Section 5C* = $ 20,000

**TOTAL SUPPLEMENTAL WORK $ 1,147,900**

## Section 11 STATE FURNISHED MATERIALS AND EXPENSES

| Item code | | Unit | Quantity | | Unit Price ($) | | Cost |
|---|---|---|---|---|---|---|---|
| 066105 | Resident Engineers Office | LS | 1 | x | 135,200.00 | = | $135,200 |
| 066063 | Traffic Management Plan - Public Information | LS | 1 | x | 20,000.00 | = | $20,000 |
| 066901 | Water Expenses | LS | 0 | x | | = | $0 |
| 8609XX | Traffic Monitoring Station (X) | LS | 0 | x | | = | $0 |
| 066841 | Traffic Controller Assembly | LS | 0 | x | | = | $0 |
| 066840 | Traffic Signal Controller Assembly | LS | 0 | x | | = | $0 |
| 066062 | COZEEP Contract | LS | 1 | x | 600,000.00 | = | $600,000 |
| 066838 | Reflective Numbers and Edge Sealer | LS | 0 | x | | = | $0 |
| 066065 | Tow Truck Service Patrol | LS | 0 | x | | = | $0 |

**TOTAL STATE FURNISHED $755,200**

## Section 12 CONTINGENCY

Use appropriate percentage based on the detail of estimate. Anything other than the suggested contingency in the PDPM needs to be *justified. (Pre-PSR 30%-50%, PSR 25%, PR 20%, PAR 15%, After PAR 10%)

| | | | | | | |
|---|---|---|---|---|---|---|
| Total Section 1-11 | $ | 19,521,300 | x | 25% | = | $4,880,325 |

**TOTAL CONTINGENCY $4,880,400**

*Justification:

## Section 13 OVERHEAD

| Item code | | Unit | Quantity | | Unit Price ($) | | Cost |
|---|---|---|---|---|---|---|---|
| 090100 | Time-Related Overhead | WDAY | 360 | X | 2953 | = | $1,063,100 |

Note: If the building portion of the project is greater than 50% of the total project cost, then TRO is not included.

**TOTAL OVERHEAD $1,063,100**

## II. STRUCTURES ITEMS

| | Bridge 1 | Bridge 2 |
|---|---|---|
| DATE OF ESTIMATE | 11/29/18 | 11/29/18 |
| Bridge Name | Oak Canyon Bridge | Spring Canyon Bridge |
| Bridge Number | 57-981R | 57-982R |
| Structure Type | Widening w/ Lightweight FRP | Widening w/ Lightweight FRP |
| Width (Feet) [out to out] | 11.33 LF | 11.33 LF |
| Total Bridge Length (Feet) | 720.00 LF | 780.00 LF |
| Total Area (Square Feet) | 8157.60 SQFT | 8837.40 SQFT |
| Structure Depth (Feet) | 1.50 FT | 1.50 FT |
| Footing Type (pile or spread) | N/A | N/A |
| Cost Per Square Foot | $309.28 | $308.01 |
| **COST OF EACH STRUCTURE** | **$2,523,000.00** | **$2,722,000.00** |

| | | |
|---|---|---|
| DATE OF ESTIMATE | | |
| Name | | |
| Bridge Number | | |
| Structure Type | | |
| Width (Feet) [out to out] | | |
| Total Length (Feet) | | |
| Total Area (Square Feet) | | |
| Structure Depth (Feet) | | |
| Footing Type (pile or spread) | | |
| Cost Per Square Foot | | |
| **COST OF EACH STRUCTURE** | | |

| | |
|---|---|
| **TOTAL COST OF BRIDGES** | **$5,245,000.00** |
| **TOTAL COST OF BUILDINGS** | **$0.00** |
| **TOTAL COST OF STRUCTURES[1]** | **$5,245,000.00** |

Estimate Prepared By: _____ 11/29/2018

**Keith Gazaway, P.E. Structural Engineer** **Date**

[1]Structure's Estimate includes Overhead and Mobilization.

# III. RIGHT OF WAY

| | | | |
|---|---|---|---|
| A) | Acquisition, including Excess Lands, Fees, Damages, Goodwill, Mitigation, SB-1210, Expert Witness, and Railroad | $ | 0 |
| B) | Utility Relocation (State Share) + Potholing (Design Phase) | $ | 0 |
| C) | Utility - Advance Engineering Estimate | $ | 0 |
| D) | RAP and/or Last Resort Housing | $ | 0 |
| E) | Clearance & Demolition | $ | 0 |
| F) | Title and Escrow | $ | 0 |

| | | |
|---|---|---|
| G) | **TOTAL R/W ESTIMATE:** | **$0.00** |
| H) | **TOTAL R/W ESTIMATE: Escalated to Certification Date** | **$0.00** |
| I) | **RIGHT OF WAY SUPPORT:** | **$20,000.00** |

| | | |
|---|---|---|
| **Support Cost Estimate Prepared By:** | Michael Crull - Project Coordinator | (858) 414-7803 Phone |
| **Railroad Estimate Prepared By:** | N/A<br>Name - Railroad Coordinator | (xxx) xxx-xxxx<br>Phone |
| **Utility Estimate Prepared By:** | Barbara Bartholomae - Utility Estimator | (619) 610-7733 Phone |

# IV. SUPPORT COST ESTIMATE SUMMARY

Run a Support Cost Estimate Summary report (D11 Project Management Support onramp) for component data.

| Total by FY | | PA&ED | PS&E | RW | CON | Total |
|---|---|---|---|---|---|---|
| < 2005 | Expended | | | | | |
| 2006 | Expended | | | | | |
| 2007 | Expended | | | | | |
| 2008 | Expended | | | | | |
| 2009 | Expended | | | | | |
| 2010 | Expended | | | | | |
| 2011 | Expended | | | | | |
| 2012 | Expended | | | | | |
| 2013 | Expended | | | | | |
| 2014 | Expended | | | | | |
| 2015 | Expended | | | | | |
| | ETC | | | | | |
| 2016 | Expended | | | | | |
| | ETC | | | | | |
| 2017 | Expended | | | | | |
| | ETC | | | | | |
| 2018 | Expended | | | | | |
| | ETC | | | | | |
| 2019 | Expended | $100,000 | | | | $100,000 |
| | ETC | | | | | |
| 2020 | Expended | | | | | $420,000 |
| | ETC | $400,000 | | $20,000 | | |
| 2021 | Expended | | | | | $500,000 |
| | ETC | | $500,000 | | | |
| 2022 | Expended | | | | | $3,300,000 |
| | ETC | | | | $3,300,000 | |
| 2023 | Expended | | | | | $3,300,000 |
| | ETC | | | | $3,300,000 | |
| 2024 | Expended | | | | | |
| | ETC | | | | | |
| 2025 | Expended | | | | | |
| | ETC | | | | | |
| 2026 | Expended | | | | | |
| | ETC | | | | | |
| 2027 | Expended | | | | | |
| | ETC | | | | | |
| 2028 | Expended | | | | | |
| | ETC | | | | | |
| 2029 | Expended | | | | | |
| | ETC | | | | | |
| > 2030 | Expended | | | | | |
| | ETC | | | | | |
| EAC (Expended + ETC) | | $500,000 | $500,000 | $20,000 | $6,600,000 | $7,620,000 |
| Programmed COS | | | | | | |
| Support Ratio | | 1% | 1% | 0% | 19% | 22% |

| | |
|---|---|
| **Total Capital Cost:** | **$34,389,000** |
| **Total Support Ratio:** | **22%** |

PRSM workplan hours/costs verified against approved

Office Chief - Jason Alsheikh for Erwin Gojuangco _____ Date

Approved by:

Program Project Management - Clint Peace _____ Date

# *11- PAGE ESTIMATE (PRELIMINARY)*

***EA: 11-43012K PID: 1117000177***

**Type of Estimate :** Project Study Report - Project Development Support (PSR-PDS)

**Program Code :**

**Project Limits :** On SR-52 between I-15 and Mission Gorge Road Undercrossing (PM 7.4 to PM 14.9)

**Description:** **SR-52 Operational Improvements Project**

**Scope :** WB Truck Climbing Lane and EB Bike Lane with Additional lane over San Diego River Bridge and Additional EB and WB Lanes Between I-15 and Santo Road

**Alternative :** **Conceptual Alternative 3 - 3 EB & 3 WB Lanes on SD River Bridge**

| | Current Cost | Escalated Cost |
|---|---|---|
| **ROADWAY ITEMS** | $ 27,231,600.00 | $ 30,493,649.00 |
| **STRUCTURE ITEMS** | $ 5,245,000.00 | $ 5,873,294.00 |
| **SUBTOTAL CONSTRUCTION COST** | $ 32,476,600.00 | $ 36,366,943.00 |
| **RIGHT OF WAY** | $ - | $ - |
| **TOTAL CAPITAL COST** | $ 32,477,000.00 | $ 36,367,000.00 |

| | | |
|---|---|---|
| **AECOM PSR-PDS/PA&ED SUPPORT (6.5%** | $ 2,111,005.00 | * |
| **CALTRANS PR&ED OVERSIGHT** | $ 500,000.00 | * |
| **AECOM PS&E SUPPORT (10%)** | $ 3,247,700.00 | * |
| **CALTRANS PS&E OVERSIGHT** | $ 500,000.00 | * |
| **RIGHT OF WAY SUPPORT** | $ 20,000.00 | |
| **CONSTRUCTION SUPPORT** | $ 7,000,000.00 | * |
| **TOTAL SUPPORT COST** | $ 13,378,705.00 | |

*** AECOM AND CALTRANS SUPPORT WILL BE DETERMINED THROUGH THE HIA**

| | | |
|---|---|---|
| **TOTAL PROJECT COST** | $ 32,500,000.00 | $ 49,750,000.00 |

| | month | year |
|---|---|---|
| Date (Month/Year) of Estimate | 3 | / 2019 |
| Estimated Date (Month/Year) of Mid-Construction | 12 | / 2021 |
| Number of Months of Escalation | 33 | |
| Number of Years of Escalation | 2.75 | |
| *If Project has been programmed enter* Programmed Amount | $ | - |
| Number of Working Days | 360 | |
| Number of Plant Establishment Days | N/A | |

***Estimated Project Schedule***

| | |
|---|---|
| *PSR-PDS (PID) Approval* | 3 / 2019 |
| *PR+ED Approval* | 1 / 2020 |
| *PS&E* | 12 / 2020 |
| *RTL* | 3 / 2021 |
| *Begin Construction* | 6 / 2021 |

**Reviewed By District O.E.**

**Leon G. Edmonds - District 11 Office Engineer** **Date** (619) 688-6735 **Phone**

**Approved by Project Manager**

**Brooke Emery - Project Manager** **Date** (619) 688-6495 **Phone**

Escalation rates used in this estimate for Highway Construction Capital Costs are 4.2% compounded annually to Construction year. The decision to use 4.2% for this estimate was as per the direction of Cost Estimating Forum due to SB-1 funding. The coded contract items are per 2015 Bid Items. (REV 08/29/18)

## I. ROADWAY ITEMS

| Section | | | | Cost |
|---|---|---|---|---|
| 1 | **Earthwork** | | $ | 1,550,700 |
| 2 | **Structural Section** | | $ | 6,969,400 |
| 3 | **Drainage** | | $ | 400,000 |
| 4 | **Specialty Items** | | $ | 4,045,500 |
| 5 | **Environmental** | | $ | 945,900 |
| | **5A** Environmental Mitigation | $ 381,000 | | |
| | **5B** Landscape and Irrigation | $ - | | |
| | **5C** Erosion Control | $ 166,820 | | |
| | **5D** NPDES | $ 398,000 | | |
| 6 | **Traffic Items** | | $ | 1,789,800 |
| | **6A** Electrical | $ 550,000 | | |
| | **6B** Signing and Striping | $ 387,770 | | |
| | **6C** Traffic Management Plan | $ 52,000 | | |
| | **6D** Traffic Control | $ 800,000 | | |
| 7 | **Detours** | | $ | - |
| 8 | **Minor Items** | | $ | 1,570,200 |
| 9 | **Roadway Mobilization** | | $ | 1,727,200 |
| 10 | **Supplemental Work** | | $ | 1,210,600 |
| 11 | **State Furnished** | | $ | 675,200 |
| 12 | **Contingencies** | | $ | 5,221,200 |
| 13 | **Overhead** | | $ | 1,125,900 |

| **TOTAL ROADWAY ITEMS** | **$** | **27,231,600** |
|---|---|---|

| | | | |
|---|---|---|---|
| **Estimate Prepared By :** | 12/16/2019 | (619) 490-9567 | |
| **Nicholas Haigh, P.E. Project Engineer** | **Date** | **Phone** | |
| **Estimate Reviewed By :** | 12/16/2019 | (858) 414-7803 | |
| **Michael Crull, P.E. Project Manager** | **Date** | **Phone** | |

**By signing this estimate you are attesting that you have discussed your project with all functional units and have incorporated all their comments or have discussed with them why they will not be incorporated.**

## SECTION 1 EARTHWORK

| Item code | | Unit | Quantity | | Unit Price ($) | | | Cost | Unit |
|---|---|---|---|---|---|---|---|---|---|
| 190101 | Roadway Excavation | CY | 40,416 | x | 30.00 | = | $ | 1,212,480 | |
| 192053 | Structure Excavation (Type Z-2) (ADL) | CY | 0 | x | | = | $ | - | |
| 194001 | Ditch Excavation | CY | 55 | x | 150.00 | = | $ | 8,250 | |
| 19801X | Imported Borrow | CY/TON | 0 | x | | = | $ | - | |
| 192037 | Structure Excavation (Retaining Wall) | CY | 1,843 | x | 60.00 | = | $ | 110,580 | |
| 193013 | Structure Backfill (Retaining Wall) | CY | 854 | x | 110.00 | = | $ | 93,940 | |
| 193031 | Pervious Backfill Material (Retaining Wall) | CY | 403 | x | 120.00 | = | $ | 48,360 | |
| 160102 | Clearing & Grubbing | ACRE | 19 | x | 3,000.00 | = | $ | 57,000 | |
| 170101 | Develop Water Supply | LS | 1 | x | 20,000.00 | = | $ | 20,000 | |
| 19801X | Imported Borrow | CY/TON | 0 | x | | = | $ | - | |
| 210130 | Duff | ACRE | 0 | x | | = | $ | - | |

**TOTAL EARTHWORK SECTION ITEMS $ 1,550,700**

## Section 2 STRUCTURAL SECTION

| Item code | | Unit | Quantity | | Unit Price ($) | | | Cost | Unit |
|---|---|---|---|---|---|---|---|---|---|
| 401050 | Jointed Plain Concrete Pavement | CY | 6,358 | x | 285.00 | = | $ | 1,812,030.00 | |
| 400050 | Continuously Reinforced Concrete Pavement | CY | 0 | x | | = | $ | - | |
| 519080 | Joint Seal | LF | 18,462 | x | 10.00 | = | $ | 184,620 | |
| 404093 | Seal Isolation Joint | LF | 0 | x | | = | $ | - | |
| 413117 | Seal Concrete Pavement Joint (Silicone) | LF | 0 | x | | = | $ | - | |
| 413118 | Seal Pavement Joint (Asphalt Rubber) | LF | 0 | x | | = | $ | - | |
| 280010 | Rapid Strength Concrete Base | CY | 0 | x | | = | $ | - | |
| 410096 | Drill and Bond (Dowel Bar) | EA | 7,911 | x | 30.00 | = | $ | 237,330 | |
| 390132 | Hot Mix Asphalt (Type A) | TON | 20,116 | x | 140.00 | = | $ | 2,816,240 | |
| 390401 | Hot Mix Asphalt-Open Graded (OGFC) | TON | 2,344 | x | 125.00 | = | $ | 293,000 | |
| 39300X | Geosynthetic Pavement Interlayer (Type X) | SQYD | 0 | x | | = | $ | - | |
| 260203 | Class 2 Aggregate Base | CY | 22,549 | x | 45.00 | = | $ | 1,014,705 | |
| 290201 | Asphalt Treated Permeable Base | CY | 0 | x | | = | $ | - | |
| 250401 | Class 4 Aggregate Subbase | CY | 0 | x | | = | $ | - | |
| 374002 | Asphaltic Emulsion (Fog Seal Coat) | LS | 1 | x | 2,000.00 | = | $ | 2,000 | |
| 397005 | Tack Coat | TON | 0 | x | | = | $ | - | |
| 377501 | Slurry Seal | TON | 0 | x | | = | $ | - | |
| 3750XX | Screenings (Type XX) | TON | 0 | x | | = | $ | - | |
| 374492 | Asphaltic Emulsion (Polymer Modified) | TON | 0 | x | | = | $ | - | |
| 370001 | Sand Cover (Seal) | TON | 0 | x | | = | $ | - | |
| 731530 | Minor Concrete (Textured Paving) | CY | 630 | x | 600.00 | = | $ | 378,000 | |
| 731502 | Minor Concrete (Miscellaneous Construction) | CY | 200 | x | 500.00 | = | $ | 100,000 | |
| 394075 | Place Hot Mix Asphalt Dike (Type E) | LF | 12,404 | x | 2.00 | = | $ | 24,808 | |
| 150771 | Remove Asphalt Concrete Dike | LF | 0 | x | | = | $ | - | |
| 420201 | Grind Existing Concrete Pavement | SQYD | 8,204 | x | 13.00 | = | $ | 106,652 | |
| 150860 | Remove Base and Surfacing | CY | 0 | x | | = | $ | - | |
| 390095 | Replace Asphalt Concrete Surfacing | CY | 0 | x | | = | $ | - | |
| 15312X | Remove Concrete | LF/CY/LS | 0 | x | | = | $ | - | |
| 394090 | Place Hot Mix Asphalt (Miscellaneous Area) | SQYD | 0 | x | | = | $ | - | |
| 153103 | Cold Plane Asphalt Concrete Pavement | SQYD | 0 | x | | = | $ | - | |
| 39405X | Shoulder Rumble Strip (HMA, X-In Indentations) | STA | 0 | x | | = | $ | - | |
| 413113 | Repair Spalled Joints, Polyester Grout | SQYD | 0 | x | | = | $ | - | |
| 420102 | Groove Existing Concrete Pavement | SQYD | 0 | x | | = | $ | - | |
| 390136 | Minor Hot Mix Asphalt | TON | 0 | x | | = | $ | - | |
| 394095 | Roadside Paving (Miscellaneous Areas) | SQYD | 0 | x | | = | $ | - | |

**TOTAL STRUCTURAL SECTION ITEMS $ 6,969,400**

## SECTION 3 DRAINAGE

| Item code | | Unit | Quantity | | Price | | Amount | Unit |
|---|---|---|---|---|---|---|---|---|
| 15080X | Remove Culvert | EA/LF | 0 | x | | = | $ - | |
| 150820 | Modify Inlet | EA | 50 | x | 4,000.00 | = | $ 200,000 | |
| 155232 | Sand Backfill | CY | 0 | x | | = | $ - | |
| 15020X | Abandon Culvert | EA/LF | 0 | x | | = | $ - | |
| 152430 | Adjust Inlet | LF | 0 | x | | = | $ - | |
| 155003 | Cap Inlet | EA | 0 | x | | = | $ - | |
| 510501 | Minor Concrete | CY | 0 | x | | = | $ - | |
| 510502 | Minor Concrete (Minor Structure) | CY | 0 | x | | = | $ - | |
| 5105XX | Minor Concrete (Type XX) | CY | 0 | x | | = | $ - | |
| 620XXX | XX" Alternative Pipe Culvert (Type X) | LF | 0 | x | | = | $ - | |
| 6411XX | XX" Plastic Pipe | LF | 0 | x | | = | $ - | |
| 650022 | 30" Reinforced Concrete Pipe | LF | 0 | x | | = | $ - | |
| 650026 | 36" Reinforced Concrete Pipe | LF | 0 | x | | = | $ - | |
| 68XXXX | XX" Plastic Pipe (Edge Drain) | LF | 0 | x | | = | $ - | |
| 69011X | XX" Corrugated Steel Pipe Down drain (0.XXX" Thicl | LF | 0 | x | | = | $ - | |
| 70321X | XX" Corrugated Steel Pipe Inlet (0.XXX" Thick) | LF | 0 | x | | = | $ - | |
| 70XXXX | XX" Corrugated Steel Pipe Riser (0.XXX" Thick | LF | 0 | x | | = | $ - | |
| 7050XX | XX" Steel Flared End Section | EA | 0 | x | | = | $ - | |
| 703233 | Grated Line Drain | LF | 0 | x | | = | $ - | |
| 72XXXX | Rock Slope Protection (Type and Method) | CY/TON | 0 | x | | = | $ - | |
| 72901X | Rock Slope Protection Fabric (Class X) | SQYD | 0 | x | | = | $ - | |
| 721420 | Concrete (Ditch Lining) | CY | 0 | x | | = | $ - | |
| 721430 | Concrete (Channel Lining) | CY | 0 | x | | = | $ - | |
| 750001 | Miscellaneous Iron and Steel | LB | 0 | x | | = | $ - | |
| XXXXXX | Additional Drainage | LS | 1 | x | 200,000.00 | = | $ 200,000 | |

**TOTAL DRAINAGE ITEMS $ 400,000**

## SECTION 4 SPECIALTY ITEMS

| Item code | | Unit | Quantity | | Unit Price ($) | | Cost | Unit |
|---|---|---|---|---|---|---|---|---|
| 080050 | Progress Schedule (Critical Path Method) | LS | 0 | x | | = | $ - | |
| 582001 | Sound Wall (Masonry Block) | SQFT | 0 | x | | = | $ - | |
| 510530 | Minor Concrete (Wall) | CY | 0 | x | | = | $ - | |
| 15325X | Remove Sound Wall | LF/LS | 0 | x | | = | $ - | |
| 070300 | Lead Compliance Plan | LS | 1 | x | 20,000.00 | = | $ 20,000 | Yellow line remo |
| 141120 | Treated Wood Waste | LB | 12,000 | x | 0.50 | = | $ 6,000 | |
| 153229 | Remove Concrete Barrier (Type K) | LF | 22,580 | x | 5.00 | = | $ 112,900 | |
| 150662 | Remove Metal Beam Guard Railing | LF | 3,714 | x | 20.00 | = | $ 74,280 | TBB removal |
| 150668 | Remove Flared End Section | EA | 0 | x | | = | $ - | |
| 800360 | Chain Link Fence (Type CL-6) | LF | 586 | x | 30.00 | = | $ 17,580 | |
| 80XXXX | XX" Chain Link Gate (Type CL-6) | EA | 0 | x | | = | $ - | |
| 832005 | Metal Beam Guard Railing | LF | 150 | x | 40.00 | = | $ 6,000 | |
| 839301 | Single Thrie Beam Barrier | LF | 0 | x | | = | $ - | |
| 839310 | Double Thrie Beam Barrier | LF | 0 | x | | = | $ - | |
| 839521 | Cable Railing | LF | 1,005 | x | 30.00 | = | $ 30,150 | |
| 8395XX | Terminal System (Type CAT) | EA | 0 | x | | = | $ - | |
| 839585 | Alternative Flared Terminal System | EA | 0 | x | | = | $ - | |
| 839584 | Alternative In-line Terminal System | EA | 8 | x | 4,250.00 | = | $ 34,000 | |
| 4906XX | CIDH Concrete Piling *(Insert Diameter)* | LF | 0 | x | | = | $ - | |
| 839604 | Crash Cushion (REACT 9CBB) | EA | 2 | x | 60,000.00 | = | $ 120,000 | |
| 839640 | Concrete Barrier (Type 60M) | LF | 22,258 | x | 120.00 | = | $ 2,670,960 | |
| 839640A | Concrete Barrier (Type 60M(Mod)) | LF | 1,756 | x | 200.00 | = | $ 351,200 | |
| 839642 | Concrete Barrier (Type 60MD) | LF | 1,004 | x | 100.00 | = | $ 100,400 | |
| 520103 | Bar Reinforced Steel (Retaining Wall) | LB | 39,608 | x | 1.50 | = | $ 59,412 | |
| 510060 | Structural Concrete, Retaining Wall | CY | 766 | x | 550.00 | = | $ 421,300 | |
| 513553 | Retaining Wall (Masonry Wall) | SQFT | 0 | x | | = | $ - | |
| 511035 | Architectural Treatment | SQFT | 0 | x | | = | $ - | |
| 598001 | Anti-Graffiti Coating | SQFT | | x | | = | $ - | |
| 203070 | Rock Stain | SQFT | 0 | x | | = | $ - | |
| 5136XX | Reinforced Concrete Crib Wall (Type X) | SQFT | 0 | x | | = | $ - | |
| 839543 | Transition Railing (Type WB-31) | EA | 4 | x | 4,275.00 | = | $ 17,100 | |
| 597601 | Prepare and Stain Concrete | SQFT | 0 | x | | = | $ - | |
| 839561 | Rail Tensioning Assembly | EA | 0 | x | | = | $ - | |
| 839581 | End Anchor Assembly (Type SFT) | EA | 4 | x | 1,050.00 | = | $ 4,200 | |

**TOTAL SPECIALTY ITEMS $ 4,045,500**

## Section 5 ENVIRONMENTAL

### 5A - ENVIRONMENTAL MITIGATION

| Item code | | Unit | Quantity | | Price | | Amount | Unit |
|---|---|---|---|---|---|---|---|---|
| XXXXXX | Environmental Monitoring (12 months construction) | LS | 1 | x | 225,000.00 | = | $ 225,000 | |
| 141000 | Temporary Fence (Type ESA) | LF | 26,000 | x | 6.00 | = | $ 156,000 | |

*Subtotal Environmental* *$ 381,000*

### 5B - LANDSCAPE AND IRRIGATION

| Item code | | Unit | Quantity | | Price | | Amount |
|---|---|---|---|---|---|---|---|
| 200001 | Highway Planting | LS | 0 | x | | = | $ - |
| 208000 | Irrigation System | LS | 0 | x | | = | $ - |
| 204099 | Plant Establishment Work | LS | 0 | x | | = | $ - |
| 204101 | Extend Plant Establishment Work | LS | 0 | x | | = | $ - |
| 20XXXX | Follow-up Landscape Project | LS | 0 | x | | = | $ - |
| 150685 | Remove Irrigation Facility | LS | 0 | x | | = | $ - |
| 20XXXX | Maintain Existing (Irrigation or Planted Areas) | LS | 0 | x | | = | $ - |
| 206400 | Check and Test Existing Irrigation Facilities | LS | 0 | x | | = | $ - |
| 21011X | Imported Topsoil (X) | CY/TON | 0 | x | | = | $ - |
| 20XXXX | Rock Blanket, Rock Mulch, DG, Gravel Mulch | SQFT/SQYD | 0 | x | | = | $ - |
| 200122 | Weed Germination | SQYD | 0 | x | | = | $ - |
| 208304 | Water Meter | EA | 0 | x | | = | $ - |
| 2087XX | XX" Conduit (Use for Irrigation x-overs) | LF | 0 | x | | = | $ - |
| 20890X | Extend X" Conduit *(Use for Extension of Irrigation x-overs)* | LF | 0 | x | | = | $ - |

*Subtotal Landscape and Irrigation* *$ -*

### 5C - EROSION CONTROL

| Item code | | Unit | Quantity | | Price | | Amount | Unit |
|---|---|---|---|---|---|---|---|---|
| 210010 | Move In/Move Out (Erosion Control) | EA | 4 | x | 1,000.00 | = | $ 4,000 | |
| 210350 | Fiber Rolls | LF | 50,000 | x | 3.00 | = | $ 150,000 | |
| 210360 | Compost Sock | LF | 0 | x | | = | $ - | |
| 2102XX | Rolled Erosion Control Product (X) | SQFT | 0 | x | | = | $ - | |
| 21025X | Bonded Fiber Matrix | SQFT/ACRE | 0 | x | | = | $ - | |
| 210300 | Hydromulch | SQFT | 0 | x | | = | $ - | |
| 210420 | Straw | SQFT | 0 | x | | = | $ - | |
| 210430 | Hydroseed | SQFT | 64,100 | x | 0.20 | = | $ 12,820 | |
| 210600 | Compost | SQFT | 0 | x | | = | $ - | |
| 210630 | Incorporate Materials | SQFT | 0 | x | | = | $ - | |

*Subtotal Environmental* *$ 166,820*

### 5D - NPDES

| Item code | | Unit | Quantity | | Price | | Amount | Unit |
|---|---|---|---|---|---|---|---|---|
| 130300 | Prepare SWPPP | LS | 1 | x | 20,000.00 | = | $ 20,000 | |
| 130200 | Prepare WPCP | LS | 0 | x | | = | $ - | |
| 130100 | Job Site Management | LS | 1 | x | 50,000.00 | = | $ 50,000 | |
| 130330 | Storm Water Annual Report | EA | 0 | x | | = | $ - | |
| 130310 | Rain Event Action Plan (REAP) | EA | 1 | x | 1,000.00 | = | $ 1,000 | |
| 130320 | Storm Water Sampling and Analysis Day | EA | 0 | x | | = | $ - | |
| 130520 | Temporary Hydraulic Mulch | SQYD | 0 | x | | = | $ - | |
| 130550 | Temporary Hydroseed | SQYD | 0 | x | | = | $ - | |
| 130505 | Move-In/Move-Out (Temporary Erosion Control) | EA | 4 | x | 1,000.00 | = | $ 4,000 | |
| 130640 | Temporary Fiber Roll | LF | 50,000 | x | 3.00 | = | $ 150,000 | |
| 130900 | Temporary Concrete Washout | EA | 8 | x | 5,000.00 | = | $ 40,000 | |
| 130710 | Temporary Construction Entrance | EA | 8 | x | 6,000.00 | = | $ 48,000 | |
| 130610 | Temporary Check Dam | LF | 0 | x | | = | $ - | |
| 130620 | Temporary Drainage Inlet Protection | EA | 100 | x | 350.00 | = | $ 35,000 | |
| 130730 | Street Sweeping | LS | 1 | x | 50,000.00 | = | $ 50,000 | |
| **Supplemental Work for NPDES** | | | | | | | | |
| 066595 | Water Pollution Control Maintenance Sharing* | LS | 1 | x | 10,000.00 | = | $ 10,000 | |
| 066596 | Additional Water Pollution Control** | LS | 1 | x | 5,000.00 | = | $ 5,000 | |
| 066597 | Storm Water Sampling and Analysis*** | LS | 1 | x | 5,000.00 | = | $ 5,000 | |

*Subtotal NPDES (Without Supplemental Work)* *$ 398,000*

*Applies to all SWPPPs and those WPCPs with sediment control or soil stabilization BMPs.

**Applies to both SWPPPs and WPCP projects.

*** Applies only to project with SWPPPs.

**TOTAL ENVIRONMENTAL $ 945,900**

## Section 6 TRAFFIC ITEMS

### 6A - Traffic Electrical

| Item code | | Unit | Quantity | | Unit Price ($) | | | Cost | Unit |
|---|---|---|---|---|---|---|---|---|---|
| 860402 | Lighting (City Street) | LS | 0 | x | | = | $ | - | |
| 860420 | Lighting (Bridge Soffit) | LS | 0 | x | | = | $ | - | |
| 860990 | Closed Circuit Television System | LS | 0 | x | | = | $ | - | |
| 86110X | Ramp Metering System (Location X) | LS | 0 | x | | = | $ | - | |
| 86070X | Interconnection Conduit and Cable | LF/LS | 0 | x | | = | $ | - | |
| 5602XX | Furnish Sign Structure (Type X) | EA | 6 | x | 50,000.00 | = | $ | 300,000 | |
| 5602XX | Install Sign Structure (Type X) | EA | 6 | x | 20,000.00 | = | $ | 120,000 | |
| 498040 | XX" CIDHC Pile (Sign Foundation) | LF | 0 | x | | = | $ | - | |
| 86080X | Inductive Loop Detectors | EA/LS | 0 | x | | = | $ | - | |
| 8609XX | Traffic Monitoring Station (Type X) | LS | 0 | x | | = | $ | - | |
| 15075X | Remove Sign Structure | EA | 6 | x | 20,000.00 | = | $ | 120,000 | |
| 151581 | Reconstruct Sign Structure | EA | 0 | x | | = | $ | - | |
| 152641 | Modify Sign Structure | EA | 0 | x | | = | $ | - | |
| 860090 | Maintain Existing Traffic Management System Elements During Construction | LS | 1 | x | 10,000.00 | = | $ | 10,000 | |

*Subtotal Traffic Electrical* *$ 550,000*

### 6B - Traffic Signing and Striping

| Item code | | Unit | Quantity | | Unit Price ($) | | | Cost | Unit |
|---|---|---|---|---|---|---|---|---|---|
| 566011 | Roadside Sign - One Post | EA | 20 | x | 300.00 | = | $ | 6,000 | |
| 566012 | Roadside Sign - Two Post | EA | 20 | x | 500.00 | = | $ | 10,000 | |
| 560248 | Furnish Single Sheet Aluminum Sign (0.063" unframed) | SQFT | 0 | x | | = | $ | - | |
| 568016 | Install Sign Panel on Existing Frame | SQFT | 0 | x | | = | $ | - | |
| 150711 | Remove Painted Traffic Stripe | LF | 140,000 | x | 0.40 | = | $ | 56,000 | |
| 141101 | Remove Yellow Painted Traffic Stripe (Hazardous Waste) | LF | 0 | x | | = | $ | - | |
| 150712 | Remove Painted Pavement Marking | SQFT | 0 | x | | = | $ | - | |
| 150742 | Remove Roadside Sign | EA | 20 | x | 150.00 | = | $ | 3,000 | |
| 152320 | Reset Roadside Sign | EA | 0 | x | | = | $ | - | |
| 152390 | Relocate Roadside Sign | EA | 0 | x | | = | $ | - | |
| 820105 | Delineator (Special) - barrier mounted | EA | 1,255 | x | 20.00 | = | $ | 25,100 | |
| 810230 | Pavement Marker (Retroreflective) | EA | 2,380 | x | 4.00 | = | $ | 9,520 | |
| 846007 | 6" Thermoplastic Traffic Stripe (Enhanced Wet Night Visibility | LF | 94,000 | x | 0.85 | = | $ | 79,900 | |
| 846009 | 8" Thermoplastic Traffic Stripe (Enhanced Wet Night Visibility | LF | 8,000 | x | 1.25 | = | $ | 10,000 | |
| 847092A | 6" Traffic Stripe Tape with Contrast (Broken 36-12) (Warranty | LF | 70,500 | x | 2.50 | = | $ | 176,250 | |
| 840515 | Thermoplastic Pavement Marking | SQFT | 200 | x | 10.00 | = | $ | 2,000 | |
| 120090 | Construction Area Signs | LS | 1 | x | 10,000.00 | = | $ | 10,000 | |

*Subtotal Traffic Signing and Striping* *$ 387,770*

### 6C - Traffic Management Plan

| Item code | | Unit | Quantity | | Unit Price ($) | | | Cost | Unit |
|---|---|---|---|---|---|---|---|---|---|
| 128651 | Portable Changeable Message Signs | EA | 8 | x | 6,500.00 | = | $ | 52,000 | |

*Subtotal Traffic Management Plan* *$ 52,000*

### 6D - Stage Construction and Traffic Handling

| Item code | | Unit | Quantity | | Unit Price ($) | | | Cost |
|---|---|---|---|---|---|---|---|---|
| 120199 | Traffic Plastic Drum | EA | 0 | x | | = | $ | - |
| 12016X | Channelizer (Type X) | EA | 0 | x | | = | $ | - |
| 120120 | Type III Barricade | EA | 0 | x | | = | $ | - |
| 129100 | Temporary Crash Cushion Module | EA | 0 | x | | = | $ | - |
| 120100 | Traffic Control System | LS | 1 | x | 800,000.00 | = | $ | 800,000 |
| 129110 | Temporary Crash Cushion | EA | 0 | x | | = | $ | - |
| 129000 | Temporary Railing (Type K) | LF | 0 | x | | = | $ | - |
| 120149 | Temporary Pavement Marking (Paint) | SQFT | 0 | x | | = | $ | - |
| 82010X | Delineator (Class X) | EA | 0 | x | | = | $ | - |

*Subtotal Stage Construction and Traffic Handling* *$ 800,000*

**TOTAL TRAFFIC ITEMS $ 1,789,800**

## Section 7 DETOURS*

| Item code | | Unit | Quantity | | Unit Price ($) | | Cost |
|---|---|---|---|---|---|---|---|
| 190101 | Roadway Excavation | CY | 0 | x | | = $ | - |
| 19801X | Imported Borrow | CY/TON | 0 | x | | = $ | - |
| 390132 | Hot Mix Asphalt (Type A) | TON | 0 | x | | = $ | - |
| 26020X | Class 2 Aggregate Base | TON/CY | 0 | x | | = $ | - |
| 250401 | Class 4 Aggregate Subbase | CY | 0 | x | | = $ | - |
| 130620 | Temporary Drainage Inlet Protection | EA | 0 | x | | = $ | - |
| 129000 | Temporary Railing (Type K) | LF | 0 | x | | = $ | - |
| 128601 | Temporary Signal System | LS | 0 | x | | = $ | - |
| 120149 | Temporary Pavement Marking (Paint) | SQFT | 0 | x | | = $ | - |
| 80010X | Temporary Fence (Type X) | LF | 0 | x | | = $ | - |

* Includes constructing, maintaining, and removal

**TOTAL DETOURS $ -**

## Section 8 MINOR ITEMS (Use Appropriate percentage between 5%-10%)

Total of Section 1-7 15,701,300 x 10% = $ 1,570,130

**TOTAL MINOR ITEMS $ 1,570,200**

## Section 9 ROADWAY MOBILIZATION*

| Item code | | | | | | | |
|---|---|---|---|---|---|---|---|
| 999990 | Total Section 1-8 | $ | 17,271,500 | x | 10% | = | $ 1,727,150 |

**TOTAL MOBILIZATION $ 1,727,200**

* For Project less than 50 Working Days "Mobilization" is not required as a separate contract item, however contract item prices should take into consideration mobilization as part of the price.

Note: If the building portion of the project is greater than 50% of the total project cost, then mobilization is not included.

## Section 10 SUPPLEMENTAL WORK

Total Section 1-8 = $ 17,271,500 5% = $ 863,575

| Item code | | Unit | Quantity | | Unit Price ($) | | Cost |
|---|---|---|---|---|---|---|---|
| 066670 | Payment Adjustments For Price Index Fluctuations | LS | 1 | x | 106,000.00 | = $ | 106,000 |
| 066094 | Value Analysis | LS | 0 | x | | = $ | - |
| 066070 | Maintain Traffic | LS | 1 | x | 156,000.00 | = $ | 156,000 |
| 066919 | Dispute Resolution Board | LS | 1 | x | 15,000.00 | = $ | 15,000 |
| 066921 | Dispute Resolution Advisor | LS | 0 | x | | = $ | - |
| 066015 | Federal Trainee Program | LS | 0 | x | | = $ | - |
| 066610 | Partnering | LS | 1 | x | 50,000.00 | = $ | 50,000 |
| 066204 | Remove Rock and Debris | LS | 0 | x | | = $ | - |
| 066222 | Locate Existing Crossover | LS | 0 | x | | = $ | - |

***NPDES*** *Supplemental Work specified in Section 5C* = $ 20,000

**TOTAL SUPPLEMENTAL WORK $ 1,210,600**

## Section 11 STATE FURNISHED MATERIALS AND EXPENSES

| Item code | | Unit | Quantity | | Unit Price ($) | | Cost |
|---|---|---|---|---|---|---|---|
| 066105 | Resident Engineers Office | LS | 1 | x | 135,200.00 | = | $135,200 |
| 066063 | Traffic Management Plan - Public Information | LS | 1 | x | 20,000.00 | = | $20,000 |
| 066901 | Water Expenses | LS | 0 | x | | = | $0 |
| 8609XX | Traffic Monitoring Station (X) | LS | 0 | x | | = | $0 |
| 066841 | Traffic Controller Assembly | LS | 0 | x | | = | $0 |
| 066840 | Traffic Signal Controller Assembly | LS | 0 | x | | = | $0 |
| 066062 | COZEEP Contract | LS | 1 | x | 520,000.00 | = | $520,000 |
| 066838 | Reflective Numbers and Edge Sealer | LS | 0 | x | | = | $0 |
| 066065 | Tow Truck Service Patrol | LS | 0 | x | | = | $0 |

**TOTAL STATE FURNISHED $675,200**

## Section 12 CONTINGENCY

Use appropriate percentage based on the detail of estimate. Anything other than the suggested contingency in the PDPM needs to be *justified. (Pre-PSR 30%-50%, PSR 25%, PR 20%, PAR 15%, After PAR 10%)

| | | | | | | |
|---|---|---|---|---|---|---|
| Total Section 1-11 | $ | 20,884,500 | x | 25% | = | $5,221,125 |

**TOTAL CONTINGENCY $5,221,200**

*Justification:

## Section 13 OVERHEAD

| Item code | | Unit | Quantity | | Unit Price ($) | | Cost |
|---|---|---|---|---|---|---|---|
| 090100 | Time-Related Overhead | WDAY | 360 | X | 3128 | = | $1,125,900 |

Note: If the building portion of the project is greater than 50% of the total project cost, then TRO is not included.

**TOTAL OVERHEAD $1,125,900**

## II. STRUCTURES ITEMS

| | Bridge 1 | Bridge 2 |
|---|---|---|
| DATE OF ESTIMATE | 11/29/18 | 11/29/18 |
| Bridge Name | Oak Canyon Bridge | Spring Canyon Bridge |
| Bridge Number | 57-981R | 57-982R |
| Structure Type | Widening w/ Lightweight FRP | Widening w/ Lightweight FRP |
| Width (Feet) [out to out] | 11.33 LF | 11.33 LF |
| Total Bridge Length (Feet) | 720.00 LF | 780.00 LF |
| Total Area (Square Feet) | 8157.60 SQFT | 8837.40 SQFT |
| Structure Depth (Feet) | 1.50 FT | 1.50 FT |
| Footing Type (pile or spread) | N/A | N/A |
| Cost Per Square Foot | $309.28 | $308.01 |
| **COST OF EACH STRUCTURE** | **$2,523,000.00** | **$2,722,000.00** |

| | | |
|---|---|---|
| DATE OF ESTIMATE | | |
| Name | | |
| Bridge Number | | |
| Structure Type | | |
| Width (Feet) [out to out] | | |
| Total Length (Feet) | | |
| Total Area (Square Feet) | | |
| Structure Depth (Feet) | | |
| Footing Type (pile or spread) | | |
| Cost Per Square Foot | | |
| **COST OF EACH STRUCTURE** | | |

| | |
|---|---|
| **TOTAL COST OF BRIDGES** | **$5,245,000.00** |
| **TOTAL COST OF BUILDINGS** | **$0.00** |
| **TOTAL COST OF STRUCTURES[1]** | **$5,245,000.00** |

Estimate Prepared By: _____ 11/29/2018

**Keith Gazaway, P.E. Structural Engineer** **Date**

[1]Structure's Estimate includes Overhead and Mobilization.

# III. RIGHT OF WAY

| | | | |
|---|---|---|---|
| A) | Acquisition, including Excess Lands, Fees, Damages, Goodwill, Mitigation, SB-1210, Expert Witness, and Railroad | $ | 0 |
| B) | Utility Relocation (State Share) + Potholing (Design Phase) | $ | 0 |
| C) | Utility - Advance Engineering Estimate | $ | 0 |
| D) | RAP and/or Last Resort Housing | $ | 0 |
| E) | Clearance & Demolition | $ | 0 |
| F) | Title and Escrow | $ | 0 |

| | | |
|---|---|---|
| G) | **TOTAL R/W ESTIMATE:** | **$0.00** |
| H) | **TOTAL R/W ESTIMATE: Escalated to Certification Date** | **$0.00** |
| I) | **RIGHT OF WAY SUPPORT:** | **$20,000.00** |

| | | |
|---|---|---|
| **Support Cost Estimate Prepared By:** | Michael Crull - Project Coordinator | (858) 414-7803 Phone |
| **Railroad Estimate Prepared By:** | N/A<br>Name - Railroad Coordinator | (xxx) xxx-xxxx Phone |
| **Utility Estimate Prepared By:** | Barbara Bartholomae - Utility Estimator | (619) 610-7733 Phone |

# IV. SUPPORT COST ESTIMATE SUMMARY

Run a Support Cost Estimate Summary report (D11 Project Management Support onramp) for component data.

| Total by FY | | PA&ED | PS&E | RW | CON | Total |
|---|---|---|---|---|---|---|
| < 2005 | Expended | | | | | |
| 2006 | Expended | | | | | |
| 2007 | Expended | | | | | |
| 2008 | Expended | | | | | |
| 2009 | Expended | | | | | |
| 2010 | Expended | | | | | |
| 2011 | Expended | | | | | |
| 2012 | Expended | | | | | |
| 2013 | Expended | | | | | |
| 2014 | Expended | | | | | |
| 2015 | Expended | | | | | |
| | ETC | | | | | |
| 2016 | Expended | | | | | |
| | ETC | | | | | |
| 2017 | Expended | | | | | |
| | ETC | | | | | |
| 2018 | Expended | | | | | |
| | ETC | | | | | |
| 2019 | Expended | $100,000 | | | | $100,000 |
| | ETC | | | | | |
| 2020 | Expended | | | | | $420,000 |
| | ETC | $400,000 | | $20,000 | | |
| 2021 | Expended | | | | | $500,000 |
| | ETC | | $500,000 | | | |
| 2022 | Expended | | | | | $3,500,000 |
| | ETC | | | | $3,500,000 | |
| 2023 | Expended | | | | | $3,500,000 |
| | ETC | | | | $3,500,000 | |
| 2024 | Expended | | | | | |
| | ETC | | | | | |
| 2025 | Expended | | | | | |
| | ETC | | | | | |
| 2026 | Expended | | | | | |
| | ETC | | | | | |
| 2027 | Expended | | | | | |
| | ETC | | | | | |
| 2028 | Expended | | | | | |
| | ETC | | | | | |
| 2029 | Expended | | | | | |
| | ETC | | | | | |
| > 2030 | Expended | | | | | |
| | ETC | | | | | |
| EAC (Expended + ETC) | | $500,000 | $500,000 | $20,000 | $7,000,000 | $8,020,000 |
| Programmed COS | | | | | | |
| Support Ratio | | 1% | 1% | 0% | 19% | 22% |

| | |
|---|---|
| **Total Capital Cost:** | **$36,367,000** |
| **Total Support Ratio:** | **22%** |

hours/costs verified against approved MWA:

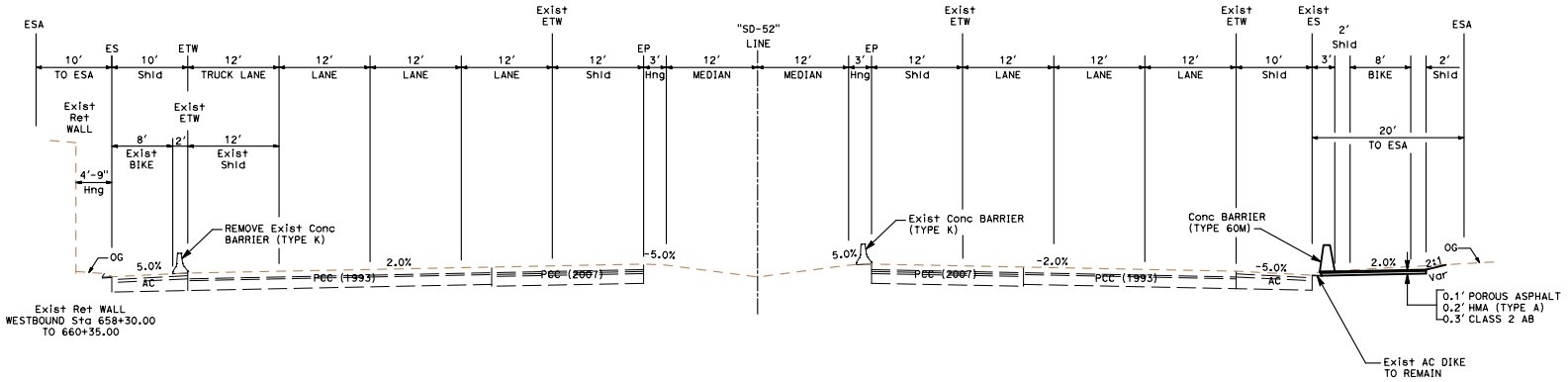
Office Chief - Jason Alsheikh for Erwin Gojuangco — Date

Approved by:

Program Project Management - Clint Peace — Date

# Attachment D

Typical Cross Sections




**WESTBOUND ROUTE 52**

"SR-52" LINE

WESTBOUND Sta 487+50.00 TO 701+90.00

**EASTBOUND ROUTE 52**

"SR-52" LINE

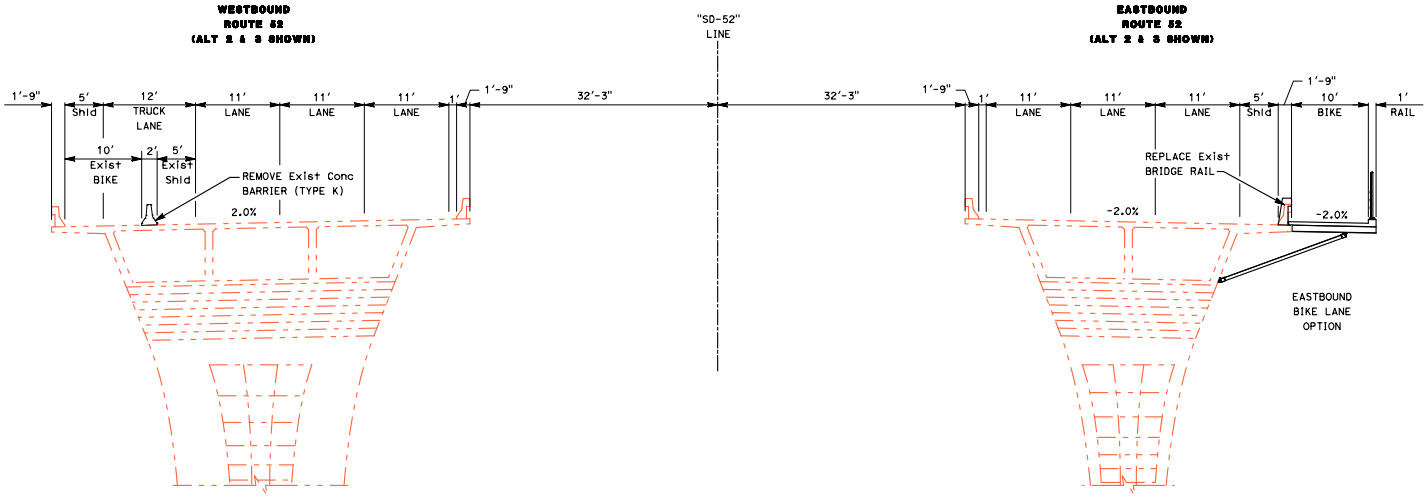
EASTBOUND Sta 487+50.00 TO 701+90.00

CONCEPT STUDY ONLY - NOT FOR CONSTRUCTION

# SR-52 OPERATIONAL IMPROVEMENTS PROJECT

## PSR-PDS ATTACHMENT D - TYPICAL CROSS SECTIONS (SHEET 1 OF 3)

DATE: MAY 6, 2019



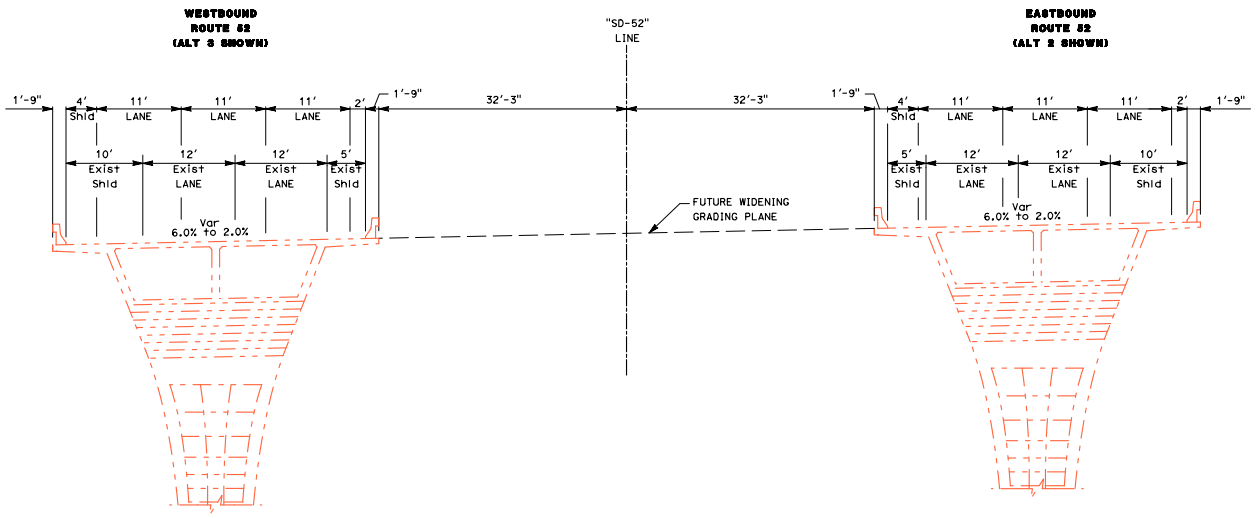

OAK CANYON AND SPRING CANYON BRIDGE

CONCEPT STUDY ONLY - NOT FOR CONSTRUCTION

# SR-52 OPERATIONAL IMPROVEMENTS PROJECT

## PSR-PDS ATTACHMENT D - TYPICAL CROSS SECTIONS (SHEET 2 OF 3)

DATE: MAY 6, 2019




SAN DIEGO RIVER/HOLLINS LAKE BRIDGE

CONCEPT STUDY ONLY - NOT FOR CONSTRUCTION

# SR-52 OPERATIONAL IMPROVEMENTS PROJECT

## PSR-PDS ATTACHMENT D - TYPICAL CROSS SECTIONS (SHEET 3 OF 3)

DATE: MAY 6, 2019

# Attachment E

Preliminary Environmental Analysis Report (Signed)

# PRELIMINARY ENVIRONMENTAL ANALYSIS REPORT

## *1. Project Information*

| | | | | |
|---|---|---|---|---|
| District<br>11 | County<br>San Diego | Route<br>52 | PM<br>7.39 to 14.99 | EA<br>43012 |
| Project Title:<br>State Route 52 Operational Improvement Project | | | | |
| Project Manager<br>Andrew Rice | | | Phone #<br>619-688-3284 | |
| Project Engineer<br>Michael Crull (NCM Engineering) | | | Phone #<br>858-414-7803 | |
| Environmental Office Chief/Manager<br>Shay Lynn Harrison | | | Phone #<br>619-688-0190 | |
| PEAR Preparer<br>Krista Ellis, AEP (AECOM) | | | Phone #<br>619-610-7816 | |

## *2. Project Description*

**Purpose and Need**

Purpose

The purpose of the project is to improve traffic operations and enhance safety on State Route 52 (SR 52) from Interstate 15 (I-15) to the Mission Gorge Road Undercrossing, including the SR 52/Mast Boulevard interchange, and to reduce congestion at bottleneck locations. The project includes the objectives of enhancing multi-modal efforts, such as safety and mobility of bicyclists, and minimizing environmental impacts to the extent practicable.

Need

The need for the project is due to the substantial delays experienced by peak hour motorists travelling on SR 52 between I-15 and the Mission Gorge Road undercrossing as a result of operational deficiencies.

**Description of Work**

Work will occur entirely within existing California Department of Transportation (Caltrans) right-of-way (ROW), and includes:

- Adding a westbound SR-52 truck climbing lane from Mast Boulevard (Station 701+91/PM13.0) to Santo Road (480+91/PM8.8)
- Extend eastbound SR-52 auxiliary lane from southbound I-15 loop ramp (Station 406+25/PM7.4) to the Santo Road eastbound off-ramp (Station 462+86/PM 8.5)

- Extending the westbound truck climbing lane from the off-ramp to Santo Road to the on-ramp from Santo Road, includes a retaining wall under the Santo Road Overcrossing
- Two-way Class IV Bikeway (Separated Bikeway) on the south side of SR-52 (eastbound side) from Santo Road to Mast Boulevard
- Cantilever a 10-foot-wide light weight separated bikeway off the Oak Canyon and Spring Canyon bridges
- Restripe eastbound SR-52 from 2 lanes to 3 lanes from Mast Boulevard to just east of the San Diego River Bridge
- Widen the westbound on-ramp from Mast Boulevard to SR-52 to a 2-lane high capacity ramp that will continue as the 3rd mainline lane and the truck climbing lane

**Alternatives**

Alternative 1 – No Build: In this alternative, the new bike lane, truck climbing lane, auxiliary lane, ramp improvements will not be constructed, restriping of the EB and WB San Diego River Bridge will not occur, and no improvements will be completed. Congestion and truck traffic will continue to worsen as East County develops, with increasingly adverse impacts to the City of Santee. Worsening congestion will make the implementation of local planning efforts (for example, the proposed expansion of the Sycamore Landfill) increasingly difficult.

Alternative 2 – Base Project (proposed project): Alternative 2 represents a context-sensitive design solution that equitably addresses all users of the facility, namely motorists, truck drivers, and bicyclists (pedestrians are expressly prohibited from the facility, and there are no current transit routes). It was designed to be a low-cost project that could be constructed in the short term with a high benefit-to-cost ratio and little environmental impact, as described in Description of Work.

Alternative 3 – Phased Project: Alternative 3 includes all improvements included in Alternative 2, plus:

- Restriping westbound SR-52 from just east of the San Diego River Bridge (from approximate Station 780+60/PM 14.6) to Mast Boulevard
- Retaining the existing Mast Boulevard westbound on-ramp that merges from 2 lanes to 1 lane prior to the on-ramp's connection to SR-52

## *3. Anticipated Environmental Approval*

Federal Highway Administration (FHWA) funds may be used for the proposed project, which will trigger compliance with the National Environmental Policy Act (NEPA). Per 23 U.S. Code (USC) 324 Memorandum of Understanding, Caltrans has assumed FHWA responsibilities under NEPA and other federal environmental laws. Therefore, Caltrans will be the lead agency for NEPA and the California Environmental Quality Act (CEQA).

*Check the anticipated environmental determination or document for the proposed project in the table below.*

| CEQA | | NEPA | |
|---|---|---|---|
| **Environmental Determination** | | | |
| Statutory Exemption | ☐ | | |
| Categorical Exemption | ☐ | Categorical Exclusion | ☐ |
| **Environmental Document** | | | |
| Initial Study or Focused Initial Study with proposed Negative Declaration (ND) or Mitigated ND | ☒ | Routine Environmental Assessment with proposed Finding of No Significant Impact<br><br>Complex Environmental Assessment with proposed Finding of No Significant Impact | ☒<br><br>☐ |
| Environmental Impact Report | ☐ | Environmental Impact Statement | ☐ |

| | |
|---|---|
| CEQA Lead Agency (if determined): | Caltrans |
| Estimated length of time (months) to obtain environmental approval: | 12 months |
| Estimated person hours to complete identified tasks: | 600 |

### *4. Special Environmental Considerations*

The following environmental considerations may affect project delivery and require unusual, exceptional, or extended environmental processes.

*Biological Resources*: Natural Environmental Studies (NES) were completed for SR 52 Managed Lanes and Inside Widening Projects (2007 and 2008), which covered SR 52 from Interstate 805 (I-805) to SR 125 and a 300-foot buffer area. Updated biological surveys will be needed for permanent and temporary impact areas associated with the proposed project during project approval and environmental document (PA&ED). Vegetation clearing should occur outside of the typical breeding season for raptors and migratory birds (February 15 through August 31). Grading and construction activities planned during the breeding season could affect the project schedule.

*Cultural/Historic Resources*: There is a potential for cultural resources to be present within the project limits and a cultural resources field survey should be completed. In the unlikely event that cultural resources are identified, then design changes may be required to avoid cultural resources or to implement Secretary of the Interior Standards (SOIS) for preserving historic resources.

*Paleontological Resources*: There is high potential for paleontological resources to be present within portions of the project limits.

*Hazardous Materials/Waste*: Surveys and testing for aerially deposited lead (ADL) will be required. Boring through concrete and pavement may be needed if historical data are not available. Also, contaminated excess soil may increase project cost if disposal is required. Hazardous materials disposal may also be needed for treated wood, sign lighting, and asbestos in concreted/bridges, which could also increase project cost.

*Permits*: It is not anticipated that Section 401 Water Quality Certification, Section 404 Permit, and Section 1602 Streambed Alteration Agreement will be required because the work proposed for Alternative 2 and 3 will be entirely within the existing Caltrans ROW and outside of jurisdictional wetlands and waters.

## *5. Anticipated Environmental Commitments*

Specific avoidance, minimization, and/or mitigation measures and commitments, and associated quantitative time and costs cannot be definitively determined at this time because the technical studies have not been initiated. However, for purposes of this Preliminary Environmental Analysis Report (PEAR), it is assumed that avoidance, minimization, and/or mitigation measures and commitments will consist of those measures that minimize project-related impacts typically used for similar transportation projects. Potential mitigation measures (outside of standard specifications or protocols) that may be required as a result of further environmental documentation concerning the impacts associated with Alternative 2 and 3 are listed below:

*Air Quality* – Incorporate the control measures identified in the San Diego Air Pollution Control District Rule 55 to control fugitive dust during construction. The implementation of this alternative may involve expenditure of federal funds and it may be necessary to demonstrate project conformance with the State Implementation Plan (SIP). The purpose of the SIP is to attain and maintain the National Ambient Air Quality Standards (NAAQS). The project will also need to demonstrate conformance with the current Regional Transportation Improvement Program (RTIP).

*Biological Resources* – Avoid breeding and nesting seasons for sensitive bird species, avoidance of indirect effects such as the use of night lighting that will increase predation on native bird species within the study area. Executive Order 13112 (Invasive Plant Species) directs federal agencies to expand and coordinate efforts to prevent the introduction and spread of non-native plants and animals. It will be necessary in all phases of environmental documentation, project design, and project construction to ensure that FHWA guidance regarding the implementation of this Executive Order is put into effect.

*Cultural Resources* – If present, resource evaluation for potential National Register of Historic Properties (NRHP) eligibility; Historic Properties Survey Report (HPSR) and Archeological Survey Report (ASR), and Finding of Effect report will be required if properties directly impacted include resources that are found eligible for the NRHP. If cultural resources are present within the project footprint, the establishment of cultural environmentally sensitive areas (ESAs) would be required.

*Paleontology* – If undisturbed soil will be disturbed in areas of high potential for paleontological resources then construction monitoring, fossil collection, curation, and completion of a mitigation monitoring report may be needed.

*Noise* – A Noise Study Report, evaluation of need for noise abatement barriers for outdoor areas of frequent human use, evaluation of potential effects on wildlife will be necessary.

*Visual* – A Visual Impact Analysis will assess potential visual impacts of the proposed project and propose measures to reduce any associated adverse visual impacts. Avoidance measures such as aesthetic treatments would be included as project features.

*Hazardous Waste/Materials* –Special Provisions for aerially deposited lead (ADL) contaminated soil will be needed for disturbed soils in the project area. A Lead Compliance Plan shall be developed for workers handling hazardous or non-hazardous soil as well as removal/application of any hazardous or non-hazardous lead based paint, thermoplastic, treated wood waste, painted traffic stripe, and/or pavement marking. Asbestos testing will be required for work associated with cantilevering on bridges.

*Water Quality and Erosion* – Erosion control construction best management practices (BMPs) will be implemented, develop stormwater pollution prevention plan if disturbed area more than 1 acre, consideration of treatment BMPs identified in the Caltrans Storm Water Management Plan. Coordination between the project engineer and National Pollutant Discharge Elimination System (NPDES) unit will be needed to identify potential sites for permanent treatment BMPs.

*Traffic* - Implement a traffic management plan during construction will be required and will include measures to address construction period traffic impacts.

### *6. Permits and Approvals*

All construction activities within the Caltrans ROW must conform to the requirements of the NPDES Stormwater Statewide Storm Water Permit Order No. 2012-011-DWQ, as amended by Order No. WQ 2014-006-EXEC, Order No. WQ 2014-0077-DWQ, and Order No. WQ 2015-0036-EXEC (Conformed 04/07/15). Projects that disturb one or more acres of soil or are part of a larger common plan of development that disturbs one or more acres must meet the requirements of the General Permit for Discharges of Storm Water Associated with Construction Activity (Statewide Construction General Permit Order No. 2009-0009-DWQ).

It is anticipated that the proposed project will require an informal consultation with the U.S. Fish and Wildlife Service (USFWS) regarding the coastal California gnatcatcher (*Polioptila californica californica*).

### *7. Level of Effort: Risks and Assumptions*

This report is not an environmental document. Preliminary analysis, determinations, and conclusions provided are approximate and are based on cursory analysis of probable effects on the project description provided in this report. The purpose of this report is to

provide a preliminary level of environmental analysis to supplement a Project Study Report – Project Development Support (PSRPDS). Changes in the project scope, alternatives, or environmental laws will require reevaluation of this report and will be addressed in the future CEQA/NEPA document.

The assumptions used in preparation of this PEAR are:

- The scope is defined in the current project alternatives.
- The community will be generally supportive of the need for the project but will like to be actively involved in the environmental process.
- Cultural resources field survey will be required to identify location and extent of cultural resources within the project limits, if present. All cultural resources will be avoided.
- If paleontological resources are discovered within the project limits, impacts to these resources may be unavoidable. It is assumed that construction monitoring, salvage, and curation will be required.
- An ADL study will be required. This study may require multiple field review, soil test, and boring efforts.
- Asbestos testing will be required for work associated with cantilevering on the bridge.
- Hazardous waste impacts can be mitigated through compliance with local, state, and federal regulations. No other hazardous waste issues will be identified.
- A Visual Impact Assessment will be prepared to evaluate potential impacts to sensitive viewers within the project viewshed and identify measures to reduce impacts.
- The project has some federal involvement (permitting, funding, etc.).
- Other project schedule elements will not delay environmental progress.
- Clean Water Act (CWA) Section 401, Nationwide Permit 14 or Individual Permit under CWA Section 404 through U.S. Army Corps of Engineers, or a Streambed Alteration Agreement under California Department of Fish and Wildlife (CDFW) 1602 code will not be needed because all proposed work will occur outside of these jurisdictional areas.
- Informal USFWS Section 7 consultation is needed.
- If a higher-level environmental document were determined to be required, this will lengthen the project schedule and increase the cost.

This PEAR is designed to provide an evaluation of the level of technical study and environmental documentation that will be required for the proposed project.

Future risks for the project include:

- Preliminary plans will be required during PA&ED to determine project limits and impacts to existing resources. Field surveys may be required during specific times of the year. This could delay vegetation removal coinciding with the nesting season.
- Potential increased cost to monitor for paleontological or archaeological resources during construction. Post-review discovery would affect both cost and schedule.

- Potential need to construct noise barriers along project route.
- Unexpected changes to technical study or environmental document format requirements.
- Delays in description of engineering design details that affect environmental analysis or permitting.
- Delays in review schedule.
- The Fanita Ranch final development plan and associated environmental document schedule may affect the proposed project funding and schedule. It is also anticipated that required transportation improvements will likely be identified through the environmental review process of the renewed Fanita Ranch development application.

## *8. PEAR Technical Summaries*

Alternative 1 – No Build Alternative will not result in any special processes or environmental considerations and SR 52 in this area will operate "as-is." Alternative 2 – SR 52 Improvements (proposed project) and Alternative 3 - WB San Diego River Bridge Restriping work will occur within and off the paved roadway, entirely within existing Caltrans ROW. The operational capacity of existing transportation infrastructure will be maximized. Environmental impacts are anticipated to be modest as there will be minimal disturbance in undeveloped portions of the ROW. There will be no improvement to operational deficiencies identified in the Need for the project.

Below are summaries of the preliminary technical analysis for the proposed project.

**Complete Streets and Bicycle Facilities:**

Federal and state laws require that Caltrans promote and facilitate increased bicycling and walking. Deputy Directive DD-64-R2, Complete Street- Integrating the Transportation System, is defined as a transportation facility that is planned, designed, operated, and maintained to provide safe mobility for all users, including bicyclists, pedestrians, transit users, and motorists appropriate to the function and context of the facility. Bicycle improvements, crosswalks, and Americans with Disabilities Act (ADA) curb ramps are proposed for the proposed project.

**Land Use:**

*Existing and Future Land Use*

The proposed project is located entirely within the existing Caltrans ROW. Multiple jurisdictions are located along SR 52 in the project area, including:

- Marine Corps Air Station (MCAS) Miramar – northern and western portions of the project area,
- City of San Diego (Tierrasanta Community) and Mission Trails Regional Park – southcentral portion, and
- City of Santee – eastern portion of the project.

MCAS Miramar Master Plan was completed in 2013 and establishes the station's planning vision and implementation of planning objectives. MCAS Miramar encompasses 23,065 acres and is generally bisected by Kearny Villa Road. The area east

of Kearny Villa Road (East Miramar) is adjacent to the project area and primarily undeveloped, used for military training and operational exercises and warehousing, and supports the military need for encroachment and access control. No developed land uses within MCAS Miramar are located adjacent to SR 52 and the project area; however, MCAS has proposed housing north of SR 52 off of Santo Road.

City of San Diego General Plan Land Uses for the project area includes the following: Military; Commercial Employment, Retails & Services; Residential; Park, Open Space & Recreation; and Industrial Employment. City of San Diego Zoning Map (2013) shows the following zones along SR 52 in the project area: Agricultural-Residential (AR-1-1), Commercial-Community (CC-3-5), Residential-Multiple Unit (RM-1-1), Residential-Single Unit (RS-1-14 and RS-1-8), and Industrial-Heavy (IH-2-1). The San Diego Municipal Code Figure 131-01A, Development Character Areas, shows the project area as Proposition A Lands (MCAS Miramar) and Planned Urbanized. The Caltrans ROW is dedicated freeway.

City of Santee General Plan Land Uses Map and Zoning Map (2017) shows the following zones and land uses along the project area: Park/Open Space (P/OS), Planned Development (PD), Public (Pub), General Commercial (GC), Residential/Business (R-B), High Density Residential (R22), Low-Medium Density Residential (R2), and Medium Density Residential (R7). The Caltrans ROW is dedicated freeway.

Mission Trails Park is located within the City of San Diego.

The Cities of San Diego and Santee recognize the Caltrans ROW as dedicated freeway in their land use designations. The proposed project will not extend beyond the existing ROW and will not modify or affect designated land uses adjacent to the project area.

*Consistency with State, Regional, and Local Plans*
The proposed project is consistent with state, regional, and local plans as it will result in improvements to existing SR 52 within the Caltrans ROW, maximizing the utilization of the existing transportation system. The proposed project is consistent with the following State, Regional and Local plans:

- Caltrans 2017 State Highway System Management Plan
- SANDAG 2050 Regional Transportation Plan (Plan)
- City of San Diego General Plan
- Mission Trails Regional Park Master Plan Update (2016)
- City of Santee General Plan (2003)
- City of San Diego San Diego Multiple Species Conservation Program (MSCP) Plan

**Parks and Recreation:**
The proposed project is located adjacent to the jurisdictions of City of San Diego (Tierrasanta) and City of Santee. No public access is granted in the MCAS Miramar portion of the project area. South of SR 52, in the Tierrasanta neighborhood, is the City

of San Diego Portobello Pocket Park. Paralleling the south side of SR 52 in the northern half of the project area is Upper North Shepard Canyon Trail, which connects to the City of San Diego Mission Trails Regional Park. The Mission Trails Regional Park is located adjacent and south of SR 52, and encompasses 7,220 acres of natural and developed recreational acres, including approximately 60 miles of trails.

The proposed project will be constructed within Caltrans ROW and will not physically impact existing parks or trails within the project vicinity nor produce indirect or cumulative impacts.

**Growth:**
Capacity-enhancing improvements are needed to resolve existing operational deficiencies. The project will not result in the conversion of adjacent land uses or provide access to areas previously inaccessible or improve access in ways that will foster local development beyond that which is already planned.

**Farmlands/Timberlands:**
The proposed project area includes Grazing Land and Farmland of Local Importance as designated by the California Department of Conservation. All proposed project activities will be contained within the existing Caltrans ROW and no impacts to farmlands or timberlands are anticipated. No additional studies will be required.

**Community Impacts:**
A Caltrans Community Impact Assessment (CIA) Scoping Checklist (March 2012) was completed for the proposed project and this activity resulted in a determination that a CIA Memo will be prepared in PA&ED. The discussion below provides a summary overview of the community impact topics associated with the proposed project.

*Community Character and Cohesion*
The proposed project is located adjacent to MCAS Miramar, City of San Diego (Tierrasanta), and City of Santee. There are no homes or neighborhoods within MCAS Miramar that are located within the vicinity of the proposed project. The Tierrasanta neighborhood encompasses approximately 11 square miles and, in 2010, had an estimated population of 30,332 people. The northeastern portion of the community is adjacent to the western extent of the proposed project. The City of Santee is 16.5 square miles and borders both sides of the eastern extent of the proposed project. In 2010, approximately 53,413 people lived in Santee. The proposed improvements are cohesive and align with proposed community plans. In fact, the World Population review shows that Santee is currently at 58,113 people with a growth rate of 0.41% (http://worldpopulationreview.com/us-cities/santee-ca-population/).

*Relocations*
No building or residential displacement is anticipated due to the proposed project.

*Environmental Justice*

The proposed project will meet the requirements of Executive Order 12898 (Environmental Justice); specifically, the proposed project will not have the effect of (1) excluding persons and populations from participation; (2) denying persons and populations the benefits of federal programs; or (3) subjecting persons and populations to discrimination because of race, color, or national origin.

The table below summarizes the demographic and socioeconomic information for the jurisdictions adjacent to the proposed project, specifically the community of Tierrasanta and City of Santee compared to regional data for San Diego County.

**Demographic and Socioeconomic Information**

| | Tierrasanta[1] | City of Santee | San Diego County |
|---|---|---|---|
| Minority Population | 39% | 17%[2] | 36%[4] |
| Below Poverty Level | 6% | 8%[3] | 13%[5] |

1. SANDAG Demographic and Socioeconomic Profile 2010, CPA: Tierrasanta file:///C:/Users/krista_ellis/Downloads/sandag_census_2010_cpa_tierrasanta%20(1).pdf
2. US Census Bureau, City of Santee, Census 2010 Population, https://factfinder.census.gov/faces/nav/jsf/pages/community_facts.xhtml
3. http://www.sandag.org/uploads/publicationid/publicationid_1813_17012.pdf
4. US Census Bureau, San Diego County, Census 2010 https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF
5. San Diego County demographic information, https://www.sandiegocounty.gov/hhsa/programs/phs/documents/CHS-Demographics_NorthCentral.pdf

As reflected in the table, the adjacent jurisdictions to the proposed project do not trigger the Council on Environmental Quality (CEQ) thresholds for minority or low-income populations and the proposed project will not result in an effect to those populations. Based on the above discussion and analysis, the Alternatives will not cause disproportionately high and adverse effects on any minority or low-income populations in accordance with the provisions of EO 12898. No further environmental justice analysis is required.

*Utilities/Emergency Services/Public Facilities*

Utilities:

The following are utilities located in the project are and within State ROW:

- San Diego Gas & Electric operates a high-pressure gas main and high voltage electrical lines.
- City of San Diego Public Utilities Department operates and maintains a trunk sewer line along the San Diego River.
- San Diego County Water Authority operates and maintains the Second Aqueduct Flow Regulatory Storage water supply pipeline.

Emergency Services (Fire, Police, Hospitals):
Minor effects to emergency services may result from construction activities. However, the implementation of the project may result in improved response times for fire and police and drive times to regional hospitals.

No hospitals are located in Tierrasanta or the City of Santee. The closest hospitals include Scripps Memorial Hospital in La Jolla, Sharp Grossmont Hospital in La Mesa, and Alvarado Hospital in San Diego.

*Tierrasanta*
Fire: City of San Diego Fire Station 39 serves Tierrasanta and the surrounding areas and includes an engine and medic.

Police: City of San Diego Police Department, Eastern Division, services 13 neighborhoods, including Tierrasanta.

*City of Santee*
Fire: According to the City of Santee General Plan, the City has two fire stations, one at 8950 Cottonwood Avenue (Fire Station #4) and another at 9130 Carlton Oaks Drive (Fire Station #5). The Santee Fire Department's response times vary within the City, with the current goal being to provide an average maximum initial response time of no more than 6 minutes, with an average maximum response time of no more than 10 minutes for supporting paramedic transport units 90 percent of the time. To maintain adequate response times, it is anticipated that another fire station will be needed when the currently vacant Fanita Ranch area develops.

Police:
Police protection for Santee residents is provided by the County Sheriff's Department, which operates out of the Santee Substation at 8811 Cuyamaca Street.

Public Facilities (Community Centers, Schools, Places of Worship, Libraries):
The optimization of the existing SR 52 transportation corridor in this area will improve drive times to these facilities and will not directly affect their operation or function.

*Tierrasanta*
The community of Tierrasanta includes the Tierrasanta Recreation Center and community park and Tierrasanta Community Pool. There are eight public schools including five elementary, two middle, and one high school, and no private schools above preschool age in the community. Seven places of worship are located in the community. The City of San Diego Public Library, Tierrasanta Branch, services the communities of Tierrasanta and Murphy Canyon.

*City of Santee*
The City includes a number of community public use facilities, specifically Sportsplex USA, Santee Lakes, Carlton Oaks Golf Course, City of Santee Aquatic center, Santee

Teen Center, and Santee Skate Park. The City has 11 public schools within the Santee Unified School District (eight K-6 or K-8 schools, two high schools, and one alternative school) and one private K-12 school. Twelve places of worship are located in the City of Santee. One San Diego County Library, Santee Branch, is located within the City.

**Visual/Aesthetics:**
SR 52, from Post Mile 9.5 near Santo Road to Post Mile 13.0 near Mast Boulevard, is a State Scenic Highway System. The proposed project will require a Scenic Resource Evaluation to determine if scenic resources exist and whether they will be impacted by the proposed project.

SR 52 is a divided freeway that passes through the open space within both Mission Trails Regional Park south of SR 52 and Marine Corps Air Station (MCAS) Miramar to the north. The proposed project could potentially affect the views of park and trail users, residences, and businesses located adjacent to the project area, particularly related to the construction of new or improved structures, which could modify or obstruct views of sensitive viewers. The proposed project could create increased shading from the bike lane and increased glare from additional lighting, if incorporated into the project. A Visual Impact Assessment (VIA), in accordance with the FHWA Visual Impact for Highway Projects guidance, will be required. The VIA would assess impacts on sensitive view groups and identify project features to reduce impacts.

To minimize visual impacts, the project features would be sited and designed to protect public views to significant visual resources. The impacts of grading, operational activities and direct lighting on public views outside of the transportation facilities should be minimized. Structure aesthetics would be evaluated for potential mitigation for visual impacts. The VIA would address the aesthetic treatment of the bridge retrofit, new structures and walls. Aesthetic treatments would be coordinated with District-11 Landscape Architecture (Visual Analysis).

Where feasible, design solutions may include, but not be limited to:

- Bridge retrofit aesthetics would be visually compatible with the existing bridge. This may include railing, fencing, exterior girders, soffit, wing walls, slope paving, barriers, etc.
- Paving beyond the gore would be integrally colored and textured.
- Concrete barriers would be integrally colored.
- Sound attenuation, if required would be accomplished by noise berms where space allows, noise berm/wall combinations, or sound walls where space is limited. Where space is limited, a planting area between the back of a concrete barrier and face of wall should be provided to be consistent with the sound wall plantings at SR 52 & SR 67 in Santee.
- Overhead sign structures would match the corridor finish for post and back of sign panel.
- Lighting would be shielded, low-Kelvin, energy efficient LED.

- Concrete barrier vertical transitions would be avoided at new lighting and overhead sign locations.
- Roadside signs would be reset with sign support systems in paving beyond the gore areas.
- Drainage features would be colored to blend with native soils including drainage headwalls, ditches, aprons and vegetation control.
- Drainage headwalls, ditches and aprons would be located be unobtrusive.
- Impacted roadside areas would be revegetated with appropriate Southern California native species. Biofiltration swales, if proposed, would be sodded with native grass sod.
- Existing irrigation systems would be replaced/repaired. Irrigation conduit would be replaced or extended. Existing automatic irrigation controllers and cabinets would be replaced and upgraded to current specs (Calsense).
- Vegetation outside of the grading limits and contractor use areas would be protected.
- Grading techniques would blend with existing topography (slope rounding, variable gradients). Bioswales and detention basins, if proposed, would appear as natural landscape features (streambeds). Grading design would preserve rock outcroppings and minimize landform alteration. Cut slopes over 2:1 would be stepped.

**Cultural Resources:**
The current scope of work requires compliance with the California Public Resources Code Section 5024, Section 106 of the National Historic Preservation Act, and CEQA. A records search of the California Historical Resources Information System and the Caltrans Cultural Resource Database will be completed during PA&ED.

The anticipated CEQA document is a Mitigated Negative Declaration, and the NEPA document is an Environmental Assessment/Finding of No Significant Impact (FONSI). Consultation with Native American tribes must be conducted in accordance with Assembly Bill 52.

A cultural resources field survey should be completed for the project area. It should be noted that cultural sites are located along the project route, for example under the bridges, which will need to be avoided during construction. In the unlikely event that cultural resources are identified, then design changes may be required to avoid cultural resources or to implement SOIS for preserving historic resources. If it is determined that impacts on these properties could occur, then a Finding of Effect under Section 106, Section 5024, and CEQA compliance will be required. Depending on the level of impact on the resource and complexity of developing measures to address the impact, this documentation and evaluation could adversely affect the project schedule. Assuming avoidance, the required document should be an HPSR with the Area of Potential Effects map, Archaeological Survey Report, and an Environmentally Sensitive Area Action Plan.

**Hydrology and Floodplain:**
The project area is within the San Diego Watershed and within Federal Emergency Management Agency Flood Insurance Rate Map panels 06073C1628H, 06073C1630G, 06073C1629G, 06073C1631G, 06073C1632G, and 06073C1634G. The proposed project will pass through areas classified as shaded Zone X (area of minimal flood hazard, within 500-year floodplain), Zone A (approximated 1 percent annual chance flood event, 100-year floodplain), Zone AE (1 percent annual chance flood event, 100-year floodplain) and Floodway Zone AE (channel of a river or other watercourse plus any adjacent floodplain areas that are reserved so that the 100-year flood discharge can be conveyed without increasing the elevation of the 100-year flood more than a specific amount). The proposed project will not involve the placement of structures or dwelling units within the 100-year floodplain and floodway; therefore, a Location Hydraulic Study followed by a Summary Floodplain Evaluation Report or Floodplain Evaluation Report will not be required.

The proposed project is not located within the coastal zone and is not vulnerable to sea level rise caused by climate change.

A hydrology/hydraulics report will need to be provided for this project.

**Water Quality and Storm Water Runoff:**
On July 1, 2013, the State Water Resources Control Board adopted Order 2012-0011 DWQ; NPDES Permit for Stormwater Discharges from the Caltrans properties, facilities, and activities.

This project will be designed in conformance with the NPDES Permit requirements and Appendix E of the Caltrans Project Planning and Design Guide, which consists of documentation for storm water quality design issues through the development of a Storm Water Data Report (SWDR) and an Evaluation Documentation Form for incorporation of treatment of BMPs. A SWDR, which identifies site data and storm water quality design issues, will be prepared for the project in PA&ED. A Long Form Report and Treatment BMPs will be required for the project.

**Geology, Soils, Seismic and Topography:**
Southern California is a seismically active region with numerous faults of various types and the potential for earthquakes of Richter scale magnitude. The Caltrans ARS Online web-based tool identifies the Rose Canyon fault zone as the closest active fault (considered active in the last 750,000 years), located approximately 7 miles west from the project route. According to the City of San Diego *Seismic Safety Study* (April 2008), Geologic Hazards and Faults, Grid Tiles 31 through 33, the proposed project area passes through areas mapped as High Potential Liquefaction; Low Potential Liquefaction; Friars favorable geologic structure; Friars unfavorable geologic structure; level or sloping terrain, unfavorable geologic structure, low to moderate risk; and confirmed, known, or highly suspected landslides. No active fault is mapped within the City of San Diego, per the City of San Diego General Plan, Seismic Safety Element. The closest active fault in the General Plan is the Elsinore fault zone, which is located approximately 35 miles from

the proposed project area, and capable of producing an earthquake of 6.5–7.5 magnitude. A District Preliminary Geotechnical Study will be prepared in the PA&ED stage to determine soil characteristics of the project site and to establish the design criteria. A Geotechnical Design Report will also be developed in the design phase.

**Paleontological Resources:** The paleontological sensitivity of the soils within the communities adjacent to the proposed project area provides an indicator for potential paleontological resources within the Caltrans ROW. Soils with high paleontological resource sensitivity are within the proposed project area, including Friars Formation and Stadium Conglomerate.

If the project proposes to excavate in undisturbed soil, then a Paleontological Identification Report shall be prepared. Impact analysis for paleontological resources assessment will be conducted during PA&ED when more detailed plans and project scope of work are available. Monitoring may be required during construction to ensure impacts to paleontological resources can be reduced below a level of significance through implementation of a mitigation monitoring program. This program will include monitoring, fossil collection, curation, and completion of a mitigation monitoring report.

**Hazardous Waste/Materials:** Any soil containing lead in concentrations greater than 80 milligrams per kilogram will be considered ADL-contaminated soil and will require special management as specified in the 2016 Lead Management Agreement between Caltrans and the California Department of Toxic Substances. An ADL study will be required to determine whether ADL-contaminated soil is present and if it is suitable for reuse.

Hazardous material disposal will be needed for treated wood waste, such as signs and guardrail posts. Thermoplastic yellow paint is below hazardous thresholds if painted after 1999 (yellow paint) or 2005 (thermoplastic). A determination will be needed regarding the installation date of thermoplastic yellow paint along the project route. Removal of lighting will require hazardous waste disposal (polychlorinated biphenyls). The work associated with the cantilevering from the bridges requires testing of concrete and bridges for asbestos.

A hazardous waste disposal compliance plan will be needed for all hazardous waste associated with the project.

**Air Quality:** Federal projects must not cause or contribute to any new localized carbon monoxide (CO), particulate matter sized 2.5 micrometers or smaller ($PM_{2.5}$), and particulate matter sized 10 micrometers ($PM_{10}$) or smaller violations or increase the frequency/severity of any existing violations in nonattainment and maintenance areas.

The project is located within a portion of the San Diego Air Basin (SDAB) that has been designated as “non-attainment” for the 8-hour ozone NAAQS.

The SDAB is designated as "attainment" for $COPM_{2.5}$ or smaller, and $PM_{10}$ micrometers or smaller. A project-level hot-spot analysis is not required. However, construction pollution abatement measures should be included in the final plans and specifications.

Modeling will be needed to document conformance with the current RTIP during PA&ED because the proposed project is capacity increasing.

**Noise and Vibration:**
The majority of potential noise and vibration sensitive receptors are residences located on the western and eastern segments of the project area, along the south side of SR 52. Potential wildlife species in the project area may also be sensitive receptors to noise and vibration activities. 23 Code of Federal Regulations (CFR) 772 provides procedures for preparing operational and construction noise studies and evaluating noise abatement considered for federal and federal-aid highway projects. Under 23 CFR 772.7, projects are categorized as Type I, Type II, or Type III projects.

Based on the current scope of work, the project will meet the criteria for a Type I project per 23 CFR 772. Caltrans shall analyze expected traffic noise impacts and alternative noise abatement measures to mitigate these impacts, giving weight to the benefits and cost of abatement, and to the overall social, economic, and environmental effects (23 CFR 772.9). Analysis requirements will be based on the sensitivity of the area, follow Caltrans guidelines, and consider the Noise Ordinance specifications of the City of San Diego and City of Santee. The Type I report should include consideration of planned development in the project area. A Preliminary Noise Abatement Decision Report will be needed during PA&ED.

**Energy and Climate Change:**
*Energy*
The proposed project is not considered a "major project" for the consumption of energy during project construction or operation and an energy technical report will not be required for the subsequent environmental analyses.

*Climate Change*
The proposed project is designed to reduce congestion and vehicle time delays, as described in the Purpose and Need section of this document. However, greenhouse gas (GHG) emissions qualitative analysis will be done and discussed in the environmental document for the proposed project. Quantitative analysis, following Caltrans guidelines, will be used to compare relative carbon dioxide ($CO_2$) emissions for the proposed project and the no build alternative and thereby make an inference about potential GHG emissions. The SANDAG *2050 RTP/SCS EIR* includes GHG gas emissions and could be used to "tier" the project-level environmental document from it.

**Biological Environment:**
Areas of Mission Trails Regional Park, north and south of the proposed project, are shown as MSCP Multi-Habitat Planning Area, per the Mission Trails Regional Park Master Plan Update, Figure 2-13 (2016). The Master Plan Update also includes

vegetation and sensitive species mapping of land adjacent to the proposed project area, north and south of SR 52 in the Master Plan Update study area.

A total of 17 special-status plants have been documented within the Biologically Sensitive Area (BSA). Another 33 were considered to have some potential to occur based on their presence in the vicinity of the BSA and/or the presence of suitable habitat within the BSA; however, none of these additional species were detected.

A total of 18 special-status animals have been documented within the BSA. Another 20 were considered to have some potential to occur based on their presence in the vicinity of the BSA and/or the presence of suitable habitat within the BSA; however, none of these additional species were detected. During 2005 surveys, coastal California gnatcatcher was detected near the Hollins Lake Mitigation Site, outside of the 300-foot buffer. In 2007, three coastal California gnatcatcher individuals were detected near the SR 52 and I-15 junction, and near the central-eastern portion of the BSA approximately 0.5 mile east of the community of Tierrasanta. Least Bell's vireo sightings have all been in the eastern portion of the BSA, coincident with suitable habitat that occurs along the San Diego River.

Delineations of federal and state waters were conducted within the ROW; no delineations were conducted in the 300-foot buffer area. A total of 9.26 acres of potential jurisdictional waters of the U.S. and 3.87 acres of jurisdictional waters of the state were delineated within the ROW for a total area of 13.13 acres of regulated waters. Riparian and wetland vegetation communities in the BSA are associated with the San Diego River; Forrester Creek; San Clemente Creek; unnamed intermittent streams; ephemeral washes; vernal pools; and, to a lesser extent, drainage features and seeps resulting from municipal separate storm water sewer system and/or road and irrigation runoff, some of which have resulted in conditions that were characterized as mesic meadow.

Wildlife movement was generally evaluated and it was determined that portions of the BSA function as local and regional corridors, both crossing under and running parallel to the SR 52 roadway. On a regional scale, three general corridors coincide with the BSA with different levels of connectivity: two primary riparian corridors and one larger multiple habitat linkage with limited connectivity due to the SR 52 roadway. The riparian corridors include San Clemente Canyon Creek running through the westernmost portion of the BSA and the San Diego River running through the easternmost portion of the BSA. San Clemente Canyon Creek is an important corridor for movement through San Clemente Canyon allowing access to MCAS Miramar to the east. The San Diego River flows through the neighboring Mission Trails Regional Park connecting Multiple Species Conservation Program lands in the City of San Diego and the City of Santee. Several smaller riparian habitats are also present in the BSA, including one in Spring Canyon and one in Little Sycamore Canyon.

The larger multiple habitat linkage relative to the BSA is the open space within both Mission Trails Regional Park south of SR 52 and MCAS Miramar to the north. The linkage within the BSA consists of several small corridors traversing under SR 52,

allowing for movement between Mission Trails Regional Park and a large system of open habitat including but not limited to MCAS Miramar, Sycamore Canyon, and El Capitan and San Vicente reservoirs. This supports the regional movement of a diverse collection of wildlife including area sensitive mammals such as mountain lions, bobcats, and mule deer. Other wildlife movement features relevant to the BSA include vegetated undercrossings and many culverts and drainage features of varying sizes that likely provide connectivity for wildlife, including two large culverts, one immediately east of the San Clemente undercrossing and one at the summit of Mission Trails Peak to the east. Finally, the median between directional lanes of the existing roadway can also function as a corridor, allowing for limited movement across and parallel to the roadway. Sign of larger mammals, including mule deer, coyote, and bobcat, were present within the ROW, providing evidence of at least limited utilization to access areas of contiguous habitat immediately adjacent to the ROW.

USFWS designated critical habitat for least Bell's vireo within the BSA in coincident with the San Diego River and comprises approximately 124.47 acres; least Bell's vireo does occur within this portion of the San Diego River.

It is anticipated that the proposed project will require the following: updated biological surveys during PA&ED and informal Section 7 Consultation regarding coastal California gnatcatcher. Surveys should include construction and operational noise impacts on wildlife. It is assumed that CWA Section 401, Nationwide Permit 14 or Individual Permit under CWA Section 404 through U.S. Army Corps of Engineers, or a Streambed Alteration Agreement under CDFW 1602 will not be needed because all proposed work will occur within the Caltrans ROW and remain outside of these jurisdictional areas. Measures to protect jurisdictional waters should be included in the future environmental document.

The potential for the introduction or spread of invasive plant species is limited, as the project area is within the existing ROW. However, as with any construction activity, invasive species could be introduced by construction equipment and other outside sources. Standard construction BMPs will be implemented to limit the potential for the introduction or spread of invasive species.

**Section 4(f):**
Resources protected under Section 4(f) include publicly owned public parks; recreational areas of national, state, or local significance; wildlife or waterfowl refuges; or historic sites of national, state, or local significance.

There are several parks and recreational areas that are Section 4(f) resources adjacent to the proposed project limits. All Section 4(f) resources will be identified in the PA&ED. A Section 4(f) No Use memo will be prepared since impacts to Section 4(f) resources are not anticipated nor transfer of property to transportation use proposed. Therefore, no permanent incorporation, temporary occupation, or constructive use is anticipated.

**Cumulative Impacts:**
Project-related cumulative impacts could occur with the proposed project. Although it is not anticipated that any impacts from the proposed project will be considered substantial under NEPA or significant under CEQA, the impacts from the proposed project could potentially result in a substantial or significant cumulative impact when viewed in conjunction with the impacts from other projects in the project area or region. Although it is not anticipated that a substantial or significant cumulative impact will occur, this will need to be evaluated in the environmental document that is prepared for the proposed project following the procedures outlined in Caltrans' *Guidance for Preparers of Cumulative Impact Analysis.* This analysis should be initiated early in PA&ED.

**Context Sensitive Solutions:**
Caltrans uses Context Sensitive Solutions (CSS) as its approach to plan, design, construct, maintain, and operate its transportation system. CSS uses innovative and inclusive approaches that integrate and balance community, aesthetic, historic, and environmental values with transportation safety, maintenance, and performance goals and is reached through a collaborative, interdisciplinary approach involving all stakeholders. To ensure that CSS is fully integrated into the project development process, careful, imaginative, and early planning is required along with continuous community involvement.

During the subsequent environmental phases of the proposed project, appropriate opportunities for public involvement will be provided, including public review of the draft environmental document and opportunity for a public meeting.

### *9. Summary Statement for PSR or PSRPDS*
Based on past experience with similar actions and information provided by reviewers to date, this PEAR anticipates the environmental document needed for this project will be a Mitigated Negative Declaration/Environmental Assessment leading to a Notice of Determination (NOD)/Finding of No Significant Impact (FONSI). This document level has been selected based on the environmental constraints present in the project study area and the potential for the project to cause significant environmental impacts. Caltrans will serve as the NEPA lead agency under its assumption of responsibility pursuant to 23 USC 327. Caltrans will also serve as the lead agency under CEQA. The environmental technical reports and NOD/FONSI will take approximately 12 months to prepare and process for final certification/approval, including time for substantive review by environmental division staff with Caltrans. Any changes in scope will require further project review and reassessment of the level of environmental documentation.

### *10. Disclaimer*
This PEAR provides information to support programming of the proposed project. It is not an environmental determination or document. Preliminary analysis, determinations, and estimates of mitigation costs are based on the project description provided in the Project Study Report (PSR). The estimates and conclusions in the PEAR are approximate and are based on cursory analyses of probable effects. A reevaluation of the PEAR will be needed for changes in project scope or alternatives, or in environmental laws, regulations, or guidelines.

### 11. List of Preparers

| | |
|---|---|
| Cultural Resources specialist<br>Kevin Hovey (Caltrans) | Date: June 2, 2018 |
| Biologist<br>Susan Scatolini (Caltrans) | Date: July 26, 2018 |
| Community Impacts specialist<br>Michelle Dungan (Caltrans) | Date: July 19, 2018 |
| Noise and Vibration specialist<br>Gabriel Del Puerto (Caltrans) | Date: June 2, 2018 |
| Air Quality specialist<br>Gabriel Del Puerto (Caltrans) | Date: June 2, 2018 |
| Paleontology specialist/liaison<br>Kevin Hovey (Caltrans) | Date: August 30, 2018 |
| Water Quality specialist<br>Roya Yazdanifard (Caltrans) | Date: June 2, 2018 |
| Hydrology and Floodplain specialist | Date: |
| Hazardous Waste/Materials specialist<br>Gabriel Del Puerto (Caltrans) | Date: July 26, 2018 |
| Visual/Aesthetics specialist<br>Marlene Gros (Caltrans) | Date: July 26, 2018 |
| Energy and Climate Change specialist | Date: |
| Other: Geology specialist<br>Mike Fordham (Caltrans) | Date: June 2, 2018 |
| PEAR Preparer (Name and Title) | Date: |

**Document Author:**

Krista Ellis

Krista Ellis, AEP, Senior Environmental Analyst
AECOM

Date: November 19, 2018

### 12. Review and Approval

I confirm that environmental cost, scope, and schedule have been satisfactorily completed and that the PEAR meets all Caltrans requirements. Also, if the project is scoped as a routine EA, complex EA, or EIS, I verify that the HQ DEA Coordinator has concurred in the Class of Action.

Shay Lyon M. Harrison

Shay Lyon M. Harrison
Environmental Branch Chief

Date: 12/12/18

Project Manager for Andrew Rice

Date: 12-4-18

## ATTACHMENTS

**Attachment A: PEAR Environmental Studies Checklist**
**Attachment B: Estimated Resources by WBS Code**

# Attachment A: PEAR Environmental Studies Checklist

Rev. 11/08

| Environmental Studies for PA&ED Checklist | | | | | |
|---|---|---|---|---|---|
| | Not anticipated | Memo to file | Report required | Risk* L M H | Comments |
| Land Use | ☐ | ☒ | ☐ | L | Or within ED |
| Growth | ☐ | ☒ | ☐ | L | Or within ED |
| Farmlands/Timberlands | ☒ | ☐ | ☐ | L | |
| Community Impacts | ☐ | ☒ | ☐ | L | CIA Memo |
| Community Character and Cohesion | ☐ | ☒ | ☐ | L | |
| Relocations | ☒ | ☐ | ☐ | L | |
| Environmental Justice | ☐ | ☒ | ☐ | L | Or within ED |
| Utilities/Emergency Services | ☐ | ☒ | ☐ | L | Or within ED |
| Visual/Aesthetics | ☐ | ☐ | ☒ | L | VIA |
| Cultural Resources: | ☐ | ☐ | ☒ | L | |
| Archaeological Survey Report | ☐ | ☐ | ☒ | L | |
| Historic Resources Evaluation Report | ☐ | ☐ | ☒ | L | |
| Historic Property Survey Report | ☐ | ☐ | ☒ | L | |
| Historic Resource Compliance Report | ☐ | ☒ | ☐ | L | |
| Section 106 / PRC 5024 & 5024.5 | ☐ | ☐ | ☒ | L | |
| Native American Coordination | ☐ | ☒ | ☐ | L | |
| Finding of Effect | ☐ | ☒ | ☐ | L | |
| Data Recovery Plan | ☐ | ☒ | ☐ | L | |
| Memorandum of Agreement | ☐ | ☒ | ☐ | L | |
| Other: | ☐ | ☐ | ☐ | L | |
| Hydrology and Floodplain | ☐ | ☐ | ☒ | L | Hydrology/Hydraulics Report |
| Water Quality and Stormwater Runoff | ☐ | ☐ | ☒ | L | Stormwater Data Report, Long Form Report, Treatment BMPs |
| Geology, Soils, Seismic and Topography | ☐ | ☐ | ☒ | L | District Preliminary Geotechnical Study, Geotechnical Design Report |
| Paleontology | ☐ | ☒ | ☐ | L | ESA, PER |
| PER | ☐ | ☐ | ☐ | | Included in reports |
| PMP | ☐ | ☐ | ☐ | | Included in reports |
| Hazardous Waste/Materials: | ☐ | ☐ | ☒ | L | Haz. Waste Compliance Plan, ADL study |
| ISA (Additional) | ☐ | ☐ | ☐ | L | Included in reports |
| PSI | ☐ | ☐ | ☐ | L | Included in reports |
| Other: | ☐ | ☐ | ☐ | L | Included in reports |
| Air Quality | ☐ | ☐ | ☒ | L | Modeling to document RTIP conformance |
| Noise and Vibration | ☐ | ☐ | ☒ | L | Type I, Preliminary Noise Abatement Decision Report |
| Energy and Climate Change | ☐ | ☒ | ☐ | L | Or within ED |
| Biological Environment | ☐ | ☐ | ☒ | L | Update Bio. surveys |
| Natural Environment Study | ☐ | ☐ | ☐ | L | NES was completed for SR 52 |

| Environmental Studies for PA&ED Checklist | | | | | |
|---|---|---|---|---|---|
| | Not anticipated | Memo to file | Report required | Risk* L M H | Comments |
| | | | | | Managed Lanes and Inside Widening Projects (2007 and 2008). Updated Bio. surveys will be needed for permanent and temporary impact areas associated with proposed project during PA&ED. |
| Section 7: | ☐ | ☐ | ☐ | | |
| Formal | ☒ | ☐ | ☐ | L | |
| Informal | ☐ | ☐ | ☒ | L | |
| No effect | ☒ | ☐ | ☐ | L | |
| Section 10 | ☒ | ☐ | ☐ | L | |
| USFWS Consultation | ☐ | ☐ | ☒ | L | Informal Consultation |
| NMFS Consultation | ☒ | ☐ | ☐ | L | |
| Species of Concern (CNPS, USFS, BLM, S, F) | ☐ | ☐ | ☒ | L | |
| Wetlands & Other Waters/Delineation | ☐ | ☒ | ☐ | L | |
| 404(b)(1) Alternatives Analysis | ☐ | ☐ | ☐ | L | |
| Invasive Species | ☐ | ☒ | ☐ | L | |
| Wild & Scenic River Consistency | ☒ | ☐ | ☐ | L | |
| Coastal Management Plan | ☒ | ☐ | ☐ | L | |
| HMMP | ☐ | ☐ | ☐ | L | |
| DFG Consistency Determination | ☐ | ☐ | ☐ | L | |
| 2081 | ☐ | ☐ | ☐ | L | |
| Other: | ☒ | ☐ | ☐ | L | |
| Cumulative Impacts | ☐ | ☒ | ☐ | L | Or within ED |
| Context Sensitive Solutions | ☐ | ☒ | ☐ | L | Or within ED |
| Section 4(f) Evaluation | ☐ | ☒ | ☐ | L | Or within ED |
| **Permits:** | | | | | |
| 401 Certification Coordination | ☒ | ☐ | ☐ | L | |
| 404 Permit Coordination, IP, NWP, or LOP | ☒ | ☐ | ☐ | L | |
| 1602 Agreement Coordination | ☒ | ☐ | ☐ | L | |
| Local Coastal Development Permit Coordination | ☒ | ☐ | ☐ | L | Site is not located within the coastal zone |
| State Coastal Development Permit Coordination | ☒ | ☐ | ☐ | L | Site is not located within the coastal zone |
| NPDES Coordination | ☐ | ☒ | ☐ | L | |
| US Coast Guard (Section 10) | ☒ | ☐ | ☐ | L | |
| TRPA | ☒ | ☐ | ☐ | L | Site is located in southern California |
| BCDC | ☒ | ☐ | ☐ | L | Site is located in southern California |

# Environmental Division Resourcing/Work Agreement

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **EA:** | 43012 | **PROJECT ID:** | 1117000177 | **CO-RT-PM:** | 11-SD-52 | | |
| **Project Description:** | SR-52 Operational Improvements | | | | | | |
| **Project Manager:** | Andrew Rice | **Env. Generalist:** | Emery McCaffery | **Branch:** | C | **Unit:** | 2729 |
| **Current Phase:** | | **PID** 1117000177 | PA&ED | | PS&E | | Construction |

**Date** August 20, 2018

## ESTIMATED HOURS FOR COMPLETION OF PROJECT

| **Source Unit:** | | **2719** | **2729** | **2729** | **2730** | **2731** | **2735** | **2736** | **2813** | **2733** | **2734** | **2810** | **2817** | **2811** | **2812** | **2814** | **2819** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Unit Name :** | | **Admin** | **Env Gen** | **Graphics** | **Permits** | **Steward-ship Sr.** | **Bio** | **CIA** | **Const. Liaison** | **Cultural** | **Natural Resources/ LA Liaison** | **NPDES** | **Visual** | **Noise** | **Air** | **Env. Eng. Sr.** | **Haz Waste** |

**Total CC $**

CC03-Cultural/Paleo, CC04-Noise, CC32-HasWaste

| **WBS Level 6** | **Work Item** | **Task Manager** | **Hrs** | **Hrs** | **Hrs** | **Hrs** | **Hrs** | **Hrs** | **Hrs** | **Hrs** | **Hrs** | **Hrs** | **Hrs** | **Hrs** | **Hrs** | **Hrs** | **Hrs** | **Hrs** | **TOTAL** | **$** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | **PID (K-Phase)** | | | | | | | | | | | | |
| 150.05 | Identify Env. Constraints | | | | | | | | | | | | | | | | | | 0 | |
| 150.20 | PEAR | | | | | | | | | | | | | | | | | | 0 | |
| 150.25 | Approved PID (PSR, PSSR) | | | | | | | | | | | | | | | | | | 0 | |
| | **PID TOTALS** | | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | |
| | | | | | | | | **PA&ED (0-Phase)** | | | | | | | | | | | | |
| 160.05 | Updated Project Information | | | 12 | | | | 4 | 4 | | 8 | | | | | | | 8 | **36** | |
| 160.15 | Draft Project Report | | | | | | | | | | 2 | | 8 | | | | | 6 | **16** | |
| 165.10 | General Env Studies | | 4 | 100 | | | | | 20 | | 160 | | | 8 | 1400 | 70 | 60 | 300 | **2122** | **$1,500** |
| 165.15 | Biological Studies | | | | | | | 400 | | | | | | | | | | | **400** | $0 |
| 165.20 | Cultural Resource Studies | | | | | | | | | | 220 | | | | | | | | **220** | $0 |
| 165.25 | Prepare CE or CE/CE | | | | | | | | | | | | | | | | | | **0** | |
| 165.25 | Draft Env Doc and QA/QC | | | 180 | 80 | | | 16 | | | 80 | | | | 80 | 8 | 60 | 60 | **564** | |
| 165.30 | NEPA Assignment | | | 16 | | | | | | | | | | | | | | | **16** | |
| 170.10 | Stewardship/Permits (PLACS) | | | 18 | | | | 120 | | | | | | | | | | | **138** | |
| 175.05 | Draft Env Doc Circulation | | | 48 | 24 | | | | | | | | | | 40 | | | | **112** | |
| 175.15 | Response to Public Comments | | | 40 | 16 | | | | | | 8 | | | | 16 | 18 | 20 | | **118** | |
| 180.05 | Final Project Report | | | 8 | | | | | | | | | 36 | | 40 | 8 | 40 | 40 | **172** | |
| 180.10 | Final ED and 4(f) | | | 140 | 40 | | | | | | 8 | | 8 | | 40 | 8 | 40 | 40 | **324** | |
| 180.15 | Complete Env Doc and Update ECR | | | 48 | 24 | | | | | | 8 | | | | 40 | 6 | 20 | 40 | **186** | |
| | **PA&ED TOTALS** | | **4** | **610** | **184** | **0** | **0** | **540** | **24** | **0** | **494** | **0** | **52** | **8** | **1656** | **118** | **240** | **494** | **4424** | **$1,500** |
| | | | | | | | | **PS&E (1-Phase)** | | | | | | | | | | | | |
| 185.05 | Updated Project Information | | | 16 | | | | | | | 8 | | 2 | | 20 | 20 | 20 | 20 | **106** | |
| 185.15 | Preliminary Design (VA) | | | | | | | | | | | | | | | | | | **0** | |

# Environmental Division Resourcing/Work Agreement

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **EA:** | 43012 | **PROJECT ID:** | 1117000177 | **CO-RT-PM:** | 11-SD-52 | | |
| **Project Description:** | SR-52 Operational Improvements | | | | | | |
| **Project Manager:** | Andrew Rice | **Env. Generalist:** | Emery McCaffery | **Branch:** | C | **Unit:** | 2729 |

| **Current Phase:** | | **PID** | 1117000177 | PA&ED | | PS&E | | Construction | |
|---|---|---|---|---|---|---|---|---|---|

**Date** August 20, 2018

## ESTIMATED HOURS FOR COMPLETION OF PROJECT

| **Source Unit:** | | **2719** | **2729** | **2729** | **2730** | **2731** | **2735** | **2736** | **2813** | **2733** | **2734** | **2810** | **2817** | **2811** | **2812** | **2814** | **2819** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Unit Name :** | | **Admin** | **Env Gen** | **Graphics** | **Permits** | **Steward-ship Sr.** | **Bio** | **CIA** | **Const. Liaison** | **Cultural** | **Natural Resources/ LA Liaison** | **NPDES** | **Visual** | **Noise** | **Air** | **Env. Eng. Sr.** | **Haz Waste** |

**Total CC $**

CC03-Cultural/Paleo, CC04-Noise, CC32-HasWaste

| **WBS Level 6** | **Work Item** | **Task Manager** | **Hrs** | **Hrs** | **Hrs** | **Hrs** | **Hrs** | **Hrs** | **Hrs** | **Hrs** | **Hrs** | **Hrs** | **Hrs** | **Hrs** | **Hrs** | **Hrs** | **Hrs** | **TOTAL** | **$** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 185.20 | Engineering Reports (Soundwall Design Report) | | | | | | | | | | | | | 300 | | 100 | | **400** | |
| 205.05 | PLACs Determination | | | | | | | | | | | | | | | | | **0** | |
| 205.10 | Obtain PLACs | | | | | | 80 | | | | | | | | | | | **80** | |
| 230.05 | Draft Roadway Plans (WPCP) | | | | | | | | | | | 16 | | | | | | **16** | |
| 230.35 | Draft Specifications | | | | | | | | | | | 16 | | 24 | 8 | 8 | 24 | **80** | |
| 230.40 | Draft WPC Quantities & Estimates | | | | | | | | | | | 16 | | | | | | | |
| 230.60 | Update PS&E Package | | | | | | | | | | | 24 | | | | | | **24** | |
| 230.90 | NEPA Assignment | | | | | | | | | | | | | | | | | **0** | |
| 235.05 | Environmental Mitigation | | | 18 | | | 80 | | | | | | | | | | 60 | **158** | $0 |
| 235.10 | Haz Waste Site Investigation | | | | | | | | | | | | | | | 32 | 300 | **332** | $0 |
| 235.15 | Haz Waste Managemetn Plan | | | | | | | | | | | | | | | | 200 | **200** | |
| 235.20 | Haz Waste PS&E | | | | | | | | | | | | | | | 16 | 40 | **56** | |
| 235.40 | Update ECR | | | 32 | | | | | | | | | | | | | | **32** | |
| 255.05 | Review Draft PS&E | | | 16 | | | 16 | | | 8 | | 16 | | 10 | 5 | 10 | 20 | **101** | |
| 255.10 | Update PS&E Package | | | | | | | | | 8 | | 16 | | | | | 8 | **32** | |
| 255.15 | Perform Env Revaluation | | | 16 | | | 16 | 4 | | 8 | | | | 20 | 5 | 20 | 10 | **99** | |
| 255.20 | Review Final PS&E | | | | | | | | | | | | | 8 | 4 | 4 | 8 | **24** | |
| 260.75 | Environmental Cert. at RTL | | | 4 | | | | | | | | | | | | | | **4** | |
| 265.55 | Advertise Contract (Respond to bidder inquiries) | | | | | | | | | | | | | 16 | | 4 | 16 | **36** | |
| | **PS&E TOTALS** | | **0** | **102** | **0** | **0** | **0** | **192** | **4** | **0** | **32** | **0** | **106** | **0** | **398** | **42** | **214** | **706** | **1796** | **$0** |
| | **Construction (3-Phase)** | | | | | | | | | | | | | | | | | | |
| 270.22 | Contract Administration | | | | | | | | | | | 2 | | | | | | **2** | |
| 270.66 | Technical Support | | | | | | | | | 120 | | | | 40 | | 12 | 40 | **212** | |

# Environmental Division Resourcing/Work Agreement

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **EA:** | 43012 | **PROJECT ID:** | 1117000177 | **CO-RT-PM:** | 11-SD-52 | | | | |
| **Project Description:** | SR-52 Operational Improvements | | | | | | | | |
| **Project Manager:** | Andrew Rice | **Env. Generalist:** | Emery McCaffery | **Branch:** | C | **Unit:** | 2729 | | |
| **Current Phase:** | | **PID** | 1117000177 | PA&ED | | PS&E | | Construction | |

**Date** August 20, 2018

## ESTIMATED HOURS FOR COMPLETION OF PROJECT

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Source Unit:** | | **2719** | **2729** | **2729** | **2730** | **2731** | **2735** | **2736** | **2813** | **2733** | **2734** | **2810** | **2817** | **2811** | **2812** | **2814** | **2819** | | **Total CC $** |
| **Unit Name :** | | **Admin** | **Env Gen** | **Graphics** | **Permits** | **Steward-ship Sr.** | **Bio** | **CIA** | **Const. Liaison** | **Cultural** | **Natural Resources/ LA Liaison** | **NPDES** | **Visual** | **Noise** | **Air** | **Env. Eng. Sr.** | **Haz Waste** | | CC03-Cultural/Paleo, CC04-Noise, CC32-HasWaste |
| **WBS Level 6** | **Work Item** | **Task Manager** | **Hrs** | **Hrs** | **Hrs** | **Hrs** | **Hrs** | **Hrs** | **Hrs** | **Hrs** | **Hrs** | **Hrs** | **Hrs** | **Hrs** | **Hrs** | **Hrs** | **Hrs** | **TOTAL** | **$** |
| 280.10 | PLAC Compliance | | | | | | 2 | 12 | | 4 | | | | | 20 | | 40 | 40 | **118** | $0 |
| 280.40 | PLAC Violation | | | | | | 2 | 8 | | 4 | | | | | | | | | **14** | $0 |
| 280.50 | Other Environmental Compliance | | | | | | | | | 2 | 2 | | | | | | | | **4** | $0 |
| 280.60 | Other Environmental Violations | | | | | | | | | 2 | 2 | | | | | | | | **4** | $0 |
| 280.70 | Updated ECR | | | 32 | | | | 10 | | | | | | | | | | | **42** | |
| 280.75 | Environmental Reevaluation | | | 16 | | 2 | 2 | | | | 2 | | 4 | 2 | 6 | 8 | | 8 | **50** | |
| 280.80 | Update PLACs | | | | | 2 | 2 | | | 2 | | | | | | | | | **6** | |
| 285.05 | Contract Change Order (CCO) | | | | | | | | | | | | | | | | | | **0** | |
| 285.10 | Functional Support | | | 4 | | | | | | | | | | | 40 | | 8 | 40 | **92** | |
| 295.35 | Cert. of Env. Compliance (CEC) | | | 36 | | | | | | 4 | | | | | | | | | **40** | |
| 295.40 | Long Term Mitigation | | | | | 2 | 2 | 60 | | 2 | | | | | | | | | **66** | $0 |
| | **CONSTRUCTION TOTALS** | | **0** | **88** | **0** | **6** | **10** | **90** | **0** | **20** | **126** | **0** | **6** | **2** | **106** | **8** | **60** | **128** | **650** | **$0** |
| **Project "All Phases" Total Hours** | | | **4** | **800** | **184** | **6** | **10** | **822** | **28** | **20** | **652** | **0** | **164** | **10** | **2144** | **168** | **510** | **1312** | **6834** | **$1,500** |

Shay Lynn M Harrison
Environmental Senior Approval

8/30/18
Date

Andrew Rice
Project Manager Approval

8/30/18
Date

Project Manager: Please provide a signed copy via email to the assigned Environmental Generalist for the project.

**Comments:**

Disclaimer: The purpose of this Work Agreement is to provide a preliminary resourcing of environmental analysis to support the Project Initiation Document. Changes in project scope, alternatives, existing environmental conditions, and/or environmental laws or regulations will require a re-evaluation of this Work Agreement.

This project is intially screened as an IS/EA, but at each stage will be assessed for the appropriate environmental document.

# Attachment F

Transportation Planning Scoping Information Sheet

# ARTICLE 4
# Transportation Planning Scoping Information Sheet

Transportation planning provides the framework for selecting, scoping and constructing projects on the State Highway System. The intent of federal and State laws, policies and regulations are to fund and construct projects that are consistent with State, regional, and community planning decisions. Transportation planning processes are iterative; therefore, project teams rely on the Transportation Planner to provide the team with transportation planning information that affects the scope, cost, and schedule of the proposed project.

The Transportation Planner has the expertise to compile, analyze and present pre-planning efforts and decisions that must be considered when scoping the project. The Transportation Planner must identify community concerns and ensure they are adequately addressed early enough in the project development process to facilitate efficient project delivery. This information enables the team to properly define and scope the project in concert with the affected community and the alternatives previously considered.

It is important to use resources to gather and compile information that will:

- Assist project development teams in developing projects that are consistent with the purpose and need identified in the long-range transportation planning process for the statewide integrated multimodal transportation system.
- Ensure that the project development teams consider the following:
    - Consistent with planning concepts and statewide goals
    - Transportation system throughput and efficiencies for all modes.
    - Community values, context sensitive solutions, and complete streets.
    - Consistency with State, regional and community planning decisions.
- Improve cost estimating.
- Reduce scope creep.

Transportation Planners can use the planning scoping information sheet as a communication document to present the planning level purpose and need to the Project Development Team (PDT) early in the project initiation phase. The PDT should use the planning scoping information sheet to verify that the project remains consistent with the planning level purpose and need and is consistent with planning concepts, statewide goals, and planning decisions. Guidance to assist the Transportation Planner in completing the Information Sheet is located at: http://www.dot.ca.gov/hq/tpp/offices/opsc/project_scoping.html.

The majority of the data requested for the information sheet is compiled at two separate time periods. The initial information is collected by the Transportation Planning PDT representative at the start of Project Initiation Document (PID) development to ensure appropriate stakeholders are included in the process and all pre-planning efforts and commitments are reviewed before any project decisions are made. The remaining information will be addressed during the project development process. Explanations of how the requirements were met will need to be finalized by the end of the PID. Initial information required for each section of the planning information sheet beginning on page two is identified as **INITIAL PID INFORMATION** and the concluding information is identified as **FINAL PID INFORMATION.**

# ARTICLE 4 Transportation Planning Scoping Information Sheet

## PROJECT INFORMATION

| District | County | Route | Post Miles | Project ID No/ Expenditure Authorization No. |
|---|---|---|---|---|
| 11 | SD | 52 | 7.4/15.0 | |

**Project Name and Description: State Route 52 Operational Improvement Project**
Construct operational improvements to relieve heavy congestion from Interstate 15 to Mission Gorge Road Undercrossing, including a truck-climbing lane, auxiliary lanes, relocation of an existing Class IV bikeway, and restriping.

**Prepared by:**

| | | | |
|---|---|---|---|
| District Information Sheet Point of Contact*: | Name: Domenic Lupo, PE | Functional Unit: | AECOM (Consultant) |

* The District Information Sheet Point of Contact is responsible for completing Project Information, PDT Team and Stakeholder Information, and coordinating the completion of project-related information with the Transportation Planning Stakeholders. Upon completion, provides the Transportation Planning PDT Representative and Project Manager with a copy of the Information Sheet.

| **Project Development Team (PDT) Information** | | |
|---|---|---|
| **Title** | **Name** | **Phone Number** |
| Project Manager | Brooke Emery, PE | (619) 688-6495 |
| Assistant Project Manager | Liza Galon, PE | (619) 688-6714 |
| Design Engineer | Michael Crull, PE | (858) 414-7803 |
| Project Engineers | Christopher Scott, PE, Caltrans Design Manager<br>Kiersten Bousquet, PE, Caltrans Oversite Eng.<br>Nicholas Haigh, PE, NCM Engineering Corp.<br>Keith Gazaway, PE, Klienfelder Inc.<br>John P. Keating, PE, LLG Engineering | (619) 688-6740<br>(619) 688-6081<br>(619) 490-9567<br>(619) 831-4600<br>(858) 300-8800 |
| Transportation Planning PDT Representative** | | |

| **Transportation Planning Stakeholder Information** | | |
|---|---|---|
| **Title** | **Name** | **Phone Number** |
| Regional Planner | Melina Pereira | (619) 688-6075 |
| System Planner | Roy Abboud | (619) 688-6968 |
| Local Development-Intergovernmental Review (LD-IGR) Planner | N/A | N/A |
| Community Planner | N/A | N/A |
| Goods Movement Planner | N/A | N/A |
| Transit Planner | N/A | N/A |
| Bicycle and Pedestrian Coordinator | Brandon Tobias | (619) 688-2503 |
| Park and Ride Coordinator | N/A | N/A |
| Native American Liaison | N/A | N/A |
| Other Coordinators: | Ilene Gallo (Regional Air Quality Conformity) | (619) 688-6460 |

| |
|---|
| **Project Purpose and Need**** – The purpose of the project is to improve traffic operations and enhance safety on SR-52 from I-15 to the Mission Gorge Road Undercrossing, including the SR-52/Mast Boulevard Interchange, and to reduce congestion at bottleneck locations. The project includes the objectives of enhancing multi-modal efforts, such as safety and mobility of bicyclists, and minimizing environmental impacts to the extent practicable. The need for the project is due to the substantial delays experienced by peak hour motorists travelling on SR 52 between I-15 and the Mission Gorge Road Undercrossing due to operational deficiencies. |

** The Transportation Planning PDT Representative is responsible for providing the PDT with the system-wide and corridor level deficiencies identified by Transportation Planning. The PDT uses the information provided by Transportation Planning to develop the purpose and need with contributions from other Caltrans functional units and external stakeholders at the initiation of the PID and is refined throughout the PID process. As the project moves past the project initiation stage and more data becomes available, the purpose and need is refined. For additional information on purpose and need see: www.dot.ca.gov/hq/env/emo/purpose_need.htm

**1. Project Funding:**

| | |
|---|---|
| a | List all known and potential funding sources and percent splits: (ie. State Transportation Improvement Program (STIP)/State Highway Operations and Protection Program (SHOPP)/Transportation Enhancement (TE)/Environmental Enhancement and Mitigation (EEM)/Safe Routes to School (SR2S)/etc.). |
| | State Highway Operations and Protection Program (SHOPP), Congested Corridors Program, Active Transportation Program, and private sources (percent splits unknown at this time) |
| b | Is this a measure project? Yes__/No_X_. If yes, name and describe the measure. |
| | N/A |

**2. Regional Planning:**

| | |
|---|---|
| a | Name of and contact information for Metropolitan Planning Organization (MPO) or Regional Transportation Planning Agency (RTPA). |
| | Keith Greer, Principal Regional Planner, SANDAG (619) 699-7390 |
| b | Name of and contact information for local jurisdiction (City or County) |
| | Minjie Mei, City of Santee, (619) 258-4100 ext. 189 |
| c | Provide the page number and project description as identified in the Regional Transportation Plan (RTP) and the date of adoption, or provide an explanation if not in RTP. |
| | N/A |
| d | Provide nexus between the RTP objectives and the project to establish the basis for the project purpose and need. |
| | N/A |
| e | Is the project located in an area susceptible to sea-level rise? |
| | No |
| f | Name of Air Quality Management District (AQMD) |
| | San Diego County Air Pollution Control District<br>10124 Old Grove Road, San Diego, CA 92131, (858) 586-2600 |
| g | If the project is located in a federal non-attainment or attainment-maintenance area is the project: |
| | • Regionally Significant? (per 40 (Code of Federal Regulations (CFR) 93.101) Y_X_/N__ |
| | • Exempt from conformity? (per 40 CFR 93.126 and 93.128) Y__/N_X_ |
| | • Exempt from regional analysis? (per 40 CFR 93.127) Y__/N_X_ |
| | • Not exempt from conformity (must meet all requirements)? Y_X_/N__ |

**3. Native American Consultation and Coordination:**

| | |
|---|---|
| a | If project is within or near an Indian Reservation or Rancheria? If so, provide the name of Tribe. |
| | The Sycuan reservation and Barona reservation are within approximately 10 miles of the project site. |
| b | Has/have the Tribal Government(s) been consulted? Y___/N_X_. If no, why not? |
| | The tribal governments will be consulted during the PA&ED. |
| c | If the project requires Caltrans to use right-of-way on trust or allotted lands, this information needs to be |

| | |
|---|---|
| | included as soon as possible as a key topic in the consultation with the Tribe(s). Has the Tribe been consulted on this topic? Y___/N__. If no, why not? |
| | N/A |
| d | Has the Bureau of Indian Affairs (BIA) been notified? Y__/N X |
| | The BIA will be notified during the PA&ED. |
| e | Have all applicable Tribal laws, ordinances and regulations [Tribal Employment Rights Ordinances (TERO), etc.] been reviewed for required contract language and coordination? |
| | N/A |
| f | If the Tribe has a TERO, is there a related Memorandum of Understanding between the District and the Tribe? |
| | N/A |
| g | Has the area surrounding the project been checked for prehistoric, archeological, cultural, spiritual, or ceremonial sites, or areas of potentially high sensitivity? If such areas exist, has the Tribe, Native American Heritage Commission or other applicable persons or entities been consulted? |
| | This check will be completed during the PA&ED. |
| h | If a Native American monitor is required for this project, will this cost be reflected in cost estimates? |
| | N/A |
| i | In the event of project redesign, will the changes impact a Native American community as described above in d, e, or h? |
| | No |

**4. System Planning:**

| | |
|---|---|
| a | Is the project consistent with the DSMP? Y X /N__. If yes document approval date. If no, explain. |
| | The District System Management Plan (DSMP) was approved on November 2, 2016. SHOPP projects include: from I-5 to SR-125 add shoulder rumble strips, upgrade end treatments highway, $7,000.00, Caltrans 2015 (0 Yr. SHOPP N 1115000026); in San Diego County, on SR-52 from 0.2 mile east of Convoy St to 0.2 mile west of 52/163 Junction, add pavement rehabilitation highway system preservation II, $8,800.00 2024; I-15 to SR-125 add 2 managed lanes to 6 freeway lanes (6F+2ML(R) Highway System Expansion) V $325,000.00 2040. APPROVAL DATE: October 2014 |
| b | Is the project identified in the TSDP? Y__/N__? If yes, document approval date____. If no, explain. |
| | N/A – No Transportation System Development Program (TSDP) for District 11 |
| c | Is the project identified in the TCR/RCR or CSMP? Y__/N X. If yes, document approval date___. If no, explain. Is the project consistent with the future route concept? Y X /N__. If no, explain. |
| | Integrated management of travel modes and roadways so as to facilitate the efficient and effective mobility of people and goods within California's most congested transportation corridors. (I-15, I-805, SR-94 only included). SANDAG and Caltrans are planning to expand SR-52 from 4 to 6 lanes at both the western and eastern termini of the SR-52. This lane expansion will occur from I-5 to Interstate 805 (I-805) and from SR-125 to SR-67. This expansion will improve mobility by increasing roadway capacity. |
| d | Provide the Concept Level of Service (LOS) through project area. |
| | The project would alleviate peak hour traffic congestion, meet anticipated traffic increases and improve traffic flow on SR-52 between I-15 and Mast Boulevard. The current Level of Service (LOS) during the three-hour morning and evening peak times in this area is a LOS F. |
| e | Provide the Concept Facility – include the number of lanes. Does the Concept Facility include High Occupancy Vehicle lanes? Y__/N X. |
| | Concept facility varies between 3 lanes (eastbound, Mast Boulevard to Mission Gorge Road) and 4 lanes (westbound, Mast Boulevard to Santo Road). Alternative 2 adds a 3rd westbound lane from Mission Gorge Road to Mast Boulevard. |

| | |
|---|---|
| f | Provide the Ultimate Transportation Corridor (UTC) – include the number of lanes. Does the UTC include High Occupancy Vehicle Lanes? Y X /N __. |
| | UTC = 6-Lane Freeway with 2 reversible managed lanes. HOV = 2 reversible managed lanes. |
| g | Describe the physical characteristics of the corridor through the project area (i.e. flat, rolling or mountainous terrain...). |
| | Rolling terrain |
| h | Is the highway in an urban or rural area? Urban X /Rural __. Provide Functional Classification. |
| | Functional classification is "freeway". |
| i | Is facility a freeway, expressway or conventional highway? |
| | Facility is a "freeway". |
| j | Provide Route Designations: (i.e. Interregional Transportation Strategic Plan (ITSP) High Emphasis or Focus Route, Surface Transportation Assistance Act (STAA) Route, Scenic Route…). |
| | Route is identified on the Truck Network Map as a STAA "Terminal Access Route". |
| k | Describe the land uses adjacent to project limits (i.e. agricultural, industrial…). |
| | Adjacent land uses are Open Space and Residential. |
| l | Describe any park and ride facility needs identified in the TCR/CSMP, local plans, and RTP. |
| | The Managed Lanes project was originally planned to be completed by 2040. SANDAG have been developing its RTP update and is currently moving the SR-52 improvements to 2025. As part of the Managed Lanes project, MTS is coordinating dedicated BRT service on the planned facilities. As part of this service, optimizing existing Park and Ride lots and the Santee Transit Center is recommended. |
| m | Describe the Forecasted 10 and 20-year Vehicle Miles Traveled (VMT), Annual Average Daily Traffic (AADT), and Peak Hour truck data in the TCR. Include the source and year of Forecast, and names and types of traffic and travel demand analysis tools used. |
| | VMT: 539,709 (By 2010) & 794,730 (By 2040)<br>AADT: 96,549 (BY 2010) & 123,252 (By 2040)<br>Peak Hour Truck: AM=749 (By 2010) & PM=2095 (By 2010) / AM=1322 (By 2040) & PM=3085 (By 2040)<br>Data Table found in TCR in Table 13: Corridor Performance |
| n | Has analysis on Daily Vehicle Hours of Delay (DVHD) from the Highway Congestion Monitoring Program (HICOMP) been completed and included? Y X /N__. |
| | Completed in 2008 |

**5. Local Development – Intergovernmental Review (LD-IGR ):**

List LD-IGR projects that may directly or indirectly impact the proposed Caltrans project or that the proposed Caltrans project may impact. (Attach additional project information if needed.)

| LD-IGR Project Information | | Project |
|---|---|---|
| a | County-Route-Postmile & Distance to Development. | San Diego – 13.3 – 2.5 miles Northeast of Mast Boulevard Undercrossing at SR-52 |
| b | Development name, type, and size. | Fanita Ranch, Planned Community including housing, commercial space, parks, open space and agricultural uses |
| c | Local agency and/or private sponsor, and contact information. | City of Santee<br>Doug Thomsen, Senior Planner, (619)258-4100 Ext. 205<br>Dthomsen@cityofsanteeca.gov |
| d | California Environmental Quality Act (CEQA) status and Implementation Date. | |
| e | If project includes federal funding, National Environmental Policy Act (NEPA) status. | |
| f | All vehicular and non-vehicular unmitigated impacts and planned mitigation measures | |

| | | |
|---|---|---|
| | including Transportation Demand Management (TDM) and Transportation System Management (TSM) that would affect Caltrans facilities. | |
| g | Approved mitigation measures and implementing party. | |
| h | Value of constructed mitigation and/or amount of funds provided. | |
| i | Encroachment Permit, Transportation Permit, Traffic Management Plan, or California Transportation Commission (CTC) Access approvals needed. | |
| j | Describe relationship to Regional Blueprint, General Plans, or County Congestion Management Plans. | |
| k | Inclusion in a Regional Transportation Plan Sustainable Community Strategy or Alternative Planning Strategy? | |
| l | Regional or local mitigation fee program in place? | |

**6. Community Planning:**

| | |
|---|---|
| | INITIAL PID INFORMATION |
| a | Has lead agency staff worked with any neighborhood/community groups in the area of the proposed improvements? Y X /N__. If yes, summarize the process and its results including any commitments made to the community. If no, why not? |
| | Neighborhood and community groups were consulted during the State Route 52 Corridor Study. |
| b | Are any active/completed/proposed Environmental Justice (EJ) or Community-Based Transportation (CBTP) Planning Grants in the project area? Y__/N__. If yes, summarize the project, its location, and whether/how it may interact with the proposed project. |
| | N/A |
| c | Describe any community participation plans for this PID including how recommendations will be incorporated and/or addressed. Has a context sensitive solutions (CSS) approach been applied? Y X /N_ |
| | Community participation plans will be developed during the PA&ED and will use the context-sensitive solutions approach. |
| | FINAL PID INFORMATION |
| d | How will the proposed transportation improvements impact the local community? Is the project likely to create or exacerbate existing environmental or other issues, including public health and safety, air quality, water quality, noise, environmental justice or social equity? Y__/N X . Describe issues, concerns, and recommendations (from sources including neighborhood/community groups) and what measures will be taken to reduce existing or potential negative effects. |
| | The operational improvements will positively impact the local community by providing congestion relief. |
| e | Does this highway serve as a main street? Y__/N X . If yes, what main street functions and features need to be protected or preserved? |
| | N/A |

**7. Freight Planning:**

| | |
|---|---|
| | INITIAL PID INFORMATION |

| | |
|---|---|
| a | Identify all modal and intermodal facilities that may affect or be affected by the project. |
| | N/A |
| | FINAL PID INFORMATION |
| b | Describe how the design of this project could facilitate or impede Goods Movement and relieve choke points both locally and statewide through grade separations, lane separations, or other measures (e.g., special features to accommodate truck traffic and at-grade railroad crossings). |
| | N/A |
| c | Describe how the project integrates and interconnects with other modes (rail, maritime, air, etc.). Do possibilities exist for an intermodal facility or other features to improve long-distance hauling, farm-to-market transportation and/or accessibility between warehouses, storage facilities, and terminals? |
| | N/A |
| d | Is the project located in a high priority goods movement area, included in the Goods Movement Action Plan (GMAP) or on a Global Gateways Development Program (GGDP) route? Y__/N X. If yes, describe. |
| | |
| e | Is the project on a current and/or projected high truck volume route [e.g., Average Annual Daily Truck Traffic (AADTT) of 5 axle trucks is greater than 3000]? Yes__/N X. If yes, describe how the project addresses this demand. |
| | Volume: 287 (by 2010) & 423 (By 2040) |
| f | If the project is located near an airport, seaport, or railroad depot, describe how circulation (including truck parking) needs are addressed. |
| | The project is not located near an airport, seaport or railroad depot. |
| g | Describe any other freight issues. |
| | N/A |

**8. Transit (bus, light rail, commuter rail, intercity rail, high speed rail):**

| | |
|---|---|
| | INITIAL PID INFORMATION |
| a | List all local transit providers that operate within the corridor. |
| | There are none at this time. |
| b | Have transit agencies been contacted for possible project coordination? Y__/N X. If no, why not? |
| | There are no transit routes within the project limits. |
| c | Describe existing transit services and transit features (bus stops, train crossings, and transit lines) within the corridor. |
| | None |
| d | Describe transit facility needs identified in short- and long-range transit plans and RTP. Describe how these future plans affect the corridor. |
| | Long-range regional plans include a future bus route within the project limits. The proposed operational improvements will relieve congestion and enhance bus operations. |
| | FINAL PID INFORMATION |
| e | Describe how the proposed project integrates transit and addresses impacts to transit services and transit facilities. |
| | N/A – there are no transit services or facilities. |
| f | Have transit alternatives and improvement features been considered in this project? Y__/N X If yes, describe. If no, why not? |
| | N/A – there are no transit services or facilities. |

**9. Bicycle:**

| | |
|---|---|
| | INITIAL PID INFORMATION |
| a | Does the facility provide for bicyclist safety and mobility needs? If no, please explain. |
| | Yes |
| b | Are any improvements for bicyclist safety and mobility proposed for this facility by any local agencies or included in bicycle master plans? If yes, describe (including location, time frame, funding, etc.). |

| | |
|---|---|
| | Yes, the *San Diego Regional Bicycle Plan* has a Class I bike path along the entire length of SR-52. This project is not early-action. |
| c | Are there any external bicycle advocacy groups and bicycle advisory committees that should be included in the project stakeholder list? If so, provide contact information. |
| | N/A |
| | FINAL PID INFORMATION |
| d | Will bicycle travel deficiencies be corrected? How or why not? |
| | Yes, an appropriate permanent barrier will be installed for the bikeway, and the width will be standard. |
| e | How will this project affect local agency plans for bicycle safety and mobility improvements? |
| | The bicycle improvements in this project enhance local agency plans. |
| f | If the project is the construction of a new freeway or modification to an existing freeway, will it sever or destroy existing provisions for bicycle travel? If yes, describe how bicycle travel provisions will be included in this project. |
| | N/A |

**10. Pedestrian including Americans with Disabilities Act (ADA):**

| | |
|---|---|
| | INITIAL PID INFORMATION |
| a | Does this facility provide for pedestrian safety and mobility needs? If so, describe pedestrian facilities. Do continuous and well-maintained sidewalks exist? Are pedestrians forced to walk in the roadway at any locations due to lack of adequate pedestrian facilities? Please explain. |
| | Pedestrians are expressly prohibited from using this facility. |
| b | Are pedestrian crossings located at reasonable intervals? |
| | N/A |
| c | Are all pedestrian facilities within the corridor ADA accessible and in compliance with Federal and State ADA laws and regulations? |
| | N/A |
| | FINAL PID INFORMATION |
| d | Will pedestrian travel deficiencies be corrected? How or why not? |
| | N/A |
| e | How will this project affect local agency plans for pedestrian safety and mobility improvements? |
| | N/A |
| f | If the project is the construction of a new freeway or modification to an existing freeway, will it sever or destroy existing provisions for pedestrian travel? If yes, describe how pedestrian travel provisions will be included in this project. |
| | N/A |
| g | Are there any external pedestrian advocacy groups and advisory committees that should be included in the project stakeholder list? If so, provide contact information. |
| | N/A |
| h | Have ADA barriers as noted in the District's ADA Transition Plan been identified within the project limits? If not included in the project, provide justification and indicate whether District Design coordinator approval was obtained. |
| | N/A |

**11. Equestrian:**

| | |
|---|---|
| | INITIAL PID INFORMATION |
| a | If this corridor accommodates equestrian traffic, describe any project features that are being considered to improve safety for equestrian and vehicular traffic? |
| | N/A |

| | |
|---|---|
| | FINAL PID INFORMATION |
| b | Have features that accommodate equestrian traffic been identified? If so, are they included a part of this project? Describe. If no, why not? |
| | N/A |

**12. Intelligent Transportation Systems (ITS):**

| | |
|---|---|
| | INITIAL PID INFORMATION |
| a | Have ITS features such as closed-circuit television cameras, signal timing, multi-jurisdictional or multimodal system coordination been considered in the project? Y__/N__. If yes, describe. If no, explain. |
| | N/A |
| | FINAL PID INFORMATION |
| b | Have ITS features been identified? If so, are they included a part of this project? Describe. If no, why not? |
| | N/A |

# Attachment G

Right-of-Way Conceptual Cost Estimate

# K PHASE CONCEPTUAL COST ESTIMATE FORM - RIGHT OF WAY

****A RIGHT OF WAY DATA SHEET WILL NEED TO BE COMPLETED FOR SUBSEQUENT PHASES****

Date: 8/16/2019

Dist-Co-Rte-PM: SD-11-52
Project ID: 1117000177
EA: 43012
Alternative #: 2

From: Barbara Jastorna
RIGHT OF WAY
*(Estimator)*

Barbara Jastorna
RIGHT OF WAY
*(Estimating Senior)*

The Conceptual Cost Estimate Request was received for the above-referenced project on (*date submitted*) with a requested completion date of (*requested completion date*).

**Scope of the Right of Way**
Description of Required Right of Way: None required, project limits are entirely within existing State right of way.

Right of Way Required: ☐ Yes ☒ No
Number of Total Parcels: ☐ 1-10 ☐ 11-25 ☐ 26-50 ☐ 51-100 ☐ >100

Right of Way Requirements:

Number of Fee Parcels _____ Total Fee Area _____
Number of Permanent Easements _____ Total Permanent Easement Area _____
Number of Temporary Easements _____ Total Temporary Easement Area _____
Length of Term Required for Temporary Easements _____
Number of Excess Parcels/Other _____

| | | | | |
|---|---|---|---|---|
| USA Lands: | ☐ Yes | ☐ No | ☐ Unknown | |
| BIA Lands: | ☐ Yes | ☐ No | ☐ Unknown | |
| Displaced Persons/Businesses: | ☐ Yes | ☐ No | ☐ Unknown | Number of displacees_____ |
| Demolition/Clearance Required: | ☐ Yes | ☐ No | ☐ Unknown | Number of demos_____ |
| Railroad Involvement: | ☐ Yes | ☐ No | ☐ Unknown | |
| C&M Agreement Needed | ☐ Yes | ☐ No | ☐ Unknown | |
| Utility Involvement: | ☐ Yes | ☐ No | ☐ Unknown | Number of Utilities in Area _____ |
| UT Relocations Anticipated: | ☐ Yes | ☐ No | ☐ Unknown | |
| Potholing Needed: | ☐ Yes | ☐ No | ☐ Unknown | |
| Project Public Meetings: | ☐ Yes | ☐ No | ☐ Unknown | Number of Meetings_____ |
| Permits To Enter ENV/ENG: | ☐ Yes | ☐ No | ☐ Unknown | Number of Permits_____ |
| Environmental Mitigation: | ☐ Yes | ☐ No | ☐ Unknown | Type_____ |
| Outdoor Advertising Signs: | ☐ Yes | ☐ No | ☐ Unknown | Number of Signs_____ |

**Cost Estimates**

Estimate reflects Right of Way only and does not include any capital costs for Right of Way Engineering/Land Surveys.

Capital Costs-Phase 9

☐ $0-$100,000
☐ $100,001-$250,000
☐ $250,001-$500,000
☐ $500,001-$1,000,000
☐ $1,000,001-$2,500,000
☐ $2,500,001-$5,000,000
☐ $5,000,001-$10,000,000
☐ $10,000,001-$25,000,000
☐ $25,000,001-$100,000,000
☐ >$100,000,000

Capital Costs-Phase 4

☐ $0-$100,000
☐ $100,001-$250,000
☐ $250,001-$500,000
☐ $500,001-$1,000,000
☐ $1,000,001-$2,500,000
☐ $2,500,001-$5,000,000
☐ $5,000,001-$10,000,000
☐ $10,000,001-$25,000,000
☐ $25,000,001-$100,000,000
☐ >$100,000,000

Phase 9 - Recommended R/W Capital Cost for Programming

$_____

Phase 4 - Recommended R/W Capital Cost for Programming

$_____

Estimate reflects Right of Way only and does not include any support costs for Right of Way Engineering/Land Surveys.

Phase 0 Support Costs (PA&ED)
Tasks: 100.10, 160.10, 160.30, 165.10, 170.10, 170.15, 170.25, 175.10, 180.05, 180.10

$_____

Phase 1 Support Costs (PS&E)
Tasks: 100.15, 185.05, 185.20, 185.25, 205.10, 205.15, 205.25, 235.05, 235.10, 255

- ☐ $0-$100,000
- ☐ $100,001-$250,000
- ☐ $250,001-$500,000
- ☐ $500,001-$1,000,000
- ☐ $1,000,001-$2,500,000
- ☐ $2,500,001-$5,000,000
- ☐ $5,000,001-$10,000,000
- ☐ $10,000,001-$25,000,000
- ☐ $25,000,001-$100,000,000
- ☐ >$100,000,000

Phase 2 Support Costs (RW)
Tasks: 100.25, 195.40, 195.45, 200.15, 200.20, 200.25, 200.30, 225.50, 225.60, 225.65, 225.70, 225.75, 225.80, 245.50, 245.60, 245.65, 245.70, 245.75, 245.80

- ☐ $0-$100,000
- ☐ $100,001-$250,000
- ☐ $250,001-$500,000
- ☐ $500,001-$1,000,000
- ☐ $1,000,001-$2,500,000
- ☐ $2,500,001-$5,000,000
- ☐ $5,000,001-$10,000,000
- ☐ $10,000,001-$25,000,000
- ☐ $25,000,001-$100,000,000
- ☐ >$100,000,000

Phase 3 Support Costs (CON)
Tasks: 270.25, 285

- ☐ $0-$100,000
- ☐ $100,001-$250,000
- ☐ $250,001-$500,000
- ☐ $500,001-$1,000,000
- ☐ $1,000,001-$2,500,000
- ☐ $2,500,001-$5,000,000
- ☐ $5,000,001-$10,000,000
- ☐ $10,000,001-$25,000,000
- ☐ $25,000,001-$100,000,000
- ☐ >$100,000,000

**Schedule**
Right of Way will require a minimum of _____ months to deliver a Right of Way Certification once final right of way requirements and mapping have been received, necessary environmental compliance documents have been obtained, and required freeway agreements have been approved. This schedule is based on a Right of Way Certification #1 with an anticipated cert date of _____.

**Areas of Concern**
Potential areas of concern are noted below:

*(Provide a description of areas in close proximity to the project footprint that are likely to result in complex right of way issues if impacted [i.e., junkyards, cemeteries, utility towers, mobile home parks, etc.].)*

**Assumptions and Limiting Conditions/Risks**
This estimate is based on the following assumptions and limiting conditions and documented project risks:

The Scope of the Right of Way analysis includes applicable:

- Acquisition Costs (including any Excess Lands, Damages, Mitigation, etc.)
- Utility Relocation
- Railroad Involvement
- Relocation Assistance
- Clearance/Demolition
- Permits
- Title and Escrow Fees
- Construction Contract Work

Capital Costs are based on eminent domain estimating and appraisal methodologies and current market information. Support Costs are based on district workload estimating tools and historical data from previous similar projects.

Escalation and Contingency Rates were applied based on the proposed project schedule and previous district experience to account for changes in market conditions and other unanticipated project-related costs.

Check as applicable:

☐ A field review was not performed as part of this estimate.

☐ Mapping received did not provide sufficient detail to determine the limits of the right of way requirements and/or to determine damages to the remainder parcels impacted by the project.

☐ Additional right of way requirements may be anticipated but are not defined due to the preliminary nature of the early design requirements.

☐ We have determined that there are no right of way functional involvements in the proposed project at this time as currently designed.

☐ Utility lead time begins after PA&ED is met and we have received conflict maps.

☐ Right of Way certification is at risk. The current schedule does not provide Right of Way with sufficient lead time.

*(Provide a description of any other specific assumptions and limiting conditions. Also document all known risks to future cost, scope, schedule or changes in performance for inclusion in the project Risk Register.)*

**Contact**
For further information regarding this estimate, please contact person below:

Title: *(Name)*
Phone Number: *(Phone Number)*

**Attachment(s)**

1) Conceptual Cost Estimate Request (with mapping)
2)

## INSTRUCTIONS FOR COMPLETING THE CONCEPTUAL COST ESTIMATE FORM

The form should be completed in its entirety with the best information available.

**Scope of the Right of Way**

- Description of Required Right of Way - *Provide a brief description of the required right of way in general including location attributes, etc.*
- Right of Way Required - *Confirmation of Right of Way involvement - includes any deliverable required for the right of way component.*
- Number of Parcels - *Estimated quantity of all parcels needed for the project.*
- Project Setting - *The setting of the project (as indicated on the request).*
- Right of Way Requirements - *Total land area for fee and easement requirements.*
- RAP Displacements - *Determine if persons and/or businesses will be displaced by the project.*
- Demolition and Clearance - *Determine if structures/improvements will need to be cleared.*
- Railroad Involvement - *Determine if railroad interests are involved.*
- Utility Involvement - *Determine if utilities are involved and note number of utilities in area.*

**Cost Estimates**

- Capital Outlay Costs - The capital costs are represented as a reliable range of cost estimates for future Capital Phases (RW, CON) based on the estimated capital costs related to parcels, utilities, railroad involvement, etc.
- Capital Outlay Support Costs - The support costs are represented as a reliable accurate/most probable support estimate to program/allocate the PA&ED phase (i.e., estimating, assistance with environmental permits [Permits to Enter and Rights of Entry], and preliminary railroad and/or utilities work) and a reliable range of cost for future Support phases (PS&E, RW, CON) based on Right of Way involvement.
- Recommended Capital Cost for Programming. Once an anticipated RW cost range is estimated a cost within that range shall be listed as the recommended amount for Programming. (Careful analysis of the limiting conditions, assumptions, areas of concern, risks, etc. should occur to support a recommended programming amount in the higher or lower part of the range)

**Schedule**

The schedule assumes a Right of Way Certification #1.

**Areas of Concern**

The areas of concern identify areas in close proximity to the project that could result in major increases to the cost, scope, or schedule of delivering the Right of Way component if impacted.

**Assumptions and Limiting Conditions**

Provide the assumptions and limiting conditions used in the preparation of this estimate.

**Risks**

Document all known risks to future cost, scope, schedule or changes in performance for inclusion in the project Risk Register. Monetize key risks when known for inclusion in the risk register.

**Contact -** The preparer will include his or her name and telephone number.

# Attachment H

Risk Register

| LEVEL 1 - RISK REGISTER | Project Name: | State Route 52 Operational Improvements | DIST- EA | 11-43012 | Project Manager | Brooke Emery | |
|---|---|---|---|---|---|---|---|

| Risk Identification | | | | | | | Risk Rating | | Risk Response | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Status | ID # | Type | Category | Title | Risk Statement | Current status/assumptions | Priority Rating | Rationale for Rating | Strategy | Response Actions | Risk Owner | Updated |
| Active | 1 | Threat | Design | Additional Engineering Analysis | Approval of the light-weight cantilevered bike path bridge widening concept requires more engineering analysis than originally anticipated that increases the overall consultant design and Caltrans oversight costs. | • Probability: **Moderate**<br>• Impact: **Low**<br>• No structural modifications to the existing bridges are currently included in the scope, schedule and budget. | Low | | Accept | • This risk will be addressed during the PA/ED phase. | Mike Crull (Design Manager) | 3/2/2018 |
| Active | 2 | Threat | Design | Structural Modifications | Approval of the light-weight cantilevered bike path bridge widening concept requires more structural modifications to the existing bridges than expected that increases overall project costs. | • Probability: **Low**<br>• Impact: **High**<br>• No structural modifications to the existing bridges are currently included in the scope, schedule and budget. | High | The cost impact of structural modifications due to the cantilevered bike path could increase the project cost as much as 15%. | Accept | • This risk will be addressed during the PA/ED phase. | Mike Crull (Design Manager) | 3/2/2018 |
| Active | 3 | Threat | Design | Unapproved Structural Design Concept | Because light-weight cantilevered bike paths on existing bridges are not widely used, the current concept for the project may not receive approval from Caltrans as planned. If a more traditional bridge widening concept is the only acceptable design, the project would cause significant environmental impacts. These impacts would change the type of environmental document required, increase the project schedule and increase the total project cost. | • Probability: **Very Low**<br>• Impact: **High**<br>• A traditional bridge widening is beyond the scope, budget and schedule of this operational improvement project. | High | Although the probability is very low, the consequences are significant. A traditional bridge widening project is a different type/category of project than our proposed solution. | Avoid | • Because of the severity of the impact, the preferred strategy is to avoid, rather than accept the cost.<br>• Widening of the Oak Canyon or Spring Canyon Bridges, if needed, would have to be approved by HomeFed. | Mike Crull (Design Manager) | 3/5/2018 |
| Active | 4 | Threat | Design | Re-striping the Eastbound San Diego River Bridge (Roadway) | Approval for re-striping the EB San Diego River Bridge to three lanes requires more roadway improvements than originally anticipated, and this leads to increased overall project costs. | • Probability: **High**<br>• Impact: **High**<br>• No additional roadway improvements were assumed and included in the original project schedule or budget. | High | The risk of this occurring is likely and results in increased costs. | Accept | • We will quickly confirm if additional roadway improvements are needed. If so, changes to the project scope, budget and schedule would have to be approved by HomeFed. | Mike Crull (Design Manager) | 3/5/2018 |
| Active | 5A | Threat | Design | Re-striping the Eastbound San Diego River Bridge (Structures: Minor Reconstruction) | Approval for re-striping the EB San Diego River Bridge to three lanes requires minor structural modifications (i.e. shifting the concrete barrier and reconstructing the bridge overhang, or something of this magnitude), which leads to increased overall project costs and more environmental considerations. | • Probability: **Very Low**<br>• Impact: **Very High**<br>• Minor structural modifications are not anticipated at this time. | High | The priority is high because there is a substantial increase to the project cost if this is added to the scope. | Accept | • We will confirm at the PSR-PDS stage if minor structural modifications are needed. If so, changes to the project scope, budget and schedule would have to be approved by HomeFed. | Mike Crull (Design Manager) | 3/5/2018 |
| Active | 5B | Threat | Design | Re-striping the Eastbound San Diego River Bridge (Structures: Bridge Widening) | Approval for re-striping the EB San Diego River Bridge to three lanes requires a traditional bridge widening, which leads to increased overall project costs. | • Probability: **Very Low**<br>• Impact: **Very High**<br>• It is possible that the only design exceptions acceptable to Caltrans for striping 3 lanes would require a bridge widening.<br>• A traditional bridge widening could potentially involve construction in environmentally sensitive areas. | High | Any traditional bridge widening will dramatically increase the cost of design, construction and environmental phase work. | Avoid | • Because of the severity of the impact, the preferred strategy is to avoid, rather than accept the cost.<br>• It is unlikely that the widening of the EB San Diego River Bridge could be added to the project, and as a result, one of the primary project goals would not be met. | Mike Crull (Design Manager) | 3/5/2018 |
| Active | 6 | Threat | Design | Re-striping the Eastbound San Diego River Bridge (Approval) | Approval is not obtained for re-striping the EB San Diego River bridge to three lanes, and one of the primary project goals is not met. | • Probability: **Low**<br>• Impact: **Very High**<br>• Design exceptions are the key factor for approval.<br>• Re-striping to three lanes is an important feature of the design.<br>• Re-striping is currently the only proposed improvement on the eastbound side. | High | Failure to fulfill a key project goal could jeopardize public support for the SR-52 operational improvement project and other projects. | Mitigate | • Discussions about design exceptions for re-striping will be held in the earliest stages of the project.<br>• Discussions with Caltrans will include an analysis of appropriate justifications and reasonable mitigations for design exceptions.<br>• The project team will seek to develop consensus early to reduce the risk of re-design and increased design costs. | Mike Crull (Design Manager) | 3/5/2018 |

| LEVEL 1 - RISK REGISTER | Project Name: State Route 52 Operational Improvements | | | DIST- EA | 11-43012 | Project Manager | Brooke Emery | | |
|---|---|---|---|---|---|---|---|---|---|
| Risk Identification | | | | | | Risk Rating | | Risk Response | | | |
| Status | ID # | Type | Category | Title | Risk Statement | Current status/assumptions | Priority Rating | Rationale for Rating | Strategy | Response Actions | Risk Owner | Updated |
| Active | 7 | Threat | Design | Re-striping the Eastbound Mast Blvd UC (Roadway) | Approval for re-striping the EB Mast Boulevard Undercrossing to three lanes requires more roadway improvements than originally anticipated, and this leads to increased overall project costs. | • Probability: **High**<br>• Impact: **High**<br>• No additional roadway improvements were assumed and included in the original project schedule or budget. | High | The risk of this occurring is likely and results in increased costs. | Accept | • We will quickly confirm if additional roadway improvements are needed. If so, changes to the project scope, budget and schedule would have to be approved by HomeFed. | Mike Crull (Design Manager) | 3/5/2018 |
| Active | 8A | Threat | Design | Re-striping the Eastbound Mast Blvd UC (Structures: Minor Reconstruction) | Approval for re-striping the EB Mast Boulevard Undercrossing to three lanes requires minor structural modifications (i.e. shifting the concrete barrier and reconstructing the bridge overhang, or something of this magnitude), which leads to increased overall project costs and more environmental considerations. | • Probability: **Very Low**<br>• Impact: **High**<br>• Minor structural modifications are not anticipated at this time. | Medium | | Accept | • We will confirm at the PSR-PDS stage if minor structural modifications are needed. If so, changes to the project scope, budget and schedule would have to be approved by HomeFed. | Mike Crull (Design Manager) | 3/5/2018 |
| Active | 8B | Threat | Design | Re-striping the Eastbound Mast Blvd UC (Structures: Bridge Widening) | Approval for re-striping the EB Mast Boulevard Undercrossing to three lanes requires a traditional bridge widening, which leads to increased overall project costs. | • Probability: **Very Low**<br>• Impact: **Very High**<br>• It is possible that the only design exceptions acceptable to Caltrans for striping 3 lanes would require a bridge widening.<br>• A traditional bridge widening could potentially involve construction in environmentally sensitive areas. | High | Any traditional bridge widening will dramatically increase the cost of design, construction and environmental phase work. | Avoid | • Because of the severity of the impact, the preferred strategy is to avoid, rather than accept the cost.<br>• It is unlikely that the widening of the EB Mast Boulevard Undercrossing could be added to the project, and as a result, one of the primary project goals would not be met. | Mike Crull (Design Manager) | 3/5/2018 |
| Active | 9 | Threat | Design | Re-striping the Eastbound Mast Blvd UC (Approval) | Approval is not obtained for restriping the EB Mast Boulevard Undercrossing to three lanes, and one of the primary project goals is not met. | • Probability: **Low**<br>• Impact: **Moderate**<br>• Design exceptions are the key factor for approval.<br>• Re-striping to three lanes is an important feature of the design.<br>• Re-striping is currently the only proposed improvement on the eastbound side. | Medium | Failure to fulfill a key project goal could jeopardize public support for the SR-52 operational improvement project and other projects. | Mitigate | • Discussions about design exceptions for re-striping will be held in the earliest stages of the project.<br>• Discussions with Caltrans will include an analysis of appropriate justifications and reasonable mitigations for design exceptions.<br>• The project team will seek to develop consensus early to reduce the risk of re-design and increased design costs. | Mike Crull (Design Manager) | 3/2/2018 |
| Active | 10 | Opportunity | Design | Additional Improvements at the I-15/SR-52 Interchange | As a result of extending the western project limit from Santo Road to I-15, improvements like extending the westbound auxiliary lane to the I-15 may be desirable, which would offer greater congestion relief but could also change the required environmental document. | • Probability: **Low**<br>• Impact: **Mixed**<br>• The benefit-to-cost ratio would need to be evaluated.<br>• New improvements may provide even more congestion relief than estimated with the current concept.<br>• The environmental document required would add substantial costs to the budget.<br>• SHOPP funding may not be possible because the project would no longer be an "operational improvement." | Low | | Share | • Extending the auxiliary lane from Santo Road to I-15 will be considered in more detail in subsequent phases of the project.<br>• We will engage both HomeFed and Caltrans to more fully evaluate the impacts of this opportunity.<br>• A "non-operational" improvement could be added as a subsequent phase of this project or be a separate project. | Mike Crull (Design Manager) | 3/5/2018 |
| Active | 11 | Threat | Design | Re-striping the **Westbound** San Diego River Bridge and/or Mast Blvd UC | Restriping the WB San Diego River bridge and/or WB Mast Boulevard Undercrossing is required, and this increases traffic volumes throughout the remainder of the project, in addition to increasing overall project costs. | • Probability: **Very Low**<br>• Impact: **Very High**<br>• The increased traffic volumes would cancel out the operational benefits of the proposed improvements. | High | The increase in cost to the project would be substantial, even though the probability of it occurring is very low. | Avoid | • The goal of this operational improvement project is to relieve congestion between Mast Boulevard and Santo Road, which is a well-defined and effective corridor improvement project. Widening the **Westbound** San Diego River Bridge is not a part of this project. | Mike Crull (Design Manager) | 3/5/2018 |

| LEVEL 1 - RISK REGISTER | Project Name: | State Route 52 Operational Improvements | DIST- EA | 11-43012 | Project Manager | Brooke Emery | |
|---|---|---|---|---|---|---|---|

| Risk Identification | | | | | | | Risk Rating | | Risk Response | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Status | ID # | Type | Category | Title | Risk Statement | Current status/assumptions | Priority Rating | Rationale for Rating | Strategy | Response Actions | Risk Owner | Updated |
| Active | 12 | Threat | Design | Increased Need for Grading | More freeway improvements are required that increase the width of the pavement and this increases grading or the need for retaining walls to avoid environmental impacts. | • Probability: **Low**<br>• Impact: **Low**<br>• The current design avoids the need for retaining walls and extensive grading. | Low | | Mitigate | • We will choose a project alternative that does not require extensive grading and/or retaining walls. | Mike Crull (Design Manager) | 3/2/2018 |
| Active | 13 | Threat | Design | Stakeholders | The large number of stakeholders may make it more difficult to reach consensus, which would lengthen the schedule. | • Probability: **Moderate**<br>• Impact: **Low**<br>• The stakeholders have already been identified. | Low | | Mitigate | • We will coordinate with stakeholders in the early stages of the project.<br>• We will identify their needs and constraints and address issues promptly. | Mike Crull (Design Manager) / Domenic Lupo (Project Manager) | 3/2/2018 |
| Active | 14 | Threat | Environmental | Type of Environmental Document | Changes to the design may cause a change in which type of environmental document is required, which would increase the project cost. | • Probability: **Low**<br>• Impact: **Very High**<br>• Several risks identified here would trigger this risk if they were to actualize. | High | The impact of the risk varies greatly according to other risks which compound it. Changing the environmental document will cause a substantial increase in the cost of the environmental phase. | Avoid | • We will monitor whether proposed changes to the design concept require a different environmental document than what is anticipated.<br>• We will alert the PDT to changes of this nature and discuss alternatives which do not change the type of ED required. | Mike Crull (Design Manager) | 3/2/2018 |
| Active | 15 | Threat | Design | New Local Agency Requirements | The City of Santee or other local agencies may require more improvements than originally anticipated, which would increase the overall project cost. | • Probability: **Very Low**<br>• Impact: **Low**<br>• HomeFed has coordinated with the City of Santee extensively, and the scope is well-established. | Low | | Mitigate | • We will coordinate with the City of Santee in the early stages of the project.<br>• We will identify their needs and constraints and address issues promptly. | Mike Crull (Design Manager) | 3/5/2018 |
| Active | 16 | Threat | Design | Water Quality Issues and New Standards | As a result of changes to the standards and issues encountered with water quality, rework may occur, which would lead to an increase in project cost. | • Probability: **Low**<br>• Impact: **Low**<br>• The change in standards is outside any designer's or engineer's control. | Low | | Accept | • We will stay informed of changes to standards.<br>• In accordance with our quality management procedures, we will verify that the correct standards are being used. | Mike Crull (Design Manager) | 3/5/2018 |
| Active | 17 | Threat | Environmental | Potential Environmental Shadowing Effect | As a result of the cantilevered design, there may be an environmental shadowing effect, which would lead to an increase in project cost and potentially a delay to the schedule if left unaccounted for. | • Probability: **Very Low**<br>• Impact: **Low**<br>• This effect has not been identified at this time. | Low | | Accept | • We will evaluate this promptly and update the schedule as needed.<br>• The environmental team will be informed of design changes on an ongoing basis to monitor this risk. | Mike Crull (Design Manager) | 3/5/2018 |
| Active | 18 | Threat | Environmental | Visual Concerns | Due to the cantilevered bridge design, there may be visual concerns raised during the environmental review. If not appropriately addressed, approvals could be delayed and deadlines missed. | • Probability: **Very Low**<br>• Impact: **High**<br>• The design team has already started to identify and address visual concerns. | Medium | | Mitigate | • We will continue to incorporate visual concerns into our design.<br>• We will coordinate with Caltrans and other stakeholders to address issues promptly. | Mike Crull (Design Manager) | 3/2/2018 |
| Active | 19 | Threat | Construction | Construction Mitigation Associated with Endangered Species | If endangered species are identified within the project site area, appropriate mitigation measures during construction will be required. Unless adequately investigated and planned for, unforeseen mitigation would increase the cost of construction. | • Probability: **Very Low**<br>• Impact: **Low**<br>• Endangered species have not been identified at this time. | Low | | Accept | • We will investigate the potential for encountering an endangered species.<br>• We will appropriately plan for this risk and account for it in the construction budget. | Mike Crull (Design Manager) | 3/2/2018 |
| Active | 20 | Threat | Design | Potential Negative Community Response | No-growth advocates (or "Preserve Wildlife in Santee" people) may oppose SR-52 improvements in order to oppose Fanita Ranch, which could delay the project. | • Probability: **Moderate**<br>• Impact: **Moderate**<br>• These oppositional organizations and people have been very vocal in the past. | Medium | | Mitigate | • HomeFed has already begun a public outreach campaign to engage the community. | Domenic Lupo (Project Manager) | 3/5/2018 |

| LEVEL 1 - RISK REGISTER | | Project Name: State Route 52 Operational Improvements | | | | | DIST- EA | 11-43012 | Project Manager | Brooke Emery | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Risk Identification | | | | | | | Risk Rating | | Risk Response | | | |
| Status | ID # | Type | Category | Title | Risk Statement | Current status/assumptions | Priority Rating | Rationale for Rating | Strategy | Response Actions | Risk Owner | Updated |
| Active | 21 | Threat | Construction | Underground Utilities (KFMB Towers) | There are near-surface conductive cables running between the radio antennas that could be accidentally severed during construction, which could lead to project delays or costs (losses from damages). | • Probability: **Very Low**<br>• Impact: **High**<br>• The conductive cables are very shallow in some areas. | Low | | Mitigate | • We will positively locate these underground utilities in advance of construction. | Mike Crull (Design Manager) | 3/2/2018 |
| Active | 22 | Threat | Design | Changes to Design Standards | Changes in design standards require more freeway improvements to be included, which increase the overall project cost. | • Probability: **Low**<br>• Impact: **Moderate**<br>• The change in standards is outside any designer's or engineer's control. | Medium | | Accept | • We will stay informed of changes to standards.<br>• In accordance with our quality management procedures, we will verify that the correct standards are being used. | Mike Crull (Design Manager) | 3/2/2018 |
| Active | 23 | Threat | Environmental | Changes to Design Standards (Studies) | Changes to design standards require additional engineering / environmental studies that increase the overall consultant design and Caltrans oversight costs. | • Probability: **Low**<br>• Impact: **Low**<br>• The change in standards is outside any designer's or engineer's control. | Low | | Accept | • We will stay informed of changes to standards.<br>• In accordance with our quality management procedures, we will verify that the correct standards are being used. | Mike Crull (Design Manager) | 3/2/2018 |
| Active | 24 | Threat | Design | PSR-PDS Schedule Delays | The project schedule for the PSR-PDS is extended, and this increases the overall consultant design and Caltrans oversight costs. | • Probability: **High**<br>• Impact: **Low**<br>• If design changes arise or issues require mitigation, it is possible the schedule will slip by a small amount.<br>• Major schedule delays are unacceptable. | Medium | | Accept | • We will have adequate budget contingencies to offset minor changes to design costs.<br>• We will inform Caltrans and HomeFed if we become aware that design costs and/or Caltrans oversight costs will substantially increase. | Mike Crull (Design Manager) | 3/2/2018 |
| Active | 25 | Threat | Design | Key Staff Changes | As a result of key staff changes, the PDT meetings may require additional coordination, which could lead to an extended schedule and additional costs. | • Probability: **Low**<br>• Impact: **Moderate**<br>• Staff turnover is outside of our control. | Medium | | Accept | • We will maintain open and effective channels of communication.<br>• We will follow internal quality management procedures for key staff turnover to reduce the negative impact. | Mike Crull (Design Manager) / Domenic Lupo (Project Manager) | 3/2/2018 |

# Attachment I

Stormwater Data Report (Signed Cover Sheet)

Dist-County-Route: 11-SD-52
Post Mile Limits: PM 7.39 / PM 14.99
Type of Work: Operational Improvements
Project ID (EA): 1117000177 (43012K)
Program Identification: Private Funds
Phase: ☒ PID ☐ PA/ED ☐ PS&E

Regional Water Quality Control Board(s): San Diego, RWQCB (Region 9)
Total Disturbed Soil Area: 9.17 acres PCTA 14.74 ac.
Alternative Compliance (acres): 0 ATA 2 (50% Rule)? Yes ☐ No ☒
Estimated Const. Start Date: 6/1/2020 Estimated Const. Completion Date: 6/1/22
Risk Level: RL 1 ☒ RL 2 ☐ RL 3 ☐ WPCP ☐ Other: _____
Is MWELO applicable? Yes ☐ No ☒
Is the Project within a TMDL watershed? Yes ☒ No ☐
TMDL Compliance Units (acres): _____
Notification of ADL reuse (if yes, provide date): Yes ☒ Date: 5/01/20 No ☐

***This Report has been prepared under the direction of the following Licensed Person. The Licensed Person attests to the technical information contained herein and the date upon which recommendations, conclusions, and decisions are based. Professional Engineer or Landscape Architect stamp required at PS&E only.***

Domenic Lupo, Registered Project Engineer — 1/23/19 Date

***I have reviewed the stormwater quality design issues and find this report to be complete, current and accurate:***

For Andrew Rice, Project Manager — 1/23/2019 Date
Mary Aldreith

Terry Kloepfer, Designated Maintenance Representative — 1/24/2019 Date

Tim Mann, Designated Landscape Architect Representative — 1/24/2019 Date

*[Stamp Required at PS&E only]*

Carl Savage, District/Regional Design Branch Chief — 1/28/19 Date

# Attachment J

State Route 52 Operational Improvements Traffic Operational Analysis – Scope of Work

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Engineers & Planners
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December 17, 2019

Ms. Brooke Emery, P.E.
Project Manager
Caltrans District 11- San Diego
4050 Taylor Street
San Diego, CA 92110

LLG Reference: 3-19-3175

Subject: **State Route 52 Operational Improvements Traffic Operational Analysis – Scope of Work**

Dear Brooke:

This letter has been prepared to provide information to initiate the Traffic Operations Analysis Report (TOAR) Scoping process with Caltrans for the State Route 52 TOAR (Project). A TOAR will be prepared to discuss the analysis and methodologies used to evaluate the proposed improvements. This TOAR, traffic analysis, and related studies are focused solely upon the SR-52 Operational Improvements Project.

The following items are discussed in detail in this letter:

1. Project Description
2. Milestone Approvals
3. TOAR Existing Conditions Assessment
4. ICE Analysis
5. TOAR Traffic Forecasting
6. TOAR Build Conditions Assessment
7. Ramp Metering Analysis
8. TOAR Report
9. CEQA Analysis (VMT)
10. Conclusion

## 1. Project Description for the PA&ED Phase

The project limits are along SR-52 from the Interstate 15 connector to SR-125 and includes the SR-52/Mast Boulevard Interchange. The build alternative is anticipated to be constructed in two phases, Phases 1 and 2, which generally include the following features. Phase 1 construction is estimated to begin in the second quarter of 2023 and last approximately 12 months. Phase 2 is not assumed to be initiated upon

Philip M. Linscott, PE (1924-2000)
William A. Law, PE (1921-2018)
Jack M. Greenspan, PE (Ret.)
Paul W. Wilkinson, PE (Ret.)
John P. Keating, PE
David S. Shender, PE
John A. Boarman, PE
Clare M. Look-Jaeger, PE
Richard E. Barretto, PE
Keil D. Maberry, PE
Walter B. Musial, PE
An LG2WB Company Founded 1966

completion of Phase 1, and the anticipated construction start date is unknown, however construction duration is assumed to be approximately 6 months:

Phase 1

- Widen the SR-52 westbound on-ramp from Mast Boulevard to a 2-lane ramp that will continue as the 3rd mainline lane and a 4th lane, the truck climbing lane, which is dropped at I-15
- Replace the existing shoulder along westbound SR-52 with a truck-climbing lane/auxiliary lane from Mast Boulevard (Station 701+91/PM 13.0) to Santo Road (483+45/PM 8.9)
- Add a through lane from the off-ramp to Santo Road to the on-ramp from Santo Road, including a retaining wall under the Santo Road Overcrossing
- Extend eastbound SR-52 auxiliary lane from southbound I-15 connector (Station 406+25/PM 7.4) to the Santo Road eastbound off-ramp (Station 462+86/PM 8.5)
- Add a two-way Class IV Bikeway (Separated Bikeway) on the south side of SR-52 (eastbound side) from Santo Road to Mast Boulevard
- Modify the SR-52 eastbound off- and on-ramp intersection to accommodate westbound bicyclists from the Class IV Bikeway
- Cantilever a 10-foot-wide lightweight separated bikeway off the Oak Canyon and Spring Canyon bridges along eastbound SR-52
- Restripe eastbound SR-52 from 2 lanes to 3 lanes from Mast Boulevard to just east of the San Diego River Bridge, including restriping the bridge
- Modify the SR-52 westbound on-ramp from Mast Boulevard to add ramp metering and a high occupancy vehicle preferential lane will also be considered

Phase 2

- Restripe westbound SR-52 from 2 lanes to 3 lanes from just east of the San Diego River Bridge (from approximate Station 780+60/PM 14.6) to Mast Boulevard
- Restripe the merge at the Mast Boulevard westbound on-ramp (possible options will be studied, and may include merging the 2 ramp lanes to 1 lane prior to the on-ramp's connection to SR-52 or merging the 1$^{st}$ ramp lane with the 3rd mainline lane)

A Project area map is included at the end of this letter in ***Figure 1***.

## 2. Milestone Approvals

Due to the complexities of the project, we request to get approval from Caltrans at the following milestones of the TOAR process.

- Scoping approval
- Existing Conditions Assessment approval
- Traffic volume forecasting approval
- Traffic Operations approval – including ramp metering analysis.
- TOAR approval

## 3. TOAR Existing Conditions Assessment

An existing conditions assessment will include the following analyses for the study area:

a. Intersection Analysis
b. Freeway Analysis
c. Merge Analysis
d. Diverge Analysis
e. Weaving Analysis

An ***Operational Analysis*** consistent with Highway Capacity Manual 6th Edition (HCM) will be conducted for existing scenarios. Below is the Operational Analysis definition per HCM.

"*Operational analysis, typically focusing on current or near-term conditions, involves detailed inputs to HCM procedures, with no or minimal use of default values.*"

Bottlenecks will be identified and quantified using PeMS and field surveys. Oversaturated and undersaturated flow conditions will be analyzed using different parameters identified in HCM. PeMS and field measurements will also be utilized to calibrate and adjust for any temporal variability and spatial variability. User perception variability will be discussed in the report. A sensitivity analysis consistent with HCM will also be conducted to evaluate various uncertainties.

The following sections will cover in detail the methodologies that will be utilized, inputs, parameters, and outputs for each analysis.

### a. INTERSECTION ANALYSIS

The following study intersections will be analyzed:

- Mast Boulevard / West Hills Parkway
- SR-52 / Santo Road Interchange
- SR-52 / Mast Boulevard Interchange

The location of the study intersections is included at the end of this letter in ***Figure 2***.

Signalized intersections will be analyzed under AM and PM peak hour conditions. Average vehicle delay will be determined to utilize the methodology found in Chapter 16 of the HCM, with the assistance of the Synchro (version 10) computer software. The delay values (represented in seconds) will be qualified with a corresponding intersection Level of Service (LOS).

Unsignalized intersections will be analyzed under AM and PM peak hour conditions. Average vehicle delay and Levels of Service (LOS) will be determined based upon the procedures found in Chapter 17 of the HCM, with the assistance of the Synchro (version 10) computer software.

The following inputs and parameters will be utilized in the analysis:

- Traffic Volumes ( New traffic counts will be conducted and will be based on three consecutive weekdays, source: LLG).
- Heavy Vehicle Percentage (latest data available, source: Caltrans)
- Speed Limit (field conditions, source: LLG)
- Geometric characteristics (grade, lane width, storage length, curb radius) (source: Design Plans)
- Signal Timing (Cycle Length, Min/Max Initial, Min/Max Split, Total Split, Yellow Time, All-Red, Vehicle Extension, Minimum Gap, Time Before Reduce, Time to Reduce, Ped Phase, Walk, Flash Don't Walk, Max Green, etc.) (source: Signal Timing Plans, City of Santee & Caltrans)
- Pedestrian Phase, Pedestrian Calls (#/hour) (source: Signal Timing Plans, City of Santee & Caltrans)

The analysis will take into account upstream and downstream nodes to adjust and calibrate to reflect existing conditions and operations.

The outputs of the intersection analysis will include the delay (in seconds), Level of Service (LOS), and Queue Length.

### b. FREEWAY MAINLINE ANALYSIS

Freeway mainline analysis for both directions of SR-52 from SR-125 to I-15 will be conducted.

The freeway mainline analyses will include the 5- to 2-lane WB merge and the on- and off-ramps to / from Mission Gorge Road and the connector ramps to / from SR-125; and no farther to the east.

Freeway segments will be analyzed during the AM and PM peak hours based on the HCM with the assistance of the HCS 7 computer software. Freeway segment LOS is based on the volume to the capacity ratio of the freeway.

The following inputs and parameters will be utilized in the analysis:

- Measured Free Flow Speed using PEMS and Base Free Flow Speed
- Geometric Characteristics (number of lanes, terrain type, percent grade, length of grade, right side clearance, lane width)
- Average Daily Traffic (ADT) Volumes (latest data available, source: Caltrans)
- Peak Hour Factor (PHF) (latest data available, source: Caltrans)
- Peak Hour Volumes (calculated from ADT, PHF, K)
- Truck Percentage (total trucks, single-unit trucks, tractor-trailers) (latest data available, source: Caltrans)
- Adjustment Factors
    - Driver Population: The "**mostly familiar"** option will be utilized in the analysis. Other options include all familiar, balanced mix, mostly unfamiliar, all unfamiliar
    - Weather Type: non-severe
- Bus/Managed Lane Geometric Data (future scenarios)
- Bus/Managed Lane Demand Data (future scenarios)
- Bus/Managed Lane Adjustment Factors (future scenarios)

The outputs of the freeway analysis will include the Level of Service (LOS), Average Speed, and density.

### c. MERGE ANALYSIS

The following areas will be analyzed:

- SR-52 WB On-Ramp from SR 125 NB
- SR-52 WB On-Ramp from Mission Gorge Road
- SR-52 WB On-Ramp from Mast Blvd
- SR-52 WB On-Ramp from Mast Blvd (two to one lane merge)
- SR-52 EB On-Ramp from Mast Blvd
- SR-52 EB On-Ramp from Santo Road
- SR-52 EB On-Ramp from I-15 N
- SR-52 EB On-Ramp from I-15 S

The location of the merge areas is included at the end of this letter in ***Figure 3***.

Ramp merge ramp operations will be analyzed under AM and PM peak hour conditions. Operational characteristics will be reported utilizing the methodology found in Chapter 25 of the HCM, with the assistance of the Highway Capacity Software (HCS 7).

Levels of service in merge influence areas are defined in terms of density for all cases of stable operations (LOS A through E). However, LOS F exists when the demand exceeds the capacity of upstream or downstream freeway sections or the capacity of the ramp.

The following inputs and parameters will be utilized in the analysis:

- Freeway free-flow speed and ramp free-flow speed
- Geometric Characteristics for freeway and ramp (number of lanes, length, ramp side, terrain type, grade, grade length, length of acceleration lane)
- Average Daily Traffic (ADT) Volumes (latest data available, source: Caltrans)
- Peak Hour Factor (PHF) (latest data available, source: Caltrans)
- Peak Hour Volumes (calculated from ADT, PHF, K)
- Truck Percentage (total trucks, single-unit trucks, tractor-trailers) (latest data available, source: Caltrans)
- Adjustment Factors
    - Driver Population: The "**mostly familiar"** option will be utilized in the analysis. Other options include all familiar, balanced mix, mostly unfamiliar, all unfamiliar
    - Weather Type: non-severe
- Adjacent Ramp Data
- Bus/Managed Lane Geometric Data (future scenarios)
- Bus/Managed Lane Demand Data (future scenarios)
- Bus/Managed Lane Adjustment Factors (future scenarios)

The outputs of the merge analysis will include Level of Service (LOS) and average density.

### d. DIVERGE ANALYSIS

The following areas will be analyzed:

- SR-52 EB to SR 125 S
- SR-52 EB Off-Ramp to Mission Gorge
- SR-52 WB Off-Ramp to Mast Blvd
- SR-52 EB Off-Ramp to Mast Blvd
- SR-52 WB Off-Ramp to Santo Rd
- SR-52 EB Off-Ramp to Santo Rd
- SR-52 WB Off-Ramp to I-15 N

The location of the diverge areas is included at the end of this letter in ***Figure 4***.

Ramp diverge operations will be analyzed under AM and PM peak hour conditions. Operational characteristics will be reported utilizing the methodology found in Chapter 25 of the HCM, with the assistance of the Highway Capacity Software (HCS 7).

Levels of service in diverge influence areas are defined in terms of density for all cases of stable operations (LOS A through E). However, LOS F exists when the demand exceeds the capacity of upstream or downstream freeway sections or the capacity of the ramp.

The following inputs and parameters will be utilized in the analysis:

- Freeway free-flow speed and ramp free-flow speed
- Geometric Characteristics for freeway and ramp (number of lanes, length, ramp side, terrain type, grade, grade length, length of acceleration lane)
- Average Daily Traffic (ADT) Volumes (latest data available, source: Caltrans)
- Peak Hour Factor (PHF) (latest data available, source: Caltrans)
- Peak Hour Volumes (calculated from ADT, PHF, K)
- Truck Percentage (total trucks, single-unit trucks, tractor-trailers) (latest data available, source: Caltrans)
- Adjustment Factors
    - Driver Population: The "**mostly familiar"** option will be utilized in the analysis. Other options include all familiar, balanced mix, mostly unfamiliar, all unfamiliar
    - Weather Type: non-severe
- Adjacent Ramp Data
- Bus/Managed Lane Geometric Data (future scenarios)
- Bus/Managed Lane Demand Data (future scenarios)
- Bus/Managed Lane Adjustment Factors (future scenarios)

The outputs of the diverge analysis will include Level of Service (LOS) and average density.

#### e. WEAVING ANALYSIS

The following areas will be analyzed:

- SR-52 WB between Santo Road and I-15 N
- SR-52 EB between I-15 N and Santo Road

Additional areas may be included in the analysis based on the proposed bus weaving areas.

The weave segment analysis will be conducted using both HCM and HDM methodology with the assistance of the Highway Capacity Software (HCS 7).

The following inputs and parameters will be utilized in the analysis:

- Freeway free-flow speed, ramp free-flow speed
- Geometric Characteristics for freeway and ramp (number of lanes, length, ramp side, terrain type, grade, grade length, length of acceleration lane)
- Weaving configuration
- Average Daily Traffic (ADT) Volumes (latest data available, source: Caltrans)
- Peak Hour Factor (PHF) (latest data available, source: Caltrans)
- Peak Hour Volumes (calculated from ADT, PHF, K)
- Truck Percentage (total trucks, single-unit trucks, tractor-trailers) (latest data available, source: Caltrans)
- Adjustment Factors
    - Driver Population: The "**mostly familiar"** option will be utilized in the analysis. Other options include all familiar, balanced mix, mostly unfamiliar, all unfamiliar
    - Weather Type: non-severe
- Adjacent Ramp Data
- Bus/Managed Lane Geometric Data (future scenarios)
- Bus/Managed Lane Demand Data (future scenarios)
- Bus/Managed Lane Adjustment Factors (future scenarios)

The outputs of the weaving analysis will include Level of Service (LOS) and average density.

## 4. ICE Analysis

Per Caltrans Intersection Control Evaluation (ICE) directive, an ICE analysis will be conducted for the following study project intersections within Caltrans jurisdiction:

- SR-52 / Santo Road Interchange
- SR-52 / Mast Boulevard Interchange

The ICE directive requires the evaluation of all types of intersection control strategies at State Highway intersections. The intersection control strategies include a traffic signal, unsignalized (stop-sign), and roundabout control.

The ICE analysis will comprise of the following:

- Conduct an intersection analysis for three intersection control types – stop sign, traffic signal and single lane roundabout. Calculate the intersection AM and PM peak hour LOS for each control types
- Prepare a queue analysis for the three traffic control types. Report the 50th and 95th percentile queues.
- Review the conceptual feasibility drawings based on the FHWA guidelines and determine if a roundabout can be accommodated based on implications to ROW, existing structures and other physical limitations, etc.
- Identify any multi-modal (pedestrians and bicyclists) deficiencies under each traffic control type.

## 5. Traffic Forecasting

The following scenarios will be analyzed in the TOAR:

- Baseline Year (2018)
- Opening Year (2023) – With and Without Project
- Design Year (2043) – RTP Buildout With and Without Project

To forecast volumes for the Opening and Design Year scenarios, the SANDAG Series 13 Activity Based (ABM) Model will be utilized. The SANDAG Series 13 ABM Model has the base year of 2012 and horizon years of 2020, 2035, and 2050. The Project team will confirm with SANDAG if the Year 2023 and Year 2043 model runs can be obtained. If so, no interpolation or extrapolation of model outputs would be needed.

## 6. TOAR Build Conditions Assessment

A build conditions assessment will include the following analyses for the study area:

a. Intersection Analysis
b. Freeway Analysis
c. Merge Analysis
d. Diverge Analysis
e. Weaving Analysis

An ***Operational Analysis*** consistent with Highway Capacity Manual 6th Edition (HCM) will be conducted for the build scenarios. Below is the Operational Analysis definition per HCM.

> "*Operational analysis, typically focusing on current or near-term conditions, involves detailed inputs to HCM procedures, with no or minimal use of default values.*"

The analysis will be conducted with methodologies and assumptions previously accepted and approved by Caltrans as utilized in the existing scenario assessment.

## 7. Ramp Metering Analysis

Ramp metering analyses will be conducted for the Build Alternative to determine whether the storage provided on the on-ramps would be enough to accommodate the projected queues in the Build Alternative. The highest peak hour volume (AM or PM peak) for each on-ramp will be used for the analysis. Inputs for each ramp analysis will include peak hour volume, number of lanes, average vehicle length, and the ramp storage length.

The on-ramps within the project limits are:

- EB Santo Road on-ramp
- EB Mast Blvd on-ramp
- WB Mission Gorge on-ramp

- WB Mast Blvd on-ramp
- WB Santo Road on-ramp

A ramp metering discharge rate (vehicles per hour per lane) between 240 and 900 vph/lane will be used for the analysis according to the maximum hourly demand flow rate and the available storage length at the ramp. Vehicles will be assumed to arrive at each on-ramp at a deterministic (uniform) rate within the analyzed peak hour. Based on the arrival and discharge rates of vehicles, the queue on the on-ramp will be calculated for each five-minute interval during the peak hour. The discharge rates and other assumptions will be fine-tuned in coordination with Caltrans District 11 staff.

The ramp metering analysis will only include the ramps listed above, and will not include the redistribution of local traffic. Based on the initial ramp metering analysis discussed above, the scope for the additional analysis to assess ramp metering impacts on local streets will be further coordinated with Caltrans staff.

## 8. TOAR Report

Information from the approved existing conditions, forecasted volumes, operational analysis, and the recommended improvements will be included in the TOAR report for Caltrans review.

The Build Alternative will be evaluated and potentially modified to address findings from the TOAR.

## 9. CEQA VMT Analysis

A VMT analysis will be performed during the PA&ED phase and provided to Caltrans. It should be noted that a summary of the analysis may not be required for the TOAR report based on the following:

> Per SB 743's Criteria for Analyzing Transportation Impacts, "*For roadway capacity projects, agencies have the discretion to determine the appropriate measure of transportation impact consistent with CEQA and other applicable requirements. To the extent that such impacts have already been adequately addressed at a programmatic level, such as in a regional transportation plan EIR, a lead agency may tier from that analysis as provided in Section 15152.*"

## 10. Conclusion

The team requests Caltrans to review and provide comments on this scoping letter.

Sincerely,

**Linscott, Law & Greenspan, Engineers**

K.C. Yellapu, P.E.
Associate Principal

cc: File

ORIGINAL

Agreement 11-0716
Project No. 1117000177
EA 43012
11-SD-52-7.3/14.8

# COOPERATIVE AGREEMENT COVER SHEET

## Work Description

CONSTRUCT HIGHWAY IMPROVEMENTS ON STATE ROUTE 52 (SR-52)

## Contact Information

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ORIGINAL

Agreement 11-0716
Project No. 1117000177
EA 43012
11-SD-52-7.3/14.8

# HIGHWAY IMPROVEMENT AGREEMENT

This AGREEMENT, effective on August 1, 2017, is between the State of California, acting through its Department of Transportation, referred to as CALTRANS, and:

HomeFed Fanita Rancho, LLC referred to as PERMITTEE.

## RECITALS

1. For the purpose of this AGREEMENT, *construct highway improvements on State Route 52 (SR-52)* will be referred to hereinafter as PROJECT. PERMITTEE desires that a Project Initiation Document (PID) be developed for the PROJECT. The Project Initiation Document will be a Project Study Report – Project Development Support (PSR-PDS).

2. All obligations and responsibilities assigned in this AGREEMENT to complete the following PROJECT COMPONENT will be referred to hereinafter as WORK:

   - PROJECT INITIATION DOCUMENT (PID)

   Each PROJECT COMPONENT is defined in the CALTRANS Workplan Standards Guide as a distinct group of activities/products in the project planning and development process.

3. The term AGREEMENT, as used herein, includes this document and any attachments, exhibits, and amendments.

   This AGREEMENT is separate from and does not modify or replace any other cooperative agreement or memorandum of understanding between the PARTIES regarding the PROJECT.

   PARTIES intend this AGREEMENT to be their final expression that supersedes any oral understanding or writings pertaining to the WORK. The requirements of this AGREEMENT will preside over any conflicting requirements in any documents that are made an express part of this AGREEMENT.

   If any provisions in this AGREEMENT are found by a court of competent jurisdiction to be, or are in fact, illegal, inoperative, or unenforceable, those provisions do not render any or all other AGREEMENT provisions invalid, inoperative, or unenforceable, and those provisions will be automatically severed from this AGREEMENT.

   Except as otherwise provided in the AGREEMENT, PARTIES will execute a written amendment if there are any changes to the terms of this AGREEMENT.

   AGREEMENT will terminate 180 days after PID is signed by PARTIES or on January 1, 2020, whichever is earlier in time. However, all indemnification articles will remain in effect until terminated or modified in writing by mutual agreement.

4. No PROJECT deliverables have been completed prior to this AGREEMENT.

5. In this AGREEMENT capitalized words represent defined terms, initialisms, or acronyms.

6. PARTIES hereby set forth the terms, covenants, and conditions of this AGREEMENT.

## RESPONSIBILITIES

### Sponsorship

7. A SPONSOR is responsible for establishing the scope of the PROJECT and securing the financial resources to fund the WORK. A SPONSOR is responsible for securing additional funds when necessary or implementing PROJECT changes to ensure the WORK can be completed with the funds obligated in this AGREEMENT.

   PROJECT changes, as described in the CALTRANS Project Development Procedures Manual, will be approved by CALTRANS as the owner/operator of the State Highway System.

8. PERMITTEE is the SPONSOR for the WORK in this AGREEMENT.

**Implementing Agency**

9. The IMPLEMENTING AGENCY is the PARTY responsible for managing the scope, cost, schedule, and quality of the work activities and products of a PROJECT COMPONENT.

    - PERMITTEE is the PID IMPLEMENTING AGENCY.

    - The PID identifies the PROJECT need and purpose, stakeholder input, project alternatives, anticipated right-of-way requirements, preliminary environmental analysis, initial cost estimates, and potential funding sources.

10. Any PARTY responsible for completing WORK will make its personnel and consultants that prepare WORK available to help resolve WORK-related problems and changes for the entire duration of the PROJECT including PROJECT work that may occur under separate agreements.

**Funding**

11. PERMITTEE will fund one hundred percent (100%) of all WORK costs including but not limited to the costs of:

    - CALTRANS' SERVICES which include but are not limited to Independent Quality Assurance (IQA), CEQA/NEPA Lead Agency work (when applicable), Environmental Document Quality Control (EDQC), and Department Furnished Materials (DFM).

    - Legal challenges, awards, judgments, settlements, fines, interest, and penalties, Environmental commitments and compliance.

    - Obtaining, implementing and renewing resource agency permits.

    - HM MANAGEMENT as assigned in this AGREEMENT.

**CALTRANS' Quality Management**

12. CALTRANS, as the owner/operator of the State Highway System, will perform quality management work including IQA and owner/operator approvals for the portions of WORK within the existing and proposed State Highway System right-of-way.

13. CALTRANS' IQA efforts are to ensure that PERMITTEE's quality assurance results in WORK that is in accordance with the applicable standards. IQA does not include any efforts necessary to develop or deliver WORK or any validation by verifying or rechecking WORK.

When CALTRANS performs IQA it does so for its own benefit. No one can assign liability to CALTRANS due to its IQA.

14. CALTRANS, as the owner/operator of the State Highway System, will approve WORK products in accordance with CALTRANS policies and guidance and as indicated in this AGREEMENT.

15. PERMITTEE will provide WORK-related products and supporting documentation upon CALTRANS' request for the purpose of CALTRANS' quality management work.

**Project Initiation Document (PID)**

16. As the PID IMPLEMENTING AGENCY, PERMITTEE is responsible for all PID WORK except those activities and responsibilities that are assigned to another PARTY in this AGREEMENT and those activities that may be specifically excluded.

17. CALTRANS will be responsible for completing the following PID activities:

| CALTRANS Work Breakdown Structure Identifier (If Applicable) | AGREEMENT Funded Cost |
|---|---|
| 100.05.10.xx Quality Management | Yes |
| 150.05.05.xx Provision of Existing Reports, Data, Studies, and Mapping | Yes |
| 150.25.20 PID Circulation, Review, and Approval | Yes |

18. CALTRANS will provide relevant existing proprietary information and maps related to:

    - Environmental constraints
    - As-built plans and existing right-of-way

    Due to the potential for data loss or errors, CALTRANS will not convert the format of existing proprietary information or maps.

19. When required, CALTRANS will perform Pre-Consultation with appropriate resource agencies in order to reach consensus on need and purpose, avoidance alternatives, and feasible alternatives.

20. CALTRANS will actively participate in the Project Delivery Team meetings.

21. The PID will be signed on behalf of PERMITTEE by a Civil Engineer registered in the State of California.

22. CALTRANS will review and approve the PID as required by California Government Code 65086.5.

    CALTRANS will complete a review of the draft PID and provide its comments to PERMITTEE within 60 calendar days from the date CALTRANS received the draft PID from PERMITTEE. PERMITTEE will address the comments provided by CALTRANS. If any interim reviews are requested of CALTRANS by PERMITTEE, CALTRANS will complete those reviews within 30 calendar days from the date CALTRANS received the draft PID from PERMITTEE.

    After PERMITTEE revises the PID to address all of CALTRANS' comments and submits the revised draft PID and all related attachments and appendices, CALTRANS will complete its review and final determination of the revised draft PID within 30 calendar days from the date CALTRANS received the revised draft PID from PERMITTEE. Should CALTRANS require supporting data necessary to defend facts or claims cited in the revised draft PID, PERMITTEE will provide all available supporting data in a reasonable time so that CALTRANS may conclude its review. The 30 day CALTRANS review period will be stalled during that time and will continue to run after PERMITTEE provides the required data.

    No liability will be assigned to CALTRANS, its officers and employees by PERMITTEE under the terms of this AGREEMENT or by third parties by reason of CALTRANS' review and approval of the PID.

**Additional Provisions**

**Standards**

23. PARTIES will perform all WORK in accordance with federal and California laws, regulations, and standards; Federal Highway Administration standards; and CALTRANS standards. CALTRANS standards include, but are not limited to, the guidance provided in the:

    - CALTRANS policies and directives
    - Project Development Procedures Manual (PDPM)
    - Workplan Standards Guide

**Qualifications**

24. Each PARTY will ensure that personnel participating in WORK are appropriately qualified or licensed to perform the tasks assigned to them.

**Encroachment Permits**

25. CALTRANS will issue, upon proper application, the encroachment permits required for WORK within State Highway System right-of-way. Contractors and/or agents, and utility owners will not work within the State Highway System right-of-way without an encroachment permit issued in their name. CALTRANS will provide encroachment permits to PARTIES, their contractors, consultants and agents at no cost. If the encroachment permit and this AGREEMENT conflict, the requirements of this AGREEMENT will prevail.

26. The IMPLEMENTING AGENCY for a PROJECT COMPONENT will coordinate, prepare, obtain, implement, renew, and amend any encroachment permits needed to complete the WORK.

**Protected Resources**

27. If any PARTY discovers unanticipated cultural, archaeological, paleontological, or other protected resources during WORK, all WORK in that area will stop and that PARTY will notify all PARTIES within 24 hours of discovery. WORK may only resume after a qualified professional has evaluated the nature and significance of the discovery and CALTRANS approves a plan for its removal or protection.

**Disclosures**

28. PARTIES will hold all administrative drafts and administrative final reports, studies, materials, and documentation relied upon, produced, created, or utilized for the WORK in confidence to the extent permitted by law and where applicable, the provisions of California Government Code section 6254.5(e) will protect the confidentiality of such documents in the event that said documents are shared between PARTIES.

    PARTIES will not distribute, release, or share said documents with anyone other than employees, agents, and consultants who require access to complete the WORK without the written consent of the PARTY authorized to release them, unless required or authorized to do so by law.

29. If a PARTY receives a public records request pertaining to the WORK, that PARTY will notify PARTIES within five (5) working days of receipt and make PARTIES aware of any disclosed public documents. PARTIES will consult with each other prior to the release of any public documents related to the WORK.

**Hazardous Materials**

30. If any hazardous materials, pursuant to Health and Safety Code 25260(d) 25401.1, are found within the PROJECT limits, the discovering PARTY will notify all other PARTIES within twenty-four (24) hours of discovery.

31. PARTIES agree to consider alternatives to PROJECT scope and/or alignment, to the extent practicable, in an effort to avoid any known hazardous materials within the proposed PROJECT limits.

32. If hazardous materials are discovered within PROJECT limits, but outside of State Highway System right-of-way, it is the responsibility of PERMITTEE in concert with the local agency having land use jurisdiction over the property, and the property owner, to remedy before CALTRANS will acquire or accept title to such property.

**Claims**

33. PERMITTEE may accept, reject, compromise, settle, or litigate claims of any consultants or contractors hired to complete WORK without concurrence from the other PARTY.

**Interruption of Work**

34. If WORK stops for any reason, IMPLEMENTING AGENCY will place the PROJECT right-of-way in a safe and operable condition acceptable to CALTRANS.

**Penalties, Judgments and Settlements**

35. Fines, interest, or penalties levied against CALTRANS will be paid by PERMITTEE when PERMITTEE'S action or lack of action caused the levy.

## GENERAL CONDITIONS

**Venue**

36. PARTIES understand that this AGREEMENT is in accordance with and governed by the Constitution and laws of the State of California. This AGREEMENT will be enforceable in the State of California. Any PARTY initiating legal action arising from this AGREEMENT will file and maintain that legal action in the Superior Court of the county in which the CALTRANS district office that is signatory to this AGREEMENT resides, or in the Superior Court of the county in which the PROJECT is physically located.

**Exemptions**

37. All CALTRANS' obligations under this AGREEMENT are subject to the appropriation of resources by the Legislature, the State Budget Act authority, and the allocation of funds by the California Transportation Commission.

**Indemnification**

38. Neither CALTRANS nor any of their officers and employees, are responsible for any injury, damage, or liability occurring by reason of anything done or omitted to be done by PERMITTEE, its contractors, sub-contractors, and/or its agents under or in connection with any work, authority, or jurisdiction conferred upon PERMITTEE under this AGREEMENT. It is understood and agreed that PERMITTEE, to the extent permitted by law, will defend, indemnify, and save harmless CALTRANS and all of their officers and employees from all claims, suits, or actions of every name, kind, and description brought forth under, but not limited to, tortious, contractual, inverse condemnation, or other theories and assertions of liability occurring by reason of anything done or omitted to be done by PERMITTEE, its contractors, sub-contractors, and/or its agents under this AGREEMENT.

**Non-parties**

39. PARTIES do not intend this AGREEMENT to create a third party beneficiary or define duties, obligations, or rights in PARTIES not signatory to this AGREEMENT. PARTIES do not intend this AGREEMENT to affect their legal liability by imposing any standard of care for fulfilling the WORK different from the standards imposed by law.

40. PARTIES will not assign or attempt to assign obligations to PARTIES not signatory to this AGREEMENT without an amendment to this AGREEMENT.

**Ambiguity and Performance**

41. PERMITTEE will not interpret any ambiguity contained in this AGREEMENT against CALTRANS. PERMITTEE waives the provisions of California Civil Code section 1654.

    A waiver of a PARTY's performance under this AGREEMENT will not constitute a continuous waiver of any other provision.

42. A delay or omission to exercise a right or power due to a default does not negate the use of that right or power in the future when deemed necessary.

**Defaults**

43. If any PARTY defaults in its performance of the WORK, a non-defaulting PARTY will request in writing that the default be remedied within thirty (30) calendar days. If the defaulting PARTY fails to do so, the non-defaulting PARTY may initiate dispute resolution.

**Dispute Resolution**

44. PARTIES will first attempt to resolve AGREEMENT disputes at the PROJECT team level as described in the Quality Management Plan. If they cannot resolve the dispute themselves, the CALTRANS District Director and the Executive Officer of PERMITTEE will attempt to negotiate a resolution. If PARTIES do not reach a resolution, PARTIES' legal counsel will initiate mediation. PARTIES agree to participate in mediation in good faith and will share equally in its costs.

    Neither the dispute nor the mediation process relieves PARTIES from full and timely performance of the WORK in accordance with the terms of this AGREEMENT. However, if any PARTY stops fulfilling its obligations, any other PARTY may seek equitable relief to ensure that the WORK continues.

    Except for equitable relief, no PARTY may file a civil complaint until after mediation, or forty-five (45) calendar days after filing the written mediation request, whichever occurs first.

    PARTIES will file any civil complaints in the Superior Court of the county in which the CALTRANS district office signatory to this AGREEMENT resides or in the Superior Court of the county in which the PROJECT is physically located.

    PARTIES maintain the ability to pursue alternative or additional dispute remedies if a previously selected remedy does not achieve resolution.

**Prevailing Wage**

45. It is PERMITTEE'S responsibility to determine if the work performed by PERMITTEE, PERMITEE'S contractors, and subcontractors will require the payment of prevailing wages as set by the California Department of Industrial Relations. PERMITEE'S inquiries or requests for interpretations relative to applicability and enforcement of prevailing wage requirements are to be made to the Department of Industrial Relations.

## INVOICE AND PAYMENT

46. PERMITTEE will pay the cost of all CALTRANS SERVICES.

47. CALTRANS will invoice PERMITTEE for a deposit (single payment) of $75,000 after execution of this AGREEMENT and forty-five (45) working days prior to the commencement of CALTRANS' SERVICES. This deposit is the estimated cost of CALTRANS' SERVICES. CALTRANS will submit supplemental billings to PERMITTEE if the cost of CALTRANS SERVICES are expected to exceed the original deposit.

48. CALTRANS will provide an accounting of all costs with each billing.

49. PERMITTEE will pay invoices within forty-five (45) calendar days of receipt of invoice.

    Should the cost of CALTRANS SERVICES remain unpaid, CALTRANS reserves the right to revoke the Encroachment permits issued to PERMITTEE for construction work until the full amount of invoiced funds has been received by CALTRANS.

50. The cost of CALTRANS SERVICES includes all direct and applicable indirect costs. Indirect costs include both the Program Functional Rate and the Administration Rate. CALTRANS establishes the Program Functional Rate and the Administration Rate annually according to State and Federal regulations.

51. After PARTIES agree that all WORK for PROJECT is complete, CALTRANS will furnish PERMITTEE a final accounting of all costs with a detailed statement of CALTRANS SERVICES, fees, and other related expenses. After completion of the final accounting, CALTRANS will refund or invoice PERMITTEE as necessary in order to satisfy the financial commitment of this AGREEMENT.

## DEFINITIONS

PARTY – Any individual signatory party to this AGREEMENT.

PARTIES – The term that collectively references all of the signatory agencies to this AGREEMENT.

WORK BREAKDOWN STRUCTURE (WBS) – A WBS is a standardized hierarchical listing of project work activities/products in increasing levels of detail. The CALTRANS WBS defines each PROJECT COMPONENT as a group of work activities/products. The CALTRANS Work Breakdown Structure is defined in the CALTRANS Workplan Standards Guide.

## SIGNATURES

PARTIES are empowered by California Streets and Highways Code to enter into this AGREEMENT and have delegated to the undersigned the authority to execute this AGREEMENT on behalf of the respective agencies and covenants to have followed all the necessary legal requirements to validly execute this AGREEMENT.

Signatories may execute this AGREEMENT through individual signature pages provided that each signature is an original. This AGREEMENT is not fully executed until all original signatures are attached.

**STATE OF CALIFORNIA**
**DEPARTMENT OF TRANSPORTATION**

LAURIE BERMAN
District Director

VERIFICATION OF FUNDS AND AUTHORITY:

Carmen Golembiewski
Budget Manager

Certified as to financial terms and conditions:

Accounting Administrator

**HOMEFED FANITA RANCHO, LLC**

JEFF O'CONNOR
Director of Operations
Vice President

State of California
**DEPARTMENT OF TRANSPORTATION**

California State Transportation Agency

# Memorandum

*Making Conservation*
*A California Way of Life.*

**To:** CORY BINNS
Chief Deputy Director
Department of Transportation
Division of Administration

**Date:** July 27, 2017

**From:** LAURIE BERMAN
District Director
District 11

**Subject:** Confirmation and Delegation of Authority to Cory Binns

Pursuant to the authority vested in me by the Director of Transportation, you are hereby delegated my full authority during my absence on Tuesday, August 1, 2017, to sign documents on my behalf in District 11.

*End of Appendices*